# DEPARTMENT OF SURGERY ANNUAL REPORT 2014/2015

April 1, 2014 to March 31, 2015







Report Designed, Compiled and Edited By Kari Pedersen and Christine Bourgeois

All Content and Photography (Unless Otherwise Stated) By Kari Pedersen

**We wish to thank** all of the surgeons, administrators and other team members whose tremendous efforts made this report possible.

**No part of this publication** may be reproduced, stored in, or introduced into a retrieval system, or transmitted in any form by any means (electronic, mechanical, photocopying, recording or otherwise) without the prior written permission of the copyright owners.

**Mailing Address:** Foothills Medical Centre

1403 – 29<sup>th</sup> Street NW Calgary, Alberta T2N 2T9 ph: (403) 944-1697 fax: (403) 270-8409

christine.bourgeois@albertahealthservices.ca

### Copyright © 2015

Department of Surgery/University of Calgary. All Rights Reserved



Kari Pedersen

Cover Photo: Dr. Janice Pasieka, Clinical Professor - Department of Surgery Sections of General Surgery and Surgical Oncology

# **Table of Contents**

A Message from Dr. Kortbeek	4
Surgical Executive Team	6
Department Members and New Faculty	7
Promotions and Appointments	8
Report from the Surgical Strategic Clinical Network	9
Surgeons' Day	18
Rectal Cancer Pathway	20
Leadership Retreat	21
MacNeill Chair	22
The Department - Dr. Schachar	23
History of Transplant Surgery	25
PRIHS Grant	28
Surgical Foundations Retreat	29
South Health Campus Research	30
Quality & Safety	32
Office of Surgical Education	33
Office of Surgical Research	41
Office of Health Technology and Information	46
Section of Dentistry and Oral Health	48
Section of General Surgery	58
Section of Ophthalmology	60
Section of Oral & Maxillofacial Surgery	64
Section of Orthopedic Surgery	66
Section of Otolaryngology Head & Neck Surgery	70
Section of Pediatric Surgery	74
Section of Plastic Surgery	85
Section of Podiatric Surgery	89
Section of Surgical Oncology	91
Section of Thoracic Surgery	94
Section of Transplant Surgery	97
Section of Urology	100
Section of Vascular Surgery	105
Appendices	106

# A Message from Dr. Kortbeek

As the University of Calgary approaches its 50th Anniversary, the Department recently celebrated the 33rd Annual Surgeons' Day. We are fortunate to recognize our member's outstanding achievements. Dr. Janice Pasieka, who graces the cover of this Annual Report, was recently appointed as Secretary Treasurer of the International Association of Endocrine Surgeons. This important leadership role builds on a career of achievement and leadership in both clinical care and academics. She is among our faculty who have established an international reputation for the Department and the University.

To celebrate our history, as we build the future, we owe a debt of gratitude to Dr. Norm Schachar who completed his first person perspective of the history of the Department of Surgery in Calgary. With the aid of ZEDS we have been provided with a humorous and entertaining summary of the last half century. I enjoyed reading Norm's stories as they brought back many great memories. We were saddened by the loss of one of our other world leaders - Dr. Cy Frank, who has throughout his career, been dedicated to improving public health care and the delivery of surgical services. His leadership continues to have a profound impact on our Department, on Calgary and on surgical services in Alberta and Canada. His work on bone and joint, hip and knee programs and most recently on creating the Strategic Networks, which are already transforming our health system – will endure. We were very saddened by his loss but continue to enjoy the fruits of his labor.

Our programs continue to change as they adopt new science and technology. Major change is looming with the advent of the Non Heart Beating Donor program which will significantly increase the numbers of life saving transplantations performed in this city. The advent of new perfusion technologies which enhance organ survival and function is also having a dramatic impact. To that end, the transplant program has provided a narrative of the history of transplant surgery, including the efforts of the early pioneers;



John B. Kortbeek, MD, FRCSC, FACS
Department Head, Surgery
Alberta Health Services
Professor and Head, Department of Surgery
Professor, Department of Critical Care Medicine
University of Calgary
Cumming School of Medicine

subsequent leadership of Dr. Francis Sutherland and the evolution of the program under the current 3 transplant surgeons; Drs. Anastasio Salazar, Serdar Yilmaz and Mauricio Monroy as well as with the transplant program leadership of Dr. Lee-Anne Tibbles.

The Vascular Surgery Project is opening this year at the Peter Lougheed Centre. The project represents a decade of hard work and advocacy led by Dr. Paul Petrasek. It will transform vascular care in the city and province.

Our fellowship programs continue to expand and under the leadership of Dr. Jim Powell. High standards of structure, financial reporting, accountability and organization of academic programs have been and are

continuing to be introduced. Our education programs continue to excel with the ongoing efforts of the Office of Surgical Education, Post Graduate Surgical Training Committee as well as our many residency training program leaders. The majority of our programs received full accreditation. Issues addressed by the Royal College of Surgeons and Physicians of Canada are currently being addressed. Our medical school is now participating in the Undergraduate Medical Education accreditation through 2015 and 2016 and will be working hard with the Faculty to ensure ongoing success in excellence in the delivery of our Undergraduate Medical Education programs as well.

We continue to face significant challenges in access for surgical services but working with the Network we now have robust provincial wait times reporting for scheduled surgery and in the Calgary Zone have accurate reporting for emergency and unscheduled procedures as well. We will continue to advocate for our patients in order to be able to provide the surgical care that they require.

I hope you will enjoy reading the stories and successes of our many members across the 14 specialties in the Department of Surgery and I look forward to working with all of you in the coming year.

### **Surgical Executive Team**

- Dr. John Kortbeek, Department Head Surgery
- Dr. Mary Brindle, Deputy Head, Department of Surgery
- Ms. Andria Marin, Manager, Department of Surgery
- Ms. Christine Bourgeois, Administrative Assistant to Dr. Kortbeek
- Dr. Eduardo Kalaydjian, Section Chief, Dentistry and Oral Health
- Dr. Elijah Dixon, Section Chief, General Surgery
- Dr. Michael Ashenhurst, Section Chief, Ophthalmology
- Dr. Richard Edwards, Section Chief, Oral Maxillofacial Surgery
- Dr. Kevin Hildebrand, Section Chief, Orthopaedics
- Dr. Wayne Matthews, Section Chief, Otolaryngology
- Dr. Frankie Fraulin, Section Chief, Paediatrics and Facility Chief, ACH
- Dr. François Harton, Section Chief, Podiatry
- Dr. A. Robertson Harrop, Section Chief, Plastic Surgery
- Dr. Greg McKinnon, Section Chief, Surgical Oncology
- Dr. Sean McFadden, Section Chief, Thoracic Surgery
- Dr. Anastasio Salazar, Section Chief, Transplant Surgery
- Dr. Paul Petrasek, Section Chief, Vascular Surgery
- Dr. Kevin Carlson, Section Chief, Urology
- Dr. Jason Werle, Facility Chief, RGH
- Dr. John Donaghy, Facility Chief, PLC
- Dr. Donald Buie, Facility Chief, FMC
- Dr. Beth Lange, Facility Chief, SHC
- Dr. Jacques Bouchard, Director, Office of Surgical Education
- Dr. Fiona Costello, Director, Office of Surgical Research
- Dr. Lea Austen, Physician Lead, Health Technology and Innovation
- Dr. Sean Grondin, Physician Lead, Quality and Safety
- Dr. Elaine Joughin, Physician Lead, Quality and Safety
- Dr. Rohan Lall, Medical Director, Trauma Services
- Dr. Maureen O'Brien, Faculty Ombudsman and Advisor on Diversity
- Dr. Gary Dobson, Department Head, Anesthesia
- Ms. Michele Austad, Manager, Department of Anesthesia
- Dr. Doug Wilson, Department Head, Obstetrics and Gynecology
- Dr. Imtiaz Ali, Section Chief, Cardiac Surgery, Department of Cardiac Sciences
- Dr. John Wong, Section Chief, Neurosurgery, Department of Clinical Neurosciences
- Dr. Ken Thomas, Program Director, Spine Surgery
- Ms. Shawna Syverson, Senior Operating Officer, FMC
- Ms. Holly Mackin, Executive Director, Surgery, FMC
- Ms. Margaret Fullerton, Director, ACH
- Ms. Jill Woodward, Executive Director, Inpatient Care, Child and Women's Health, ACH
- Ms. Susan Reader, Director, Surgery, RGH
- Ms. Val Marsten, Director, Surgery, PLC
- Ms. Joanne Cabrera, Executive Director, Surgery & Women's Health, SHC

#### We are a total of 410 members

297 Surgeons
40 Members in Dentistry & Oral Health
12 Members in Oral & Maxillofacial Surgery
15 Members in Podiatric Surgery
3 PhD Appointments
29 Cross Appointments
14 Adjunct Appointments
14 Sections in Total

Each of the 14 sections are led by a Section Chief, who meet with the other Section Chiefs and Facility Chiefs to form the Surgical Executive Committee. This Committee serves to make decisions, recommendations and develops policies regarding research, education and clinical practice, as well as resource utilization and allocation.

Our members are committed to a professional and academic culture that is continually progressing and improving. We are dedicated to providing excellence in clinical care, teaching, and research.

### **New Faculty**

**Dr. Mantaj Brar** joined the Section of General Surgery, January 2, 2015.

**Dr. Antoine Bouchard-Fortier** joined the Section of General Surgery and Surgical Oncology, July 1, 2015.

**Dr. Jeffrey Clark** joined the Section of Vascular Surgery, August 1, 2014.

**Dr. Jennifer Matthews** joined the Section of Plastic Surgery, January 5, 2015.

### **Promotions**

**Dr. Stephen French**, Section of Orthopedic Surgery, has been promoted to the rank of Clinical Assistant Professor.

**Dr. Richard Baverstock**, Section of Urology, has been promoted to the rank of Clinical Associate Professor.

**Dr. Sean Grondin**, Section of Thoracic Surgery, has been promoted to the rank of Clinical Associate Professor.

**Dr. James Powell**, Section of Orthopedic Surgery, has been promoted to the rank of Clinical Professor.

**Dr. Kevin Carlson**, Section of Urology, has been promoted to the rank of Clinical Associate Professor.

**Dr. Adrian Harvey**, Section of General Surgery, has been promoted to the rank of Clinical Associate Professor.

**Dr. Luke Rudmik**, Section of Otolaryngology, has been promoted to the rank of Clinical Associate Professor.

Dr. Elijah Dixon, Section of General Surgery, has been promoted to Professor

Dr. Don Buie, Section of General Surgery, has been promoted to Professor

### **Appointments**

**Dr. Rohan Lall**, Section of General Surgery, has accepted the position of Medical Director - Trauma Services, Foothills Medical Centre

**Dr. James Powell**, Section of Orthopedic Surgery, has accepted the position of Fellowship Director.

**Dr. Paul Duffy**, Section of Orthopaedics, has accepted the position of Division Chief, Trauma Orthopedics

**Dr. Elijah Dixon**, Section of General Surgery, has accepted the position of Section Chief.

# Report from the Surgery Strategic Clinical Network

Our Mission: "Bringing patients, clinicians, administrators and policy-makers together to advance surgical care in Alberta".

### Milestone for aCATS project

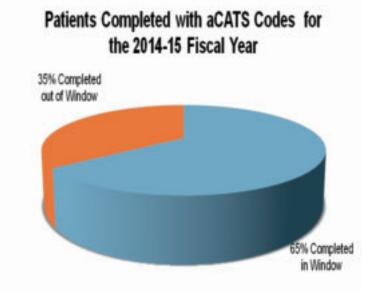
#### **REPORTS**

In May 2014, the transition from the Legacy Waitlist Report to Surgeon Detail Report was started. This transition was complete in September. Also in the fall, the service and site reports were rolled out. There are now seven reports in operation: surgeon detail, surgeon summary, service detail, service summary, site detail, site summary and site detail (operations).

#### SPREAD AND OPTIMIZATION

In 2014, 61,260 elective surgical cases in the Calgary Zone were completed using aCATS as a means to measure and assess whether cases were completed in or out of window in relation to their diagnosis access targets. (See Figure 1). The chart below gives more detail about the number of cases completed in and out of window. This number includes cases from non-hospital surgical facilities (18,477 total) and Tom Baker Cancer Centre (472 total).

Figure 1:



This is an increase over last year for many reasons. aCATS code use in the Calgary Zone was expanded to include Cardiac surgery, and non-hospital surgical facilities cases. In addition, uplift funding and expanding codes to cases at the Tom Baker Cancer Centre increased the number of procedures where aCATS was applied in the booking process. Working with Calgary surgeons, the team also coded the remaining legacy OR bookings that did not have a dedicated aCATS code.

The following four sections breakdown this data. Section 1 highlight the total number of patient completed in and out of window for the 2014-2015 fiscal year. That number is then broken down by site. Section 2 highlights the total number of patients waiting as of July 17, 2015. This is then broken down by site. Section 3 is the total number of cancer patients completed in the 2014-2015 fiscal year. This is broken down by site. Section 4 shows the number of cancer patients waiting in and out of window as of July 17, 2015. This data is also broken down by site.

Data Source: OPTUM ORIS Data

Table 1. Patients Completed with aCATS Codes 2014-15

Patients Completed	Total Number	Total Percentage
In Window	39,651	64.7%
Out of Window	21,609	35.3%
<b>Total Patients Completed</b>	61,260	

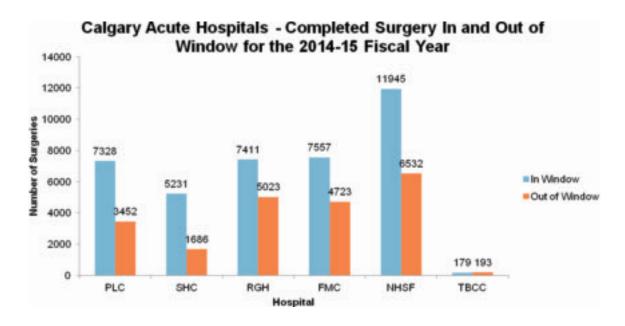
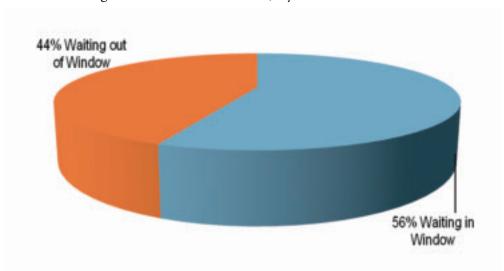


FIGURE 1

Data Source: OPTUM ORIS Data

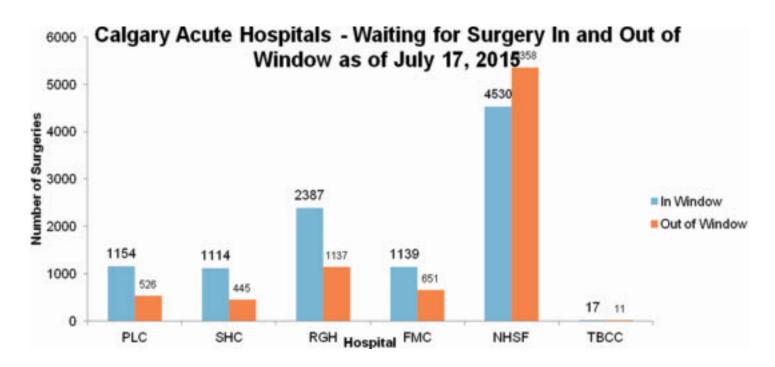
Section 2: Total Patients Waiting (as of July 17, 2015)

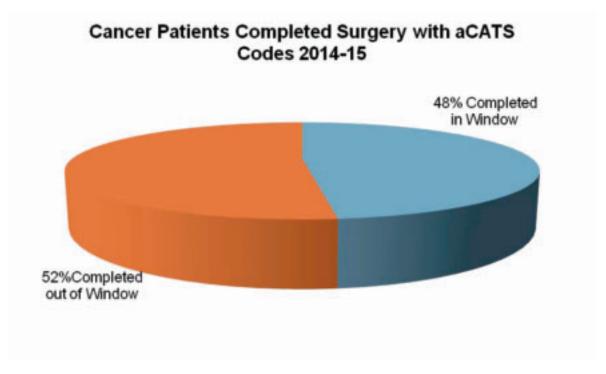
As of July 17, 2015 18,469 scheduled patient surgical bookings have an aCATS code. Of those 56% are waiting within their diagnosis access target (in window) and 44% are out of window. The graphs below shows the percentage waiting in and out of target and the breakdown per site.



Patients Waiting with aCATS Codes as of July 17, 2015

Data Source: OPTUM ORIS Data





Section 3: Total Cancer Patients completed (2014-2015 Fiscal year)

In the 2014-15 fiscal year, the number of cancer cases completed were 12,647. Forty-eight per cent were completed in window and 52 per cent were completed out of window. This data does not include non-hospital surgical facilities. See graphs below for summary.

Calgary Acute Hospitals - Cancer Patients Completed Surgery In and
Out of Window for the 2014-15 Fiscal Year

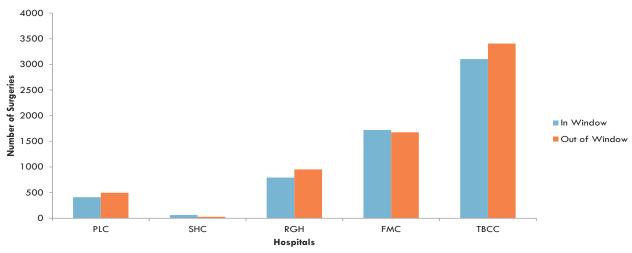
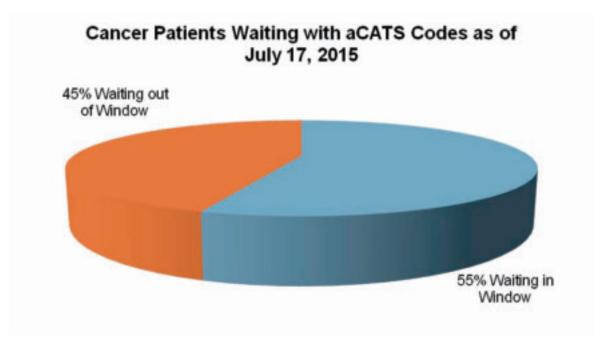


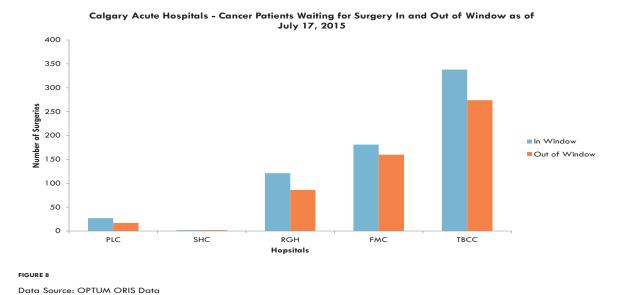
FIGURE 6

Data Source: OPTUM ORIS Data



Section 4: Total Cancer Patients Waiting (as of July 17, 2015)

The graphs below highlight the number of cancer patients waiting in and out of window as of July 17, 2015. This data does not include non-hospital surgical facilities. Figure 7 is the percentage of patients waiting in and out of window. Figure 8 is the number of patients waiting in and out of window by site.



The process to move from spread to optimization began in November 2014. The focus of this transition is on improving the quality of data, reviewing reports and modifying them to be effective scheduling and decision making tools for both surgeons and operations, and working with operations to review the current booking process and helping to improve and standardize where necessary – where aCATS affects the process.

#### **FEEDBACK**

In November, three surveys were sent out to gather feedback as the project moves past the halfway mark. Two different surveys were sent out to providers (surgeons and medical office assistants) and site operational leads. The third piece of feedback comprised of interviews with aCATS Leads. The Survey and Evaluation Team are currently analyzing the data and compiling the report. The feedback will be used to guide the ongoing optimization activities.

For more information about aCATS, please contact Bryan Atwood at bryan.atwood@albertahealthservices. ca.

#### **Enhanced Recovery after Surgery sees Success**

The Diabetes, Obesity and Nutrition (DON) SCN officially transitioned the ERAS project to the Surgery SCN in Spring 2015. Along with this transition, ERAS Alberta was formed to coordinate the implementation and research arms of this work. The 2015-16 plan

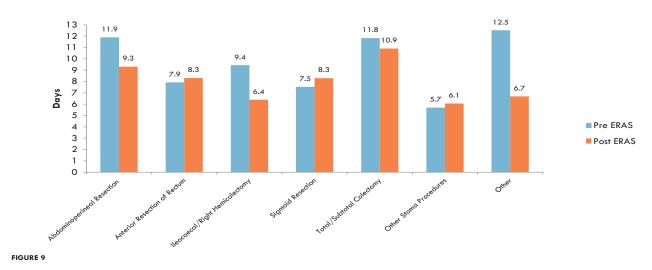
includes expanding from colorectal surgery to other surgical procedures and spreading the ERAS colorectal pathway to three additional sites including Rockyview General Hospital.

At the six initial hospitals, the application of ERAS to colorectal surgery showed improved outcomes for surgical patients. On average, patients spent 1.6 fewer days in the hospital and rates of complication were reduced (Figure 10). Data was collected across the six hospitals through an ERAS interactive audit system (See graphs below). The initial sites included the Grey Nuns Community Hospital, Misericordia Community Hospital, University of Alberta Hospital, Royal Alexandra Hospital, Foothills Medical Center and Peter Lougheed Centre.

ERAS site interdisciplinary teams — led by a surgeon, an anesthesiologist and a nurse ERAS coordinator — continue to improve care at the site level through ongoing review of compliance and outcome audit data.

Each site also engages in provincial learning collaboratives that drive quality improvement and share best practice across surgical programs province wide. Pre ERAS data was collected at different times, depending on phase of implementation at the site. The pre and post data below represents a combination of all sites. The total number of patients pre-ERAS totaled 331. The number of patients post-ERAS totaled 1296.

#### Mean Length of Stay Before and After ERAS Patients (May 2013-2015)



Data Source: ERAS Alberta 2014-2015 Evaluation Report

#### **SUCCESSES**

Six day median LOS target for elective colorectal surgical patients across six sites have been met or exceeded. Average hospital length of stay has decreased by 18 per cent, freeing up almost 3,000 total bed days, creating the capacity for additional surgeries without having to add a single new bed.

The graph below provides a summary of complication rates for only PLC and Grey Nuns Hospital.

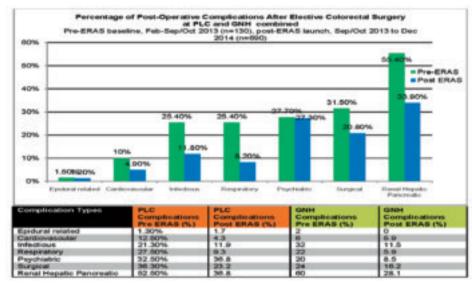
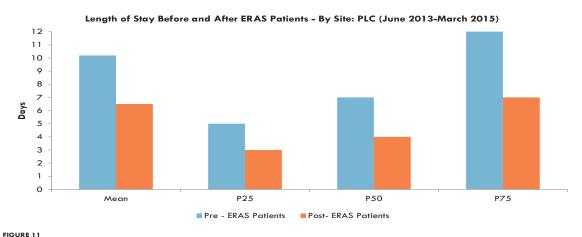


FIGURE 10

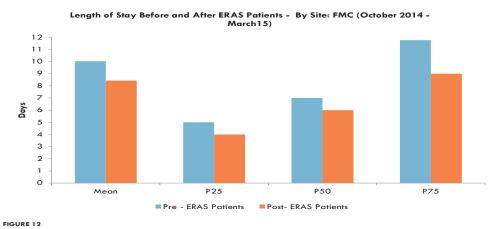
#### LENGTH OF STAY REDUCTION FOR PLC AND FMC

The team at PLC, led by Dr. John Heine and anesthesiologist Dr. Dean Jordan achieved a mean reduction in length of stay by 3.69 days. The total number of patients pre-ERAS was 75, and the total number of patients post-ERAS was 558



Data Source: ERAS Alberta 2014-2015 Evaluation Report

The team at FMC, led Dr. Tony Maclean and Dr. Don Buie and anesthesiologists Dr. Michael Chong and Dr. Duc Ha achieved a mean reduction in length of stay by 1.49 days. The number of patients captured on the pre-ERAS data totaled 54, and the number of patients post-ERAS totaled 137.



Data Source: ERAS Alberta 2014-2015 Evaluation Report

For information about ERAS in Alberta, please contact Jeannette Lawrence at <u>jeannette.lawrence@albertahealthservices.ca</u>

### **NSQIP** takes flight

In the fall of 2014, the Surgery Strategic Clinical Network officially launched the National Surgery Quality Improvement Program (NSQIP) project. NSQIP depends upon clinical data that is rigorously collected and accurately risk-adjusted in order to understand and improve performance.

Five sites began implementing NSQIP in October 2014: Rockyview General Hospital, University of Alberta Hospital, Red Deer Regional Hospital, Queen Elizabeth II Hospital and Chinook Regional Hospital. Each site identified a Surgeon and Anesthesia Champion and hired a Surgical Clinical Reviewer (SCR) to lead the data abstraction. SCRs from each site completed a fourweek intensive training course passing the certification exam early in 2015.

Data collection is now underway and teams are beginning to link with the existing Quality Improvement (QI) and Quality Assurance (QA) mechanisms, committees and resources in their respective sites and zones to ensure they are well-positioned to effectively use NSQIP reports to make measurable improvements in clinical care.

Dr. Lea Austen, Surgeon Champion; Dr. David Liepert, Anesthesia Champion; and Renee Duckworth, SCR form the core NSQIP Team at Rockyview. Dr. Liepert has been amazed by the QA and QI resources which exist within Alberta Health Services while Renee Duckworth, is confident that Rockyview is positioned for success: "I believe that one of the major successes so far has been the development of relationships between numerous different Alberta Health Services departments which have in turn helped ensure the success of the NSQIP project launch here at the Rockyview General Hospital." For more information about NSQIP, please contact

Stacy Kozak at stacy.kozak@albertahealthservices.ca or go to http://site.acsnsqip.org/

# Safe Surgery Checklist Transitions to Operations

Safe Surgery Checklist (SSC) project officially transition to operations in December 2014. The Surgery SCN, Zone Implementation Leads (ZILs), Knowledge Management and Clinical Quality Metrics (CQM) continue to work collaboratively to ensure the checklist is consistently used across the province.

Use of the checklist is tracked through observational audits conducted every month at each surgical facility. In order to support auditors in providing consistent and accurate audits, an auditor-training module was launched on MyLearningLink. Nearly 200 auditors have taken the course.

Based on observational audits over the past 12 months, provincial compliance is above 90 per cent and the checklist is effective in catching potential errors in nearly four per cent of cases. In Calgary Zone, compliance is above 93 per cent (average over the fiscal year).

#### RESULTS

"Good Catches" = Averted Errors

The true value of the checklist is making surgery safer. In addition to recording compliance with the checklist, authors also note occasions where use of the checklist results in preventing an error. Observed averted errors range from an incomplete consent form to pre-op antibiotic allergy to wrong site or sided surgeries. In 2014-15, from the observational audits, 119 errors were averted as a result of the use of the SSC. By extrapolation, it is likely that more than 7,100 errors were avoided through the use of SSC.

### ANNUAL REPORT 2014/2015

Observed Averted Errors through Use of the SSC: Calgary Zone 2014-2015

	Surgeries Audited	Averted Errors	Non Audited Surgeries	Potential Non- audited averted errors
Q1.	361	29 (8%)	24,450	1,964
Q2.	315	35 (11%)	20,520	2,280
Q3.	380	28 (7.4%)	23,962	1,766
Q4.	373	17 (4.6%)	24,659	1,124
Total	1,429	119 (8%)	93,591	7,134

Safe Surgery Checklist Step Completion Rates by Site Q4 2014-15

Zone	Briefing Completion Rate (%)		Timeout Completion Rate (%)		Debriefing Completion Rate (%)				
	Correct Time	3 staff present	All portions covered	Correct Time	3 staff present	All portions covered	Correct Time	3 staff present	All portions covered
Alberta Children's Hospital	100	98	98	100	85	100	87	91	85
Canmore General Hospital	96	85	96	100	96	100	100	96	96
Foothills Medical Centre	100	100	100	100	100	100	100	98	100
High River General Hospital	100	100	100	100	100	100	100	100	100
Peter Lougheed Centre	100	100	100	100	96	100	96	96	96
Rockyview General Hospital	100	100	100	100	98	100	100	100	98
South Campus Health Centre	99	99	97	99	97	97	99	97	97
Calgary Zone	99	98	99	100	97	99	98	97	97
Alberta	99	95	98	100	98	98	99	98	98

Target was met (current target is 100%)

Approaching target (within 10%)

Need for investigation or follow up (lower than within 10% of target)

Data Source: Q4 Quarterly compliance zone reports: Calgary Zone

### **Surgeons' Day**

Surgeons' Day – a research symposium and dinner to acknowledge and honour the accomplishments of residents, fellows, medical students and surgeons took place in mid-June. The 33rd symposium was held at the Libin Theatre on Foothills Campus June 12, 2015.

The day was filled with four podium presentations sessions where resident research was presented, including, "The Effect of Synovectomy in Total Knee Arthroplasty for Primary Osteoarthritis: A Meta-Analysis, by Dr. Sahil Kooner and Same-Day Discharge Achieved for Mastectomy with Implant Reconstruction Patients Using an Enhanced Care Pathway, by Dr. Danielle Dumestre, "Tryotase as a Biomarker of Post-Traumatic Joint Contracture in a Rabbit Model," by Dr. Michaela Kopka.



Dr. Holly Mewhort presents her winning poster.



Drs. John Kortbeek and Indraneel Datta at the Surgeons' Day Gala

Drs. Marlis Sabo, Indraneel Datta, Justin LeBlanc, and Fabio Ferri de Barros served as sessional moderators, introducing the speakers and moderating during the question period. Dr. Norman Schachar and Dr. Douglas Hedden were the judges for the day, as well as guest lecturers. A memoriam presentation for the late Dr. Cy Frank was presented by Dr. Nigel Shrive.

Dr. Schachar presented "A Paradigm Shift — Bone Banking from Bench to Bedside and Back" as the McMurtry Lecturer. This also serving as the launch of his new book, "The Department — A Surgeon's Memories...Before I Forget," which he signed copies of during the gala that evening.

Dr. Hedden discussed "The Future of Academic Surgery" as the McPhedran lecturer, and gave his input on academia and a career as a surgeon.

Posters were presented, reviewed by judges, and led by Dr. Shannon Puloski throughout the lunch break.

The evening gala and awards ceremony took place at the Sheraton Eau Claire, where distinguished service and resident-nominated awards are presented annually.

The Distinguished Service Awards are presented to a surgeon from each Calgary facility. This year's recipients were Dr. William Hyndman, from Alberta Children's Hospital, Dr. George Hamilton from Peter Lougheed Centre, and Dr. Garnette Sutherland from Foothills Medical Centre, with the Rockyview General Hospital winner to be awarded next year.

Dr. Joseph Dort and the Head and Neck Surgical Oncology Program received the Surgical Innovation Award for 2015.

The McPhedran Award for Innovation in Surgical Teaching was given to Dr. Jason Werle for his work with the TELUS Spark: Direct from the Operating Room School Program.

The two educator of the year awards were also presented. Dr. Peter Lewkonia was awarded the 2015 Educator of the Year Award while Dr. Andrew Graham was awarded the 2015 Ectopic Educator of the Year Award.

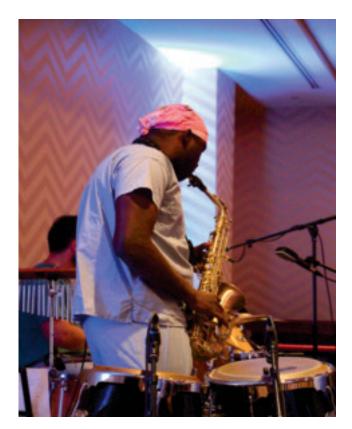
Resident awards were given to categories – Best Overall Research, Honorable Mention for Overall Research, and Best Poster, as well as an award for Best Research by a Fellow.

Dr. Devon Livingston of the Section of Orthopedics, received the award for Best Overall Research for his presentation, "Loop Mediated Isothermal Amplification (LAMP) for the Detection and Subtyping of Human Papillomaviruses (HPV) in Oropharyngeal Squamous Cell Carcinoma (OPSCC)."

Dr. Meulenkamp, of the Section of General Surgery, received the Honourable Mention for Overall Research for his presentation, "Incidence, Risk Factors and Location of Articular Maledictions of the Tibial Plateau," for which he also won Best Paper by a Surgical Fellow.

Dr. Holly Mewhort of the Section of Cardiac Surgery received the award for Best Poster, for her poster, "Monocytes Increase Human Cardiac Myofibroblast-Mediated Extracellular Matrix Remodeling Through TGF-B1."

The gala wrapped up with dancing and a performance by the Not Dave Trio, a resident band accompanied by Dr. Don Buie.



Resident band 'Not Dave Trio' perform at Surgeons' Day Gala

### **Rectal Cancer Pathway**

The Rectal Cancer pathway was introduced in 2014 when Dr. Don Buie and Dr. John Heine received the PRIHS grant. It was piloted to take the patient through from diagnosis to treatment and optimizing their treatment strategies and options.

"This gives the opportunity for anyone who is diagnosed with rectal cancer in the province the same opportunity for care to the same standard as well as raising the standard of care through all modalities," Dr. Buie said about the pathway.

So far the Rectal Cancer pathway has been successful in getting buy in from all major groups of care which would standardize care through all components of care.

Surgeons have had a couple of sessions on optimizing surgical care and we are doing a couple of other projects within the big project where we are using a new reporting technique. With the ultimate goal being real time care throughout the province and reporting back to individual providers so they can see how their care relates to the provincial level.

Clinical pathways provide a standardized method of care that includes multi-disciplinary aspects to improve efficiency and the patient experience.

The project looks to focus on providers who have an interest in rectal cancer, whether they are radiologists, surgeons, pathologists, chemotherapists or radiotherapists.

The pathway looks at collecting data throughout the province of Alberta and then feeding it back to the providers so that they can see how their patients are doing compared to other parts of the province.

The program has engaged radiologists in the province, and we are getting synoptic reports from them as well as with pathologists. "If we can standardize this it will improve care across the province and save lives, because it will lower the chance of reoccurence," Dr. Buie says regarding how this new pathway affects patient care.

"We received the PRIHS grant in January of 2015, so we are halfway through the grant now and we have another half to go," he says "and we are hoping to extend that by one more year, because it will take another year to get everything stabilized.

# **Leadership Retreat**

On April 23rd and 24th the department of surgery held a retreat with the University of Calgary entitled "You are a surgeon, but are you a leader?" The retreat was held in Banff with several workshops taking place over the course of the two day event.

The purpose of the retreat was to familiarize the surgical department with LEADS framework for physician leadership as well as to support and promote surgical leadership within the department of surgery in Calgary.

Following the retreat LEADS participants were be able to:

- 1. Understand more about what Surgical Leadership means to them and develop techniques to teach more effectively
- 2. Understand the LEADS Framework for the development of Physician Leadership in Canada
- 3. Be able to discuss the literature regarding Surgeons as Leaders
- 4. Understand some of the Challenges/Impediments to Surgeons as Leaders
- 5. The ability to use the 'Lead-self' model in which participants learn to coach their self awareness and personal development.

The goals in regard to outcomes from the retreat included providing a clear understanding of the need to 'Lead Self' first and provide some suggested means of achieving this, create an awareness of how team composition can impact on success, demonstrate the potential role of Executive Coaching in personal leadership development, continue the discussion regarding a Leadership Development Program for members of the Department of Surgery, University of Calgary.

### MacNeill Chair



The MacNeill Family - Photo provided by: Alberta Health Services

The largest boost this past year in helping us to increase our academic profile came from Brian and Brenda MacNeill. They generously donated funds to develop the first Chair in Pediatric Surgery in Western Canada, which was announced in May 2014 and the terms of reference were finalized in November 2014. The Chair is linked to the position of Section Chief of Pediatric Surgery and Site Chief of Surgery at ACH. The purpose of the Chair is to foster a strong, progressive academic environment for Pediatric Surgery. A proposal on how to use the funding was presented to the Advisory committee in January 2015 and in March a call for Letters of Intent was sent to our section members for proposals on projects that would meet this purpose. Ten projects were submitted and reviewed by a selection committee consisting of experienced researchers.

The successful project will be lead by Dr. Mary Brindle, entitled: The EQUIS OR (Efficiency, Quality, Innovation and Safety OR). It is a research platform to evaluate and improve outcomes and aligns nicely with the strategic priorities of ACHRI, specifically the Healthy Outcomes Pillar.

The team is multidisicplinary and includes members from most of the Divisions in Pediatric Surgery and will collaborate with quality improvement researchers at ACH and will also include members from nursing and anesthesia at ACH. The research platform will oversee multiple projects with the ultimate aim of benefiting the Pediatric population at ACH and worldwide and is expected to have a high likelihood of leading to sustainable outcomes.

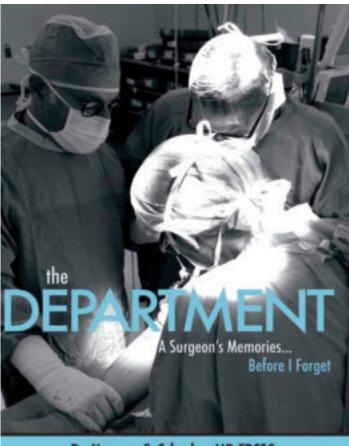
The local philanthropists who have been supporters of the Alberta Children's Hospital and this donation is the largest single donation ever received by the ACH. Brian and Brenda MacNeill have a genuine interest in helping children in our community who are served by the hospital and these funds will go directly to helping and treating children in the Calgary area.

By supporting the use of these funds for research the MacNeill's are assisting in the crucial advancement of child health research - they understand and accept that getting to the root of child health problems is key to solving them and treating them in the most effective way possible.

This gift will allow surgeons to continue to perform over 10,000 surgeries at the ACH annually, and will also allow them to perform more intricate surgeries with more precision than previously possible.

Dr. Frankie Fraulin, Section Chief of Pediatric Surgery is certain this funding will help children receive treatment and return to health more quickly than ever before.

### The Department - Dr. Schachar



Dr. Norman S. Schachar MD FRCSC with Zoey Duncan

Dr. Norman Schachar took a different approach to history when he was asked to write a book about the history of the Department of Surgery in Calgary. Being one of the inaugural residents who attended the University of Calgary residency program, and an avid story teller, Dr. Schachar was the perfect choice. What has been produced from those memories is a memoir unlike any other.

Dr. Schachar knew he could tell stories, but also knew that he needed some help when it came to putting them on paper, which is where Zoey Duncan and the ZEDS came in, a family dedicated to communication. Duncan was able to take the memories that had been so carefully preserved in Dr. Schachar's mind and turn them into, "The Department – A Surgeon's Memories...Before I Forget."

Dr. Schachar can tell stories better if he puts a little humour in it, in his mind, and he says "If I am telling a story and somebody laughs, I know at least they are listening, so for me it's an indicator, and it's easier when you are telling a long story, and it's easier to laugh than to cry," Dr. Schachar says, which led Duncan and Dr. Schachar to create the book, which left out the scandals and arguments because he didn't want to write that type of book.

When Dr. Schachar was asked about his favorite story, it was difficult for him to pick just one, because they are all favorites. He did mention the tale of how he was admitted to Orthopedics in Calgary!

Duncan got involved after receiving a call from Dr. Schachar who said he needed help. She felt that the opportunity was too good to pass up. "You don't think that a couple of years after graduating from journalism school you would have the opportunity to help someone write a book about their life," Duncan said. Dr. Schachar appreciated the help with Duncan quickly catching on to the stories and experiences with very few questions asked.

The process of the book, which took over a year and a half to write and took up most of Dr. Schachar's sabbatical year, and many interviews.

Dr. Schachar has many stories to tell, including sneaking his wife out of his apartment in the South Tower at the Foothills Medical Centre. The stories have even caught the eye of Mayor Naheed Nenshi, who is requesting his own copy – which Dr. Schachar plans to hand deliver with Duncan.



Zoey Duncan poses with family and 'The Department' at the Surgeons' Day Gala

The Department covers the time from Dr. Schachar's career beginnings at the Foothills Hospital in 1970 when he had no idea what was about to unfold, or how he was going to last in this new city, to following his new surgical idol into the bathroom. It is filled with each era in the department from Dr. Tait McPhedran to present with Dr. John Kortbeek. The book is a story book, not a history book. It is filled with memories and changes. Dr. Schachar wants readers to know, if they don't feel like reading the whole thing - just read the table of contents, it will give you the basics.

The book just happens to fall on the 50th anniversary of the University of Calgary, and the book is the perfect way to commemorate the occasion. The book is available at the medical bookstore with a portion of proceeds going to the Norman Schachar Education Fund of the Calgary Surgical Education and Research Trust. Dr. Norman Schachar is currently living in Calgary with his wife.



Dr. Schachar signs copies of "The Department" at the Surgeons' Day Gala

### **History of Transplant Surgery**



Photo Courtesy of: Flickr

The first living kidney donation and transplantation successfully took place between identical twin brothers in Boston on December 23, 1954. The surgery was performed by Dr. Joseph Murray and Dr. Murray was awarded the Nobel Prize in Medicine later in 1990's. Kidney transplantation had started as a difficult surgical and scientific challenge confined to a few academic centres world-wide and was not developed until the 1980's. Discovery of Cyclosporine (immunosuppressive agent) led transplantation surgery to become a routine surgery service in all parts of developed countries.

The first kidney transplant in Southern Alberta took place at the Foothills Medical Centre on May 13, 1971 on a cadaver donor. In the early years in Calgary, Dr. Bernie Churchill, Dr. Jack Williams, Dr. William Hyndman, Dr. George Abouna, and Dr. Mike Schneider all influenced and undoubtedly shaped the future direction of Transplant Surgery as they are the first pioneer surgeons in this field in Calgary.

Dr. Henry Mandin and Dr. Larry Atkins referred, managed, and followed those patients by keeping them alive without established coordination, lack of proper immunosuppressive drugs and immunologic monitoring. In 1974, the first living donor kidney transplant was done. By the end of 1977, 91 transplant surgeries had been completed. In the same year a Tissue Typing Laboratory was built by Dr. John Klassen. Dr. Klassen arrived in Calgary from Montreal as a Transplant Nephrologist and Immunologist. In those years, tissue and organ retrieval were not organized, and there was no program in place to try to increase donor supply by educating the medical community and public. Organ donation and transplantation was still thought of as research at the time. 1979, the HOPE (Human Organ Procurement and Exchange Program) office opened in both Calgary and Edmonton to organize potential organ and tissue donors and was led by Dr. John Klassen. From 1977 - 1997, Dr. John Klassen was then later joined with the addition of Dr. Leen Paul and both were leading the transplant activities as transplant nephrologists.

There were more than 500 kidney transplants done in Calgary during that time. Dr. Francis Sutherland who joined as a Transplant surgeon, and was the Medical Director of the HOPE Program in 1993-97, had more kidney transplantation performed and multiorgan retrieval was started from deceased donors. The first living unrelated donor transplant was performed in September 1987 which was considered major Ethical dilemma in those years.

In 1997, Dr. Serdar Yilmaz, a transplant surgeon from Ohio State, and Dr. Azemi Brama from Dalhousie, Halifax came to the Foothills Medical Centre where there were no transplant activity in Calgary. Division of Transplant Surgery was established by Dr. Serdar Yilmaz. The Division of Transplant Surgery revitalized the kidney transplant program Dr. Yilmaz was appointed as first division chief. Dr. Rene Lafreniere who was the Chief of the Department of Surgery at that time was very instrumental. Dr. Serdar Yilmaz and Dr. Azami Barama performed the first combined kidney-pancreas transplant in Western Canada on March 5, 1998.

Dr. Yilmaz developed an electronic in-house information Transplant database which would be later called ALTRABase in 1998. This system was also including the HOPE Program, the Living Donation and the Tissue Typing Laboratory as well, which facilitated seamless patient care.

During that period a residency-training program was implemented for general surgery residents and a transplant surgery fellowship program and a transplant research fellowship was established. In 2002, the Transplant Surgery section graduated its first Transplant Surgeon, Dr. Mauricio Monroy-Cuadros, who is now the Fellowship Director for Multi-Organ Transplant Fellowship Program and the Medical Director for the Living Donor Southern Alberta Transplant Program.

In December 2001, Dr. Anastasio Salazar, who was recruited from Halifax, performed the first Laparoscopic Donor Nephrectomy together with visiting surgeon Dr.

Ronald Pelletiere from Ohio State. This was the first of this kind in Western Canada. During the same time the Transplant In-Patient Service with step down unit was built on Unit 37 at the Foothills Medical Centre in 2002.

Until 2002 Transplant Surgery fell under the umbrella of the respective organ programs. However, in 2002 with the leadership of Dr. Yilmaz, all organ transplant groups were brought together to start a single integrated transplant program. This incorporated the Living Donor Program, collaborating with the Haskayne School of Business with the University of Calgary. The amalgamation of the Transplant Program under one administration and one physical location occurred in May 2003. Adult kidney, kidney/pancreas, liver, heart and lung transplant patients are followed pre and post transplant at the Foothills Medical Centre, and pediatric patients are followed at the Alberta Children's Hospital. The transplant surgery for kidney and pancreas is performed in Calgary, however, the transplant surgery for heart, liver and lung is performed in Edmonton.

The idea was to bring all the organ groups together so that they could share other resources such as social work, nursing, nutrition, and all of the supports that are necessary for complete patient care, bringing together the different departments into one program. This organization model mainly focused on Disease Management which still remains innovative when compared to other parts of the country. The Transplant Program involves a wide variety of specialties including surgeons, hepatologists, nephrologists, respirologists, cardiologists, pathologists, and clinical service staff including nurse clinicians, social workers, pharmacists, dieticians, psychologists, and psychiatrists. In addition the program involves clinical, translational, and wet bench research as well as surgical education. Many patients are involved in translational research with the research protocol being an active part of their care.

Over the past 18 years, since the inception of the Section of Transplantation, the total numbers of kidney transplantations were more than 1000 and almost 100 of them have been combined kidney-

pancreas transplantation. Patient survival rates at 10 years were 90% for recipients of living donor kidneys, and 79% for recipients of deceased donor kidneys. Kidney graft survival at 10 years was 75% for recipients of living donor kidneys and 63% for recipients of deceased donor kidneys in Calgary. Calgary survival rates were much better; ten year average rates for US centres. The significant variation between Calgary and average US centre rates is possibly the implementation of patient centric disease management and longitudinal follow-up in a multidisciplinary environment with a comprehensive patient care information system.

The Kidney/Pancreas Transplant Team includes: Transplant Surgeons Dr. Serdar Yilmaz, Dr. Anastasio Salazar, and Dr. Mauricio Monroy-Cuadros and Transplant Nephrologists Dr. Lee-Ann Tibbles, Dr. Kevin McLaughlin, and Dr. Wenji Wang. The Transplant Program has mentored five surgical and two medical transplant fellows since the beginning.

The team utilized Anonymous Living Donation as a source to increase Living Donation in the ALTRA and performed our first anonymous donation transplant in 2010. Dr. Monroy facilitated in the concept, organized and established the Living Donor Paired Exchange (SATP) as a way to increase the potential number of donors in the region. The first local chain transplant was performed in 2011. The first ABO incompatible transplant initiated by Dr. Mauricio Monroy-Cuadros was performed in July 2013.

Finally, Dr. Yilmaz was serving as a Division Chief since the inception of the Transplant Surgery in 1997 and the inception of the ALTRA Program in 2003 handed the reins over to Dr. Salazar for the role of Division Chief of Transplant and Dr. Tibbles as the Medical Director for ALTRA for a new fresh vision in 2012.



Mr. Ralph Tibbles, one of Canada's most recognized Graphic Designers, developed our ALTRA logo. He is also the designer of the official Canada Logo. ALTRA stands for Alberta Transplant and is the new logo of the Southern Alberta Transplant Program. The left side darkly shaded side represents the organ in its "sick" state. The shape on the right side is the new transplanted organ. The color change as the shading moves from darkness to light signifies the transition from a state of illness to health. The centre represents the surgeon's knife.

### **PRIHS Grant**

PRIHS: Partnership for Research and Innovation in the Health System is a grant which partners with Alberta Health Services, supports networks of health researchers and clinical practitioners to improve the care and value of the health care system.

Drs. Gregg Nelson and Leah Gramlich received the grant this past year for their innovative work with ERAS: Enhanced recovery after surgery; a program which is innovative and has shown amazing promise at both Calgary and Edmonton hospitals. ERAS looks to lower post-operative complications and readmissions and numbers have shown a drop of almost 50% since introduction.

Alberta is the first market to apply ERAS provincially and the PRIHS funding is helping to keep that momentum going as research is able to continue and expansion into other disciplines is on the horizon.

Part of the ERAS plan is to re-evaluate traditional surgical procedures and involving the patients in their care as a significant part of their care team. Dr. Gregg Nelson stresses that everyone working as part of a team is key for ERAS. Nurses, surgeons, residents, patients and families are all involved in the process and without that involvement the results are less significant.

From early research in 1,000 cases of colorectal surgery, research showed that patients were discharged sooner, and readmission rates were significantly lower.

The ERAS framework has six key principles:

- 1. preoperative counseling
- 2. preoperative nutrition
- 3. no fasting before and after surgery
- 4. carbohydrate loading before surgery
- 5. standardized medications for pain
- 6. getting patients up, eating and mobile soon after surgery

So far six sites in Alberta are involved, Peter Lougheed Centre and Foothills Medical Centre in Calgary and Grey Nuns Community Hospital, Royal Alexandra Hospital, Misericordia Community Hospital and the University of Alberta Hospital in Edmonton with more to be added in the near future.

# **Surgical Foundations Retreat**



In its 8th year the Surgical Foundations Teacher-Training workshop included PGY-1 residents from both the University of Calgary and the University of Alberta for the second time, this past retreat taking place March 6-7 was also the second time that faculty from both establishments combined to teach the large learner group.

This year, Dr. Marcia Clark (orthopedics) introduced the Insights course to the learners. The "valuable leadership course that I have used every week in my clinical and academic life since I took it 7 years ago," Dr. Clark wrote to residents in an email before the retreat. The course, which begins with a survey, teaches individuals about their learning habits and behaviours.

The retreat gave residents the opportunity to develop their teaching skills and gave them the skills to think clearly about their roles as lifelong learners and teachers of surgery. While at the retreat they developed how to:

- Prepare for teaching
- Develop techniques to teach more effectively
- Consider the educational needs of students and residents and
- Interact more effectively with other members of clinical and learning teams among other valuable skills.

The experience was valuable to all in attendance, with residents being asked to bring something to teach, that was not medical related, to highlight some of the teaching skills they have and the ones they would like to learn.

"The concept is fantastic. I would definitely attend something like this again," were some of the positive sentiments residents had when speaking of the retreat after it concluded.

The plan is to continue the workshop retreat so that all of the University of Calgary future surgeons are prepared for their roles as teachers and leaders.

### South Health Campus Research



South Health Campus Photo Provided by: Colin Mchattie

Based on the successful research programs within the department, South Health Campus has initiated its own research program. The program is within the Department of Surgery, specifically Orthopaedics. The program focuses on surgical outcomes.

"Dr. Neil White as the research head along with Dr. Stephen Miller as the Orthopedic site chief there, decided that research was going to be a vital part of SHC. Most of that drive came from Dr. White, who as a former resident helped elevate the research program at the Foothills Medical Centre," Kimberly Carcary who developed the program and is the clinical research manager at FMC says about the development in the new hospital.

Dr. White realized it was key to have a dedicated resource put in place for research and came back to Calgary to set up the program at South Health. Lisa Murphy is support for the clinics that have been developed at South Health and has become the vital link to making the research program expansion possible.

The program at Foothills secured enough funding over time since the program was established that the program was expanded to SHC once the hospital opened. Lisa Murphy, the research assistant for the program at South Health is assisting in eight studies that are currently enrolling patients. "We are looking forward to having our own studies independent from what is happening at FMC," Murphy says, with the ultimate goal being better patient care and practice changing research. "There are unanswered questions about what is the best patient care in orthopaedics, as well as looking into new procedures, such as whether particular injuries need surgery or not, and the only way to figure these things out is to enrol enough patients," Murphy says of the program.

"We are lucky to have a team that is willing to help with research, because it is in addition to their practice," Murphy says about the engagement from the surgeons involved with the program. The hope is to get more studies up and running and increase recruitment. Given that it is a brand new hospital, there is an expectation that a new hospital will be progressive so this new program adds to that progressive nature, and the South Health Campus is just laying the groundwork for new and patient focused initiatives.

The goals for the research program long term include:

- 1. Active recruitment for:
- Orthopaedic trauma basic scientist.
- Full time traumatologist with interest in upper extremity.
- Trauma Surgeon with expertise in soft tissue techniques (repair, reconstruction).
- Trauma surgeon with expertise in geriatrics and osteoporosis.
- Trauma Surgeon with interest in informatics and registry development.
- Trauma specialist with an interest in orthopaedic education
- Trauma specialist with interest in administration
- 2. Adequate operating room (OR) time (daytime trauma time) for patients within the Calgary Zone's catchment area with the generalized guidelines being established of 'the right hospital for the right patient at the right time to the right surgeon.'

- 3. Physician support for the orthopaedic trauma program especially with the development of the SHC. This campus should solidify Orthopaedic Trauma as a "way of life" for the young orthopaedic trauma surgeon.
- 4. Ongoing growth of the orthopaedic trauma program for public and professional education/knowledge expansion.
- 5. Persist at "finishing trauma studies started".
- 6. Continue to foster Calgary surgeons at all levels of orthopedic trauma education locally, regionally, nationally and internationally.
- 7. Continue building an Orthopedic Trauma research team that has strength of character and is thought of world-wide when a research question comes to mind.
- 8. Development of an Endowment within the University of Calgary for sustaining a Trauma Professorship position.



Dr. Neil White, South Health Campus



Kimberly Carcary, Clinical Research Manager with Melissa Lorenzo, a former Clinical Research Assistant.

Photo Courtesy of: Orthopaedic Trauma Annual Report

### **Quality & Safety**

### SECTION STRUCTURE AND ORGANIZATION

Co-Director of Safety Surgical Services Calgary Zone Pediatric Representative:

Structure
Surgical Representative
ACH Quality Assurance Council
Member
Surgical Services Quality Assurance Subcommittee

#### ACCOMPLISHMENTS AND HIGHLIGHTS

Two pediatric quality assurance reviews that involved surgical issues were completed in the past year.

**ACH QAR 355 recommendation** – That guidelines be developed to direct all admitted post-op patients to be clinically assessed and have orders reviewed by a physician upon admission to a unit.

These guidelines were developed and adopted. It is expected that these will be published under Practice Support Documents – Alberta Children's Hospital on the AHS website in the future. Post-operatively physicians are expected to complete order review, documentation of relevant operative findings, communication to the most responsible physician if not the surgeon, and post-operative documentation and notes.

Pediatric Aphakia Implant Guidelines were adopted by the Calgary Zone Department of Surgery upon the request of the Surgical Services Quality Assurance Subcommittee. ACH QAR4251 recommendation involves investigation and diagnosis of appendicitis patient and the reporting issues between the ACH Emergency Department and ACH Diagnostic Imaging. Recommendations are being finalized.

#### **EDUCATION**

Attended course – Investigation and Managing Patient Safety Events Feb 24-26 W21C

#### **FUTURE DIRECTION AND INITIATIVES**

Integration of quality assurance research within the Section of Pediatric Surgery MacNeill Chair within the EQuIS project under the leadership of Dr. Mary Brindle.

#### PHYSICIAN LEADS

Dr. Elaine Joughin - Pediatric Surgery Dr. Sean Grondin - Thoracic Surgery

### Office of Surgical Education

### SECTION STRUCTURE AND ORGANIZATION

The Office of Surgical Education is designed and structured to assist, coordinate and enhance education in the Department of Surgery for undergraduate medical students, postgraduate learners like residents and fellows as well and continuing medical education and professional development of the surgeons in the Department. It also participates and facilitates education of surgical topics outside the Department in the community.



Dr. Jacques Bouchard, Office of Surgical Education Physician Lead Photo provided by Dr. Jacques Bouchard

OSE  Director: Jacques Bouchard					
	Directo	r:Jacques B	ouchard		
SUGEC Chair: Adrian Harvey	Surgical Foundations (R1-2) Director: Dr. Marcia Clark	PGSTC (R1-R5) Chair: Dr. Richard Buckley	Postgraduate Fellows Chair: Dr. James Powell	CME Chair: Dr. Ian Anderson	

### **ACCOMPLISHMENTS AND HIGHLIGHTS**

Dr. Richard Buckley:

Dr. Buckley stepped down from the position of Chair of PGSTC and Co-Director of Surgical Foundations in February 2015 after 10 years of dedicated, passionate and marvelous leadership of this committee. For the first 9 years of his tenure the PGSTC committee coordinated the activities of all residents in the Department including the activities of Surgical Foundations. He has developed an enviable CanMEDS program that has touched on all the non-expert roles on a monthly basis and providing unique views to residents by having all the sections organize sessions, inviting outside guests to teach or sometimes having residents do field trips to learn certain topics. These sessions also incorporated

pre and post tests to evaluate the resident knowledge and determine what they should be taught.

He also quarterbacked the Principles of Surgery review sessions (now called Foundations of Surgery) and the R1 Critical Thinking Course. He was instrumental in getting the resident's research skills and projects off the ground for the whole Department. In the past year, as a result of Royal College Standards, Surgical Foundations and some of the activities of the committee have been separated but close collaboration between the 2 committees has allowed for and enhanced curriculum and a continuation of the solid curriculum and structure elaborated under Dr. Buckley's leadership.

PROGRAM	Physician as Chair	FUNCTION
UME / SUGEC	Dr. Jacques Bousbard	Course Chair of the Surgery Clerkship and chairs SUGEC. The section representatives of the Undergraduate Clerkship sit on the Surgical Undergraduate Education Committee (SUGEC)  Sits on the University of Calgary UMEC and U of C
	Dr. Jacques Bouchard	clerkship committee
Surgical Foundations	Dr. Marcia Clark	Surgical Foundations coordinates the PGY1 and 2 curriculum, rotations, evaluations of participating Surgical programs (General, Orthopaedics, Vascular, ENT, plastics, Neurosurgery, Vascular, Cardiac)
PGSTC	Dr. Rick Buckley (until Feb. 2015)  Dr. Jacques Bouchard (interim Chair)	Chairs the Post Graduate Surgical Training Committee and sits on PGME, University of Calgary
Fellowships	Dr. James Powell	Coordinates with PGME all Department of Surgery Fellowships
CME / CPD	Dr. Ian Anderson	Represents the Department of Surgery on University of Calgary CME / CPD committee, chaired by Associate Dean CME / CPD

Educator of the year award: Awarded by the surgical residents the 2014 recipient was Dr. Peter Lewkonia of the Section of Orthopaedic Surgery (Spine Division).

The McPhedran award for Innovation in Education was given to Dr. Jason Werle, Orthopaedic Surgery, for his very popular and ongoing interactive knee surgery series where Alberta Health Services and the Telus Sparks Centre collaborate to broadcast live from the Operating room knee replacement surgeries to junior high and high school students. This program was highlighted in the 2013-14 report.

Two surgical programs are leading the way in transforming their curriculum to a Competency Based Program. Pediatric General Surgery and ENT are in the process of implementing their new curricula and evaluations.

#### **Undergraduate Medical Education**

The Chair of the Office of Surgical Education represents the Department of Surgery on the Undergraduate Medical Education Committee (UMEC) which is a faculty wide committee formulating overall policy for the undergraduate years. UMEC is chaired by the Associate Dean, UME, University of Calgary.

The Undergraduate Medical Education curriculum comprises the activities of all of the departments through the standing course committees. As a member at large, Dr. Bouchard is able to contribute to the policy making with regard to the undergraduate curriculum and to carry information back to the Department to be disseminated throughout the various section.

### **Surgery Clerkship**

Dr. Adrian Harvey is the Course Chair of the Surgery Clerkship for the Department of Surgery and chairs the Surgical Undergraduate Education Committee (SUGEC). Ms. Dory Glaser-Watson, BScN, RN is the Education Coordinator for the surgery clerkship program and the Department of Surgery. The educational representatives, from each of the participating sections, sit on the Surgical Undergraduate Education

Committee (SUGEC). The mandate of this committee is to revise and improve clerkship experiences in core general surgery, and in all specialties, as well as to guide the experiences that each of our clerks has within the surgical rotations. These rotations consist of compulsory surgical experiences in General Surgery and selectives in the other surgical specialties.

The clerkship class of 2015 has a total of 176 clerks. The Department received 18-25 University of Calgary clerks (including UCLICs) for each of the eight surgery blocks. The 6 week rotation included 3 weeks in General Surgery, 2 weeks in either Orthopaedic surgery, Plastic Surgery or Urology and one week in any one of thoracic Surgery, Vascular surgery, Neurosurgery, Urology or Otolaryngology.

Visiting Clerks: A new nationwide portal system was developed and started accepting clerk requests for electives throughout Canada in February 2015. The AFMC - Association of Faculties of Medical Schools in Canada has an agreement with American Schools of Medicine as well as some International Schools of Medicine to accept medical students in their clerkship year for electives in Canada. Within the first month of the portal being open, there were 1200 requests for electives throughout Canada. Of the 1200 requests, over 800 were directed to the University of Calgary. These numbers reflect the quality of clerkship electives that is offered here. The number of visiting elective clerks has also increased with the addition of new surgical residency programs averaging 25 visiting clerks per month.

#### **Postgraduate Surgical Education**

Surgical Foundations

Surgical Foundations is a Royal College requirement for many surgical specialties and there are specific Standards that are followed to manage and coordinate the rotations, curriculum and educational activities of the first 2 years of these specialties. The Surgical Foundations committee is chaired by Dr. Marcia Clark who is the Director of the program. The committee members include the program directors of these

#### **ANNUAL REPORT 2014/2015**

specialties and resident representatives. The committee oversees the PGY-1 Surgical Skills course delivered by Dr. Alicia Ponton-Carss, the Surgical Foundations curriculum, the Critical Thinking Course and resident evaluations in collaboration with the home programs.

#### Surgical Residency programs

The PGSTC (Post graduate Surgical Education Training Committee) coordinates and plans the joint teaching activities to all Surgical residents, mostly non expert CanMEDS roles. These activities involve all years of residency and all residency programs including primary programs (eg. General Surgery, Orthopaedics, Plastics, Otolaryngology etc), primary residencies of other Departments (Neurosurgery and Cardiac Surgery) secondary programs (eg. Colorectal, Pediatric General surgery, General Surgical Oncology, Thoracic etc) and non-Royal College programs (Dentistry). Dr. Rick Buckley chaired the committee for 10 years until February 2015. Interim chair is Dr. Jacques Bouchard. The Chair sits on the University PGME committee and help formulate and consider all policies related to post graduate education at the University of Calgary.

The PGSTC also interacts closely with the Surgical Foundations committee and helps fill in gaps in the curriculum and avoid duplication. Some of the surgical education is done in collaboration with other Departments such as Anesthesia, OB-Gyn, Cardiac and Clinical Neurosciences.

The Teaching Methods in Surgery (TIMS) course is offered to senior residents and fellows.

The PGSTC assists the surgical residency program in the preparation for the Royal College on site surveys which was done in Calgary February 2015. This occurs every 6 years for program with full accreditation and every 2 years for programs with provisional approval.

There are residency programs in Colorectal Surgery, General Surgery, General Surgical Oncology, Ophthalmology, Orthopaedic Surgery, Otolaryngology & Head/Neck surgery, Plastic Surgery, Thoracic Surgery, Vascular Surgery, Pediatric General Surgery and Dentistry/Oral health.

PROGRAM	PROGRAM DIRECTOR	# of Residents
Colorectal Surgery	Dr. Don Buie	3
General Surgery	Dr. Lloyd Mack	33
General Surgical Oncology	Dr. Wally Temple	3
Ophthalmology	Dr. Christopher Hanson	8
Orthopedic Surgery	Dr. Jason Werle	23
Otolaryngology	Dr. Doug Bosch	7
Pediatric General Surgery	Dr. Andrew Wong	2
Plastic Surgery	Dr. David McKenzie	11
Thoracic Surgery	Dr. Sean Grondin	1
Vascular Surgery	Dr. Joyce Wong	2 Primary 1 Secondary
Dentistry & Oral Health	Dr. Eduardo Kalaydjian	2

### Fellowships:

The OSE manages the ongoing accreditation and approval of surgery Fellowships within the teaching sections. The number of fellows continues to increase and we currently have 27 fellows. Dr. James Powell is the new Director of the Fellowship programs for the Department of Surgery and Dr. Raul Kuchinad is the Director for the Orthopaedic program which has 14 fellows.

The Fellows, both national and international, are raising the awareness of the excellence of surgical programs in Calgary in addition to building academic clinical units at home.

The Department of Surgery, Faculty of Medicine and Alberta Health Services have completed a major project to establish guidelines, training objectives, Evaluations, contracts and remuneration pathways for Clinical Fellows.

Section	Program	Fellows
Orthopaedic surgery	Combined Ortho/Neuro	4
	Spine	
	Hand and wrist	2
	Orthopaedic Trauma	1
	Foot and ankle	1
	Pediatric Spine	1
	Upper extremity	1
	Joint reconstruction	3
	Sports medicine	1
General Surgery	Trauma	1
	НРВ	1
	Trauma	1
	Endocrine	1
Urology	Functional reconstruction	2
	Urologic oncology	1
Plastic Surgery	Plastic surgery oncology	2
Ophthalmology	Retina	2
	Occuloplasty	1

### Continuing Surgical Education

Dr. Ian Anderson is the Department of Surgery representative on the University of Calgary Continuing Medical Education Committee. He coordinates activities and informs the various sections about opportunities for continuing professional development. The committee meets monthly and consist of CME representatives from every department in the medical school and the Calgary Zone and there are also plans are underway to create a Department of Surgery committee that will host all of the various CME representatives from each Section to improve and enhance CME for Surgical specialists.

Dr. Ian Anderson represents the Department of Surgery on the University of Calgary CME/CPD committee which is chaired by the Associate Dean CME/CPD.

This committee is responsible for setting guidelines and providing oversight for accreditation of CME/CPD programs both within departments and sections in the faculty and external educational offerings.

Dr. Anderson has assisted in re-accrediting all of the Departments rounds and educational activities with the guidelines provided by the Royal College of Physicians and Surgeons of Canada in line with the maintenance of competence program.

### Surgical Simulation

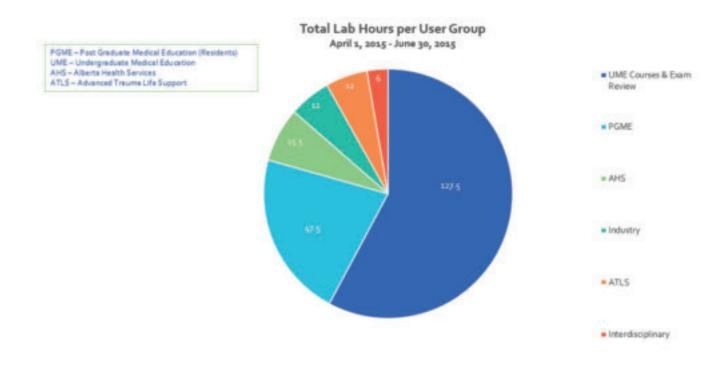
Simulation has been an increasing component of the education of medical students, residents and Surgeons. There are dedicated medical simulation sites in all the Calgary hospitals in addition to mobile units managed by

eSIM south. Since its opening in April 2014, the ATSSL (Advanced Technical Skills Simulation Laboratory) has been the site of a number of more complex surgical simulation activities. There are recurrent courses offered such as the yearly PGY-1 surgical skills course, the spine and peripheral nerve course for senior residents

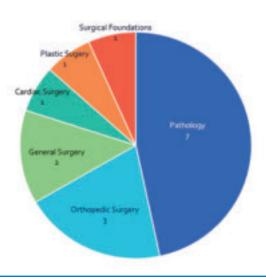
and ATSSL training to name a few. The Centre has also hosted specialty training course for physicians and surgeons of Western Canada to learn new techniques. The following list is a sampling of the activity in the lab in the first 6 months of

Date	Time	Program	Event	Description	Learner	# Learners
7-Jan-15	08:00-17:00	Spine	Spine & Nerve Course	Peripheral Nerve Approaches in upper & lower extremities	Residents	18
8-Jan-15	08:00-17:00	Spine	Spine & Nerve Course	Anterior & Posterior Cervical Spine Approaches	Residents	20
9-Jan-15	08:00-15:00	Spine	Spine & Nerve Course	Posterior & Anterolateral Thoracolumbar Spine Approaches + Neurology - craniotomies	Residents	30
15-Jan-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Vessels and Nerves of Foot	Residents	4
15-Jan-15	13:00-15:00	ENT	Anatomy Dissection	Head and Neck	Residents	6
22-Jan-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Groin flap, illiac flap	Residents	3
29-Jan-15	12:30-15:30	Plastic Surgery	Cadaver Lab	SGAP/IGAP; Gluteal V-Y	Residents	3
5-Feb-15	12:30-14:30	ENT	Anatomy Dissection	Head and Neck	Residents	7
5-Feb-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Scapular /parascapular flap	Residents	5
13-Feb-15	09:00-12:00	Ob.Gyne	Laparoscopic skills	Cystectomy, Salpingectomy	Residents	10
19-Feb-15	10:30-16:00	General Surgery	Skills Day	Laparoscopic & Open Skills	Residents	15
19-Feb-15	12:30-15:00	Plastic Surgery	Cadaver Lab	Lat +/- serratus flap	Residents	6
20-Feb-15	09:00-12:00	Ob.Gyne	Emergency Cesarian	Dry Simulation - Mock OR	Residents	3
5-Mar-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Tendon transfers of upper extremity	Residents	6
5-Mar-15	14:00-17:00	Cardiac Surgery	Heart Lab	Mitral Valve Replacement	Residents	4
5-Mar-15	17:00-19:30	Cartiva	Synthetic Cartilage	Teach surgeons how to use the device	Residents, Staff	3
9-Mar-15	13:00-16:30	Dentistry	Suturing	hands on practice for suturing	Residents	4
19-Mar-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Tendon transfers of upper extremity	Residents	6
19-Mar-15	14:30-16:30	General Surgery	Cadaver Lab	Abdominal Wall Reconstruction, biologics, open technique, anatomy	Residents	15
26-Mar-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Sub-mental artery flap	Residents	7
1-Apr-15	09:00-12:00	Orthopedics	Arthroscopy	ACL reconstruction with bone-pattela-bone autograft	Residents	2
2-Apr-15	09:00-12:00	Orthopedics	Arthroscopy	ACL reconstruction with bone-pattela-bone autograft	Residents	2
11-Apr-15	08:00-13:00	Wright Medical	Infinity Cadaver Workshop	Inifinty total ankle	Staff Physicians	14
16-Apr-15	13:30-16:30	General Surgery	Skills Day	Laparoscopic & Open Skills	Residents	15
16-Apr-15	12:30-15:30	Plastic Surgery	Cadaver Lab	Toe - Thumb Harvest	Residents	9
1-May-15	08:00-15:00	Stryker	Advanced Techniques in Spine	Minimally Invasive & Navigated techniques in spine surgery	Staff Physicians	19
28-May-15	14:30-17:00	Cardiac Surgery	Heart Lab	Mitral Valve Replacement	Residents	3
4-Jun-15	10:30-16:30	General Surgery	Skills Day	Laparoscopic & Open Skills	Residents	17
23-Jun-15	09:00-12:00	Orthopedics	Arthroscopy	Shoulder Arthroscopy	Residents	2
25-Jun-15	12:30-15:30	Surg. Foundations	Electorsurgery	FUSE Course	Residents	20

ATSSL is a joint venture between the University of Calgary and Alberta Health Services and strives to provide and safe effective environment for learners to improve their proficiency in medical and surgical skills before these are applied to patients. While ATSSL staff provide the equipment and assistance to run these sessions, the Executive continues to work at enhancing funding and endowment of the lab, set up effective governance, and plan to get Royal College Certification as a Simulation Centre/Program within the next few years. Dr. Jacques Bouchard has been the Co-Director of ATSSL for 5 years during the planning and construction and the Medical Director in 2014-15. A search is currently underway for a new Medical Director of ATSSL which should be named by October 2015. Currently all the short-listed applicants are members of the Department of Surgery.







### **CHALLENGES**

### *Clerkship:*

Teaching all of what is important in multiple disciplines of Surgery in a 6 week clerkship is a real challenge. Mandatory rotations, selectives and the academic curriculum has been carefully designed and adjusted to provide optimal exposure for the medical students. We remain committed to offering a high quality experience for all University of Calgary clerks as well as those visiting from other medical schools. We need to continue to improve clinical opportunities within existing resources.

#### Post-Graduate:

With increased emphasis on simulation and the availability of the facilities the residency programs must adapt their curriculum to integrate simulation. Faculty development must continue to have a pool of Surgeons trained to teach in a simulated environment. The Royal College has started rolling out Competency by Design which will transform all the existing residency program into Competency based training with enhance evaluations and more structured learning. The firstprograms out of the gate to implement this is Otolaryngology and Pediatric General Surgery. This will involve a lot of work from key educators in the Department and in each section to change the culture of their program and implement a variety of new teaching and assessment tools. Much collaboration will be required and within 5 years we should see dramatic changes to all of our programs.

### *Fellowships:*

A major project has been completed to look at all fellowship at the University of Calgary, establish clear guidelines, educational objectives, evaluation tools and sustainable funding for all fellows. Recent changes in Canadian immigration laws have also required us to define precisely what is a postgraduate fellow and what kind of services they provide over the educational aspects of the fellowship. Dr. James Powell is the new Director for fellowship and will continue to grow and enhance the fellowships in Calgary.

# WORKFORCE PLANNING FUTURE DIRECTIONS AND INITIATIVES

A survey of surgeons in the Department indicated that all surgeons in the Department were expected and wanted to be involved in teaching and education of students, residents and fellows. It was felt that surgeons with a strong interest, additional training or degrees in education would be required to lead curricular changes and the implementation of simulation activities and competency based education. There is already a core of surgeons in leadership positions in education but as we recruit new recruits to fill in clinical gaps we must also consider finding and recruiting surgeons that will be an integral part of leading the changes in education.

Much of the energy of Program Directors and Educators will be focused on implementing Competency by Design for all of our Surgical Residency program.

The External Survey of the Royal College was completed in February 2015. The surgical program, by and large, received glowing reviews from the survey panel. However no program is perfect and we continue to work to correct deficiencies or weaknesses. Three of our surgical programs had difficulties that led to a provisional approval by the College. Many changes have already been implemented to address the weaknesses and hopefully the follow up reviews in 2017 will successfully convert these programs to full approval.

# Office of Surgical Research

albertahealthservices.ca

### **OVERVIEW**

The mission of the Office of Surgical Research (OSR) is to promote, support, and enhance research initiatives within the Department of Surgery. By partnering with our membership, we endeavor to foster a vibrant research culture across a spectrum of surgical disciplines. The OSR performs numerous roles, including, but not limited to:

- 1. Providing direction and support for discipline specific research within the Department of Surgery
- 2. Fostering collaborations between sections within the Department of Surgery and thematically aligned institutes
- 3. Instructing our membership in the process of grant writing through workshops and statistical research consultation services
- 4. Enhancing internal grant review processes to optimize chances for funding success at the level of the CIHR and other external sponsoring agencies
- 5. Offering assistance in formulating research policy, direction, goals, and priorities within the Department of Surgery in consultation with the Research and Surgical Executive Committees
- 6. Overseeing the administration of the Surgeon Scientist Program (SSP)
- 7. Administering the Department of Surgery Research and Education Program Grants
- 8. Administering the Calgary Surgical Research Development Fund
- 9. Administering the Departments of Medicine and Surgery Research Development Fund
- 10. Organizing the annual Surgeons' Day Research Symposium
- 11. Distributing a monthly OSR newsletter, which provides updates on research related initiatives relevant to the Department of Surgery

### **MEMBERSHIP**

The OSR represents and is accessible to all members of the Department of Surgery. Currently, the OSR infrastructure includes: a Director, Associate Director, Administrative Assistant and Department of Surgery Research Group. The OSR directly reports to the Department Head (Dr. John Kortbeek) and to the City-Wide Surgical Executive Committee.

### The OSR personnel include:

1. Director: Fiona Costello, MD, FRCP

Associate Professor, Departments of Clinical Neurosciences and Surgery (Ophthalmology) University of Calgary

Full Member, Hotchkiss Brain Institute

#### 2. Associate Director:

Dr. Elizabeth Oddone Paolucci, PhD Assistant Professor, Departments of Surgery and Community Health Sciences Chair, Medical Education Graduate Program Member, Institute for Public Health

#### 3. Administrative Assistant:

Chelsie O'Brien

Office of Surgical Research and Surgical Foundations

# 4. Department of Surgery Research Committee (Members):

Dr. Chad Ball, Dr. Paul Beaudry, Dr. Mary Brindle, Ms. Kimberly Carcary Dr. Marcia Clark, Dr. Fiona Costello, Dr. Frankie Fraulin, Dr. Gary Gelfand, Mr. Stephen Jefferson, Dr. John Kortbeek, Dr. Justin LeBlanc, Dr. Steve Lopushinsky, Dr. Tony MacLean, Dr. Michael Monument, Dr. Elizabeth Oddone Paolucci, Dr. Luke Rudmik, Dr. Marlis Sabo, Ms. Emi Sanders, Dr. Miller Smith, and Dr. Claire Temple-Oberle

# AFFILIATED PROGRAMS, GROUPS, AND COMMITTEES

The OSR partners with several existing programs within the Department of Surgery to strengthen researchrelated activities at the divisional, sectional, and interdepartmental levels.

- City-Wide Surgical Executive Committee: The OSR directly reports to the Department Head (Dr. John Kortbeek) and to the City-Wide Surgical Executive Committee.
- Interest Group (SRCIG): Founded in 2008, the SRCIG is composed of researchers and coordinators working in different divisions within Surgery, and other Departments within the Faculty of Medicine. The SRCIG members meet every 2 months to share information, experiences, and challenges related to conducting successful research within Alberta. The SRCIG has grown from 5 to 25 members, and has hosted numerous informative presentations on topics of research interest (e.g., ethics, legal services, privacy office, and biostatistics).
- The University of Calgary's Clinician Investigator Program (CIP)

Is a postgraduate medical training program for residents in any specialty or subspecialty who want to develop a strong foundation for a career in clinical research. It provides a tailored combination of research, clinical and coursework experiences that graduates need to be successful in clinical and translational research in their chosen field. The CIP is recognized and accredited by the Royal College of Surgeons and Physicians of Canada (RCSPC). The CIP program is increasing its profile and infrastructure with the goal of supporting more residents going forward, than it has in the past. Although it is a fairly flexible program with regards to timing and program interests, the main stipulation and restriction is that the program must be done within the University of Calgary. For further details regarding the CIP program, interested parties can

- review this handbook http://wcm.ucalgary.ca/cip/files/cip/cip-handbook-final-jan2014.pdf and/or contact the Director of the CIP, Dr. Zelma Kiss.
- a highly competitive, degree-based program for research training of residents within the Department of Surgery. The program provides the opportunity for residents to develop effective skills to conduct high-quality basic and/or clinical surgical research. Over the years, the SSP has supported a number of highly motivated residents who have successfully completed the program and in turn continued to produce excellent research within the Department of Surgery. Prospective applicants for the upcoming year are encouraged to submit their proposals by January 30th 2016.
- The Research and Statistical Support Services Program: This program is directed by Dr. Elizabeth Oddone Paolucci. All consultation services are focused on further developing research skills and knowledge in our faculty and residents. Investigators are encouraged to seek assistance at the early stages of their research projects, but support is available at any phase of the research



Dr. Fiona Costello, Director OSR Photo provided by Dr. Fiona Costello

cycle, from research question formulation through to dissemination of results. For more information on the services offered by the OSR please visit our website: www.ucalgary.ca/osr

# • Department of Surgery Research and Education Program Grant:

The Department of Surgery Research and Education Program Grant (up to \$100,000) rewards excellence, innovation, and the potential for future success and impact on the Department of Surgery. The Research stream assists promising new faculty members (within the first 5 years of their clinical appointment) in establishing their research program, while the Education stream assists any faculty member who wishes to pursue further training in a field relevant to surgical education. All faculty members of the Department of Surgery are welcomed to submit their applications, although preference is given to those early in their investigative careers. Prospective applicants for the upcoming year are encouraged to submit their proposals by April 30th, 2016.

- Department of Surgery, Ethics Program The Conjoint Health Research Ethics Board (CHREB) reviews protocols submitted by researchers from the University of Calgary's Faculties of Medicine, Kinesiology and Nursing. It is one of the three Health Information Act (HIA) designated Boards in
- Department of Surgery, Ethics Program: The Conjoint Health Research Ethics Board (CHREB) reviews protocols submitted by researchers from the University of Calgary's Faculties of Medicine, Kinesiology and Nursing. It is one of the three Health Information Act (HIA) designated Boards in the province. The Board considers approximately 800 new protocols per year and oversees 2500 active studies at any one time. In 2014, Dr. Fiona Costello joined the CHREB to represent the Department of Surgery.
- Department of Surgery Health Technology and Innovation: The HT&I Office is continuing its work with the Surgery Clinical Networks in evaluating technology requests locally and/or province wide. For further information, please contact the Director, Dr. Lea Austen.

• Internal Grant Review Committees: Several additional committees are required for the review of programs administered by the OSR. These review committees are assembled through the recommendation of the Department of Surgery Research Group and Chair, Dr. Fiona Costello. Review committees complied and active over the last year include: the Calgary Surgical Research Development Fund Review Committee, the Surgery Research and Education Program Grant Review Committee, and the Surgeon-Scientist Program Review Committee, and the Departments of Medicine and Surgery Research Development Fund Competition Committee.

# ACCOMPLISHMENTS AND HIGHLIGHTS IN RESEARCH

- The CSDRF has been created to encourage, promote, and provide financial support for high quality, scientifically valid research activities within the University of Calgary Surgical Training Programs. The CSRDF provides small grants, annually, ranging in amount from \$1,000 to \$4,000. In the 2015 funding year, three research projects across all divisions were supported:
  - 1. Title: "A Novel Patient-Specific 3D Haptic Surgical Simulation Platform Surgery." for Otologic Team: Dr. Justin Lui (Resident), Dr. Devon Dr. Livingstone (Resident), Garnette Sutherland, Dr. Sonny Chan, and Dr. Joseph C. Dort (PI).
  - 2. Title: "A micro-simulation model for the accurate prediction of the Rhinologic workforce requirements in Canada."

    Team: Dr. Kristine Anne Smith (Resident), Dr.
    - Team: Dr. Kristine Anne Smith (Resident), Dr. Sean Grondin, and Dr. Luke Rudmik (PI).
  - 3. Title: "Evaluating pain outcomes of caudal vs ilioinguinal nerve block in children undergoing unilateral groin surgery.""
    - Team: Dr. Bryce Weber (PI), Dr. Adam Spencer, Dr. Andrew Walker, and Dr. Steven Lopushinsky.

- Surgeon's Scientist Program (SSP): The 2015 SSP recipient is Dr. Navjit Dharampal, PGY4, Section of General Surgery. She will be working on her Masters of Translational Medicine at the University of California Berkeley / San Francisco campuses.
- Department of Surgery Research and Education Program Grant: The Department of Surgery Research and Education Program Grants (up to \$100,000) reward excellence, innovation, and the potential for future success and impact on the Department of Surgery. The Research stream assists promising new faculty members (within the first 5 years of their clinical appointment) in establishing their research program, while the Education stream assists any faculty member who wishes to pursue further training in a field relevant to surgical education. In the 2015 funding year, the following projects were supported:
- Departments of Medicine and Surgery Research Development Fund: This annual competition was established jointly by the Departments of Medicine and Surgery, provides two awards of up to \$12,500 annually based on the recommendations of a review committee, as well as on budget availability. In the evaluation process priority is given to projects involving students, residents, and junior faculty within the first five years of their appointment. A variety of clinical, translational or epidemiologic research project proposals are considered. This year, there were a total of 11 applications considered and we were able to fund 2 projects.

Medical Education, Quality Improvement Category: Title: "Local tools to global challenge: Standardizing clinical patient handovers" Team: Dr. Elizabeth Oddone Paolucci (PI), Oahir Ramji (Resident). Marcia Clark, and Dr. Ghazwan Altabbaa

Transitional Research

- Title: "Exploring the sinus microbiome in cystic fibrosis before and after lung transplantation and its clinical implications by molecular methods: a pilot prospective observational cohort study" Team: Dr. Michael D. Parkins (PI), Dr. Luke Rudmik, Dr. Bradford Mechor, Dr. Mitesh V. Thakrar, Dr. Harvey R. Rabin, Dr. Kristine Anne Smith(Resident), and Dr. Ranjani Somayaji.
- Peter Cruse Memorial Award: In 1996, the Peter Cruse Memorial Award was established to honor the outstanding contributions of Dr. Cruse to medical education in the Department of Surgery. The Cruse Award is given to the medical student with the best surgery related research project. In 2015, the recipient and honorable mention for the Peter Cruse Memorial Award were:
  - **Award Recipient:** Mr. Joseph Solomon, University of Calgary, Faculty of Medicine.
  - Honorable Mention: Ms. Helen Zakrewski, University of Calgary, Faculty of Medicine



Dr. Elizabeth Oddone Paolucci, PhD, Associate Director OSR

The Department of Surgery Annual Research Day and Awards Banquet: Annually, Surgeons' Day is organized by the OSR and supported by the entire Department of Surgery. Resident and fellow research with both podium and poster presentations are presented and the Research Day event is followed by an evening gala dinner and awards presentation. In 2015, the Research Day Symposium was held at the Libin Theatre, Foothills Hospital, Health Sciences Centre on June 12, 2015. The 2015 McPhedran Lecturer was Dr. Douglas Hedden, current Walter Stirling Anderson Professor and Chair of Surgery in the Faculty of Medicine and Dentistry at the University of Alberta. He is also the Zone Clinical Department Head, Surgery -Edmonton Zone within Alberta Health Services. He co-chairs the Surgical Strategic Clinical Network for the Province of Alberta; a committee of Alberta Health Services. His lecture was entitled "The Future Dr. Norman Schachar, a of Academic Surgery." Professor in the Departments of Orthopaedics and Surgery, as well as the Assistant Dean of Continuing Medical Education and Professional Development for the University of Calgary, delivered the 2015 McMurtry lecture, entitled: "A Paradigm Shift -Bone Banking from Bench to Bedside and Back."

Research Day award recipients included: **Best Overall Research**: Dr. Devon Livingstore, Otolaryngology, R2 "Loop Mediated Isothermal Amplification (LAMP) for the Detection and Subtyping of Human Papillomaviruses (HPV) in Oropharyngeal Squamous Cell Carcinoma (OPSCC)."

Honourable Mention - Overall Research: Dr. Brad Meulenkamp, Orthopaedic Surgery, Fellow, "Incidence, Risk Factors and Location of Articular Malreductions of the Tibial Plateau."

**Best Poster:** Dr. Holly Mewhort, Cardiac Surgery, R5 "Monocytes Increase Human Cardiac Myofibroblast-Mediated Extracellular Matrix Remodeling Through TGF-B1."

**Best Research by a Surgical Fellow:** Dr. Brad Meulenkamp, Orthopaedic Surgery, Fellow, "Incidence, Risk Factors and Location of Articular Malreductions of the Tibial Plateau."

• Newsletter: In 2014, the OSR created a monthly newsletter, which highlights the accomplishments of Department members and provides information about upcoming grant deadlines. The newsletter also publicizes updates from the CHREB aimed to improve the efficiency of the ethics review process for researchers.

# Office of Health Technology and Information

# SECTION STRUCTURE AND ORGANIZATION

Surgery Strategic Clinical Network (SSCN) Evidence Decision-Support Program for Technology Appraisal and Education

### **Programs**

The SSCN is using an Evidence- Decision-Support Program when introducing new health technologies with respect to the health needs of the SSCN's target populations. The Program's purpose is: a) to introduce new health technologies into practice in a safe, effective, and evidence-informed manner while considering operational impact factors and b) to engage and educate physicians and managers throughout the province in the use of research evidence for introducing new health technologies into practice. The Program is funded and operated by the Departments of Surgery from Edmonton and Calgary and the Surgery SCN.

### ACCOMPLISHMENTS AND HIGHLIGHTS

### Clinical Service

During the past year, the SSCN EDSP worked on several key provincial initiatives including:

- Informing provincial approach for supporting new and retiring practices for provincial surgical services planning for the next 3-5 years
- Evaluated and recommended seven main objectives for provincial Robotic Assisted Surgery (RAS) re-evaluation of the clinical, financial and value for money associated with implementing a robotic surgery program in Alberta including: 1) Establishment of a RAS Steering Committee and smaller RAS Working Groups as appropriate, 2) Identification of current RAS activity in Alberta

and develop data collection and analysis strategies, 3) Identification of emerging RAS procedures of interest in Alberta, 4) Identification of current state of evidence and gaps in knowledge for RAS for procedures of interest, 5) Establishment of strategy for a provincial training and credentialing process, 6) Need to commission a comprehensive economic and operational financial analysis, 7) Consideration of patient engagement issues

### Education

• To engage and educate physicians and managers throughout the province in the use of the Decision-Support Program, the SSCN EDSP team developed a series of interactive workshops. The rationale behind the development of these workshops is to improve the adoption of evidence-informed process and clinical appropriateness when introducing new health technologies, apply technology appraisal and innovation concepts to real clinical case scenarios, provide real-world inquiry based education and engagement of clinicians to bring research evidence to practice, and to provide input for the further improvement of the Decision-Support Program.

#### Research

 This year, the SSCN-EDSP team received grant funding from Alberta Innovates Health Solutions to build capacity for evidence-informed decision-making around the introduction of new technologies by rolling out the Evidence Decision Support Program to three additional Strategic Clinical Networks in Alberta.



Dr. Paule Poulin, PhD, HTI Administrator Photo provided by Dr. Paule Poulin

# QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

General: Our office ensures that patient access to promising and innovative technologies is not prevented by lack of evidence, but is managed in an accountable manner while also generating new evidence when necessary. We support knowledge, research, quality, innovation, continuous improvement, and excellence in health services.

### **FUTURE DIRECTIONS AND INITIATIVES**

 We are now preparing to work collaboratively with the new Scientific Directors and Assistant Scientific Directors of the SCNs to integrate the EDSP to additional SCNs in Alberta.

### **CHALLENGES**

 The major challenge for the future involves adequate funding, staffing and resources support to ensure effective operational mechanisms to embed and support research and evidenceinformed decision making by all members of the Department of Surgery when introducing new surgical technologies.

### WORKFORCE PLANNING

- Future Needs The SSCN EDSP team will be reviewing its program over the summer to make plans for new structure, operation, membership and resources requirements.
- Goals and Strategies
- Impact on other departments and zonal resources



Dr. Lea Austen, Physician Lead, HTI Photo provided by Dr. Lea Austen

# **Section of Dentistry and Oral Health**

# SECTION STRUCTURE AND ORGANIZATION

**Current Committees** 

### **Division of Adult Dentistry**

Division members representing Adult Dentistry in the following committees

- Corrections Health Dr. A. Paladino
- ADA&C Hospital Committee Dr. E. Kalaydjian
- ZMAC (Zone Medical Advisory Committee) Dr. E. Kalaydjian
- SAIT Dental Assisting Program Dr. E. Kalaydjian, Dr. G. Yates, Dr. A. Houghton
- Surgical Foundations PGSTC Dr. E. Kalaydjian
- Calgary Zone Surgical Executive Committee Dr. E. Kalaydjian
- Combined FMC OR Committee Dr. E. Kalaydjian
- Dental General Practice Residency Program Training Committee – Dr. E. Kalaydjian, Dr. A. Paladino, Dr. G. Shariff, Dr. S. Switzer, Dr. T. Wierzbicki
- Provincial Head and Neck Tumour Team Executive Committee – Dr. E. Kalaydjian
- Canadian Association of Hospital Dentists Cofounder and Secretary/Treasurer – Dr. E. Kalaydjian
- CDAC (Commission on Dental Accreditation of Canada) Health Facilities / Dental Internship Committee – Dr. E. Kalaydjian

### **Division of Pediatric Dentistry**

Division members representing Pediatric Dentistry in the following committees

- ACH Operating room Committee Dr. M-C. Cholette
- ACH Pediatric Surgery Executive Committee Dr. M-C. Cholette
- Dental General Practice Residency Program Training Committee – Dr. M-C. Cholette
- Dental CE Committee Dr. C. Bell
- Royal College of Dentists of Canada (Examiners) –
   Dr. M-C. Cholette , Dr. R. Barsky, Dr. W. Loeppky
- ADA&C Hospital Committee Dr. R. Barsky



Dr. Eddie Kalaydjian - Dentistry and Oral Health Section Chief

- CDSA (Canadian Dental Specialist Association) Past President – Dr. R. Barsky
- CDSA Board Member for the Canadian Academy of Pediatric Denstists – Dr. R. Barsky
- Alberta Academy of Pediatric Dentistry, President Dr. R. Barsky
- Western Society of Pediatric Dentistry, Vice-President – Dr. S. Hulland
- Oral Health initiative for the Calgary Backpack Program, Director – Dr. S. Hulland
- Alberta Academy of Pediatric Dentistry, Past-President – Dr. S. Hulland
- Alberta Academy of Pediatric Dentistry Western Society Pediatric Dentistry Rep. Dr. S. Hulland
- Alberta Children's Hospital Medical Staff Association - Vice President - Dr. S. Hulland
- Journal of The Canadian Dental Association, Expert Panel of Reviewers and Advisors – Dr. W. Loeppky
- Dentistry for All, Executive Director Dr. B. Krusky
- Society for a Healthy Mouth Healthy Child (Alberta) and Foundation For A Healthy Mouth Healthy Child(USA), Founder and President – Dr. L. Smith

- ACH Institute for Maternal and Child Health Research – Dr. L. Smith
- Children's Tooth Fairy Foundation Board Dr. K. Badwi
- Calgary and District Dental Society, President Dr.
   F. Saher
- Alberta Academy of Pediatric Dentistry, Secretary/ Treasurer – Dr. S. Schwann

# Division of Community Dentistry/Dental Public Health Clinic Program

- SAIT Sterile Processing Technician Program Advisory Committee – Dr. H. Rabie
- SAIT Dental Assisting Program Advisory Committee
   Dr. H. Rabie
- Dental Public Health Clinical Planning Committee
   Dr. H. Rabie
- Dental General Practice Residency Program Training Committee – H. Rabie

### **Programs**

### **Division of Adult Dentistry**

- Regional After Hours On-Call Program
- FMC DENTAL CLINIC
  - Adult Special Needs Dentistry Clinic
  - Dental Oncology Clinic
  - Sedation Dentistry Clinic
  - Dental Hygiene Clinic
  - Speciality Clinics including:
    - (a) Oral Medicine
    - (b) Endodontics
    - (c) Periodontics
    - (d) Oral and Maxillofacial Surgery
- FMC DENTAL GENERAL PRACTICE RESIDENCY (GPR) PROGRAM
  - Hosted at Foothills Hospital Dental Clinic
  - Enrolment: 2 residents
- CORRECTIONS DENTISTRY
  - Dental care for inmates and remanded population in Calgary Correctional Institutions
- NHSF
  - Dental treatment for children and Special Needs patients under general anesthesia; insured service for children that meet established criteria.

### **Division of Pediatric Dentistry**

• The outpatient pediatric dental clinic at the Alberta Children's Hospital offers care to infants, children, and adolescents who present unique dental/ oral challenges, behavioral issues and/or more complex special care needs. Treatment modalities include communicative behavior guidance/ non-pharmacological behavior modification, minimal/ moderate oral sedation or general anesthesia in the Alberta Children's Hospital operating room. Community pediatric dentists with privileges also provide dental care for children under general anesthesia at AHS contracted Non-Hospital surgical Facilities and participate in after-hour call services.

# Division of Community Dentistry/Dental Public Health Clinic Program

• The Dental Public Health Clinic Program serves as a safety net delivering low-fee dental care to disadvantaged people. The program operates from two sites in Calgary: Sheldon M. Chumir Health Centre and Northeast (Sunridge Mall).

### Membership

# **Division of Adult Dentistry**

- As of March 31, 2015, Adult Dentistry Division membership composed of
- 25 privileged members (Most members hold privileges based entirely on their affiliation with the provision of surgical dental services at the NHSF)
- Dr. A. Paladino is the Chief of Adult Dentistry and the Clinical Director of the FMC Dental Clinic
- FMC DENTAL GENERAL PRACTICE RESIDEN-CY (GPR) PROGRAM
  - Dr. E. Kalaydjian is the Program Director of the Dental Residency Program
  - Dr. A. Paladino is the Site Director of the Dental Residency Program
  - Enrollment: two residents 2014-2015
  - Preceptors for FMC Dental Residency Program
    - general dentists
    - specialists
      - Oral and Maxillofacial Surgeons (OMFS)
      - Periodontists
      - Oral Medicine
      - Endodontist
- CORRECTIONS DENTISTRY
  - two casual dentist
  - actively recruited during 2014-2015 to hire more dentists to work at Corrections Site
- FMC DENTAL CLINIC
  - 3 full time dentists. Dr.Amreek Suri joined as full time staff dentist (September 2014)
  - several casual general dentists
  - several specialist preceptors for the dental residency program

# **Division of Pediatric Dentistry**

 There are currently 19 pediatric dentists in Calgary 15 have AHS appointments 17 have AHS appointments and 16 have AHS privileges: Drs. Robert Barsky, Kari Badwi, Christine Bell, Aimee Castro, Marie-Claude Cholette, Sarah Hulland, J. Bradley

- Krusky, Choo-Kar Kua, Warren Loeppky, Orest Pilopowicz, Farida Saher, Sandra Schwann, Timothy Seto, Shirin Sheiny, Leonard Smith, Michele Thal and Rory Vinsky.
- Dr. Leonard Smith has retired his clinical privileges but does retain an appointment with the AHS; he continues to work in private practice.
- Drs. Bell and Cholette are hospital based.
- Dr. Cholette is the Interim Chief of Pediatric Dentistry and the Clinical Director of the ACH Dental Clinic.
- ACH Dental Clinic Workforce (2.3 FTE)
  - Dr. Christine Bell (0.8 FTE).
  - Dr. Marie-Claude Cholette (0.8 FTE)
  - Casuals:
    - Dr. Sarah Hulland (0.1 FTE)
    - Dr. Choo-Kar Kua (0.1 FTE)
    - Dr. Farida Saher (0.1 FTE)
    - Dr. Tim Seto (0.1 FTE)
    - Dr. Michele Thal (0.1 FTE)
    - Staff orthodontist: Dr. Darrell Kemp (1/2 day every 2 months)
  - Staff Oral & Maxillofacial Surgeon: Dr. Miller Smith (1/2 day every 2 months)
  - Cleft Palate Clinic Dental Consultants:
    - Orthodontists: Drs. Michael Bindman and Tarun Mehra
    - Oral & Maxillofacial Surgeons: Drs. Miller Smith and Douglas Vincelli
    - Pediatric Dentists: Drs. Christine Bell, Marie-Claude Cholette and Sarah Hulland

# Division of Community Dentistry/Dental Public Health Clinic Program

- Dr. Adebayo Olowe, Dr. Heidi Rabie; Dr. Luke Shwart; Dr. Sylla Skaria; Dr. Sheila Varshney.
- Dr. Rafael Figueiredo is the Dental Public Health Officer.
- Dr. H. Rabie is the Chief of Community Dentistry and the Manager/Clinical Director of the Dental Public Health Clinics.
- The Public Health Dental Clinics have 2.3 FTE dentists on staff.

# Accomplishments and Highlights

### Clinical Service

# **Division of Adult Dentistry**

- FMC DENTAL GENERAL PRACTICE RESIDENCY (GPR) PROGRAM
  - Program maintains its accreditation by the Commission on Dental Accreditation of Canada (CDAC).
  - Surgical Implant Program: in progress
  - Continued partnership between FMC GPR PROGRAM, Adult Dentistry and OMFS for the after hour's on-call program (Calgary Zone).

FMC DENTAL CLINIC

- Comprehensive primary care
- Dental specialty clinics include:
  - Oral Medicine
  - -Endontics
  - Pediodontics
  - -Oral and Maxillofacial Surgery

Surgical Implant Program: in progress

- Clinic maintains its accreditation by the Commission on Dental Accreditation of Canada (CDAC) for 5 year period of year 2013 - 2018.
- Sedation Dentistry Clinic: program expanded to include 2-drugs intravenous procedural sedation
- NHSF
  - Dental treatment for children and 'Special Needs' patients under general anesthesia; insured services for patients that meet established criteria
- CORRECTIONS DENTISTRY
  - Continue quality care for inmates.

### **Division of Pediatric Dentistry**

- ACH Dental Clinic: comprehensive primary care.
- Dental specialty multi-disciplinary clinics: Orthodontics, oral& maxillofacial surgery and pediatric dentistry.

- The in-hospital delivery of VPI speech appliance.
- The ACH Dental Clinic continues to successfully offer NAM therapy.
- ACH Dental accreditation was renewed by the Commission on Dental Accreditation of Canada (CDAC) for an additional five years (2013 2018).
- Maintains accreditation by the Commission on Dental Accreditation of Canada (CDAC)

# Division of Community Dentistry/Dental Public Health Clinic Program

- Dental Public Health Clinic Program maintains its accreditation by the Commission on Dental Accreditation of Canada (CDAC).
- Clinical Service- the Public Health Dental Clinics provide low income individuals with basic dental treatment. The individuals may include: working poor families, refugees and recent immigrants to Canada, the homeless, patients with mental issues leading to poverty and others who do not have any form of coverage.
- Continue to work with HPTP clinics and Urgent Cares, Emergency Rooms in order to reduce severe dental infections in target low income population.

#### **Education**

# **Division of Adult Dentistry**

Residents:

- Enrollment: 2 residents (2014-2015)
- Once again we noted a large increase in the number of qualified candidates applying
- Staff hospital dentists continue to welcome residents from Radiation Oncology on a as requested basis
- Staff hospital dentists participate in half-day academic teaching for Geriatrics and Emergency Medicine residents.
- The Dental Residency Program maintains its accreditation by the Commission on Dental Accreditation of Canada (CDAC).

#### Fellows:

None

### **Dental Students:**

• Foothills Medical Centre Dental Clinic hosted a total of seven third year dental students from the University of Alberta on an elective rotation in "Hospital Dentistry"

### **Division of Pediatric Dentistry**

#### Residents:

- The staff pediatric dentists at ACH continue to welcome FMC GPR residents for 4 weeks per year, U of A Dental students, Family Medicine and Pediatric Residents as requested on a regular basis.
- The pediatric dentists also participate in half-day academic teaching for the Family Medicine and Pediatric Residents.

#### Fellows:

None

#### **Dental Students**

 The Dental Public Health Clinics hosted a total of seven third year dental students from the University of Alberta on an elective rotation in "Hospital Dentistry".

# Division of Community Dentistry/Dental Public Health Clinic Program

### Residents:

 The two FMC Dental General Practice residents each worked for 10 days in the Dental Public Health Clinics.

#### Fellows:

None

#### **Dental Students:**

 The Dental Public Health Clinics hosted a total of seven third year dental students from the University of Alberta on an elective rotation in "Hospital Dentistry".

### Research

### **Division of Adult Dentistry**

 Canadian Optically Guided Approach for Oral Lesions Surgical Trial (COOLS Study) with The Terry Fox Research Institute – (Clinical Lead in

- the Calgary Zone is Dr. Dort). Dr. Kalaydjian is an FV specialist and co-investigator in AHS Calgary Zone.
- Clinical Trial (SWOG S0307). 'Phase III Trial of Bisphosphonates as adjunctive therapy for Primary Breast Cancer.' (Clinical Lead is Dr.Patterson, Tom Baker Cancer Centre).
- Clinical Trial (RTOG 1016). 'Phase III Trial of Radiotherapy plus Cetuximab versus Chemotherapy in HPV-Associated Oropharynx Cancer.'
- The FMC Dental Clinic Hospital Dentists also participated in a research project with Dr. William Connors, R5, Infectious Disease, HPTP unit. The study was aimed at providing a care pathway for patients presenting with orofacial abscesses of dental origin.

### **Division of Pediatric Dentistry**

• Dr. Cholette is part of the Canadian Dental Sleep Apnea Network and is collaborating in a research project: "Incidence of Altered Craniofacial Morphology and Malocclusion in Children and Youth with Obstructive Sleep Apnea". [SickKids Foundation New Investigator Grant program (NI14-012)]

# Division of Community Dentistry/Dental Public Health Clinic Program

year with Dr. William Connors from the infectious Disease HPTP unit. The study was aimed at providing a care pathway for patients presenting with orofacial abscesses of dental origin. The ultimate goal was to prevent repeat visits to the HPTP clinics by patients who could not afford to remove the infected tooth responsible for the abscess. This year, we continue our cooperation with the HPTP clinics by providing referral coupons with strict timelines in order to entice patients to come in for treatment. The project is partially funded by a Greenshield Insurance Company grant. Information will be collected on use of these referral coupons and presented to Greenshield.

# Challenges

Responses to Issues

# **Division of Adult Dentistry**

- Quality Assurance
- Continued peer-lead QA strategies for Dental Cases (i.e. M&M Rounds)
- Both the FMC Dental Clinic and the Dental Residency Program continue to maintain accreditation by the Commission on Dental Accreditation of Canada (CDAC)
- FMC DENTAL CLINIC
  - Dental Implants
     – it remains a challenge to operationalize as well as initiate the provision of dental implants to our patient population.
  - OR Access Lack of dedicated OR blocks for our Special Needs patients at the FMC site continues to result in an increase in wait times for dental treatment under a general anesthetic. The service picks up scramble OR time whenever possible.
  - Funding -Inadequate provincial funding for dental services in the Calgary Zone continues to make it a challenge to provide optimal care within acceptable target times.
    - The hospital based dental service is a fee for service dental clinic and the dental services provided are uninsured. The clinic must however accept significantly reduced fees for patients covered by third party social service programs.
- RESIDENCY (GPR) PROGRAM
  - Recruitment and Retention
    - attracting qualified preceptors for dental residency program remains a challenge
- CORRECTIONS DENTISTRY
  - Recruitment and Retention
    - attracting qualified dentists remains a challenge

### **Division of Pediatric Dentistry**

The greatest challenge continues to be the Division's inability to post for a third full time pediatric dentist position for ACH Dental Clinic due to lack of global

funding for our service. The ACH Dental Clinic is unable to maintain self-sufficiency caring for the most compromised, challenging and vulnerable children. We have unfortunately made no progress with advocating/lobbying for this position in the last five years.

Our hospital-based dental service receives fee for services for uninsured dental services provided. The Clinic must however accept significantly reduced fees for patients covered by provincial Social Services, Child Health Benefits and Indian Affairs. The Hospital Dentists of Alberta have made recommendations to the ADA&C to support further negotiation with ADSC for increase in fees.

The lack of adequate funding for staffing our service will result in major consequences. There will be tremendous pressure put on current clinic staff, increased wait times (longest ever) and an inability to deliver optimal care within our target times.

Limited AHS Non-Hospital Surgical Facility (NHSF) funding to support the delivery of dental treatment under general anesthesia is restricting recruitment of the community-based pediatric dentists in the City of Calgary. Furthermore, as the cost of treatment per unit is increased at the NHSF, the amount of insured general anesthesia dental cases will decrease.

# Division of Community Dentistry/Dental Public Health Clinic Program

- Constant increase in demand by our population base. Possibly due to care pathways leading to our service being displayed in urgent care/ ER's.
- The program is experiencing a pronounced increase in emergency visits. Emergency visits consisted of approx 35% of our total work. This has resulted in longer wait times for dental treatment in our clinics thus; appointments are being scheduled 6 months out.
- We are unable to establish additional 1.0 FTE permanent dentist position until funding can be made available.

# **Ongoing Matters and Plan of Action**

# **Division of Adult Dentistry**

- 1. SPACE SHORTAGE AT FMC DENTAL CLINIC
- Functional Plan created for a dental clinic at New Calgary Cancer Centre Building on the FMC Campus.
- 2. DENTIST STAFF SHORTAGES
- FMC Dental Clinic
- Continue recruitment efforts for clinical dentists
- Preceptors for GPR
- Continue recruitment efforts for specialists and general practitioners
- 3. LACK OF DEDICATED OR TIME AT FOOTHILLS HOSPITAL
- The lack of dedicated OR access for our Special Needs Patients at the FMC Site continues to increase wait times for our patient populations. The service picks up scramble OR time whenever possible.
- We continue to perform procedures on-site at FMC Dental Clinic under Procedural Sedation that arguably would better be managed under deeper sedation/general anesthesia
- We continue to pick up OR scramble time whenever possible

### **4.VACUUM SYSTEM**

 Continue to work with Management and Capital Planning to address the intermittent failures of the vacuum system

# Division of Community Dentistry/Dental Public Health Clinic Program

 Constant improvements and changes in the field of medical device reprocessing and IP+C are costly and time consuming for the clinics. However we are keeping up and have purchased a new thermal disinfector and a new vacuum based sterilizer in order to maintain the highest standards of IP+C as demanded by AHS.

# Workforce Planning

#### **Future Needs**

### **Division of Adult Dentistry**

- Limit privileges to dentist members (Adult Dentistry) that offer professional services to Acute Care Sites (eg. FMC)
- Limit privileges to dentist members (Adult Dentistry) working in rural areas wanting to service clients at NHSF or rural OR's.
- FMC DENTAL GENERAL PRACTICE RESIDENCY (GPR) PROGRAM
  - Preceptors Required
    - i) Prosthodontist 0.5 day per month minimum
    - ii) General Dentist/Special Needs Dentistcasual, replacements
    - iii) Periodontist 0.5 day per month minimum pation in the Access Improvement Measures (AIM) Program in June 2013.
    - iv) Endodontist 0.5 day per month minimum
- FMC Dental Clinic
  - FMC Staff Dentists
    - Recruitment of General Practice Dentist/Special Needs Dentist – casual, replacements (based on need)

# Division of Community Dentistry/Dental Public Health Clinic Program

- The Dental Public Health Clinics would need to recruit a 1.0FTE dentist to reduce wait times for patients and to increase capacity to see emergencies and/or urgent cases faster.
- An increase in Sr. Sylla Skaria's FTE from 0.8 to 1.0 was requested this year and denied due to financial reasons.

# **Division of Pediatric Dentistry**

- ACH Dental Clinic: 1.0 FTE Pediatric dentist
- Community workforce: plan to increase our current workforce to meet the demands of the population.

# Goals and Strategies

# Division of Community Dentistry/Dental Public Health

- Need to maintain our standing as safety net for disadvantaged patients.
- To help reduce dental disparities in our region.
- To keep our target patient population from developing serious infections that necessitate emergency room visits, IV antibiotics in the HPTP clinic, hospital admission and/or surgical intervention. This will result in cost savings for the healthcare system.
- Ultimately, we would like to see the clinics spread beyond the City of Calgary and eventually become a more provincial program
- Impact on other departments and zonal resources

### **Division of Adult Dentistry**

- continued collaboration and support from community partners
- continued collaboration and support from other AHS Clinical Departments & Divisions (i.e. Department of Surgery, Section of OMFS)

# Division of Community Dentistry/Dental Public Health Clinic Program

 The Dental Public Health Clinics are funded by Public Health and work to reduce the impact of dental disease on Urgent Care, the HPTP clinic and the Emergency Rooms by delivering care to disadvantaged people before they require assistance from these acute care sites.

# Division of Community Dentistry/Dental Public Health Clinic Program

• Talks with Mosaic and other PCN's have been held in the past and more are planned. The general idea is to funnel low -income patients with urgent dental problems to these clinics before they need to access acute care for these issues.

# Patient flow through the Emergency Department Division of Adult Dentistry

- During business hours, dental patients can access urgent care through the hospital Emergency Department or directly through FMC Dental Clinic.
- After hours service: dental patients in need of urgent care can access the Regional On Call Program (Adult Dentistry & Oral Health). This is a partnership of the FMC Dental Residency Program with OMFS and Adult Dentistry.

# Division of Community Dentistry/Dental Public Health Clinic Program

We continue to honour the continuity of care agreement with Sheldon Chumir Urgent Care which we developed in 2013. Our service is more definitive and less costly for the system than a visit to urgent care for antibiotics which attenuate the symptoms for a while, but do not solve the root cause of the problem. We continue to function within the care pathway which we had created in collaboration with HPTP Clinics; this has been distributed to urgent care and ER's in the area in order to funnel patients in this direction rather than acute care. We have recently also provided referral coupons to entice low income patients to come for treatment in our clinics. We continue to work with HPTP to reduce recurrent visits due to dental infections. Public health is funding this to prevent greater costs in acute care.

# Quality Assurance, Quality Improvement, and Innovation

# **Division of Adult Dentistry**

- Quality Assurance
- Continue with peer-lead QA strategies for Dental Cases (i.e. M&M Rounds)
- Maintain accreditation for the FMC Dental Clinic and Dental Residency Program from the Commission on Dental Accreditation of Canada (CDAC)

- FMC Dental Clinic
  - Dental Implants Program
  - Complete work in progress such that can begin to offer treatment to patient population.
- CORRECTIONS
  - IPC
  - Continue working with IPC experts to address concerns and make service improvements within constraints of system (eg. limited physical space, limited money

# Division of Community Dentistry/Dental Public Health Clinic Program

- IPC
- An IPC review was completed. The review was successful, no concerns were raised.
- Access of Family Physicians to specialists
- Talks with Mosaic and other PCN's have been held in the past and the division would like to see more planned in the future. The general idea is to funnel low-income patients with urgent dental problems to these clinics before they need to access acute care for these issues

### **Adult Dentistry**

- During business hours, dental patients can access urgent care through the hospital Emergency Department or directly through FMC Dental Clinic.
- After hours service: dental patients in need of urgent care can access the Regional On Call Program (Adult Dentistry & Oral Health). This is a partnership of the FMC Dental Residency Program with OMFS and Adult Dentistry.

# Division of Community Dentistry/Dental Public Health Clinic Program

• We continue to honour the continuity of care agreement with Sheldon Chumir Urgent Care which we developed in 2013. Our service is more definitive and less costly for the system than a visit to urgent care for antibiotics which attenuate the symptoms for a while, but do not solve the root cause of the problem. We continue to function within the care pathway

which we had created in collaboration with HPTP Clinics; this has been distributed to urgent care and ER's in the area in order to funnel patients in this direction rather than acute care. We have recently also provided referral coupons to entice low income patients to come for treatment in our clinics. We continue to work with HPTP to reduce recurrent visits due to dental infections. Public health is funding this to prevent greater costs in acute care.

### **Future Directions and Initiatives**

# **Division of Adult Dentistry**

- Enhanced participation and engagement of members in divisional activities (eg. attending quarterly meetings, M&M Rounds, Region Wide Dentistry Rounds)
- FMC DENTAL CLINIC
  - Collaborate with FMC Dental Clinic Manager to fully operationalize the Dental Implant Program and begin to provide dental implant treatment to our patient population
  - Maintain current standing with Commission on Dental Accreditation of Canada (CDAC).
- FMC DENTAL GENERAL PRACTICE RESIDENCY (GPR) PROGRAM
  - Expand program to include a third resident by July 2016
  - Recruit prosthodontist as preceptor
  - Recruit additional periodontist preceptors
  - Recruit additional endodontist preceptors
  - Recruit additional general dentist preceptors
  - Introduce dental implant surgery and restorations to the program
  - Maintain current standing with Commission on Dental Accreditation of Canada (CDAC).

### **CORRECTIONS DENTISTRY**

• Recruitment of additional dentists.

### **Division of Pediatric Dentistry**

Recruitment of third full-time hospital based pediatric dentist

- Goal to reduce wait-times at the ACH Dental Clinic by increasing the dentist workforce.
- Recruit Division of Pediatric Dentistry Chief and ACH Clinical Director
- Develop a one year Post-graduate Pediatric Dentist Fellowship/Residency Program
- Maintain the ACH Dental Clinic Accreditation with the Commission on Dental Accreditation of Canada (CDAC).
- The ACH Dental Clinic continues to look for areas where specialized pediatric dentistry services can expand. Future areas of interest:
- Comprehensive Orthodontic Clinic for Special Needs patients
- Saliva/Drooling Clinic

# Division of Community Dentistry/Dental Public Health Clinic Program

- We look forward to more talks with PCN's in order to provide better support to primary care and thereby reduce patients' chances of ending up in acute care due to dental infections. Prevention and or dental treatment is the key to avoiding complications.
- Solidifying the care pathways which were implemented last year to channel underprivileged patients from ER's, Urgent Care and HPTP clinics to our clinic for definitive low cost care. Providing innovative ways to encourage patient referrals and patient compliance with dental treatment.
- When funding from Public Health becomes available we would like to hire more fulltime dentists. This may not be possible in the short term as no increase in public health funding is planned to date.
- We would be glad to host dental residents for more days if the Dental GPR Program and Foothills Medical Centre Dental Clinic decide to increase the number of residents. This would solve a logistical clinical training space issue for the FMC Dental Clinic and would provide our clinics with a workforce to help more disadvantaged people.
- Maintain current standing with Commission on Dental Accreditation of Canada (CDAC).

# **Section of General Surgery**

The Section is currently in a transition period. Dr. E. Dixon has taken over as Head from Dr. F. Sutherland this spring. As you know, Dr. Sutherland served a full 10-year term. Dr. Sutherland was at the helm when we worked within the Calgary Regional Health Authority up until this spring. He devoted a lot of time and energy to the Section over that 10-year span and has positioned us for on-going success. We will have a dinner to celebrate his time as Section Head this fall (November 2015) please set this aside and plan to attend.

As part of the transition period some of the organizational structure of the Section will change. A Clinical Executive will continue to oversee the Section business. As well, the Academic Committee will remain in place. We have struck a new Finance Committee that will oversee the Sectional funds and will help make strategic decisions about future fundraising endeavors. A permanent Recruitment Committee with broad representation will be formed and will control and oversee all future recruitment within the Section. Dr. Tony Maclean has taken over as FMC Site Chief of General Surgery. Dr. Maclean is one of the high volume colorectal surgeons in the city, in addition he is the past program director, and is currently very involved with the Royal College exams for both General Surgery and Colorectal Surgery. The group is very excited to have Dr. Maclean take over this very important role.

This past June saw all of the Chief Residents (Kwan, Morrissey, O'Keefe, Stewart, Grendar, Yoon) successfully pass their Royal College exams. This along with the recent successful Royal College review and approval of the residency program highlights the strength of our training program and the great job that Dr. Lloyd Mack has done over the past 5 years. Dr. Mack will be stepping down as Program Director after his very successful 5-year term this fall. We will be having a celebration sometime this fall to recognize all of Dr. Mack's hard work. We are now accepting applications for Program Director.

This past year Dr. Janice Pasieka had the First Edition of her new textbook in endocrine surgery published "Surgical Endocrinopathies: Clinical Management and the Founding Figures" available through Amazon and Springer. This is truly an amazing accomplishment, and really is a confirmation of what a worldwide leader in her field she is recognized as. Dr. Chad Ball was recently invited to give one of the Dean's Talks entitled 'The next generation of trauma surgeon and trauma care' these talks are created in a format similar to a TED talk – I would highly recommend that everyone watch it.



Dr. Elijah Dixon, General Surgery Section Chief

Academic production by Section members remains very high, as measured by peer reviewed publications and grant funding. Dr. Don Buie and Dr. Elijah Dixon were both promoted to the Rank of Professor of Surgery. We are additionally very excited about the new recruits that have or will be starting over the next few months. Dr. Chris Armstrong has been recruited to the RGH. He has expertise in Minimally Invasive Surgery and Education. Chris will be highly involved in the Simulation Centre and in developing CME events along with Dr. Anderson for the Section. Dr. Richi Gill has been recruited to the PLC as an expert in Minimally Invasive Surgery and outcomes based research. Dr. Gill will be very involved in the Bariatric Surgery Program. Dr. Antoine Bouchard Fortier has been recruited to the FMC within the Surgical Oncology group. Dr. Fortier will have a practice focused on breast cancer and advanced gastrointestinal malignancy. Dr. Paul McBeth has been recruited to the FMC and SHC. Dr. McBeth has expertise in Trauma, Critical Care, General Surgery and engineering. He will be taking over as the new Research Director of the Residency Program. Please join us in welcoming all the new recruits. We are extremely

excited to have successfully attracted these outstanding, highly sought after individuals to our Section.

Despite our successful recruits, we are still in need of new surgeons especially at the SHC. Dr. Dunham has done a great job managing the resources at SHC and is now looking to recruit at least 2 new surgeons within the next few months. In addition, he has been working hard on getting a surgical program located at the SHC. Workforce planning at the SHC has been difficult this past year; we are however very optimistic that general surgery at the SHC is going to flourish over the next year and into the future.

We are very excited about the coming year. We plan on a year with a number of new recruits, hopefully a new program at the SHC that will really stabilize and strengthen general surgery at the SHC, the Section will set up and get running the Recruitment and Finance committees, and will begin to develop a longitudinal fundraising campaign.

# **Section of Ophthalmology**

#### SECTION STRUCTURE AND ORGANIZATION

- Administrative: Admin Committee
- Section chief: Dr. Michael Ashenhurst
- Program Director: Dr. Chris Hanson
- Fellowship Director: Dr. Andrew Crichton
- Undergraduate education: Dr. John Huang
- Course Five coordinators: Dr. Karen Verstraten and Dr. Vivian Hill
- Research Day: Dr. Bryce Ford
- The Section of Ophthalmology provides clinical services through Alberta Health Service facilities, Non Hospital Surgical Facility's and private offices.
- There are outpatient clinics located at the Rockyview General Hospital and Alberta Children's Hospitals.
- We operate at five non hospital surgical facilities for cataract and non-cataract ophthalmic surgery.
- We provide primary on call coverage for the five major hospitals in Calgary and subspecialty coverage for Southern Alberta.
- We have active residency and fellowship programs
- June 2014 marked Dr. K. Romanchuk's retirement from clinical practice. We all wish to thank Dr. Romanchuk for many years of dedicated service. We are actively searching for a clinical replacement. Dr. Romanchuk will continue on with research activities to complete some ongoing projects. Dr. Romanchuk also hopes to start painting.
- Drs. Michael Fielden and Chirag Shah have successfully completed the search and selection process for Medical retina academic appointment.
   Dr. Fielden will be staffing a medical retina clinic at RGH and Dr. Shah will be assisting with the ROP program.

### **Current Committees**

 We have established a new administrative committee as chief's advisory, consisting of Dr. Anna Ells, Dr. Linda Cooper, Dr. Jit Gohill, Dr. Nand Goel, and Dr. Andrew Crichton.



Dr. Michael Ashenhurst, Ophthalmology Section Chief

- Monthly business meetings (all ophthalmologists with privileges in the Calgary Health Zone, three neuro-ophthalmologists, one affiliated vision research scientist, and guests)
- On-call Subcommittee chaired by Dr. Nand Goel.
- Residency Program Committee chaired by Residency Program Director, Dr. Chris Hanson
- Fellowship Program Subcommittee chaired by Dr. Andy Crichton.
- Undergraduate Medical Education Subcommittee chaired by Dr. John Huang.
- Sectional Research Subcommittee chaired by Dr. Feisal Adatia and Dr. Fiona Costello.
- Grand Rounds Subcommittee chaired by Dr. Andy Crichton.
- Research Day Subcommittee chaired by Dr. Bryce Ford.

### **Programs**

- Lions Eye Bank of Southern Alberta at Rockyview General Hospital
- Sight Enhancement Clinic at Rockyview General Hospital
- Dr. Bill Astle participates in the Childrens Travelling Sight Enhancement Clinic for Southern Alberta.
- University Eye Foundation (President Dr. Amin Kherani.)
- Calgary Ophthalmic Medical Technology Training Program at Rockyview General Hospital
- Subspecialty clinics at Rockyview General Hospital: cornea, glaucoma, Marfan's syndrome connective tissue disorders eye clinic, neuro-ophthalmology, ocular oncology, retina, solid organ transplant eye clinic, Adult Strabismus, urgent eye and Thyroid.
- Retinopathy of prematurity screening service to the Neonatal Intensive Care Units at Alberta Children's Hospital, Foothills Medical Centre, Peter Lougheed Centre, Rockyview General Hospital and South Health Campus.

The University of Calgary Ophthalmology program is presently in a transition phase following a Royal college review with intent to withdraw. We will under go an external review in two years.

The Royal College review has given us some direction for restructuring of the training program. These changes have been started this year.

#### **RTC**

The training program committee will be downsized to include the following staff.

- Dr. Hanson Chair- Program Director
- Elected Junior and Senior resident
- Dr. Feisal Adatia Research Chair
- PGY1 coordinator (by correspondence)
- Dr. Ashenhurst Section Head
- Dr. Fielden Curriculum
- Dr. Fletcher Evaluations
- Undergraduate teaching leader TBA (New recruit or Dr. Dotchin?)

Membership in the Section of Ophthalmology 2014-15				
F	Adatia	V	Hill	
Α	Al Ghoul	J	Huang	
J	Anand	Р	Huang	
ME	A s h e n - hurst	J	Kassab	
WF	Astle	Α	Kherani	
AE	Ball	F	Kherani	
J	Bhamra	AH	Kirk	
BP	Chow	R	Lang	
L	Cooper	JA	McWhae	
F	Costello*	Р	Mitchell	
AC	Chrichton	RJ	Mitchell	
RC	Culver	K	Punja	
Т	Demong	KG	Romanchuk	
S	Dotchin	PR	Savage	
G	Douglas	СМ	Skov	
AL	Ells	SS	Smith	
WA	Fletcher*	S	Subramaniam*	
В	Ford	JA	Van Westenbrugge	
PF	Gibson	KL	Vestraten	
HV	Gimbel	K	Warrian^	
N	Goel	Е	Weis	
J	Gohill	RG	Williams	
Р	Gooi	J	Wong	
R	Gordon	JP	Wyse	
С	Hanson	R	Yau	

\*neuro-ophthalmology
^Locum

### Program coordinators will be:

- Comprehensive-Bill Chow
- Cornea-Peter Huang
- Glaucoma-Patrick Gooi
- Pediatrics- Linda Cooper
- Plastics-Karim Punja
- Retina- Patrick Mitchell
- Surgical teaching (R. Mitchell)

The surgical teaching coordinator will be responsible for tracking and organizing the surgical teaching experience for the residents to ensure adequate surgical exposure.

- A resident mentoring program has been instituted and an external ombudsman has been engaged.
- The On-call duties for the residents have been adjusted.
- Teaching curriculum has been formalized and updated.
- Significant work groups. Workshops were run this year for RGH surgery utilization and Block booking protocol changes including incentives for surgical teaching.

### Membership

### ACCOMPLISHMENTS AND HIGHLIGHTS

#### New staff

#### Clinical Service

- Dr. Christopher Hanson has transitioned to full time comprehensive practice based at the Rockyview Hospital.
- An indirect diode laser was purchased for treatment of retinopathy of prematurity in the Foothills Medical Centre, Neonatal Intensive Care Unit
- We are very excited to announce that Dr. Brenda Gallie has joined us on a part-time basis. Dr. Gallie is a world authority on retinoblastoma and heads the program at Toronto Sick Kids Hospital. This program receives referrals from all over Canada. Families and patients travel from Alberta as well as elsewhere in the country on a frequent basis to see Dr. Gallie for follow up visits and treatments for retinoblastoma. Dr. Gallie will be able to offer services to Calgary

- patients via the Alberta Children's Hospital. This will greatly reduce stress on these families and will also realise significant cost savings
- We are expecting delivery in the near future of the iSim technology for virtual cataract teaching. This has been a collaborative effort supported by numerous agencies and should be a tremendous tool for anterior segment surgery teaching. Our section members continue to be very active in research including numerous publications, clinical trials, presentations, and grants.

#### **Education**

- Residents
- We have one new resident Dr. Paul Huang in the PGY1 year as per our CARMS match.
- Dr. Lisa Lagrou and Adam Muzychuk successfully passed their Royal College Certification in 2015.

#### **Fellows**

 We presently have fellows training in our Retina and Oculoplastics programs. We are participating in the re-structured billing program for fellows with in Department of Surgery

### **Medical Students**

- Teaching of undergraduates continues in small group settings, surgical clinical clerkship rotations, and electives. Dr. Vivian Hill and Dr. Karin Verstraten have taken leadership roles in teaching ophthalmology in the newest undergraduate medical curriculum. Dr. John Huang has been active in coordinating ophthalmology electives and evaluations for medical students from University of Calgary and other Canadian universities,
- Participation in local, provincial, national and international organizations:
- Our section members continue to be very active in research including numerous publications, clinical trials, presentations, and grants.

# Workforce Planning

Goals and Strategies

- Regular survey of the section of ophthalmology for recruitment needs.
- Recruitment is advertised, with an established open process by the recruitment Subcommittee of our section of ophthalmology.

*Impact on other departments and zonal resources* 

- Recruitment is designed to provide more timely access for patients requiring ophthalmological care.
- Additional resources are required for new recruits, as the retiring ophthalmologists tend to use fewer resources than those incoming.

# Quality Assurance, Quality Improvement, and Innovation

General

- Continued Morbidity and Mortality rounds.
- Investigation of patient concerns brought to the attention of Section Chief by the Office of Patient Concerns, Calgary Zone, Alberta Health Services.
- Regular submissions by members of the section to the Health Technology Assessment Committee of the Department of Surgery.
- Continuing initiative for coverage of retinal eye examinations for retinopathy of prematurity now at all five existing neonatal intensive care units, including the South Health Campus and the expansion at Alberta Children's Hospital. We are considering engaging a full or part time clinical coordinator for the ROP program.

Access of Family Physicians to specialists

 This has been improved through recruitment to positions in comprehensive ophthalmology, changes in RAAPID and Dr. C Hanson in the Urgent Eye Clinic. Patient flow through the Emergency Department

• There has been continued positive feedback from emergency room physicians by allowing direct booking into the Urgent Eye Clinic by emergency room physicians after regular office hours, and also by continued running of the Urgent Eye clinic on weekends and statutory holidays in the Eye Clinic at Rockyview General Hospital.

# **Future Directions and Initiatives**

- Our section requires additional space at Rockyview General Hospital to accommodate expanding clinical, teaching and research needs.
- We are still working towards creating our first endowed chair in ophthalmology.

# Section of Oral & Maxillofacial Surgery

### **MEMBERSHIP**

The section of Oral and Maxillofacial surgery (OMFS) has sixteen members and is consolidated at the Peter Lougheed hospital. Dr. S. Bureau, Dr. G. Cobb, Dr. R. Edwards, Dr. R. Goos, Dr. B. Habijanac, Dr. S. Higashi, Dr. L. Kroetsch, Dr. M. Smith, Dr. S. Touchan, Dr. D. Vincelli and Dr. C. Young provide call coverage. Dr. T. Fairbanks has surgical assisting privileges. Dr. T. Summers, Dr. D. Wakeham, Dr. B. Whitestone and Dr. H. Williams are senior surgeons. The section provides call coverage to the Calgary zone (all five hospitals and urgent care centres) as well as southern Alberta and the Crowsnest Pass area.

# CURRENT OMFS COMMITTEES AND COMMITTEES THAT OMFS ARE PART OF:

- City wide surgical executive committee.
- The non-hospital surgery committee (NHSF) which manages outpatient oral and maxillofacial surgery in non-hospital surgical facilities.
- Search and selection committee regarding OMFS manpower issues
- Hyberac oxygen committee for oral and macillofacial surgery HBOT requirements.
- Alberta head and neck cancer centre committee
- Pediatric surgery division and operating room committee at the Alberta Children's Hospital.
- Office of surgical research committee.

### **CLINICS**

The OMFS Section provides OMFS services at the Foothills hospital through the Foothills hospital dental clinic. Dr. G. Cobb, Dr. S. Higashi, Dr. M. Smith and Dr. S. Touchan rotate through the clinic. The OMFS division provides coverage to the cleft palate clinic at the Alberta Children's Hospital. The Section also has a



Dr. Richard Edwards, Oral and Maxillofacial Surgery Section Chief - Photo provided by Colin McHattie

sleep apnea clinic at the Children's hospital. The section is collaborating with ENT, Plastic surgery and the Foothills hospital dental clinic in the treatment of head and neck cancer patients through the Tom Baker head and neck cancer clinic. The division also has members that teach and cover clinics at the University of Alberta Dental School.

### **EDUCATION**

The general practice residents from the Foothills hospital dental clinic (Dr. Tobial Meiszinger and Dr. Evgeniya Kazachenko) rotated through our service (hospital and office). Plastic surgery residents (Dr. Rebeca Hartley and Dr. Kody Johnson) also did a two week rotation through our service this year (hospital and office).

# **QUALITY ASSURANCE**

The OMFS surgeons meet every two months to discuss clinical issues and have morbidity and mortality rounds.

### **GOALS**

The goals of the Section of Oral and Maxillofacial Surgery is to continue to provide excellent OMFS surgical care to southern Alberta patients and work towards more involvement in treating head and neck cancer patients, sleep apnea patients and craniofacial deformity patients.

# **Section of Orthopedic Surgery**

# **Section Structure and Organization**

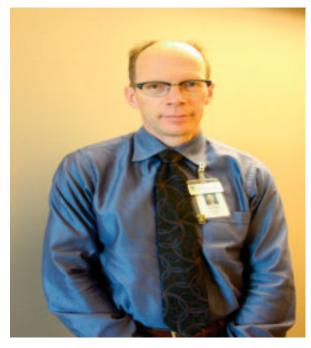
#### Current Committees

- Orthopaedic Executive Committee
- Operations Committee (Site Chiefs)
- Orthopaedic Surgery Residency Training Committee – OSRTC (Education Leads)
- Orthopaedic Surgery Fellowship Training Committee (Fellowship Program Directors)
- Research Committee (Research Leads)
- Education Committee (Education Directors
- Director, Research Committee: Dr. Paul Salo has taken on the directorship and will be working with Orthopaedic Faculty and the McCaig Institute to promote research collaboration between clinical faculty and non-clinical researchers in bone and joint health.
- Education Director: Dr. Carol Hutchison was appointed to this role in July 2014.
- Sue Miller was hired in September 2014 as the new Manager for the Academic Operations Office.

### **Programs**

#### Membership

- Sadly on March 5, 2015, Dr. Cy Frank passed away. He was a Cumming School of Medicine Department of Surgery faculty member for over 30 years and served as Division Chief, Orthopaedics from 1997 to 2007. He received many awards and accolades over his distinguished teaching/academic research career. He will be greatly missed by his colleagues and friends.
- The membership count on April 1, 2014 was 58 teaching faculty and 5 non-clinical faculty.
- Dr. Raj Sharma and Dr. Stephen Hunt started in the summer of 2014. Drs. Michael Monument, Jeremy LaMothe, Ryan Martin, and Alex Soroceanu started in the fall of 2014.
- Dr. Norman Schachar announced he will take a terminal sabbatical in 2014/2015 and will stop his orthopaedic operative practice.
- Dr. Lowell van Zuiden announced in 2014 he would be stopping his operative practice.



Dr. Kevin Hildebrand, Orthopedic Surgery Section Chief

### ACCOMPLISHMENTS AND HIGHLIGHTS

#### Education

- Medical Students (Dr. Lewkonia was the Clerkship Director and Dr. Hutchison was the MSK Course II Chair)
- Post-Graduate Medical Education (PGME)
- Residents
- The Orthopaedic Surgery Residency Program enjoyed the following Visiting Professors in the 2014 academic year, enhancing the resident learning experience:
- Dr. Mininder Kocher from Boston Children's Hospital in conjunction with the 2nd Annual Calgary Orthopaedic Resident Research Day
- Dr. Paul Beaule from the University of Ottawa
- Dr. Theddy Slongo from the Children's University Hospital, Bern Switzerland
- Dr. Roberto Guarniero from the University of Sao Paulo, Brazil
- Dr. Brent Hagel from the Alberta Children's Hospital
- 2014 Canadian Orthopaedic Resident Forum (CORF) was held April 4th-7th at the Fairmont

Palliser Hotel. CORF was attended by 80 final year Orthopaedic Residents and 1 auditor. Educational and oral examination sessions were facilitated by 36 Faculty members from across the Nation.

- 6 Residents successfully passed their Royal College Examinations.
- We had 5 new Residents start on July 1, 2014.
- Graduate Medical Education (Fellows)
- Dr. Raul Kuchinad, orthopaedic fellowship Program Director, has nine active fellowship programs.

Fellows in the orthopaedic fellowship program from April 1st, 2014 – March 31st, 2015 were as follows:

Saleh Alsaifi	Paediatric
Rajpal Bhandal	Paediatric
Farid Bouhouf	Combined Spine
Kate Campbell	Combined Spine
Nathan Deis	Combined Spine
Nicholas Desy	Trauma
Eoin Fenton	Combined Spine
Kanwaljeet Garg	Combined Spine
Sebastian Guenkel	Hand & Wrist
Kristine Haugo	Combined Spine
Steve Hunt	Foot & Ankle
Parag Jaiswal	Joint Reconstruction
Angus Jennings	Foot & Ankle
Joby John	Joint Reconstruction
Pablo Krainz	Paediatric Spine
lan Lutz	Joint Reconstruction
Michael Loewen	Banff Sport Medicine
Martin Mangupli	Trauma
Brad Meulenkamp	Trauma
Yohei Ono	Upper Extremity
Parham Rasoulinjad	Combined Spine
Narendra Ramisetty	Arthroscopy
Jonathon Sharr	Trauma
Alexandra Stratton	Combined Spine
Antonio Tsahtsarlis	Combined Spine

#### ANNUAL REPORT 2014/2015

# 7th Annual Fellows Research Symposium Wednesday, Research Awards May 7th, 2014

Presentations were given by 12 of the current fellows. It was a very successful event. Our guest adjudicator was Dr. Paul Beaule from the University of Ottawa. Local adjudicators were Dr. Ian Le and Dr. Ken Thomas. Dr. Marcia Clark moderated the event.

#### The awards were as follows:

- 1st Place and recipient of the Norman Schachar Research Award was Joby John, Joint Reconstruction Fellow.
- 2nd Place was Martin Mangupli, Trauma Fellow.
- 3rd Place was Kate Campbell, Combined Spine fellow.

#### **CME**

- The 17th Annual Glen Edwards Day: May 23rd, 2014 at the Health Sciences Centre; hosted by the Spine Division. 2014 Glen Edwards Day had 111 attendees. 2015 will be hosted by the Arthroplasty Division.
- Afternoon in Arthroplasty: Monday, September 22nd, 2014, at the Radisson Hotel. This public Education course for patients waiting for or curious about Hip and Knee Replacement Surgery was well attended.
- The 42nd Annual Paediatric Orthopaedic Seminar and Townsend Lecture: Friday, October 24th, 2014 at the Calgary Winter Club with guest speakers Dr. Roberto Guarniero (Brazil) and Dr. Theddy Slongo (Switzerland) and local speakers Dr. Brent Hagel and Dr. Fabio Ferri-de-Barros and giving the RD Dewar Lecture.
- Citywide Orthopaedic Surgery Rounds are held the third Friday of every month except July and August.

### Research Highlights (Residents)

In 2014 the Research Portfolio awarded a total of 3 COREF research grant applications. A total of \$12,321.00 was awarded.

Resident Research Day (April 11, 2014)

- 1st Place and the recipient of the Dr. Robert Townsend Scientific Award Dr. Jaret Woodmass "Suture Locking of Interference Fit Knotless Suture Anchors are Affected by Bone Quality"
- Best Junior Presentation Award Dr. Jennifer Leighton "Prospective Abuse and Intimate Partner Violence Surgical Evaluation (PRAISE-2)"

### **COREF** Grants

- Dr. Devin Lemmex 2014 COREF Grant Award, \$4,021.00 "Orthopaedic Research Portfolio Grant Application - Loading of the Paediatric Hockey Wrist During Hockey Slap Shots".
- Dr. Jennifer Leighton 2014 COREF Grant Award, \$5,000.00 "Orthopaedic Research Portfolio Grant Application - Unicondylar Knee Arthroplasty Versus Total Knee Arthroplasty in Patients with Anteromedial Osteoarthritis of the Knee".
- Dr. Sebastian Guenkel 2014 COREF Grant Award, \$3,300.00 Orthopaedic Research Portfolio Grant Application - "Accuracy of Surgeon Assessment of Intra-Operative Fluoroscopy".
- Dr. Angus Jennings 2014 COREF Grant Award, \$5,000.00 "Does SPECT-CT Guide/Change Management in Foot and Ankle Surgery?"

### Research Highlights (Faculty)

The Faculty Research Symposium took place on Monday, June 2nd, 2014. Faculty presented their latest research, and to encourage collaboration with the McCaig Institute Steve Boyd presented an update on the Mobility and Joint Health Facility.

#### CHALLENGES

### Response to Issues

On call support for Surgeons

# Ongoing Matters and Plan of Action

- There have been concerns about On Call coverage as resident numbers decrease. A Clinical Assistants program has been developed and overseen by Dr. Linda Mrkonjic to train Clinical Assistants to cover call at Calgary acute care sites.
- Another challenge is the lengthy wait lists for patients to see Orthopaedic surgeons and then to get to the OR. Orthopaedics is recruiting further surgeons as well as exploring other management processes and continuing to advocate for more surgical resources.

### WORKFORCE PLANNING

#### Future Needs

- In Fall 2015, two new recruits will start. Dr. Alex Reszanoff, Soft-tissue knee will be at PLC and Dr. Prism Schneider, Trauma/Research at FMC.
- Recruitment for 2016 will be for a Foot and Ankle Trauma position and a Paediatric position with an interest in Sport Medicine.

### Goals and Strategies

 New recruits are encouraged to become members of the McCaig Institute for Bone & Joint Health and to collaborate in research.

# QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

Access of Family Physicians to specialists (See Challenges) Patient flow through the Emergency Department

# Section of Otolaryngology Head & Neck Surgery

# SECTION STRUCTURE AND ORGANIZATION

#### **Current Committees**

- Section Executive Committee Chair Dr. TW Matthews
  - Membership Drs P Park (SHC Head), JC Dort (FMC Site Head), JD Bosch (PLC Site Head), J Warshawski (RGH Site Head) and D Drummond (ACH Site Head)
- Resident Training Committee Chair Dr. JD Bosch
  - Members Drs. SP Chandarana, J Warshawski, J Brookes, J Chau, A HuiTW Matthews (ex officio)



Dr. Wayne Matthews, Otolaryngology Section Chief

- Undergraduate Director Dr. M Hoy
  - Members Drs. SP Chandarana , JD Bosch, TW Matthews (ex officio)
- CME Director Dr. J Warshawski
- Research Director Dr. D Drummond, Co-Director Dr. L Rudmik
- Simulation Committee Chair Dr. J Brookes
  - Membership Drs. J Chau, P Park

### **Programs**

- Resident Training Program the program currently accepts one and two residents on alternating years through the CaRMS process
- Senior Medical Director Cancer Strategic Clinical Network Dr. J Dort
- Bone Anchored Hearing Aid Program, Drs. J Chau, E. Lange and W Yunker
- Cochlear Implant Program, Dr. P Park (Adult and Children), Dr. J Brookes (Children)
- University of Calgary Head and Neck Surgical Oncology Program (HNSOP) – Dr. J Dort (Drs. TW Matthews, SP Chandarana, C Schrag (Plastic Surgery)
- The University of Calgary HNSOP welcomes Dr. Jennifer Matthews (Plastic Surgery). Dr. Jennifer Matthews joined the University of Calgary HNSOP in January 2015.

### ACCOMPLISHMENTS AND HIGHLIGHTS

### Highlights

University, Zone, Provincial and National Professional Service

### Dr. JD Bosch

- President Alberta Society of Otolaryngology Dr. SP Chandarana
- Surgical Representative Executive Committee, Provincial Tumor Group - Head and Neck Cancer Alberta Health Services

- Surgical Representative Executive Committee
   University of Calgary Medical Group
- Member Calgary Zone Medical Staff Support Framework Alberta Health Services/University of Calgary
- Chair Major Clinical Surgeons, Executive Committee, University of Calgary Medical Group, Department of Surgery
- Member Minor Surgery Clinic Task Force -Department of Surgery, University of Calgary
- Member Provincial Tumor Group for Endocrine
   Cancer Alberta Health Services
- Director Residents' Clinic, University of Calgary, Division of Otolaryngology: Dr. JC Dort
- Director of Ohlson Research Initiative, Ohlson Professor of Head and Neck Surgery
- Member Provincial Tumor Group for Head and Neck Cancer Alberta Health Services
- Appointed the Director of the Provincial Oncology Strategic Clinical Network
- Co-Chair AHS Provincial Head and Neck Oncology Team: Dr. D Drummond
- Received the Resident Teaching Award from the Otolaryngology Program 2015: Dr. E Lange
- Site Lead, Department of Surgery SHC: Dr. TW Matthews:
- Chair, Royal College of Physicians and Surgeons Specialty Committee (Otolaryngology – Head and Neck Surgery)
- Member Provincial Tumor Group for Head and Neck Cancer Alberta Health Services: Dr. LR Rudmik
- Promoted to Associate Professor, Surgery Adjunct Associate Professor in the Department of Otolaryngology Head and Neck Surgery at the University of Arizona
- Petro Canada Young Innovator Award in Community Health
- UCMG eScription Project Physician Advisory Group - Member
- Health Technology Assessment Committee Member AHS
- UCMG non-GFT Executive Committee Member
- Canadian National In-Training Exam Committee Rhinology Chair

- Research Committee for American Rhinologic Society Member
- Clinical Investigator Program Department of Surgery Representative
- Department of Surgery Research Committee Member: Dr. W Yunker
- Alberta Children's Hospital Patient Flow Committee Member, 2015
- President Alberta Children's Hospital Medical Staff Association, 2015-2016
- Early Hearing Detection and Intervention Program Initiative: High Level Care Pathway Working Group Member, 2015
- Board member Alberta Society of Otolaryngology,
   2013 present
- Alberta Society of Otolaryngology Representative to the Alberta Medical Association, 2013 present
- Family Medicine Resident Elective Coordinator, University of Calgary, Otolaryngology – Head and Neck Surgery Residency Training Program, 2011 – present: Dr. B Hoshowsky
- The Hoshowsky family has generously created the "Dr. Borys, Melanie, Larrissa and Halya Medical Education Bursary" to support undergraduate medical students at the University of Calgary.

#### Education

### Residents

- Dieter Fritz (PGY5) graduated June 30, 2015
- Drs. Derek Randall (PGY5) graduated June 30, 2015
- Dr. Jon Dautremont (PGY4)
- Dr. Kristine Smith (PGY3)
- Dr. Carrie Liu (PGY2)
- Dr. Devon Livingstone (PGY2)
- Dr. Julie Lumingu (PGY1)
- Dr. Justin Lui (PGY1)

#### **Medical Students**

The following medical students completed clinical electives in Otolaryngology – Head and Neck Surgery at the University of Calgary

- Francisco Lee University of Calgary
- Alex Dyck University of Saskatchewan
- Dianne Valenzuela University of British Columbia
- Sung Ho Um University of Western Ontario
- Nicholas Tkaczy NOSM

- Isak Pavol University of Saskatchewan
- Jesse Ory University of British Columbia
- Marlon Danilweitz University of Ottawa
- Ayham Al Afif Dalhousie University
- Kwadwo Mponponsuo University of Saskatchewan
- Michael Yong University of Calgary
- Stephan Hamilton Memorial University
- Neil Mundi University of Calgary
- Jeff Wells University of Calgary
- Charnelle Carlos University of Toronto
- Tara He University of Toronto
- Veronica Wong University of Manitoba
- Serena Nelko University of Manitoba
- Alain Joe Azzi University of Ottawa
- Mark Kubanski University of Alberta
- Joseph Soloman University of Calgary
- Brian Chang University of Alberta
- Mark Kubanski University of Alberta
- Christina Thrornton University of Calgary

#### Research

The academic activity of the Section's faculty and residents is broadly based at all hospital sites and subspecialty areas. Research output continues to improve in quantity and quality due to the efforts of the established and newly recruited faculty.

### **CHALLENGES**

#### Response to Issues

# Ongoing Matters and Plan of Action

Access for clinic consultations and surgery remain issues in Otolaryngology. Rhinology, neurovestibular medicine and general otolaryngology are currently a stressed practice areas. Future recruitment of new and replacement faculty over the next few years will address access issues. Clinic access is likely to remain a barrier to recruiting hospital-based surgeons.

#### **WORKFORCE PLANNING**

### **Future Needs**

- An Otolaryngology Section physician resource plan 2012 – 2017 has been submitted to the Department of Surgery. This includes:
- Recruitment of 3-4 additional otolaryngologists to the adult hospitals in 2016 2017.
- Recruitment of an additional otolaryngologist with expertise in neurovestibular disorders to the SHC.
- Recruitment of an additional surgeon to each of PLC and RGH in 2016 as part of the succession of existing senior surgeons and to serve anticipated population needs. This includes a subspecialist laryngologist (PLC) and rhinologist (RGH). Additional recruitment to the FMC and RGH are being considered. The new otolaryngologists' skill sets will complement the subspecialty focus of the site (see below) as well as the current clinical and academic priorities.
- ACH pediatric otolaryngology
- FMC head and neck oncology and skull base surgery
- PLC laryngology, sleep medicine and surgery and facial plastic surgery
- RGH rhinology and endocrine and less complex head and neck surgery
- SHC otology and neurotology
- General otolaryngology services will be provided at all sites

*Impact on other departments and regional resources:* 

- Future recruitment will proceed with input of related surgical and medical sections to promote clinical and academic collaboration.
- Quality improvement initiatives remain priorities for the Section. Current projects include appropriateness and cost effectiveness in the management of sinonasal disease (Dr. L Rudmik) oncologic and functional outcomes in head and neck oncology.

 Recruitment of new faculty to support the Neurovestibular Clinic at SHC will further improve access, diagnostic testing as well as research opportunities.

### QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

- Significant adverse events are reviewed quarterly at Morbidity and Mortality Rounds with the goal of minimizing repetition of similar occurrences in the future.
- Quality improvement initiatives remain priorities for the Section. Current projects include appropriateness and cost effectiveness in the management of sinonasal disease (Dr. L Rudmik) and post-operative in hospital and post-discharge clinical pathways in head and neck oncology.
- The establishment of the Neurovestibular Clinic at SHC (Drs. E. Lange and WM. Fletcher) has improved access, diagnostic testing as well as research and recruitment opportunities.

### **FUTURE DIRECTIONS AND INITIATIVES**

Ongoing focused recruitment and geographic concentration of subspecialty programs should allow for improvement in clinical care, medical education and research output at all sites.

Otolaryngology – Head and Neck Surgery is the first Royal College surgical specialty to transition to Competence By Design (competency-based medical education) with the first cohort of residents to enroll in July 2016.

### **Section of Pediatric Surgery**

### SECTION STRUCTURE AND ORGANIZATION

Zone Clinical Section Chief and ACH Site Chief: Dr. Frankie O.G. Fraulin

### **Pediatric Surgery Division Heads**

- **Dentistry:** Dr. Marie-Claude Cholette
- General Surgery: Dr. Mary Brindle
- Gynecology: Dr. Phillipa Brain
- Neurosurgery: Dr. Walter Hader
- Ophthalmology: Dr. Michael Ashenhurst
- Oral and Maxillofacial Surgery: Dr. Miller Smith
- Orthopedic Surgery: Dr. Dave Parsons
- Otolaryngology: Dr. Derek Drummond
- Plastic Surgery: Dr. Donald McPhalen
- Urology: Dr. Anthony Cook

### **OVERVIEW AND HIGHLIGHTS**

This past year has been busy for both the Section of Pediatric Surgery and for Surgery at the Alberta Children's Hospital. Having a dual role as Section Chief and Site Chief, the issues that arise often overlap. The majority of surgery in children under 18 years of age in the Calgary Zone is done at ACH, but there are also variable amounts (mostly in older teenagers) done at the adult zone. This year the focus has been around increasing the academic profile of the group, issues dealing with OR access for patients, and issues dealing with recruiting new surgeons.

The largest boost this past year in helping us to increase our academic profile came from Brian and Brenda MacNeill. They generously donated funds to develop the first Chair in Pediatric Surgery in Western Canada, which was announced in May 2014 and the terms of reference were finalized in November 2014. The Chair is linked to my position as Section Chief of Pediatric Surgery and Site Chief of Surgery at ACH. The purpose



Dr. Frankie Fraulin, Paediatric Section Chief Photo provided by Dr. Fraulin

of the Chair is to foster a strong, progressive academic environment for Pediatric Surgery. A proposal on how to use the funding was presented to the Advisory committee in January 2015 and in March a call for Letters of Intent was sent to our section members for proposals on projects that would meet this purpose. Ten projects were submitted and reviewed by a selection committee consisting of experienced researchers.

The successful project will be lead by Dr. Mary Brindle, entitled: The EQUIS OR (Efficiency, Quality, Innovation and Safety OR). It is a research platform to evaluate and improve outcomes and aligns nicely with the strategic priorities of ACHRI, specifically the Healthy Outcomes Pillar. The team is multidisicplinary and includes members from most of the Divisions in Pediatric Surgery and will collaborate with researchers from W21C, quality

improvement researchers at ACH and will also include members from nursing and anesthesia at ACH. The research platform will oversee multiple projects with the ultimate aim of benefiting the Pediatric population at ACH and worldwide and is expected to have a high likelihood of leading to sustainable outcomes.

Operating room access remains the busiest issue for our group. We continue to work on ways to optimize OR use. Challenges range from not having enough elective time with patients "out of window" (PCATS) to not being able to fill some days due to the nature of surgery in children or the types of problems with which a division deals to access for urgent cases to operating after hours. We reviewed and rewrote the guidelines for the OR and developed a Daily Task Force Team consisting of the Task Force Nurse (charge nurse), Daily on call Anesthesiologist, and Daily Surgeon. The Daily Surgeon is on a volunteer, rotating basis. This process has helped with daily prioritization decisions regarding bumping, late rooms, and overcapacity issues (ie. beds in hospital). We have also implemented other ideas such as half day urgent rooms during times of room closures (Spring, Summer, Christmas), an ICU bed decision flow chart, the Induction Room Process as an alternative for some inpatients, Short Stay Unit extension on certain weekends, changing some divisions elective time to urgent time, and allocating returned OR days to divisions with the largest numbers of patients out of window. We are also reporting monthly at our ACH OR committee on bumping and postponements, which has helped to increase awareness among the divisions.

I have seen an increase in the interest of our members in supporting the Section of Pediatric Surgery. This is not an easy task as most members are also members of their specific Adult based specialty. Many members have significant roles in those sections such as Rob Harrop and Michael Ashenhurst who are Section Chiefs of Plastics and Ophthalmology respectively. Others such as Derek Drummond are the research leads for their section while others are very involved at a provincial or national level such as Gerry Kiefer and the Physician Compensation Committee. We have had a resurgence

of attendance at business meetings where the passion of the group is evident. We have gained a new division - Division of Pediatric Oral Maxillofacial Surgery with Miller Smith at the head. He has done a great job making himself available and showing interest in cleft palate patients with secondary deformities and in patients with oral tumors. We are losing some significant members. Drs. Hyndman and Romanchuk are retiring and they played significant leadership roles during their time. Bud Shandro is also stepping down leaving a void in community Pediatric ENT coverage. Recruitment for Pediatric Surgery Specialists has been difficult as the number of trained specialists is limited (both by limited numbers of fellowships and limited job opportunities). Neurosurgery has attracted a very important candidate who will by have a significant academic role at ACHRI - Dr. Jay Riva-Cambrin. Pediatric Ophthalmology and Pediatric Plastic Surgery are looking for new recruits. There are currently locums in Pediatric General Surgery, Pediatric Orthopedics and Pediatric Urology. One of the main difficulties with recruitment remains the lack of an Academic ARP that the other large Pediatric Hospitals in the country have (Sick Kids, UBC, CHEO). Nonetheless the future remains positive for our Section. People make the section and we have great people. I have taken information provided by the Division heads and summarized some of the highlights and future directives in each of the divisions below.

### **DIVISION OF PEDIATRIC DENTISTRY**

### **Division Structure and Organization**

DENTISTS (Offices on site)

- Dr. Marie-Claude Cholette (0.8 FTE) Division Head and Clinical Director, ACH Dental Clinic (1996-2008, Interim 2011- ). Examiner, Royal College of Dentists of Canada
- Dr. Christine Bell (0.8 FTE)

### Members

Currently, there are 17 community Pediatric dentists in Calgary, of which 13 have AHS clinical privileges.

- Dr. Robert Barsky (ACH OR)
  - President of Alberta Academy of Pediatric Dentistry
  - Examiner for the Royal College of Dentists of Canada
  - Canadian Dental Specialist Association (CDSA)
     Board Member for the Canadian Academy of
     Pediatric Dentists
- Dr. Sarah Hulland (Clinic 0.1 FTE and ACH OR)
  - Western Society of Pediatric Dentistry Vice President
  - Oral Health initiative for the Calgary Backpack Program, Director
  - Alberta Academy of Pediatric Dentistry Past President
  - Alberta Academy of Pediatric Dentistry Western Society Pediatric Dentistry Rep
  - Alberta Children's Hospital Medical Staff Association - Vice President
- Dr. Warren Loeppky (ACH OR
  - Examiner, Royal College of Dentists of Canada
  - Expert Panel of Reviewers and Advisors, Journal of The Canadian Dental Association
- Dr. Farida Saher (Clinic 0.1 FTE)
- Dr. Sandy Schwann (ACH OR)
  - Secretary/Treasurer, Alberta Academy of Pediatric Dentistry
- Dr. Tim Seto (Clinic 0.1 FTE)
- Dr. Michelle Thal (Clinic 0.1 FTE)

### Also:

- Dr. Darrell Kemp Orthodontist
  - (Contributes to Cleft Palate Clinic and works in Dental clinic ½ day Q2mths)
- Dr. Miller Smith Oral and Maxillofacial Surgeon
  - (Contributes to Cleft Palate Clinic and works in Dental Clinic ½ day Q2mths)

### Programs

### ACH DENTAL CLINIC

The outpatient Pediatric dental clinic at the Alberta Children's Hospital offers care to infants, children, and adolescents who present unique dental/oral challenges, behavioral issues and/or more complex special care

needs. Treatment modalities include communicative behavior guidance/ non-pharmacological behavior modification and minimal/moderate oral sedation. If general anesthesia is required, patients are treated in the Alberta Children's Hospital operating room. The clinic also provides multidisciplinary care with input from orthodontists and oral and maxillofacial surgeons.

### CLEFT PALATE CLINIC

The Dentistry team that contributes to this clinic include: Pediatric Dentists: Drs. Christine Bell, Marie-Claude Cholette and Sarah Hulland

Orthodontists: Drs. Michael Bindman and Darrell Kemp Oral & Maxillofacial Surgeons: Drs. Doug Vincelli and Miller Smith

The team has provided in hospital delivery of nasoalveolar molding (NAM) appliances since 2005 and speech appliances for velopharyngeal insufficiency since 2013.

#### NON HOSPITAL SURGICAL FACILITIES

Community Pediatric dentists with AHS privileges also provide dental care for children under general anesthesia at AHS contracted Non-Hospital Surgical Facilities and participate in after-hour call services.

### Accomplishments and Highlights

The ACH Dental Clinic underwent renovations this past year; the team continued to see patients during this time by accessing other hospital facilities. The patient numbers continue to increase and unfortunately the waiting times also continue to increase. There is tremendous pressure on the current staff due to this patient volume.

The ACH staff Pediatric dentists continue to welcome FMC General Practice Residency (GPR) residents for 4 weeks per year and Family Medicine and Pediatric Residents and University of Alberta Dental students as requested on a weekly basis. They also participate in half-day academic teaching to Family Medicine, Genetics and Pediatric Residents.

Dr. Cholette is part of the Canadian Dental Sleep Apnea Network and is collaborating in a research project: "Incidence of Altered Craniofacial Morphology and Malocclusion in Children and Youth with Obstructive Sleep Apnea". [SickKids Foundation New Investigator Grant program (NI14-012)] (2014-present)

### **Future Directions and Initiatives**

This upcoming fiscal year will see the addition of several community Pediatric dentists to help with the clinical load: Dr. Aimee Castro (0.2 FTE), Dr. Choo-Kar Kua (0.1 FTE). The Dental Clinic really needs another full time Pediatric dentist (1.0 FTE) but despite advocating and lobbying for another position over the last 5 years, this position has still not been approved. The team is working on trying to reduce wait times by reviewing the criteria for patients that should be seen in the clinic. Another goal is to hopefully develop a one-year postgraduate Pediatric Residency training program. Also the ACH Dental Clinic continues to look for areas where specialized Pediatric dentistry services can expand. Future areas of interest include a Comprehensive Orthodontic Clinic for Special Needs patients and a Saliva/Drooling Clinic.

### DIVISION OF PEDIATRIC GENERAL SURGERY

### **Division Structure and Organization**

Division Head- Dr. Mary Brindle (also Associate Head, Department of Surgery)

### Members

- Dr. Paul Beaudry
- Dr. Robin Eccles
- Dr. Steve Lopushinsky (Associate Residency Program Director)
- Dr. Anna Shawyer (locum)
- Dr. Andrew Wong (Residency Program Director)

### CHANGES IN MEMBERS IN THE PAST YEAR

Dr. Paul Beaudry was on sabbatical from July 2014 to June 2015. Dr. Anna Shawyer, a recent graduate from Hamilton, Ontario was hired as his locum.

### Programs/Clinics

The Pediatric General Surgeons are actively involved in the care of Trauma patients, Oncology patients, Neonatal patients with complex GI problems, etc. The service also helps to run the ECLS/ECMO program at ACH.

### **Accomplishments and Highlights**

Dr. Paul Beaudry , while on sabbatical, worked with his lab to develop innovative approaches to treating neuroblastoma; research which is supported by a recent grant from CRIO.

Dr. Mary Brindle has continued this year in her administrative roles. Also, her research in population health has received ongoing grant support by CIHR and she has published multiple peer-reviewed manuscripts including one article cited by the American Pediatric Surgical Association as a key article to be used to determine best practices in Pediatric surgery. She continues to mentor residents and graduate students in research.

Dr. Robin Eccles continues to run a formal educational program for all residents in Pediatric general surgery. This year, she was the official host and organizer of the yearly meeting of the Pacific Association of Pediatric Surgeryone of the largest international academic societies for Pediatric surgery.

Dr. Steven Lopushinsky has taken on the role of vice chair of the education committee at the Canadian Association of Pediatric Surgery in addition to his role as surgical lead of Pediatric trauma and associate program director. He continues to be recognized for his teaching at the undergraduate and graduate level receiving

numerous awards including the Bronze medal award for his teaching contributions at the medical school. He has mentored graduate students in educational research with resultant peer-reviewed publications and international presentations.

Dr. Anna Shawyer recently joined the division of Pediatric Surgery as a locum from McMaster where she completed her masters of science in health research methodology. She has published multiple peer-reviewed manuscripts since joining the division and has presented her research nationally.

Dr. Andrew Wong remains program director of Pediatric General Surgery and has assumed national recognition in his role as a leader in developing new educational and evaluative processes for Pediatric surgery. He continues to receive recognition and awards for his teaching at the undergraduate and graduate level. He was instrumental in the program receiving full accreditation from the Royal College this year.

### **Future Directions and Initiatives**

The group has applied for an expansion to their clinical ARP to include a sixth Pediatric General Surgeon. They are hoping to recruit during the next fiscal year. Dr. Mary Brindle will be taking a sabbatical starting in August 2015 and spending time at Harvard. Dr. Brindle will also use this time to develop the EQUiS platform for research sponsored by the Brian and Brenda MacNeill Chair in Pediatric Surgery.

### DIVISION OF PEDIATRIC GYNECOLOGY

Division Head: Dr. Philippa Brain, Division Head Pediatric Gynecology & Western CANPAGO representative

### Members

- Dr. Jaelene Mannerfeldt
- Dr. Sarah McQuillan

### Programs/Clinics

The Pediatric Gynecology team runs 6 clinics per month and has 1 OR day per month. The number of patients continues to increase yearly. All members work at FMC as well. The majority of cases in patients under 18 years of age are done at ACH.

### Accomplishments and Highlights

The members are actively involved in education at the undergraduate, post graduate and masters level. Dr. Kathy Kenny obtained her Masters of Ethics with her project: Evaluating perspectives in gender assignment in children with ambiguous genitalia and disorders of sexual development. Pediatric and Endocrine fellows often attend the Pediatric Gynecology clinics as well. Dr. Brain actively presents on various topics including: Hormonal contraception and adolescents, Pediatric gynaecological emergencies, the female athlete triad, polycystic ovarian syndrome, nutrition and adolescence, vulvar ulcers, care of a Pediatric periclitoral mass, etc. Dr. McQuillan is the newest addition to the group and has published articles on vaginal agenesis.

### **Future Directions and Initiatives**

The Division of Pediatric Gynecology at the University of Calgary has close ties to the Division of Pediatric Gynecology at UBC. There are intentions of developing a western fellowship in Pediatric and Adolescent Gynecology between these two universities. The group is also working with the endocrine team to come up with a joint triage process for polycystic ovarian syndrome patients and working with the hematology clinic to develop a screening tool for teens with bleeding disorders. The group also hopes to increase the number of clinics to decrease the waiting time for patients.

### DIVISION OF PEDIATRIC NEUROSURGERY

### **Division Structure and Organization**

Division Head - Dr. Walter Hader

#### Members

- Dr. Clare Gallagher
- Dr. Mahmood Benour (Locum)

Dr. Mark Hamilton closed his Pediatric Neurosurgery practice to focus on adults. Dr. Benour, having just completed his Pediatric Neurosurgery fellowship, took on a locum position from July 2014- Sept 2015.

### Programs/Clinics

Neurosurgery Clinic - All members participate. Craniofacial Clinic

Dr. Gallagher with Dr. R. Frank (Plastic Surgeon)

### Accomplishments and Highlights

The generous donation from Brian and Brenda Macneill (via ACH Foundation) has greatly enhanced the epilepsy surgical program through the purchase of a stereotactic robot, ROSA, utilized for the implantation of depth electrodes in epilepsy investigations. Multiple children have benefited already from this safer and less invasive approach to intracranial EEG monitoring.

Institution of an operative quality assurance protocol for the management of ventriculoperitoneal shunt infection that was initiated in May of 2013, has shown dramatic improvements in the rate of shunt infection at the Alberta Children's Hospital. Adherence to the protocol has been excellent at over 95 %, and over the initial two years of prospective monitoring no new infection has been identified. Thanks goes out to the operating room staff for their diligence in following the protocol.

### **Future Directions**

Recruitment of a new academic Pediatric Neurosurgeon was completed in March 2015. Dr Jay Riva-Cambrin, currently in Utah, will join the team in September of 2015. He will bring a wealth of clinical research experience to Calgary as part of an international hydrocephalus network.

### DIVISION OF PEDIATRIC OPHTHALMOLOGY

### **Division Structure and Organization**

Division Head: Dr. William F. Astle

#### Members

### Onsite:

- Dr. Linda Cooper, Residency Program Director, Ophthalmology
- Dr. Ken Romanchuk

### Offsite:

- Dr. Michael Ashenhurst, Division Head Pediatric Ophthalmology, Section Head Ophthalmology
- Dr. Stephanie Dotchin
- Dr. Anna Ells
- Dr. Brenda Gallie
- Dr. Vivian Hill
- Dr. Femida Kherani
- Dr. Carolyn Skov

### CHANGES IN MEMBERS IN THE PAST YEAR:

Dr. Brenda Gallie, world expert on Retinoblastoma, based out of the Toronto Hospital for Sick Children, joined the Division and runs a retinoblastoma clinic bimonthly.

### Programs/Clinics

- ACH Vision Clinic Drs. Astle, Cooper, Romanchuk
- Retinoblastoma Clinic (Dr. Gallie)
- Retinopathy of Prematurity Follow up Clinic (Run by Dr. Ells for many years. She stepped down from the clinic this year.)

- Oculoplastic Clinic Dr. Kherani
- Vascular Birthmark Clinic referrals for patients at risk for eye problems associated with hemangiomas or capillary malformations.

### **Accomplishments and Highlights**

The Vision Clinic remains very busy treating Pediatric patients with strabismus, glaucoma, cataracts, and low vision. Wait times for appointments have increased again this past year.

A new retinoblastoma clinic was developed this year. Patients previously were sent to Toronto to Dr. Gallie's clinic at the Hospital for Sick Children. Now patients with this rare tumor, who live in Alberta, can be monitored and evaluated here in Calgary.

Neonates are screened for Retinopathy of Prematurity (ROP) in NICUs at all 5 hospitals across the city. The logistics of covering the 5 hospitals and keeping track of patients, even when they are transferred between sites, has been a stress to the division.

### **Future Directions**

Dr. Ken Romanchuk is retiring at the end of June 2015. The Division is recruiting for his replacement. The goal is for the new recruit to organize the ROP program for the city along with a nurse coordinator, for whom funding has been recently approved.

### DIVISION OF PEDIATRIC ORTHOPEDICS

### **Division Structure and Organization**

- Dr. David L. Parsons Division Head Pediatric Orthopedic Surgery, Royal College of Physicians and Surgeons of Canada Examiner, Royal College of Physicians and Surgeons Orthopedic Specialty Committee
- Dr. Carmen Brauer
- Dr. Chukwudi Chukwunyerenwa (Locum)

- Dr. Fabio Ferri-de-Barros Pediatric Spine Fellowship Director
- Dr. Simon Goldstein Pediatric Orthopedic Fellowship DirectorMedical Director of Riddell Family Motion Assessment Center, Medical Director of Neuromotor Clinics
- Dr. James Harder -AMA Forum Representative
- Dr. Elaine Joughin -Physician Lead for Pediatric
   Orthopedic Research , Safety Lead Pediatric
   Department of Surgery. AMA Representative
   Calgary Zone
- Dr. Gerry Kiefer Site Education Director Orthopedic Residency Training Committee, Alberta Health Physician Compensation Committee, AMA Forum Representative

### CHANGES IN MEMBERS IN THE PAST YEAR:

Dr. Carmen Brauer was on sabbatical from July 2014 to June 2015. Dr. Chukwunyerenwa, a recent fellow in Halifax, was hired as her locum.

### Programs/Clinics

- Spinal Deformity/Early Onset Scoliosis Clinics
- Fracture Care/Trauma Clinics
- Miscellaneous Orthopedic General Clinics
- Neuromotor Clinics
- Neuromuscular Clinics
- Spina Bifida/ Myelomeningoecoele Clinics
- Gait Laboratory and Analysis Clinics
- Complex Upper Extremity Clinics
- Neuromotor Upper Extremity Clinics
- Amputee Clinics

### Accomplishments and Highlights

There was a continued increase in the number of referrals, both elective and fractures, to the Orthopedic clinic. This stimulated the need for a Quality Improvement project and the clinic staff and Orthopedic team completed an AIM project to streamline referral patterns and wait times. This led to the addition of a booking clerk who booked fracture patients directly, thereby reducing phone calls. The clinic also saw the addition of 2 full time and 1 part time Orthopedic technologists.

Dr. Dave Parsons was a visiting professor at the Riyadh King Faisal Hospital and also served as an External Examiner. The spine team (Drs. Ferri-de-Barros and Parson) published their skull femoral traction technique for scoliosis showing improved outcomes for patients. They also presented these findings at several meetings. The Spine team has also recently received a substantial ACH Foundation Child Health Grant to look at surgical simulation for Scoliosis Surgery Training. Dr. Ferri-de-Barros was also involved in a study evaluating a staging system for Legg Calve Perthes Disease.

Dr. Simon Goldstein achieved his Certified Canadian Physician Executive (CCPE) recognition. He was also involved in a collaborative research project looking at Resident Sleep Hours.

Dr. Elaine Joughin is involved in multiple research projects looking at simple bone cysts in kids, safety and efficacy of the synoviorthesis procedure, and PRISM.

Dr. Gerry Kiefer published on slipped capital femoral epiphyses and congenital limb deficiencies in Alberta. He also has a grant to look at inflammatory biomarkers in hip dysplasia.

The Orthopedic team also published a prospective randomized controlled trial on different treatments for congenital idiopathic clubfoot.

### **Future Directions**

Dr. James Harder is planning to retire in 2016 and a new recruit has been identified, hopefully starting in July 2016. The new recruit will have a focus in sports medicine for young adolescents.

### DIVISION OF PEDIATRIC ORAL AND MAXILLOFACIAL SURGERY

### **Division Structure and Organization**

PHYSICIANS (Offices off Site)

 Dr. Miller Smith - Division Head Pediatric Oral Maxillofacial Surgery

Dr. Doug Vincelli

Programs/Clinics

- Pediatric Multidisciplinary Dental Clinic (Dr. Miller Smith)
- Cleft Palate Clinic (Drs. Smith and Vincelli)

### Accomplishments and Highlights

This past year was the first year Oral Maxillofacial surgery was assigned dedicated OR time. Previously the members used scramble time or time donated by Pediatric dentistry. The number of patients treated in the OR has increased in the past year. Some Pediatric patients are still managed at PLC if medical history allows for uncomplicated care.

### **Future Directions**

The Section of Oral Maxillofacial surgery is planning to officially designate Pediatric OMFS as a separate division in June 2015. The service provided by OMFS will continue to increase at ACH. There are also plans for future research projects in the areas of Cleft Lip and Palate Surgery and Obstructive Sleep Apnea management.

### DIVISION OF PEDIATRIC OTOLARYNGOLOGY

### **Division Structure and Organization**

PHYSICIANS (Offices on Site)

- Dr. Derek Drummond -Division Head Pediatric Otolaryngology, Research Director, Section of Otolaryngology
- Dr. James Brookes
- Dr. Warren Yunker

PHYSICIANS (Offices off Site)

- Dr. Jason Chau
- Dr. Monica Hoy
- Dr. Ian Huang
- Dr. Anita Hui
- Dr. Beth Lange
- Dr. Phil Park
- Dr. W. Shandro

### Programs/Clinics

- ENT Clinic
- Cleft Palate Clinic
- Dysphagia Clinic
- Hearing Clinic
- Microtia Clinic
- Tracheostomy Clinic
- Vascular Malformations Clinic
- Voice Clinic

### Accomplishments and Highlights

The ENT clinical service remains one of the highest volume services in Pediatric surgery having seen over 8000 patients last year. The members are actively involved in teaching at all levels. Dr. Drummond received the Resident Teaching Award for ENT in 2014-2015.

Dr. Yunker continues with presentations and research in the areas of the Pediatric Upper Airway Microbiome, Overnight oximetry in patients undergoing adenotonsillectomy, non antibiotic treatment of otitis media, epistaxis prevention, and Kawasaki disease associated sensorineural hearing loss.

Dr. Monica Hoy has joined the Surgical Undergraduate Education Committee as the ENT representative and she continues to do her Masters of Medical Education while maintaining a busy practice.

### **Future Directions**

Dr. W. Shandro is retiring in June 2015 and his OR time will be redistributed among the members. Dr. James Brookes was appointed the Residency Training Program director for Otolaryngology starting in July 2015.

### DIVISION OF PEDIATRIC PLASTIC SURGERY

### **Division Structure and Organization**

PHYSICIANS (Offices on Site)

- Dr. Don McPhalen -Division Head Pediatric Plastic Surgery
- Dr. Jocelyn Dilay
- Dr. Ryan Frank
- Dr. Frankie Fraulin Section Head Pediatric Surgery, ACH Site Chief of Surgery
- Dr. Rob Harrop -Section Head Plastic Surgery

### Programs/Clinics

- Plastic Surgery Clinic
- Brachial Plexus Clinic
- Burn Clinic
- Cleft Palate Clinic
- Complex Upper Extremity Clinic
- Craniofacial Clinic
- Microtia Clinic
- Vascular Birthmark Clinic

### Accomplishments and Highlights

The clinical volume has continued to increase over the past year with record numbers of patients seen in the Plastics clinic, the Vascular Birthmark Clinic and the Cleft Palate Clinic. We are looking at various ways to deal with capacity issues. The significant increased number of referrals from Emergency has increased the number of urgent patients seen, but has displaced the elective patients causing a significant increase in wait times.

The group remains very active in teaching medical students and residents who rotate through the service. Dr. Donald McPhalen completed his 8th year as an examiner for the Royal College. He is an active member of the Master Teacher program and has received multiple awards in the past year for his teaching including the Associate Dean's letter of Excellence for teaching in Communications, Physical Exam, Course 1, Course 4 and he also received a Gold Star Faculty Appreciation award for teaching in Physicianship. He

is also the Medical Director of the Kananaskis Country Public Safety Mountain Rescue Group.

Dr. Rob Harrop leads the Section of Plastic Surgery. He also serves as Secretary Treasurer for the Canadian Society of Plastic Surgeons (CSPS) and is on the Education Foundation of the CSPS. Along with Dr. McPhalen, he supervises a grad student looking at craniofacial growth patterns following cleft lip and palate reparative surgery. He has had several presentations in the past year and several publications on topics including cleft lip and palate, sternal wound dehiscence, and head and neck reconstruction.

Dr. Ryan Frank participates in the National Residents review course in Plastic Surgery. He also organizes the medical students and residents for the group and represents the site on the Residency Training Committee.

Dr. Frankie Fraulin represents the Section of Pediatric Surgery and the ACH site on various zone committees. In addition he continues as the Surgical Undergraduate representative for Plastic Surgery. He completed a 3-year term as Secretary-Treasurer of the Alberta Society of Plastic Surgeons. He is involved in several research projects with residents looking at the use of smart phones for clinical photography and reviewing hand fractures. He remains a board member of Project Outreach.

### **Future Directions**

The division is currently in the process of recruiting a new full time Pediatric Plastic Surgeon.

### **DIVISION OF PEDIATRIC UROLOGY**

### **Division Structure and Organization**

PHYSICIANS (Offices on Site)

- Dr. Anthony Cook -Division Head Pediatric Urology
- Dr. William Hyndman
- Dr. Bryce Weber -Director Undergraduate and Graduate Education Pediatric Urology

### CHANGES IN MEMBERS IN THE PAST YEAR:

This was Dr. Hyndman's last full year on staff. He is retiring at the end of June 2015. He was the Section Head of Pediatric Surgery for 6 years, having stepped down in January 2014. His dedication to patient care is admirable; his expertise is second to none; his even mannerisms and nature will be missed. He truly is a gentleman of Urology. He received the Award for Significant Contribution to ACH this year at Surgeon's Day.

### Programs/Clinics

- Pediatric Urology Clinic, Alberta Children's Hospital and South Health Campus
- Joint Nephrology/Urology Clinic
- Joint Multidisciplinary Myelomeningocele Clinic

### Accomplishments and Highlights

The members strive for excellence within the four pillars, i.e., administration, teaching, research and clinical. Pediatric Urology continues to be an extremely busy service from a clinical perspective. Referrals have increased approximately fifteen percent over the previous year, as has operative interventions. All members are involved with undergraduate and graduate urologic education from medical student formal lectures, elective and selective opportunities, to postgraduate family practice education and urologic fellowship training. Dr. Fermin-Risso is the fourth fellow to complete a paediatric urological fellowship at ACH over the past six years.

Clinical research continues to be an integral facet of the division. All members are involved with clinical research; two such projects have recently been presented at the national Canadian urology meeting including our experience with vesicoureteral reflux and Pediatric renal trauma. A randomized surgical trial looking at the efficacy of intravesical Botox vs placebo is ongoing. ACH is the world leader with respect to patient recruitment, i.e. over half of the patients presently enrolled in this global trial have been from within the division.

### **Future Directions**

Dr. Carolina Fermin-Risso has finished her Pediatric Urology fellowship and is starting a locum for the next year. She is an excellent addition to the Pediatric Urology team. Recruitment for a Pediatric Urologist to replace Dr. Hyndman will begin in early 2016.

Ongoing quality assessment initiatives will continue to guide excellent patient care outcomes. Education and research opportunities will continue to maintain the division as a national leader in Pediatric urologic healthcare.

## **Section of Plastic Surgery**

### SECTION STRUCTURE AND ORGANIZATION

### **Current Committees**

### **Plastic Surgery Executive**

- Section Head Rob Harrop
- Resident Training Program Director David McKenzie
- Research Director Claire Temple-Oberle
- CME Director Earl Campbell
- Undergraduate Medicine Director Frankie Fraulin
- Rounds Coordinator Christiaan Schrag
- FMC Site Chief William de Haas
- RGH Site Chief Mark Haugrud
- PLC Site Chief Alan Lin
- ACH Site Chief Don McPhalen
- SHC Site Chief Fred Loiselle
- Burn Director Duncan Nickerson

### **Plastic Surgery Resident Training Committee**

- David McKenzie (Program Director)
- Duncan Nickerson
- Claire Temple-Oberle
- Rob Harrop
- Frankie Fraulin
- Christiaan Schrag
- Alan Lin
- Paul Whidden
- James Kennedy
- Resident Representatives

### Membership

On-site Members:

#### **FMC**

• Claire Temple-Oberle

### **SHC**

- James Kennedy
- Fred Loiselle (Head, SHC Division of Plastic Surgery)



Dr. Rob Harrop, Plastic Surgery Section Chief

### **ACH**

- Don McPhalen (Head, Division of Pediatric Plastic Surgery)
- Frankie Fraulin (Head, Section of Pediatric Surgery)
- Rob Harrop (Head, Section of Plastic Surgery)
- Jocelyn Dilay

### Off-site Members

### **FMC**

- Vim de Haas (Head, FMC Division of Plastic Surgery)
- Dave McKenzie (Plastic Surgery Residency Program Director)
- Dale Birdsell
- Robert Lindsay
- Christiaan Schrag
- Duncan Nickerson (Director, Department of Surgery Mentorship Office)
- Earl Campbell
- Jennifer Matthews

### **PLC**

- Alan Lin (Head, PLC Division of Plastic Surgery)
- George Hamilton
- Greg Waslen
- Wayne Perron
- Farrah Yau
- Ionathan Lee
- Ryan Frank
- Justin Yeung

#### **RGH**

- Mark Haugrud (Head, RGH Division of Plastic Surgery)
- John Beveridge
- Frank Sutton
- Paul Whidden
- Doug Humphreys

### **ACH**

Ryan Frank

### **SHC**

Ieff Dawes

#### Banff/Canmore

- Elizabeth Hall-Findlay
- Tom Sinclair

### ACCOMPLISHMENTS AND HIGHLIGHTS

#### Clinical Service

- Dr. Schrag continues to work on the development of a Hand and Face Composite Tissue Transplantation Program; Institutional ethics approval has been obtained to begin to collect data on potential recipients for face and hand transplants; cadaver simulations for hand and face transplantation have been carried out
- Dr. Temple-Oberle hosted the Alberta Breast Reconstruction Awareness Day on October 15, 2014. Over 200 patients considering breast reconstruction attended the event where they had the opportunity to hear formal presentations, and meet individually and in groups with others who had been through breast reconstruction, partners of reconstruction patients and surgeons performing reconstruction. A formal Quality Improvement session was held following the event to suggest improvements for future events.

- Dr Temple-Oberle, as a member of the Tom Baker Cancer Centre Clinical Trial Team was also a finalist for the AHS President's Award.
- NewadditionstoourfacultyareDr. Jennifer Matthews and Dr. Justin Yeung. Dr Matthews completed her plastic surgery residency at the University of Calgary and an Oncologic Reconstruction fellowships at the McMaster University. She practices at the FMC. Dr Yeung completed his plastic surgery training at the University of Calgary and a fellowship in Hand and Upper Extremity Surgery at New York University. He is practicing at the PLC.
- on Dr Enzio Magi has retired from practice after a long and distinguished career at the Foothills Medical Centre and Calgary General Hospital. During his career he served as President of the FMC medical staff, program director for the U of C Plastic Surgery Training Program, Head of the Section of Plastic Surgery, Chief Examiner of the Royal College of Physicians and Surgeons of Canada Plastic Surgery Examination Committee, and Chairman of the Royal College of Physicians and Surgeons of Canada Plastic Surgery Specialty Committee.
- Dr George Hamilton received the 2015 Department of Surgery Distinguished Service Award for the PLC site.

#### Education

### Residents

- Under the direction of Dr Dave McKenzie the University of Calgary Plastic Surgery Resident Training Program received full accreditation by the recent Royal College of Physicians and Surgeons Program Review
- 2 residents are accepted to the plastic surgery training program each year.
- Drs. Jevon Brown and Vishal Sharma successfully completed their FRCSC specialty examinations in plastic surgery. Dr Brown is beginning a craniofacial fellowship at the University of Washington in Seattle. Dr Sharma is beginning a hand surgery fellowship at New York University.

- Dr Schrag, with the assistance of other plastic surgery faculty again conducted the Microsurgical Skills Simulation Course on June 1-5, 2015 for the plastic surgery residents
- Dr Schrag (in collaboration with faculty from Clinical Neurosciences) served with other faculty in the Spine and Peripheral Nerve Course held on January 7, 2015
- Plastic Surgery Resident Research Day held on December 12, 2014.

### Fellows/Graduate Students

- Drs. McPhalen and Harrop continue to serve on the PhD Committee for Ms Jacinda Larsen whose research is entitled "Analysis of Midfacial Shape and Craniofacial Growth Patterns Following Cleft Lip and Palate Reparative Surgery"
- Dr. Temple-Oberle continues to offer an oncologic reconstruction fellowship; her current fellow is Dr Marcio Barreto

### **Medical Students**

 Dr. D. McPhalen is an active member of the University of Calgary Master Teacher Program

### **National and International Representation**

- Dr. Campbell is presently the Chairman of the Membership Committee and Chairman of the Accreditation Committee for the American Society of Plastic Surgeons, Past-President of the Alberta Society of Plastic Surgeons, Treasurer of the Northwest Society of Plastic Surgeons and serves on the Corporate Affairs Committee for the Royal College of Physicians and Surgeons of Canada,
- Dr. Lin serves presently as the Chairman of the Joint Alberta Medical Association/Workers Compensation Board Advisory Committee and Contract Negotiation Team
- Dr. Waslen is presently the Past-President of the Canadian Society of Aesthetic Plastic Surgeons
- Dr. Nickerson is serving as Co-Chairman of the Royal College of Physicians and Surgeons Plastic Surgery Exam Development Committee and is a lecturer for the Canadian Forces Health Services Advanced

- Military Trauma Resuscitation Program
- Drs. Harrop and McPhalen serve as Examiners on the Royal College of Physicians and Surgeons Plastic Surgery Exam Committee
- Dr. D. McPhalen is Medical Director for the Kananaskis Public Safety and Mountain Rescue Program
- Drs. Fraulin and McPhalen continue to participate in the "Project Outreach International Charity Program" an annual mission which provides burn reconstruction surgery to children in an underserviced area in Peru. The 4th year plastic surgery residents from the University of Calgary accompanied the team this year
- Dr. Schrag participated in a medical mission to Haiti
- Dr. Harrop serves as Secretary-Treasurer for the Canadian Society of Plastic Surgeons Education Foundation and Head of the Membership Committee for the Canadian Society of Plastic Surgeons

### **CHALLENGES**

- Increasing the number of academic plastic surgery faculty remains a priority for the Section of Plastic Surgery. This goal remains difficult due to lack of availability of new Geographic Full-Time faculty positions or Alternate Relationship Plans.
- Full utilization of time in the Main Operating room at the SHC has been challenging. We believe this is due to lack of awareness by referring physicians about the presence of the plastic surgery service at the SHC and limited in-hospital referrals to plastic surgeons. We continue to work on strategies to address these issues but expect this to improve as overall activity at the SHC increases
- Providing resident education in the area of aesthetic plastic surgery remains challenging for a variety of reasons. Drs M Haugrud, P Whidden, D. McKenzie, R Frank and R Harrop continue to explore the concept of developing a Resident Aesthetic Surgery Clinic whereby residents, under the supervision of a staff plastic surgeon, would assess potential patients, participate in their surgery and manage their postoperative care.

### WORKFORCE PLANNING

#### Future Needs

• Plans for future plastic surgery recruitment will be based on retirement of existing staff, population growth and needs for specific expertise..

### Goals and Strategies

- We continue to look at various means of increasing the number of academic plastic surgery faculty
- We continue to monitor the retirement plans of our senior members and plan to recruit accordingly to replace these members

### QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

- A variety of clinical databases have been established to review delivery of care to certain large subsets of patients. These include:
- ACH Vascular Birthmark Clinic database
- Head and Neck Cancer Database (in collaboration with ENT)
- Burn Database
- Breast Reconstruction Database
- In collaboration with our ENT colleagues, a standardized clinical care pathway is now well established for patients undergoing major head and neck cancer resection and immediate reconstruction. This pathway standardizes the postoperative care of these patients and has reduced their rate of complications and length of stay in hospital.
- Videoconferencing of plastic surgery and hand surgery academic rounds to all of the acute care sites has been introduced. This has resulted in greater participation staff and resident participation in academic activities
- In collaboration with our oncologic colleagues we continue to work on more efficient processes for referral and treatment of oncologic patients requiring immediate or delayed reconstruction following cancer resection

• In response to the provincial funding uplift for oncologic surgery, the section has increased the number of oncologic reconstructive procedures at all of the acute care adult sites.

### **FUTURE DIRECTIONS AND INITIATIVES**

The Section of Plastic Surgery provides excellence in clinical care across the entire spectrum of plastic surgery, excellence in resident education and exhibits excellent collegiality amongst our members and members of other surgical specialties. Faced with continually increasing volumes of complex patients, we aim to build on our past successes in developing novel approaches to providing efficient and high quality patient care. We recognize the need to increase our academic profile nationally and internationally and thus feel it is necessary to increase our complement of academic plastic surgery faculty through focused recruitment.

### **Section of Podiatric Surgery**

### SECTION STRUCTURE AND ORGANIZATION

There are currently 11 members in the section of Podiatric Surgery. Six of those members are taking 1:6 calls for PLC, RGH, SHC, ACH and FMC. Calls from Urgent Care Centers and RAAPID in the region are also directed to the six podiatrists on call. Currently the section chief is involved in the PLC Site Leaders Committee, PLC Surgical Suite Advisory Committee and the Department of Surgery - Executive Committee. Our section currently meets every other month depending on the need. At our section meeting we hold a Journal Club/Article Review and Case Discussion. Members are free to bring issues to the meeting to be discussed.

### ACCOMPLISHMENT AND HIGHLIGHTS

I am pleased to announce that the Limb Preservation Clinic at Peter Lougheed Hospital is strong and very busy. This year we increased our presence at the clinic from one afternoon to two afternoons a week to meet the demand. It is possible that we may need to increase and add another half day per week this year as the demand increases. We are starting to look at statistics to see how this clinic has decreased the number of admissions and increased the ability to treat this patient population on an outpatient basis. We hope that this concentrated patient population can help populating research and guidelines in the treatment of the diabetic foot.

This year we put together a block booking and allocation guidelines for the NHSF case allocations. This was long overdue. The purpose of this policy is to fairly distribute cases to AHS contracted NHSF and encourage participation of physicians within the section. Our section has grown by one member as

we have welcomed Dr. Karim Manji. His dynamic personality is welcome among all of us. We hope that Dr. Manji can help with research, specifically with the diabetic foot care and clinic.

### **CHALLENGES**

Challenges are numerous at this point. They remain virtually the same yearly. We know the reality of the currently budget and expending without the financial support is currently the biggest challenge that we face. The diabetic foot preservation clinic at Peter Lougheed Hospital could grow but is limited by the financial support and staff that is allocated to our clinic.

Our section needs residents/fellow both for the present and the future of our section and profession in this province. There is a lack of ability to be able to push this residency through different layers of committees and bureaucracy. There remains a lack of members within our section willing to take that project and make it happen. Our physicians are few and have private offices so no one seems to be able to really be involved to start this residency program.

The Limited OR time in hospital is a huge challenge that we face. NHSF provides the availability to do low risk cases and remains cost effective. The problem comes into effect when someone has a complication or requires special plates or screws then these cases cannot effectively be done in the NHSF and need to be done in a hospital OR. Each member of our section gets 4 OR days per year. This places patient at risk of not being able to get appropriate care in a timely fashion for surgeries that require bone grafts, plates, screws or special instruments. This needs to be revised so that surgeons may have access to the OR to deal with complications and more involved surgeries.

### WORKFORCE PLANNING

We recently added a sixth member in our section and at this point do not anticipate adding any further surgeons. I would like to see our surgeons being able to cover all locations efficiently. That would mean possibly needing to have access to facilities. I have asked for access to the Minor OR clinic at Foothills Hospital to help patients at FMC to have easier patient centered care.

### QUALITY ASSURANCE AND IMPROVEMENT

Our section, these past 3 years, are self-reporting post-op complications and issues for NHSF. The cases that have complications can also be discussed at section meetings. This allows everyone to learn from each other and give ideas on how we can improve the system and set up pathways to prevent further complications.

Overall this past year we have grown our section in the department of diabetic foot as I was hoping. This year I would like to see some research come out of that clinic. It is a perfect set up for that.

One of the goals and challenges this year is to deal with how we can better manage patients that require access to a hospital OR for surgeries. I hope that we can find a way to help these patients that require that care.



Dr. Francois Harton, Podiatric Surgery Section Chief

### **Section of Surgical Oncology**

### **SECTION HEAD**

J. Gregory McKinnon MD FRCSC Professor of Surgery and Oncology

### SECTION STRUCTURE AND ORGANIZATION

The Section of Surgical Oncology consists of a multidisciplinary group of surgeons dedicated to cancer care as their primary goal. Five members are located full-time in the Tom Baker Cancer Centre (TBCC) and three of these are primary appointments to the Department of Oncology with cross-appointment to Surgery. All other members are primarily appointed to the Department of Surgery and are located at various sites and in other Sections including plastic surgery, general surgery, otolaryngology, thoracic and urology.

### **PROGRAMS**

The development of plans for a new cancer center are proceeding and will hopefully lead to a new facility in the next five to seven years. In the meantime, the Section continues to lead in the surgical treatment of sarcoma, melanoma, HPB, advanced gastrointestinal (GI) and breast cancer. It also leads in major provincial projects in head and neck and rectal cancer.

Cancer Surgery Alberta was created by Dr. Temple and the Section of Surgical Oncology. Although it has expanded to a national program, its centre will remain at the TBCC. There are now over 33,000 patients in the database.

Dr. Bathe continues as Provincial Tumor Group Leader for GI, Dr. Mack of the Provincial Sarcoma Tumor Group and Dr. Temple-Oberle of the TBCC Cutaneous Tumor Group.

### SECTION HIGHLIGHTS

The section is pleased to report the successful recruitment of Dr. Antoine Bouchard-Fortier as a fulltime surgical oncologist. His role will be clinical and academic with an emphasis on breast and advanced gastrointestinal cancer. Although Dr. Bouchard-Fortier will be located in the Foothills Hospital, we hope and expect to eventually attract full participation in the Department of Oncology. In addition, the Department of Surgery recruited Dr. Michael Monument, a researcher and expert in soft tissue sarcoma. Dr. Monument is expected to move to a full-time position and is also building a research program. Three other members of the Department of Surgery, who have a strong role in cancer treatment, will be expected to be cross-appointed to Oncology in the near future. Dr. Lloyd Mack was appointed as Acting Deputy Head for the Department of Oncology. Dr. Elijah Dixon was appointed Section Head of General Surgery. More recruitment is now possible because of an investment in resources for operative treatment of cancer patients in the Calgary Zone. This important upgrade of OR time is leading to improved wait times, extra recruitment and concomitant program development.

### TRAINING PROGRAMS

Graduate: Dr. Lloyd Mack continues as Program Director for the Section of General Surgery.

Postgraduate: Dr. Temple continues his role of Program Director for the Section of Surgical Oncology. The Surgical Oncology program was successfully certified by the Royal College in 2015 with reciprocal recognition by the American Board of Surgery and the ACGME. One Fellow graduated in 2015 and has taken a position here at the University of Calgary. The program remains in the international match for approved programs and continues to receive large numbers of Canadian and international applicants.

Dr. Temple-Oberle continues to oversee the Fellowship in oncologic reconstruction and successfully graduated Dr. M. Baretto in June 2015. Dr. Baretto plans to stay on for another year of extra fellowship.

The section hosted the annual Department of Surgery Retreat. The subject was new strategies to deliver cancer care and included participation of representatives from CancerControl Alberta.

### **RESEARCH**

Highlights of the research year include Dr. Quan's receipt of a 5.7 million dollar grant from CIHR to study breast cancer in young women. Members of the Section continue to be highly active and have published over ninety peer-reviewed manuscripts in 2014 and 2015.

### **CHALLENGES**

The Section has struggled to engage the provincial plan for comprehensive cancer care, particularly with the uncertainty of the building of a Calgary Cancer Centre. In the meantime, program building is ongoing with progress made in a number of areas. Going forward, the resurrection of building plans at the Foothills campus appears to be an encouraging development.

### WORKFORCE PLANNING

A workforce plan includes new recruitment in colorectal oncologic surgery, endocrine and plastics.

### QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

The section plans to move forward with the development of multidisciplinary pathway driven clinical and research initiatives. Some of these will be based in the cancer center infrastructure, others not. This will require further recruitment of academic surgeons and more engagement in both provincial and zonal organization and planning.

### **FUTURE DIRECTIONS AND INITIATIVES**

The section plans to move forward with the development of multidisciplinary pathway driven clinical and research initiatives. Some of these will be based in the cancer center infrastructure, others not. This will require further recruitment of academic surgeons and more engagement in both provincial and zonal organization and planning.



Dr. Gregory McKinnon, Surgical Oncology Section Chief Photo provided by Dr. Gregory McKinnon

### ANNUAL REPORT 2014/2015

### **MEMBERSHIP**

Last name	First name + initial	Primary Department	Secondary Department	Section
Ball	Chad G.	Surgery	Oncology	General Surgery
Bathe	Oliver F.	Surgery	Oncology	General Surgery
Buie	W. Donald	Surgery	Oncology	General Surgery
Chandarana	Shamir	Surgery	Oncology	Otolarngology
Dawes	Jeffrey C.	Surgery	Oncology	Plastic Surgery
deHaas	William G.	Surgery	Oncology	Plastic Surgery
Dixon	Elijah	Surgery	Oncology	General Surgery
Donnelly	Bryan J.	Surgery	Oncology	Urology
Dort	Joseph C.	Surgery	Clinical Neurosciences	Otolarngology
Gelfand	Gary A.J.	Surgery	Oncology	Thoracic Surgery
Graham	Andrew J.	Surgery	Oncology	Thoracic Surgery
Harvey	Adrian	Surgery	Oncology	General Surgery
Lafrenière	René	Surgery	Oncology	General Surgery
Lindsay	Robert L.	Surgery	Oncology	Plastic Surgery
Magi	Enzio	Surgery	Oncology	Plastic Surgery
Matthews	T. Wayne	Surgery	Oncology	Otolarngology
McFadden	Sean	Surgery	Oncology	Thoracic Surgery
McKinnon	J. Gregory	Surgery	Oncology	General Surgery
McWhae	John A.	Surgery	Oncology	Ophthalmology
Mew	Daphne J.Y.	Surgery	Oncology	General Surgery
Pasieka	Janice L.	Surgery	Oncology	General Surgery
Quan	May Lynn	Surgery	Oncology	General Surgery
Sutherland	Francis R.	Surgery	Oncology	General Surgery
Mack	Lloyd	Oncology	Surgery	General Surgery
Temple	Walley	Oncology	Surgery	General Surgery
Temple-Oberle	Claire	Oncology	Surgery	Plastic Surgery

### **Section of Thoracic Surgery**

### SECTION STRUCTURE AND ORGANIZATION

• The section membership is comprised of four fulltime clinical surgeons: Drs. Gary Gelfand, Sean McFadden, Andrew Graham and Sean Grondin

### **Current Committees:**

- The Section continues an active monthly sectional meeting to address all issues related to clinical thoracic surgery care, education and research.(Chair- Dr. S. McFadden)
- The Section does monthly morbidity and mortality rounds to maintain quality assurance. (Director– Dr. G. Gelfand)
- In conjunction with our nursing and allied health colleagues the section maintains a Unit 61 quality council.(Chair– Dr. G. Gelfand)

### **Programs:**

- The Section continues to participate fully with the Alberta Thoracic Oncology Program a provincial program to aid patient access for lung cancer treatment.(Provincial Representative– Dr. S. McFadden)
- The section maintains an active Thoracic Surgery Residency program.(Program director- Dr. S. Grondin)
- Drs. S. McFadden and G. Gelfand continue to provide expert care for patients with thoracic outlet syndrome and tracheal stenosis. Dr. A. Graham is leading the myasthenia gravis/ thymoma patient care efforts within the Section of Thoracic Surgery.

### Membership: Fellows:

- The Section members all maintain Royal College and Alberta Medical Association Status. All members actively participate with the Lung Cancer Tumour Group at the Tom Baker Cancer Centre.
- Dr. S. Grondin has been appointed membership to the prestigious American Association of Thoracic Surgeons as well as the European Society of Thoracic



Dr. Sean McFadden, Thoracic Surgery Section Chief Photo provided by Nicolle Amyotte

Surgery and Canadian Association of University Surgeons.

### ACCOMPLISHMENTS AND HIGHLIGHTS

### **Clinical Service:**

- The Section is very pleased to have its first full Clinical Professor with Dr. S. Grondin having received promotion this year. Congratulations on behalf of the Section for all the hard work and dedication.
- Dr. S. Grondin was awarded the King James IV Surgery Travelling Fellowship for Canada in 2016.
- Dr. S. Grondin has assumed many leadership roles nationally and internationally including Vice-President of the Canadian Association of Thoracic Surgeons, Board member and Canadian Director of the Society of Thoracic Surgeons and Secretary of the Western Thoracic Surgical Association.

- The Section was delighted to have Dr. Richard Inculet, from The University of Western Ontario, as our visiting professor this spring. It was a wonderful 3 days of learning and fellowship. Dr. John. Mitchell, from The University of Colorado will be visiting in October 2015 as part of the ongoing visiting professor lecture series.
- Dr. S. Grondin is Currently Co-Chair of the Alberta Health Service Services Quality Assurance Committee and Co-Chair of the University of Calgary Medical Group.
- One service highlight was Dr. S. McFadden performing the first diaphragm pacing procedure in Alberta. There will be more to come with the multidisciplinary team who strive to help these unfortunate patients.
- Dr. A. Graham also successfully performed the first videoscopic thymectomy in Calgary.
- The clinical service continues to grow with the section diligently working to fill the cancer surgery uplift time allocated.

### Education

- The Section was pleased to receive a full accreditation for our Thoracic Surgery Residency from the Royal College after the most recent external review.
- The Section is fortunate to have Dr. S. Grondin as our Education Director spending countless hours directing, focusing and educating all the learners who come to our service.
- The Section is blessed with dedicated teachers, but of special note, Dr. A. Graham was voted by the residents of all surgical specialties to receive the coveted Ectopic Teaching Award from the Department of Surgery. He was also honoured with a teaching award from the Postgraduate Medical Education Office.
  - Residents- Thoracic Surgery is pleased to have had numerous wonderful residents from different specialties to enhance and improve our service. Thank-you all for your hard work and dedication.

- **Fellows** We said good-bye to Dr. Janet Edwards who completed her 2 years of training. She is presently working at Duke University in a minimally invasive Fellowship.
- Dr. Wiley Chung has entered his senior year of training and we look forward to his hard work and dedication over the next 12 months
- We have also been fortunate to receive our colleagues from the Pulmonary Medicine Fellowship, their experience and expertise while on the service helps us all.
- **Medical Students** The Thoracic Surgery selective continues to be a rewarding experience for the many students who we have met over the last year. We hope a little of what we taught will follow through to their many different areas of specialization.
- Research- The highlight for the year was Dr. J. Edwards winning the Brompton Research Award for best research project and presentation at the European Society of Thoracic Surgery meeting in Lisbon, Portugal.
- The Section of Thoracic Surgery continues to be the leader in surgical workforce planning research in Canada. Collaboration with our colleagues in colorectal surgery, general surgery, hepatobiliary surgery, vascular surgery and otolaryngology has established the University of Calgary as an international leader in this area of research with several important publications reported.
- Dr. Grondin has been invited to be the McMutry Lecturer for Surgeons day 2016 in recognition of his contributions to the Department in research, teaching and leadership development.

### CHALLENGES

 Response to Issues- The service has grown substantially and recruitment is needed to keep pace with the clinical demands in order to maintain excellent patient care. • Future Risks- Recruitment is dependent on acceptance of an Alternative Relationship Plan application which is presently passing through the appropriate Alberta Health Services, Alberta Health and Wellness and Alberta Medical Association processes

### WORKFORCE PLANNING

- Future Needs- Two Thoracic Surgeons are needed urgently to maintain excellence in clinical care, teaching and research as well as participation in key leadership roles in the Department and national and international organizations.
- Goals and Strategies- Further develop and enhance our administrative and academic commitments to the University of Calgary and Alberta Health Services.
- Impact on other departments and zonal resources—
  Two new surgeons will enhance our collaboration
  with medical and surgical colleagues including
  participation in multidisciplinary research
  initiatives and patient care planning.

### QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

 Dr. A. Graham has been actively working on development and implementation of a real time discharge summary based tracking system for monitoring and hopefully modifying patient morbidities. Preliminary trials of the system show promise.

### **FUTURE DIRECTIONS AND INITIATIVES**

 The section is in the very early stages with our Pulmonary, Cystic Fibrosis, Nursing, Allied Health Colleagues in planning and developing a Chest Focused service with Unit 61 as the hub.

### **Section of Transplant Surgery**

### SECTION STRUCTURE AND ORGANIZATION

#### **Current Committees**

- 1. Policy and Procedure Committee
- 2. Multidisciplinary Transplant Organ Allocation Committee
- 3. Transplant Research rounds
- 4. Multidisciplinary Living donor Committee
- 5. High Risk Transplant committee
- 6. OR Committee

### Programs

- Live Donor Program.
- Abdominal Multi-organ Transplantation Fellowship Program.

- This strategy allows the service to be provided on an emergency and semi-emergency basis with short wait times within the order of a week.
- Dr. Yilmaz is ongoing in his work to establish a transplant program in Guyana.
- The changes introduced in the re-organization of the booking process for our non-transplant surgeries in collaboration with the Department of Nephrology has led to a sensible increase in our surgical activity and optimal utilization of our OR time with a decrease in the cancellation rate.

### ACCOMPLISHMENTS AND HIGHLIGHTS

### Clinical Service

- For the 3rd year, we have achieved an increase in the number of transplants performed from 64 per fiscal year to 71.
- The increase in the number of transplants from year to year has been the continuing trend for the past 3 years.
- We continue to perform highly sensitive and ABO incompatible transplants.
- We have also seen an increase to date in both the number of Good Samaritan and cadaveric donations.
- We continue to perform local and national paired exchange transplants.
- This year, we continued to utilize ambulatory surgery for peritoneal dialysis catheter exteriorization which alleviated pressure on our OR time, therefore allowing for increased bookings for more complex cases. This in turn has resulted in time saved for both patients and doctors, as well as saving on resources.



Dr. Anastasio Salazar, Transplant Surgery Section Chief

#### Education

### Residents

• The continued rotation of General surgery residents as well as nephrology residents on a regular basis.

#### Fellows

- Dr. Kishore Persaud, a surgical fellow from Guyana, completed his fellowship and returned to his country where he is currently active in transplantation.
- We are accepting for rotation, a fellow from the section of Hepatobiliary surgery with whom we hope to collaborate closely.

### **Medical Students**

- Shadowing on a regular basis from the IMG Program as well as seasonal students.
- Support also for training nursing students in the OR on a regular basis.

### Research

• The three members of the section are actively involved in clinical, theoretical and basic science research projects as well as some Pharmaceutical industry sponsored ones.

### CHALLENGES

### Response to Issues

 Although we have observed an increase in the number of cadaveric donations, we are continually trying to optimize our utilization of live donors as well as kidneys for therapeutic use.
 We continue to wait for the implementation of non-heart beating donations in Calgary.

### Ongoing Matters And Plan Of Action

 Pursuing to organize a group of dedicated OR staff for Transplant, Vascular access, and Peritoneal Dialysis surgeries in order to enhance the expertise of the OR staff who are involved in these cases. This will lead to a more comfortable operating room experience for everybody involved including surgeons and support staff.

### Future Risks

 With the continued growth of the population in Southern Alberta, we would like to see an increase in our materials and human resources in order to provide professional medical care in an efficient and high quality manner.

### **WORKFORCE PLANNING**

### Future Needs

 With the continued trend of increasing transplants and vascular access activity, we hope to have a 4th surgeon join our program in the hopes of increasing our efficiency in a highly demanding clinical group

### Goals and Strategies

- Our goal is to provide our patient population with access to transplantation and dialysis access surgery at the highest professional level possible using the best technology available and to do this in a safe and expeditious manner. In order to reach this goal, we need to strive towards further professionalism in the way we conduct our duties. We need to decrease the level of bureaucracy while continuing to increase our efficiency and patient satisfaction. Our strategy is to review all of the processes and without making drastic changes, improve what is possible and implement changes where required.
- Bringing simplicity to the process, which should be compatible with the practice of other sections and departments and in line with legal and professional regulations dictated by the CPSA.

Impact on other departments and zonal resources

Unknown.

### QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

### General

 We are currently in the process of implementing a safer and more efficient strategy in dealing with the logistics of cadaveric and local and imported transplants.

### Access of Family Physicians to specialists

 Our referrals seldom come from family physicians as our patients are generally referred to us by nephrologists. Live donors are required to refer themselves directly to our program at their own will, in the hopes of alleviating any outside pressure to donate.

### Patient flow through the Emergency Department

 We have 24 hour coverage all year round for any emergencies related to transplant patients as well as vascular access and PD catheter patients. Consultations by the Emergency department are attended to on an on call basis.

### **FUTURE DIRECTIONS AND INITIATIVES**

Our hope is for continued improvement in the clinical setting. We hope to implement further research and educational activities in the near future, once the clinical services are working at an optimal level.

Pending are: - Donation after Cardiac death (DIC)

- Isolated Pancreas Transplants

### **Section of Urology**

### SECTION STRUCTURE AND ORGANIZATION

Section Chief -Dr. Kevin Carlson
QA Director- Dr. Geoffrey Gotto
CME Director- Dr. Martin Duffy
Undergraduate Education Lead -Dr. Jay Lee
Postgraduate Education Lead - Dr. Bryce Weber
Fellowship Director, Pediatrics- Dr. Bryce Weber
Fellowship Director, Functional and Reconstructive
Urology - Dr. Kevin Carlson & Dr. Richard Baverstock
Fellowship Director, Urologic Oncology- Dr. Eric
Hyndman
HTA Lead - Dr. Gregory Kozak
Research Lead - Dr. Bryan Donnelly
SCN Representative - Dr. Eric Hyndman

### **Programs**

Prostate Cancer Centre (PCC) Rapid Access Clinics

- RAC I: screening, diagnosis
- RAC II: education for newly diagnosed patients
- RAC III: early post-treatment follow-up and support
- RAC IV: sexual and urinary function post-treatment
- RAC V: active surveillance
- RAC VI: Clinic for Advanced and Metastatic Prostate Cancer (CAMP)

### Alberta Bladder Centre (vesia)

Diagnostic testing, and medical and surgical management of male and female lower urinary tract disorders such as neurogenic bladder, urinary incontinence, pelvic floor dysfunction and many others. Multidisciplinary collaborative care model with urology, urogynecology, family medicine, internal medicine, nursing, physiotherapy.

### Urology Clinic South Health Campus

The Urology Clinic at South Health Campus provides consultative and follow up services for its emergency department and inpatient population. The urology



Dr. Kevin Carlson, Urology Section Chief Photo provided by: Dr. Carlson

presence at South Health is led by a Nurse Practitioner who is fully supported by the Urology team. Adult and pediatric urology clinics, as well as urodynamics services, also now operate in the Outpatient Clinic area of the SHC.

### Men's Health Program

A comprehensive men's health program is under development, with the intent of bringing other common and important health concerns to the attention of men presenting with urologic concerns. Screening and referral processes will be established.

### Membership

The section of urology has a total of 16 urologists, 13 adult, and 3 pediatric. Dr. Peter Wilkin retired in 2014. Dr. C. William Hyndman and Dr. James Leong will retire in 2015. One member is on partial leave. One adult and one pediatric locum complete our staff.

#### Awards and Achievements

- Dr. Richard Baverstock promoted to Clinical Associate Professor
- Dr. Kevin Carlson promoted to Clinical Associate Professor
- Dr. C. William Hyndman: Surgeon's Day Outstanding Contribution Award
- Dr. Kevin Carlson and Dr. Richard Baverstock: CUA Incontinence Grant.
- Dr. Richard Baverstock: Honour Roll Award "Great Teaching to Class of 2015" – Faculty of Medicine
- Dr. Richard Baverstock: Leo Spackman Award –
   Best Presentation by Staff at Prairie Urology 2015

### ACCOMPLISHMENTS AND HIGHLIGHTS

### Clinical Service

- We are a high volume service centralized at a single site. Numerous efficiencies, the dedication of our practitioners and staff, and the introduction of alternative providers have allowed us to keep step with the growing demand for our services. Examples:
- Our cystoscopy clinic continues to throughput the highest volume of patients in the country, last year exceeding 11,000 procedures.
- We strive to optimize utilization of our surgical robotic technology through refinements in room and resource allocation.
- We have participated in a pilot program integrating a Physician Assistant (PA) into our clinical service, and it has proven to be successful. Our PA has contributed to improvements in access, quality and continuity of care for our emergency room patients, inpatients, and consultations.
- Similarly, our two nurse practitioners (NP's) one at RVH and one at SHC have proven invaluable.
- Clinics such as vesia [Alberta Bladder Centre] and the rapid access clinics (RAC's) at the PCC are examples of innovative care models that improve quality and access simultaneously, and also link clinical care to research opportunities.

• Attention was turned last year (as published in the annual report) to the development and refinement of SOP's at the SAIU to improve continuity of care, access and service delivery, and these are integrated into the Section. Further work is ongoing to evaluate referral practices. Sub-specialty divisions of the section have well established intake systems.

### Research

Research studies are conducted through the research office of the Prostate Cancer Centre under the direction of Dr. Bryan Donnelly. Trials are also being run out of the Alberta Bladder Centre (Dr's. Baverstock and Carlson) and the Alberta Children's Hospital (Dr's. Cook and Weber). Independent research is being conducted by numerous section members.

#### Education

The Reconstructive and Functional Urology Fellowship and Pediatric Urology Fellowship continued to be major successes and important contributors to the Section, and the former was awarded the CUA-Pfizer Incontinence Fellowship Grant.

### QUALITY ASSURANCE, QUALITY IMPROVEMENT, AND INNOVATION

Dr. Geoffrey Gotto is Quality Assurance Lead for the Section.

Dr. Gregory Kozak is the Physician Lead for HTA for the Section.

Dr. Eric Hyndman is Section representative on the Surgical Clinical Network.

The Section is represented on the provincial working group to assess robotic technology.

The Section is participating in the aCATS pilot project, starting July 2014.

The Section also participates in the NSQUIP pilot at Rockyview Hospital.

The Rapid Access Clinics of the PCC and vesia [Alberta Bladder Centre] demonstrate innovation in care delivery.

#### Committees

Dr. A. Cook

ACH OR Committee Member

Dr. B. Donnelly

Department of Surgery Research Committee

Prostate Cancer Centre Operating Committee Member

Prostate Cancer Centre Board Member

Prostate Cancer Centre Medical Operations

Committee Member

Doc Seaman Research Chair- Prostate Cancer Centre Alberta Prostate Cancer Research Initiative (APCaRI),

Co-chair

Dr. M. Duffy

Alberta Section of Urology – Secretary

Section Lead, CME

Dr. J. Dushinski

Prostate Cancer Foundation Board Member

Prostate Cancer Centre Board Member

Prostate Cancer Centre Medical Operations

Committee Member

Calgary Zone Laser Safety Committee

Canadian Urological Association Guidelines

Committee Member

World Congress of Endo Urology organizing

committee 2017

Section Lead, Patient Information

Dr. G. Gotto

GU Chair for the Canadian Partnership Against

Cancer (CPAC)

Cancer Care Clinical Network Member

Alberta Provincial GU Tumor Team Executive Board

and Guidelines Committee

Kidney Cancer Canada Medical Advisory Board

Member

Clinic for Advanced and Metastatic Prostate Cancer

(CAMP), Medical Director

Section Lead, Quality Assurance

CUA Faculty Development Committee for the

Canadian Prostate Cancer (CaPCAN) III Program

Dr. E. Hyndman

Bladder Cancer Canada Board Member

Prairie Urological Association, President

Prostate Cancer Centre Active Surveillance Program

Director

Kidney Cancer Research Network of Canada Member

Urology Physician Assistant Supervisor

Alberta Prostate Cancer Research Initiative (APCaRI)

Committee Member

Surgical Clinical Network Section Representative

Fellowship Director, Urologic Oncology

Dr. J. Kawakami

Canadian Urologic Association Scholarship

Committee

Prostate Cancer Centre Medical Advisory Board

Dr. G. Kozak

AMA Rep Forum Representative

Surgical Robotics Program - Chair

Director of HTA, Section of Urology and Southern

Alberta Institute of Urology

Dr. J. Lee

Canadian Male Sexual Health Council Member

Canadian Society for the Study of the Aging Male

Member

Patient Information Committee, Canadian Urological

Association (CUA)

CUA Continuing Professional Development

Committee Member

CUA Astellas Grant Awards Committee Member

Surgical Undergraduate Education Committee

Member, Department of Surgery

Section Lead, Undergraduate Education

Dr. B. Weber

Fellowship Director, Pediatric Urology Fellowship,

Section of Urology, Department of Surgery

Section Lead, Postgraduate Education

### **CHALLENGES**

### Response to Issues

- The past year was challenging from a service standpoint following the retirement of one member, pending retirement of another, partial leave of a third, and diversities in practice. Even with the assistance of locums we continue to work with a population to urologist ratio of >100,000:1 (compared to a national average of 56,000:1). The efficiencies listed above in Clinical Service Highlights will only get us so far. This section is continually challenged in managing the volume of patients in each practice, access needs, resource allocation and workforce requirements. We must also continue to support the advancement of subspecialized clinical expertise but balance it with the necessity to serve the general urology needs of the Zone. Finally, we must continue to meet the challenge of providing zone-wide call coverage from a centralized location in the midst of such clinical volume.
- In the past few years we have employed a Director to assist the Section in its mission and advance the quality of its clinical care, education and research. Unfortunately, that position terminated early and remains vacant, leaving the Section without dedicated administrative support.

### Ongoing Matters And Plan Of Action

Increasing numbers of new cancer cases diagnosed each year place increasing demands on fixed operating resources, creating access bottlenecks. The provincial aCATS pilot that the Urology Section is involved in demonstrates our challenge in meeting targeted access times, and cancer uplift time has been heavily utilized by the Section. Furthermore, we continue to be the major consumer of urgent oncology and fan-out time at RVH. Despite this, our cancer surgery access times remain the furthest out of window. We will continue to monitor aCATS and other data, refine practices, expand manpower, and petition for resources

As Urology delivers a high volume of non-operative care versus other surgical sections, operating room utilization and aCATS data tell only part of the story of our manpower challenge. Super-specialization and practice changes amongst Section members further add to this challenge. Data collection regarding referral wait-times and distribution etc. will be critical to our success going forward.

In the meantime we have met the challenge in some areas through the development of unique multidisciplinary models such as the Alberta Bladder Centre (vesia) and the utilization of physician extenders as noted above. We will be recruiting at least one new urologist in 2015, and have secured three one-year locums for the coming year. We continue to refine our referral systems, employing centralized referral in some subspecialty divisions of the section.

We have met the challenge of adding SHC to our adult call coverage with the help of onsite weekday support of dedicated NP. Similar models would be welcome to support the other adult sites, and clearly expanded manpower (physician and non-physician alike) will be critical as our population growth is already well ahead of us.

The Urology Section holds an annual retreat to discuss and address current and future challenges, and to refine its mission and direction.

### Future Risks

The Section is critically undermanned. To meet the national average, we would require 28 active urologists, but function at present with 16, and not all of them full-time. We have maintained safe and effective care to date through extremely dedicated service of our members, hiring of locums, utilization of alternative providers (NP's, PA, GP's), expansion of fellowship programs, development of innovative care models, and off-loading of certain services. It is a testament to the dedication of members of our Section that research and education continue to advance. Meeting the needs of the community and the University will require us to go into an aggressive growth phase, which will require expansion of inpatient and outpatient resources both locally and zone-wide.

### **WORKFORCE PLANNING**

A workforce plan has been developed. Near-term recruitment includes positions with sub-specialty expertise in endo-urology, robotics, reconstructive and functional urology, and pediatric urology.

### Vascular Surgery

Vascular Surgery welcomed Dr. Paul Cantle as a Locum Vascular Surgeon, starting in August 2015. Dr. Cantle is a University of Calgary graduate and an alumnus of the General Surgery training program. He completed his vascular training at the University of Ottawa, in June 2015. Paul will be with us until the end of the year, when he plans to commence a Trauma Fellowship, in Houston.

Starting July 2015, vascular surgery welcomed Dr. Michael Kwan (another U of C general surgery alumnus) as our PGY6 Fellow and Dr. Maher Sabalbal as our PGY1 direct-entry resident. Dr. Sabalbal is a 2015 graduate of Western University. Drs. Kwan and Sabalbal join Dr. Andrea Devrome (U of C '14), our current PGY2 resident. In July 2016, we will be welcoming Dr. Kenton Rommens (a current U of C general surgery resident) as our PGY6 Fellow.

In November 2015, the PLC vascular surgery redevelopment project will begin a long-anticipated staged opening. First to open will be two hybrid endovascular OR suites, located on the second floor of the PLC East Tower. In December 2015, a new inpatient unit and step-down unit will open on the 5th floor of the East Tower, followed in January 2016 by an Ambulatory Clinic, also on the 5th floor, East Tower. These facilities are the end-product of a 10 year effort to fund, design, and construct a state-of-the-art surgical facility and a consolidated inpatient/outpatient care unit, that will act as a center of excellence for vascular surgery. The Ambulatory and Inpatient units will provide a "medical home" for patients needing vascular care from our catchment areas in southern Alberta. western Saskatchewan and southeastern BC. We are partnered in this effort with the Section of Podiatric surgery who will provide foot care clinics and on-site minor foot surgery and the Department of Medicine, who will provide a vascular risk assessment clinic in the new facility.



Dr. Paul Petrasek, Vascular Surgery Section Chief

As 2015 draws to a close, Calgary's vascular surgeons are pleased and proud of our successful Royal College training programs and our new facility at Peter Lougheed Centre, both of which equip us to provide our patients with the best possible care now and well into our future!

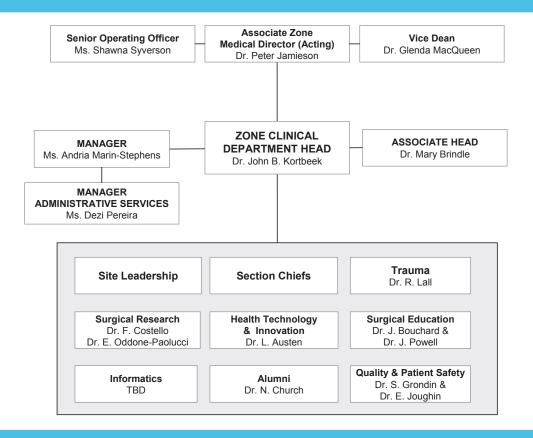
### **Appendices**

### 1.0 Department Structure and Organization

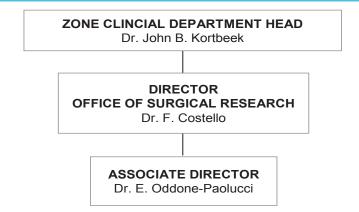
1.1 Governance	107
1.2 Department Members	111
2.0 Activity Reports	
2.1 Surgical Activity Reports	130
2.2 NHSF Surgical Indicator Reports	135
2.4 Wait Time Reports	136
2.4 Safety Checklist and Compliance	142
3.0 Research	
3.1 Peer-Reviewed Journal Articles	143
3.2 Research Grants	164

1.1 Governance

# Leadership Department of Surgery



# Surgical Research Department of Surgery



## **Section Chiefs Department of Surgery**

### Section Chiefs – Department of Surgery

### **ZONE CLINICAL DEPARTMENT HEAD**

Dr. John B. Kortbeek

#### **Section Chief**

Dentistry & Oral Health Dr. E. Kalaydjian

### **Section Chief**

General Surgery Dr. E. Dixon

**Section Chief** Surgical Oncology Dr. G. McKinnon

### **Section Chief**

Ophthalmology Dr. M. Ashenhurst

### **Section Chief**

Oral Maxillofacial Dr. R. Edwards

### **Section Chief**

Orthopedics Dr. K. Hildebrand

### **Section Chief**

Otolaryngology Dr. W. Matthews

### **Section Chief**

Paediatric Surgery Dr. F. Fraulin

### **Section Chief**

Plastic Surgery Dr. A.R. Harrop

### **Section Chief**

**Podiatry** Dr. F. Harton

### **Section Chief**

Thoracic Surgery Dr. S. McFadden

### **Section Chief**

Transplant Dr. A. Salazar

### **Section Chief**

Urology Dr. K. Carlson

### **Section Chief**

Vascular Surgery Dr. P. Petrasek

# Site Leadership Department of Surgery

#### **ZONE CLINCIAL DEPARTMENT HEAD**

Dr. John B. Kortbeek

Facility Chief Alberta Children's Hospital Dr. F. Fraulin Facility Chief
Foothills Medical
Centre
Dr. D. Buje

Facility Chief
Peter Lougheed
Centre
Dr. J. Donaghy

Facility Chief Rockyview General Hospital Dr. J. Werle Facility Chief South Health Campus Dr. B. Lange

#### Alberta Children's Hospital

- Dr. Frankie Fraulin, Facility Chief and Chair OR Committee
- Dr. Kerryn Carter, Chief, Anesthesia
- Ms. Deb Harris, OR Manager
- Ms. Jill Woodward, Director

#### **Foothills Medical Centre**

- Dr. Donald Buie, Facility Chief and Chair OR Committee
- · Dr. Duc Ha, Chief, Anesthesia
- Ms. Kelly Chapman, OR Manager
- · Ms. Holly Mackin, Director

#### **Peter Lougheed Centre**

- Dr. John Donaghy, Facility Chief and Chair OR Committee
- Dr. Bronwyn Parkinson, Chief, Anesthesia
- · Ms. Danielle Assad, OR Manager
- · Ms. Val Marsten. Director

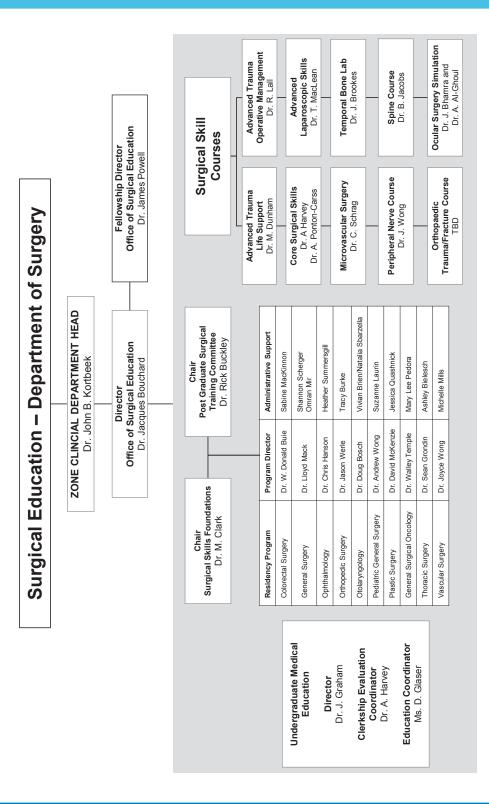
#### **Rockyview General Hospital**

- Dr. Jason Werle, Facility Chief and Chair OR Committee
- Dr. Chris Sims, Chief, Anesthesia
- Ms. Susan Rawding, OR Manager
- · Ms. Susan Reader, Director

#### **South Health Campus**

- Dr. Beth Lange, Facility Chief and Chair OR Committee
- Dr. Farrah Morrow, Chief, Anesthesia
- Ms. Lori Gervais, OR Manager
- · Ms. Joanne Cabrera, Director

# Surgical Education Department of Surgery



## **Department Members 2014/2015**

#### **Department of Surgery Members 2014/2015**

Kalaydjian, Eduardo Section Chief & Clinical Associate Professor  Abougoush, Joel	Name
•	
	ougoush, Joel
Abougoush, Tallel	ougoush, Tallel
Badwi (Stein), Kari Pediatric Surgery	dwi (Stein), Kari
Barsky, Robert Pediatric Surgery	rsky, Robert
Bell , Christine Pediatric Surgery	II , Christine
Bindman, Michael Pediatric Surgery	ndman, Michael
Brown, Duncan	own, Duncan
Cholette, Marie-Claude Pediatric Surgery	olette, Marie-Claude
Chow, Kuen A.	low, Kuen A.
Dalla Lana, Eugene	ılla Lana, Eugene
David, Dionysius	ivid, Dionysius
Dyck, Willy	ck, Willy
Houghton, Alan	ughton, Alan
Hulland, Sarah Pediatric Surgery	ılland, Sarah
Kemp, Darrel	mp, Darrel
Kopec, Perry	pec, Perry
Krusky, J. Bradley	usky, J. Bradley
Kua, Choo-Kar Pediatric Surgery	a, Choo-Kar
Lakhani, Moez	khani, Moez
Lee, Morley	e, Morley
Loeppky, Warren Pediatric Surgery	eppky, Warren
Lovick, David Pediatric Surgery	vick, David
Lu, Ta Sen Pediatric Surgery	, Ta Sen
Mehra, Tarun Pediatric Surgery	hra, Tarun
Olowe, Adebayo	owe, Adebayo
Paladino, Antonietta Clinical Lecturer	ladino, Antonietta
Pilipowicz, Orest Pediatric Surgery	ipowicz, Orest
Rabie, Heidi	bie, Heidi
Saher, Farida Clinical Lecturer Pediatric Surgery	her, Farida
Schwann, Sandra	hwann, Sandra
Seto, Timothy	to, Timothy
Shariff, Galib	ariff, Galib
Sheiny, Shirin	einy, Shirin

Skaria, Sylla

Smith, Leonard Pediatric Surgery

Suri, Amreek (Ricky) Clinical Lecturer Switzer, Samuel Clinical Lecturer

Tamminen, John

Tetteh-Wayoe, Mercy

Thal, Michelle Tung, Albert Varshney, Sheila Vinsky, Rory

Wierzbicki, Tom Clinical Lecturer

Yaholnitsky, Stephen

Yates, Gregory

Yu, Thomas Clinical Lecturer

	Section of General Surgery	
Name	Title/Rank	Primary Appointment
Dixon, Elijah	Section Chief and Professor	
Anderson, Ian B.	Clinical Assistant Professor	
Armstrong, Christopher S.	Clinical Lecturer	
Armstrong, C. Paul	Clinical Lecturer	
Austen, Lea	Clinical Assistant Professor	
Ball, Chad	Clinical Assistant Professor	
Bathe, Oliver F.	Professor	
Bouchard-Fortier, Antoine	Clinical Lecturer	
Brar, Mantaj	Clinical Assistant Professor	
Brzezinski, Wojciech	Clinical Lecturer (Medicine Hat)	
Buie, W. Donald	Professor	
Buie, William	Honorary Clinical Associate Professor	
Church, Neal G.	Clinical Assistant Professor	
Datta, Indraneel	Clinical Assistant Professor	
Debru, Estifanos	Clinical Assistant Professor	
Dunham, Michael B.	Clinical Assistant Professor	
Gill, Richdeep	Clinical Assistant Professor	
Graham, John S.	Clinical Assistant Professor	
Hagerman, Neil		
Harvey, Adrian	Clinical Associate Professor	
Heine, John A.	Clinical Assistant Professor	
Hollaar, Gwendolyn	Associate Professor	
Ibbottson, Geoff	Clinical Lecturer (Grande Prairie)	
Jenken, Daryl		
Johnson, Douglas R.E.	Clinical Assistant Professor	
Kanashiro, Jeanie	Clinical Assistant Professor	
Kirkpatrick, Andrew W.	Professor	
Kortbeek, John B.	Zone Clinical Department Head Surgery and Professor	
Lafreniere, Rene	Professor	
Lall, Rohan N.	Clinical Assistant Professor	
Lopushinsky, Steven	Clinical Assistant Professor	Pediatric Surgery
Lui, Robert C.K.	Clinical Assistant Professor	
Mack, Lloyd	Assistant Professor	
MacLean, Anthony R.	Clinical Associate Professor	

Martin, Steven

McKinnon, J. Gregory Professor

McBeth, Paul Clinical Assistant Professor
Mew, Daphne J.Y. Clinical Assistant Professor
Mitchell, Philip C. Clinical Assistant Professor
Mulloy, Robert H. Clinical Associate Professor
Nixon, James A. Clinical Assistant Professor

Papenkopf, Cort W. Rural Medicine

Pasieka, Janice Clinical Professor

Quan, May Lynn Associate Professor

Reso, Artan Clinical Lecturer

Rosen, Wayne S. Clinical Assistant Professor Rothwell, Bruce C. Clinical Assistant Professor

Selman, William

Sutherland, Francis R. Professor Temple, Walley J. Professor

Topstad, Dawnelle R. Clinical Lecturer

Way, Jeffrey C.E. Clinical Assistant Professor

Wong, Andrew L. Clinical Associate Professor Pediatric Surgery

Name         Title/Rank         Primary Appointment           Ashenhurst, Michael E.         Section Chief & Clinical Associate Professor           Adatia, Feisal         Clinical Lecturer           Anand, Jag         Clinical Lecturer           Astle, William F.         Professor         Pediatric Surgery           Ball, Arlene E.         Clinical Lecturer           Chow, Bill         Clinical Lecturer         Pediatric Surgery           Chow, Bill         Clinical Assistant Professor         Pediatric Surgery           Crichton, Andrew C.S.         Clinical Professor         Pediatric Surgery           Crichton, Andrew C.S.         Clinical Professor         Pediatric Surgery           Crichton, Andrew C.S.         Clinical Assistant Professor         Pediatric Surgery           Crichton, Andrew C.S.         Clinical Lecturer         Pediatric Surgery           Dothin, Stephanie         Clinical Assistant Professor         Fed Activated Surgery           Fielden, Michael         Clinical Assistant Professor         Fed Activated Surge		Section of Ophthalmology	
Adatia, Feisal Clinical Assistant Professor Al-Ghoul, Ahmed R. Clinical Lecturer Anand, Jag Clinical Lecturer Anderson-Penno, Ellen Astle, William F. Professor Pediatric Surgery Ball, Arlene E. Clinical Lecturer Chow, Bill Clinical Assistant Professor Cooper, Linda Associate Professor Pediatric Surgery Crichton, Andrew C.S. Clinical Professor Culver, Ronald L. Clinical Assistant Professor Demong, Thaddeus T. Clinical Lecturer Dotchin, Stephanie Clinical Lecturer Dotchin, Stephanie Clinical Assistant Professor Ells, Anna Clinical Professor Fielden, Michael Clinical Assistant Professor Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Goel, Nand K. Clinical Assistant Professor Gole, Nand K. Clinical Assistant Professor Gool, Patrick Clinical Assistant Professor Hanson, Christopher Clinical Assistant Professor Hanson, Christopher Clinical Associate Professor Huang, Peter T. Clinical Associate Professor Huang, Peter T. Clinical Associate Professor Kherani, Amin Clinical Associate Professor Kirk, Angus Kirker, G.E. Menyn Clinical Associate Professor	Name	Title/Rank	Primary Appointment
Al-Choul, Ahmed R. Clinical Lecturer Anand, Jag Clinical Lecturer Astle, William F. Professor Pediatric Surgery Ball, Arlene E. Clinical Lecturer Bharma, Jamie Clinical Lecturer Chow, Bill Clinical Assistant Professor Cooper, Linda Associate Professor Crichton, Andrew C.S. Clinical Assistant Professor Culver, Ronald L. Clinical Assistant Professor Culver, Ronald L. Clinical Assistant Professor Demong, Thaddeus T. Clinical Lecturer Douglas, Gordon Clinical Assistant Professor Ells, Anna Clinical Professor Fielden, Michael Clinical Assistant Professor Gisbon, Peter F. Clinical Assistant Professor Gisbon, Peter F. Clinical Assistant Professor Gool, Nand K. Clinical Assistant Professor Gool, Nand K. Clinical Assistant Professor Gool, Patrick Clinical Assistant Professor Hanson, Christopher Clinical Assistant Professor Hang, John T. Clinical Associate Professor Huang, John T. Clinical Associate Professor Kherani, Amin Clinical Associate Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Ashenhurst, Michael E.	Section Chief & Clinical Associate Professor	
Anand, Jag Clinical Lecturer  Astle, William F. Professor Pediatric Surgery  Ball, Arlene E. Clinical Lecturer  Bhamra, Jamie Clinical Lecturer  Chow, Bill Clinical Assistant Professor  Cooper, Linda Associate Professor  Culver, Ronald L. Clinical Assistant Professor  Culver, Ronald L. Clinical Assistant Professor  Demong, Thaddeus T. Clinical Lecturer  Douglas, Gordon Clinical Assistant Professor  Elis, Anna Clinical Assistant Professor  Fielden, Michael Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Goil, Nand K. Clinical Assistant Professor  Gool, Patrick Clinical Assistant Professor  Hanson, Christopher Clinical Assistant Professor  Hanson, Christopher Clinical Assistant Professor  Huang, John T. Clinical Assistant Professor  Kherani, Amin Clinical Assistant Professor  Kirker, G.E. Mervyn Clinical Associate Professor  Kirker, G.E. Mervyn Clinical Associate Professor	Adatia, Feisal	Clinical Assistant Professor	
Anderson-Penno, Ellen  Astle, William F. Professor Pediatric Surgery  Ball, Arlene E. Clinical Lecturer  Bhamra, Jamie Clinical Assistant Professor  Cooper, Linda Associate Professor  Crichton, Andrew C.S. Clinical Professor  Culver, Ronald L. Clinical Assistant Professor  Demong, Thaddeus T. Clinical Lecturer  Dotchin, Stephanie Clinical Lecturer  Dotchin, Stephanie Clinical Lecturer  Dotglas, Gordon Clinical Assistant Professor  Fielden, Michael Clinical Assistant Professor  Fielden, Michael Clinical Assistant Professor  Ford, Bryce Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Goei, Nand K. Clinical Assistant Professor  Gohill, Jitendra Clinical Assistant Professor  Gooi, Patrick Clinical Lecturer  Gordon, Robert Clinical Assistant Professor  Hanson, Christopher Clinical Lecturer  Gordon, Robert Clinical Assistant Professor  Kassab, Jacinthe Clinical Assistant Professor  Kherani, Amin Clinical Assistant Professor  Kirk, Angus  Kirker, G.E. Mervyn Clinical Associate Professor	Al-Ghoul, Ahmed R.	Clinical Lecturer	
Astle, William F. Professor Pediatric Surgery  Ball, Arlene E. Clinical Lecturer  Bhamra, Jamie Clinical Assistant Professor  Cooper, Linda Associate Professor  Coiper, Linda Associate Professor  Crichton, Andrew C.S. Clinical Assistant Professor  Culver, Ronald L. Clinical Assistant Professor  Demong, Thaddeus T. Clinical Lecturer  Dotchin, Stephanie Clinical Lecturer  Dotglas, Gordon Clinical Assistant Professor  Ells, Anna Clinical Professor  Ford, Bryce Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Gimbel, Howard V. Clinical Assistant Professor  Goel, Nand K. Clinical Assistant Professor  Gooi, Patrick Clinical Assistant Professor  Gooi, Patrick Clinical Assistant Professor  Hanson, Christopher Clinical Lecturer  Hill, Vivian E. Clinical Assistant Professor  Kassab, Jacinthe Clinical Assistant Professor  Kassab, Jacinthe Clinical Assistant Professor  Krik, Angus  Kirker, G.E. Menvyn Clinical Associate Professor  Kirker, G.E. Menvyn Clinical Associate Professor	Anand, Jag	Clinical Lecturer	
Ball, Arlene E. Clinical Lecturer Bhamra, Jamie Clinical Lecturer Chow, Bill Clinical Assistant Professor Cooper, Linda Associate Professor Cichton, Andrew C.S. Clinical Professor Culver, Ronald L. Clinical Assistant Professor Demong, Thaddeus T. Clinical Lecturer Dotchin, Stephanie Clinical Lecturer Douglas, Gordon Clinical Assistant Professor Fielden, Michael Clinical Assistant Professor Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Gionel, Howard V. Clinical Professor Goel, Nand K. Clinical Assistant Professor Gool, Rand K. Clinical Assistant Professor Gool, Rythick Clinical Assistant Professor Goori, Robert Clinical Assistant Professor Gordon, Robert Clinical Assistant Professor Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Kassab, Jacinthe Clinical Associate Professor Kriker, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Anderson-Penno, Ellen		
Bhamra, Jamie         Clinical Lecturer           Chow, Bill         Clinical Assistant Professor           Cooper, Linda         Associate Professor         Pediatric Surgery           Crichton, Andrew C.S.         Clinical Professor           Culver, Ronald L.         Clinical Assistant Professor           Demong, Thaddeus T.         Clinical Lecturer           Dotchin, Stephanie         Clinical Lecturer           Douglas, Gordon         Clinical Assistant Professor           Ells, Anna         Clinical Assistant Professor           Fielden, Michael         Clinical Assistant Professor           Gord, Bryce         Clinical Assistant Professor           Gibson, Peter F.         Clinical Assistant Professor           Goel, Nand K.         Clinical Assistant Professor           Gooi, Patrick         Clinical Assistant Professor           Gooi, Patrick         Clinical Lecturer           Gordon, Robert         Clinical Assistant Professor           Hanson, Christopher         Clinical Assistant Professor           Huang, John T.         Clinical Associate Professor           Kassab, Jacinthe         Clinical Associate Professor           Kherani, Amin         Clinical Associate Professor           Kirker, G.E. Mervyn         Clinical Associate Professor	Astle, William F.	Professor	Pediatric Surgery
Chow, Bill       Clinical Assistant Professor       Pediatric Surgery         Cooper, Linda       Associate Professor       Pediatric Surgery         Crichton, Andrew C.S.       Clinical Professor         Culver, Ronald L.       Clinical Assistant Professor         Demong, Thaddeus T.       Clinical Lecturer         Dotchin, Stephanie       Clinical Lecturer         Douglas, Gordon       Clinical Assistant Professor         Ells, Anna       Clinical Assistant Professor         Fielden, Michael       Clinical Assistant Professor         Ford, Bryce       Clinical Assistant Professor         Gibson, Peter F.       Clinical Assistant Professor         Goel, Nand K.       Clinical Assistant Professor         Goel, Nand K.       Clinical Assistant Professor         Gooi, Patrick       Clinical Lecturer         Gordon, Robert       Clinical Assistant Professor         Hanson, Christopher       Clinical Assistant Professor         Huang, John T.       Clinical Associate Professor         Kassab, Jacinthe       Clinical Associate Professor         Kherani, Amin       Clinical Associate Professor         Kirk, Angus       Clinical Associate Professor	Ball, Arlene E.	Clinical Lecturer	
Coper, Linda Associate Professor Pediatric Surgery Crichton, Andrew C.S. Clinical Professor Culver, Ronald L. Clinical Assistant Professor Demong, Thaddeus T. Clinical Lecturer Dotchin, Stephanie Clinical Lecturer Douglas, Gordon Clinical Assistant Professor Ells, Anna Clinical Assistant Professor Fielden, Michael Clinical Assistant Professor Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Goel, Nand K. Clinical Assistant Professor Gooi, Patrick Clinical Assistant Professor Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Gordon, Robert Clinical Assistant Professor Huang, John T. Clinical Associate Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Bhamra, Jamie	Clinical Lecturer	
Crichton, Andrew C.S. Clinical Professor Culver, Ronald L. Clinical Assistant Professor Demong, Thaddeus T. Clinical Lecturer Dotchin, Stephanie Clinical Assistant Professor Ells, Anna Clinical Professor Fielden, Michael Clinical Assistant Professor Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Gimbel, Howard V. Clinical Professor Goel, Nand K. Clinical Assistant Professor Gooi, Patrick Clinical Assistant Professor Gooi, Patrick Clinical Assistant Professor Hanson, Christopher Clinical Assistant Professor Huang, John T. Clinical Assistant Professor Kassab, Jacinthe Clinical Associate Professor Kherani, Amin Clinical Associate Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Chow, Bill	Clinical Assistant Professor	
Culver, Ronald L. Clinical Assistant Professor  Demong, Thaddeus T. Clinical Lecturer  Dotchin, Stephanie Clinical Lecturer  Douglas, Gordon Clinical Assistant Professor  Ells, Anna Clinical Professor  Fielden, Michael Clinical Assistant Professor  Ford, Bryce Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Goel, Nand K. Clinical Assistant Professor  Goel, Nand K. Clinical Assistant Professor  Gooi, Patrick Clinical Assistant Professor  Gooi, Patrick Clinical Assistant Professor  Hanson, Christopher Clinical Assistant Professor  Huang, John T. Clinical Associate Professor  Huang, Peter T. Clinical Professor  Kassab, Jacinthe Clinical Lecturer  Kherani, Amin Clinical Associate Professor  Kirk, Angus  Kirker, G.E. Mervyn Clinical Associate Professor	Cooper, Linda	Associate Professor	Pediatric Surgery
Demong, Thaddeus T.  Dotchin, Stephanie  Clinical Lecturer  Douglas, Gordon  Clinical Assistant Professor  Ells, Anna  Clinical Professor  Fielden, Michael  Clinical Assistant Professor  Ford, Bryce  Clinical Assistant Professor  Gibson, Peter F.  Clinical Assistant Professor  Goel, Nand K.  Clinical Assistant Professor  Goel, Nand K.  Clinical Assistant Professor  Gooi, Patrick  Clinical Assistant Professor  Gooi, Patrick  Clinical Assistant Professor  Gooi, Patrick  Clinical Lecturer  Gordon, Robert  Clinical Assistant Professor  Hanson, Christopher  Clinical Assistant Professor  Huang, John T.  Clinical Associate Professor  Kassab, Jacinthe  Clinical Lecturer  Kherani, Amin  Clinical Associate Professor  Kherani, Femida  Clinical Associate Professor  Kirk, Angus  Kirker, G.E. Mervyn  Clinical Associate Professor	Crichton, Andrew C.S.	Clinical Professor	
Dotchin, Stephanie  Douglas, Gordon  Clinical Assistant Professor  Ells, Anna  Clinical Professor  Fielden, Michael  Clinical Assistant Professor  Ford, Bryce  Clinical Assistant Professor  Gibson, Peter F.  Clinical Assistant Professor  Goel, Nand K.  Clinical Assistant Professor  Goel, Nand K.  Clinical Assistant Professor  Gooi, Patrick  Clinical Assistant Professor  Gordon, Robert  Clinical Assistant Professor  Hanson, Christopher  Clinical Lecturer  Hill, Vivian E.  Clinical Assistant Professor  Clinical Associate Professor  Kassab, Jacinthe  Clinical Lecturer  Kherani, Amin  Clinical Associate Professor  Kirker, G.E. Mervyn  Clinical Associate Professor	Culver, Ronald L.	Clinical Assistant Professor	
Douglas, Gordon Clinical Assistant Professor  Ells, Anna Clinical Professor  Fielden, Michael Clinical Assistant Professor  Ford, Bryce Clinical Assistant Professor  Gibson, Peter F. Clinical Assistant Professor  Gimbel, Howard V. Clinical Professor  Goel, Nand K. Clinical Assistant Professor  Gooi, Patrick Clinical Assistant Professor  Gooi, Patrick Clinical Assistant Professor  Gordon, Robert Clinical Assistant Professor  Hanson, Christopher Clinical Lecturer  Hill, Vivian E. Clinical Assistant Professor  Huang, John T. Clinical Associate Professor  Kassab, Jacinthe Clinical Lecturer  Kherani, Amin Clinical Associate Professor  Kherani, Femida Clinical Associate Professor  Kirk, Angus  Kirker, G.E. Mervyn Clinical Associate Professor	Demong, Thaddeus T.	Clinical Lecturer	
Ells, Anna Clinical Professor Fielden, Michael Clinical Assistant Professor Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Gimbel, Howard V. Clinical Professor Goel, Nand K. Clinical Assistant Professor Gohill, Jitendra Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Associate Professor Huang, John T. Clinical Associate Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Associate Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Dotchin, Stephanie	Clinical Lecturer	
Fielden, Michael Clinical Assistant Professor Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Gimbel, Howard V. Clinical Professor Goel, Nand K. Clinical Assistant Professor Gohill, Jitendra Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Douglas, Gordon	Clinical Assistant Professor	
Ford, Bryce Clinical Assistant Professor Gibson, Peter F. Clinical Assistant Professor Gimbel, Howard V. Clinical Professor Goel, Nand K. Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Associate Professor Huang, John T. Clinical Associate Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Ells, Anna	Clinical Professor	
Gibson, Peter F. Clinical Assistant Professor Gimbel, Howard V. Clinical Professor Goel, Nand K. Clinical Assistant Professor Gohill, Jitendra Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Associate Professor Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Associate Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Fielden, Michael	Clinical Assistant Professor	
Gimbel, Howard V. Goel, Nand K. Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Ford, Bryce	Clinical Assistant Professor	
Goel, Nand K. Clinical Assistant Professor Gohill, Jitendra Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Gibson, Peter F.	Clinical Assistant Professor	
Gohill, Jitendra Clinical Assistant Professor Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Gimbel, Howard V.	Clinical Professor	
Gooi, Patrick Clinical Lecturer Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Associate Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Goel, Nand K.	Clinical Assistant Professor	
Gordon, Robert Clinical Assistant Professor Hanson, Christopher Clinical Lecturer Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Gohill, Jitendra	Clinical Assistant Professor	
Hanson, Christopher Clinical Lecturer  Hill, Vivian E. Clinical Assistant Professor  Huang, John T. Clinical Associate Professor  Huang, Peter T. Clinical Professor  Kassab, Jacinthe Clinical Lecturer  Kherani, Amin Clinical Associate Professor  Kherani, Femida Clinical Assistant Professor  Kirk, Angus  Kirker, G.E. Mervyn Clinical Associate Professor	Gooi, Patrick	Clinical Lecturer	
Hill, Vivian E. Clinical Assistant Professor Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Gordon, Robert	Clinical Assistant Professor	
Huang, John T. Clinical Associate Professor Huang, Peter T. Clinical Professor Kassab, Jacinthe Clinical Lecturer Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Hanson, Christopher	Clinical Lecturer	
Huang, Peter T. Clinical Professor  Kassab, Jacinthe Clinical Lecturer  Kherani, Amin Clinical Associate Professor  Kherani, Femida Clinical Assistant Professor  Kirk, Angus  Kirker, G.E. Mervyn Clinical Associate Professor	Hill, Vivian E.	Clinical Assistant Professor	
Kassab, Jacinthe Clinical Lecturer  Kherani, Amin Clinical Associate Professor  Kherani, Femida Clinical Assistant Professor  Kirk, Angus  Kirker, G.E. Mervyn Clinical Associate Professor	Huang, John T.	Clinical Associate Professor	
Kherani, Amin Clinical Associate Professor Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Huang, Peter T.	Clinical Professor	
Kherani, Femida Clinical Assistant Professor Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Kassab, Jacinthe	Clinical Lecturer	
Kirk, Angus Kirker, G.E. Mervyn Clinical Associate Professor	Kherani, Amin	Clinical Associate Professor	
Kirker, G.E. Mervyn Clinical Associate Professor	Kherani, Femida	Clinical Assistant Professor	
	Kirk, Angus		
Lang, Robert M. Clinical Assistant Professor	Kirker, G.E. Mervyn	Clinical Associate Professor	
	Lang, Robert M.	Clinical Assistant Professor	

McWhae, John A. Clinical Associate Professor
Mitchell, Patrick Clinical Assistant Professor
Mitchell, Robert J. Clinical Assistant Professor
Punja, Karim Clinical Assistant Professor

Romanchuk, Kenneth G. Clinical Professor Pediatric Surgery

Savage, Paul R.G. Clinical Assistant Professor

Shah, Chirag Clinical Lecturer Skov, Carolyn M.B. Clinical Lecturer

Skov, Carolyn M.B. Clinical Lecturer Pediatric Surgery

Smith, Stanley S. Clinical Assistant Professor

Van Westenbrugge, John A. Clinical Lecturer

Verstraten, Karin L. Clinical Assistant Professor
Weis, Ezekiel Clinical Assistant Professor
Williams, R. Geoff Clinical Associate Professor

Wong, Jonathan Clinical Lecturer

Wyse, J. Patrick Clinical Associate Professor Yau, Ryan Clinical Assistant Professor

Section of Oral & Maxillofacial Surgery				
Name	Title/Rank	Primary Appointment		
Edwards, Richard	Section Chief & Clinical Assistant Professor			
Bureau, Stephen				
Cobb, Graham	Clinical Assistant Professor			
Goos, Ryan				
Habijanac, Brett				
Higashi, Shawn	Clinical Lecturer			
Kroetsch, Lorne				
Smith, Miller	Clinical Assistant Professor			
Summers, Terence				
Touchan, Simon	Clinical Lecturer			
Vincelli, Douglas J.	Clinical Assistant Professor			
William, Hedd-Wyn				
Young, Carl Wayne				

	Section of Orthopaedic Surgery	
Name	Title/Rank	Primary Appointment
Hildebrand, Kevin A.	Section Chief & Professor	
Abelseth, Gregory A.	Clinical Assistant Professor	
Batuyong, Eldridge	Clinical Lecturer	
Bauman, John	Clinical Assistant Professor	
Bazant, Francis J.	Clinical Assistant Professor	
Bell, Douglas	Clinical Associate Professor	
Bering, Michael P.	Clinical Lecturer (Medicine Hat)	
Bois, Aaron	Clinical Lecturer	
Boorman, Richard S.	Assistant Professor	
Bouchard, Jacques A.	Clinical Professor	
Bowen, Vaughan	Clinical Professor	
Brauer, Carmen	Assistant Professor	Pediatric Surgery
Bray, Robert C.	Professor	
Buchko, Gregory		Rural Medicine
Buckley, Richard E.	Clinical Professor	
Burkart, Brian C.	Clinical Assistant Professor	
Cho, Roger K.N.	Clinical Assistant Professor	
Clark, Marcia	Clinical Associate Professor	
Cundal, Cory S.	Clinical Lecturer	
Dhaliwal, Gurpreet Singh	Clinical Lecturer	
De Souza, F. Kelley	Clinical Assistant Professor	
Donaghy, John J.	Clinical Assistant Professor	
Dougall, Hugh R	Clinical Associate Professor	
Duffy, Paul J.	Clinical Assistant Professor	
Edwards, Glen E.	Clinical Professor	
Ferri de Barros, Fabio	Clinical Assistant Professor	Pediatric Surgery
French, Stephen	Clinical Assistant Professor	
Goldstein, Simon G.	Clinical Assistant Professor	Pediatric Surgery
Harder, James A.	Clinical Associate Professor	Pediatric Surgery
Hart, David A.	Professor	
Heard, S. Mark	Clinical Lecturer	Rural Medicine
Hiemstra, Laurie A.		Rural Medicine
Hiscox, Christina	Clinical Lecturer	
Hollinshead, Robert M.	Clinical Professor	

Hu, Richard W-C Clinical Professor
Hunt, Stephen Clinical Lecturer
Hutchison, Carolyn R. Associate Professor
Johnston, Kelly D. Clinical Lecturer

Joughin, V. ElaineClinical Assistant ProfessorPediatric SurgeryKiefer, Gerhard N.Clinical Associate ProfessorPediatric Surgery

Korley, Robert Clinical Lecturer
Kuchinad, Raul Clinical Lecturer
Lamothe, Jeremy Clinical Lecturer

Le, Ian Clinical Assistant Professor

Leblanc, Justin Clinical Lecturer

Lewkonia, Peter Clinical Assistant Professor

Lo, lan K.Y. Assistant Professor

Longino, David Clinical Assistant Professor

Mackenzie, James R. Clinical Lecturer
Martin, Ryan Clinical Lecturer

Miller, Stephen D. Clinical Associate Professor

Mohtadi, Nicholas G.H. Clinical Professor

Mrkonjic, Linda A. Clinical Assistant Professor

O'Brien, Maureen Clinical Lecturer

Parsons, David L. Clinical Associate Professor

Penner, Darrell A. Clinical Lecturer
Powell, James N. Clinical Professor
Puloski, Shannon K.T. Clinical Lecturer
Rendall, Edward Clinical Lecturer
Rezansoff, Alexander Clinical Lecturer

Russell, Iain S. Clinical Assistant Professor Sabo, Marlis Clinical Assistant Professor

Salo, Paul T. Professor

Sharma, Rajrishi Clinical Assistant Professor

Schachar, Norman S. Clinical Professor

Schneider, Prism Clinical Assistant Professor Soroceanu, Alex Clinical Assistant Professor

Stewart, James I. Clinical Lecturer

Swamy, Ganesh Clinical Assistant Professor
Thomas, Kenneth C. Clinical Associate Professor
Timmermann, Scott Clinical Assistant Professor

Pediatric Surgery

Van Zuiden, Lowell J. Clinical Assistant Professor Werle, Jason R. Clinical Associate Professor

White, Neil Clinical Lecturer

	Section of Otolaryngology – Head and Ne	ck Surgery
Name	Title/Rank	Primary Appointment
Matthews, T. Wayne	Section Chief & Associate Professor	
Bosch, J. Douglas	Clinical Assistant Professor	
Brookes, James	Clinical Assistant Professor	Pediatric Surgery
Burke, Robert	Clinical Associate Professor	
Chau, Jason K.	Clinical Assistant Professor	
Chau, Justin K.	Clinical Assistant Professor	
Chandarana, Shamir	Clinical Assistant Professor	
Dort, Joseph C.	Professor	
Drummond, Derek S.	Clinical Assistant Professor	Pediatric Surgery
Gillis, Thomas M.	Clinical Assistant Professor	
Hoshowsky, Borys O.	Clinical Lecturer	
Hoy, Monica	Clinical Lecturer	
Huang, lan T.		
Hui, Anita	Clinical Assistant Professor	
Lange, Elizabeth J.	Clinical Associate Professor	
Marck, Paul A.	Clinical Associate Professor	
Mechor, Brad	Clinical Assistant Professor	
Park, Phillip S.	Clinical Assistant Professor	
Rudmik, Luke	Clinical Associate Professor	
Shandro, W.G. (Bud)		
Wagner, Garth A.L.	Clinical Associate Professor	
Warshawski, S. Joseph	Clinical Assistant Professor	
Yunker, Warren	Clinical Assistant Professor	Pediatric Surgery
Zakhary, Kristina	Clinical Assistant Professor	

Name         Title(Rank)         Primary Appointment           Fraulin, Frankie         Section Chief & Clinical Associate Professor         Ophthalmology           Ashenhurst, Michael E.         Clinical Associate Professor         Ophthalmology           Aste, William F.         Professor         Urology           Barr, Richard         Urology         Urology           Beaudry, Paul         Clinical Assistant Professor         Urology           Bell, Christine         Urology         Urology           Bosch, J. Douglas         Clinical Assistant Professor         Otolaryngology           Brauer, Carmen         Associate Head, Surgery & Associate Professor         Professor           Brokes, James         Clinical Assistant Professor         Otolaryngology           Brokes, James         Clinical Assistant Professor         Plastic Surgery           Brokes, James         Clinical Assistant Professor         Plastic Surgery           Brokes, James         Clinical Assistant Professor         Plastic Surgery           Condette, Marie-Claude         Clinical Assistant Professor         Urology           Condette, Marie-Claude         Clinical Assistant Professor         Urology           Cooper, Linda         Associate Professor         Urology           Dontelly, Bryan J.         Clinical A	Section of Pediatric Surgery				
Ashenhurst, Michael E. Clinical Associate Professor  Badwi (Stein), Kari  Barr, Richard Urology  Baverstock, Richard Clinical Assistant Professor  Beaudry, Paul Edl, Christine  Bosch, J. Douglas Clinical Assistant Professor  Brookes, James Clinical Assistant Professor  Brindle, Mary E. Associate Head, Surgery & Associate Professor  Burke, Robert Clinical Assistant Professor  Burke, Robert Clinical Assistant Professor  Burke, Robert Clinical Assistant Professor  Cooper, Linda Associate Professor  Cooper, Linda Assistant Professor  Dilay, Jocelyn E.  Donnelly, Bryan J. Clinical Assistant Professor  Drommond, Derek S. Clinical Assistant Professor  Drummond, Derek S. Clinical Assistant Professor  Drummond, Derek S. Clinical Assistant Professor  Drummond, Derek S. Clinical Assistant Professor  Colinical Assistant Professor  Drummond, Derek S. Clinical Assistant Professor  Clinical Assistant Professor  Drummond, Derek S. Clinical Assistant Professor  Drummond, Derek S. Clinical Assistant Professor  Clinical Lecturer  Drummond, Derek S. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Lecturer  Colinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Frank, Ryan Clinical Assistant Professor  Frank, Ryan Clinical Assistant Professor  Frank, Siryoe Clinical Assistant Professor  Frank, Siryoe Clinical Assistant Professor  Frof. Bryce Clinical Assistant Professor  Gelfland, Gary A.J. Clinical Assistant Professor  Goldstein, Simon G. Clinical Associate Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Boryo O. Clinical Lecturer  Otolaryngology  Otolaryngology	Name	Title/Rank	Primary Appointment		
Astle, William F. Badwi (Stein), Kari Barr, Richard Clinical Assistant Professor Beaudry, Paul Clinical Assistant Professor Bell, Christine Bosch, J. Douglas Clinical Assistant Professor Brokes, James Clinical Assistant Professor Brindle, Mary E. Brookes, James Clinical Assistant Professor Brokes, James Clinical Assistant Professor Brokes, James Clinical Assistant Professor Cooper, Linda Clinical Assistant Professor Cooper, Linda Cooper, C	Fraulin, Frankie	Section Chief & Clinical Associate Professor			
Badwi (Stein), Kari Barr, Richard Clinical Assistant Professor Urology Baverstock, Richard Clinical Assistant Professor Beald, Paul Clinical Assistant Professor Bell, Christine Bosch, J. Douglas Clinical Assistant Professor Brauer, Carmen Assistant Professor Brauer, Carmen Assistant Professor Brindle, Mary E. Associate Head, Surgery & Associate Professor Brookes, James Clinical Assistant Professor Burke, Robert Clinical Assistant Professor Burke, Robert Clinical Assistant Professor Burke, Robert Clinical Assistant Professor Cooper, Linda Associate Professor Cooper, Linda Associate Professor Dilay, Jocolyn E. Donnelly, Bryan J. Clinical Assistant Professor Dushin, Stephanie Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Duffy, Martin Clinical Lecturer Urology Duffy, Martin Clinical Lecturer Eccles, Robin C. Clinical Assistant Professor Frank, Ryan Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Harder, James A. Clinical Assistant Professor Harder, James A. Clinical Assistant Professor Harder, James A. Clinical Assistant Professor	Ashenhurst, Michael E.	Clinical Associate Professor	Ophthalmology		
Barr, Richard Clinical Assistant Professor Urology Beaudry, Paul Clinical Assistant Professor Bell, Christine Bosch, J. Douglas Clinical Assistant Professor Brauer, Carmen Assistant Professor Bridle, Mary E. Associate Head, Surgery & Associate Professor Brokes, James Clinical Assistant Professor Burke, Robert Clinical Assistant Professor Burke, Robert Clinical Assistant Professor Compbell, Earl A.D. Clinical Assistant Professor Cook, Anthony J. Clinical Assistant Professor Cook, Anthony J. Clinical Assistant Professor Dilay, Jocelyn E. Donnelly, Bryan J. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Cilnical Assistant Professor Clinical Assistant Professor Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Frank, Ryan Clinical Lecturer Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Assistant Professor Harder, James A. Clinical Lecturer Otolaryngology Huang, Ian T.	Astle, William F.	Professor			
Baverstock, Richard Clinical Assistant Professor Urology Beaudry, Paul Clinical Assistant Professor Bell, Christine Bosch, J. Douglas Clinical Assistant Professor Brauer, Carmen Assistant Professor Brindle, Mary E. Associate Head, Surgery & Associate Professor Brookes, James Clinical Assistant Professor Burke, Robert Clinical Assistant Professor Burke, Robert Clinical Associate Professor Compbell, Earl A.D. Clinical Assistant Professor Coholette, Mane-Claude Clinical Assistant Professor Cooper, Linda Associate Professor Dilay, Jocelyn E. Donnelly, Bryan Clinical Assistant Professor Dotchin, Stephanie Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Duffy, Martin Clinical Lecturer Cinical Assistant Professor Frank, Ryan Clinical Assistant Professor Frank, Ryan Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Assistant Professor Hoshowsky, Borys O. Clinical Assistant Professor Hoshowsky, Borys O. Clinical Assistant Professor Huang, Ian T. Clinical Lecturer Otolaryngology Clolaryngology Clolaryngology	Badwi (Stein), Kari				
Beaudry, Paul Clinical Assistant Professor  Bell, Christine  Bosch, J. Douglas Clinical Assistant Professor  Brauer, Carmen Assistant Professor  Brindle, Mary E. Associate Head, Surgery & Associate Professor  Brookes, James Clinical Assistant Professor  Burke, Robert Clinical Associate Professor  Burke, Robert Clinical Associate Professor  Burke, Robert Clinical Assistant Professor  Burke, Robert Clinical Assistant Professor  Burke, Robert Clinical Assistant Professor  Conpell, Earl A.D. Clinical Assistant Professor  Cook, Anthony J. Clinical Assistant Professor  Cooper, Linda Associate Professor  Dilay, Jocelyn E.  Donnelly, Bryan J. Clinical Assistant Professor  Dushinski, John W. Clinical Lecturer  Dushinski, John W. Clinical Assistant Professor  Duffy, Martin Clinical Lecturer  Eccles, Robin C. Clinical Assistant Professor  Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor  Gelfand, Gary A.J. Clinical Assistant Professor  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer  Otolaryngology  Otolaryngology  Huang, Ian T. Clinical Lecturer  Otolaryngology  Otolaryngology	Barr, Richard		Urology		
Bell, Christine         Bosch, J. Douglas         Clinical Assistant Professor         Otolaryngology           Brauer, Carmen         Assistant Professor         Brindle, Mary E.         Associate Head, Surgery & Associate Professor           Brindle, Mary E.         Associate Head, Surgery & Associate Professor         Otolaryngology           Burke, Robert         Clinical Assistant Professor         Otolaryngology           Campbell, Earl A.D.         Clinical Assistant Professor         Plastic Surgery           Cholette, Marie-Claude         Clinical Assistant Professor         Plastic Surgery           Cook, Anthony J.         Clinical Assistant Professor         Cooper, Linda         Associate Professor           Cooper, Linda         Associate Professor         Urology           Donnelly, Bryan J.         Clinical Assistant Professor         Urology           Dotchin, Stephanie         Clinical Lecturer         Ophthalmology           Drummond, Derek S.         Clinical Assistant Professor         Urology           Duffy, Martin         Clinical Assistant Professor         Urology           Eccles, Robin C.         Clinical Assistant Professor         Ophthalmology           Frank, Ryan         Clinical Assistant Professor         Ophthalmology           Gelfand, Gary A.J.         Clinical Assistant Professor         Otolaryngology	Baverstock, Richard	Clinical Assistant Professor	Urology		
Bosch, J. Douglas         Clinical Assistant Professor         Otolaryngology           Brauer, Carmen         Assistant Professor           Brindle, Mary E.         Associate Head, Surgery & Associate Professor           Brookes, James         Clinical Assistant Professor           Burke, Robert         Clinical Associate Professor         Otolaryngology           Campbell, Earl A.D.         Clinical Assistant Professor         Plastic Surgery           Cholette, Marie-Claude         Clinical Assistant Professor         Plastic Surgery           Cook, Anthony J.         Clinical Assistant Professor         Cooper, Linda         Associate Professor           Cooper, Linda         Associate Professor         Urology           Donnelly, Bryan J.         Clinical Assistant Professor         Urology           Dotchin, Stephanie         Clinical Assistant Professor         Urology           Drummond, Derek S.         Clinical Assistant Professor         Urology           Duffy, Martin         Clinical Lecturer         Urology           Eccles, Robin C.         Clinical Assistant Professor         Urology           Ferri de Barros, Fabio         Clinical Assistant Professor         Ophthalmology           Farge         Clinical Assistant Professor         Ophthalmology           Gelfand, Gary A.J.         Clinica	Beaudry, Paul	Clinical Assistant Professor			
Brauer, Carmen Assistant Professor  Brindle, Mary E. Associate Head, Surgery & Associate Professor  Brookes, James Clinical Assistant Professor  Burke, Robert Clinical Associate Professor Otolaryngology  Campbell, Earl A.D. Clinical Assistant Professor  Cook, Anthony J. Clinical Assistant Professor  Cooper, Linda Associate Professor  Dilay, Jocelyn E.  Donnelly, Bryan J. Clinical Assistant Professor  Otothin, Stephanie Clinical Lecturer Ophthalmology  Drummond, Derek S. Clinical Assistant Professor  Dushinski, John W. Clinical Assistant Professor  Eccles, Robin C. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Gelfand, Gary A.J. Clinical Assistant Professor  Gelfand, Gary A.J. Clinical Assistant Professor  Gelfand, Gary A.J. Clinical Assistant Professor  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer  Otolaryngology  Otolaryngology  Huang, Ian T. Otolaryngology	Bell, Christine				
Brindle, Mary E. Associate Head, Surgery & Associate Professor  Brookes, James Clinical Assistant Professor  Burke, Robert Clinical Associate Professor Otolaryngology  Campbell, Earl A.D. Clinical Assistant Professor  Cholette, Marie-Claude Clinical Assistant Professor  Cook, Anthony J. Clinical Assistant Professor  Cooper, Linda Associate Professor  Dilay, Jocelyn E.  Donnelly, Bryan J. Clinical Assistant Professor  Dotchin, Stephanie Clinical Lecturer Ophthalmology  Drummond, Derek S. Clinical Assistant Professor  Dushinski, John W. Clinical Assistant Professor  Duffy, Martin Clinical Lecturer Urology  Eccles, Robin C. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor  Gelfand, Gary A.J. Clinical Assistant Professor  Gelfand, Gary A.J. Clinical Assistant Professor  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer  Otolaryngology  Huang, Ian T. Otolaryngology	Bosch, J. Douglas	Clinical Assistant Professor	Otolaryngology		
Brookes, James Clinical Assistant Professor Burke, Robert Clinical Associate Professor Otolaryngology Campbell, Earl A.D. Clinical Assistant Professor Cholette, Marie-Claude Clinical Assistant Professor Cook, Anthony J. Clinical Assistant Professor Cooper, Linda Associate Professor Dilay, Jocelyn E. Donnelly, Bryan J. Clinical Assistant Professor Dotchin, Stephanie Clinical Lecturer Ophthalmology Drummond, Derek S. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Duffy, Martin Clinical Lecturer Urology Eccles, Robin C. Clinical Assistant Professor Ferri de Barros, Fabio Clinical Assistant Professor Frank, Ryan Clinical Lecturer Ford, Bryce Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Brauer, Carmen	Assistant Professor			
Burke, Robert Clinical Associate Professor Otolaryngology Campbell, Earl A.D. Clinical Assistant Professor Cholette, Marie-Claude Clinical Assistant Professor Cook, Anthony J. Clinical Assistant Professor Cooper, Linda Associate Professor Dilay, Jocelyn E. Donnelly, Bryan J. Clinical Assistant Professor Dotchin, Stephanie Clinical Lecturer Ophthalmology Drummond, Derek S. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Urology Duffy, Martin Clinical Lecturer Urology Eccles, Robin C. Clinical Assistant Professor Ferri de Barros, Fabio Clinical Assistant Professor Frank, Ryan Clinical Lecturer Ford, Bryce Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Brindle, Mary E.	Associate Head, Surgery & Associate Professor			
Campbell, Earl A.D. Clinical Assistant Professor Cook, Anthony J. Clinical Assistant Professor Cooper, Linda Associate Professor Dilay, Jocelyn E. Donnelly, Bryan J. Clinical Assistant Professor Dotchin, Stephanie Clinical Lecturer Ophthalmology Drummond, Derek S. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Urology Duffy, Martin Clinical Lecturer Urology Eccles, Robin C. Clinical Assistant Professor Frank, Ryan Clinical Assistant Professor Frank, Ryan Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gillis, Thomas M. Clinical Assistant Professor Goldstein, Simon G. Clinical Associate Professor Harder, James A. Clinical Lecturer Otolaryngology Huang, Ian T.  Clinical Lecturer Otolaryngology Otolaryngology  Otolaryngology	Brookes, James	Clinical Assistant Professor			
Cholette, Marie-Claude Cook, Anthony J. Clinical Assistant Professor Cooper, Linda Associate Professor Dilay, Jocelyn E. Donnelly, Bryan J. Clinical Assistant Professor Dotchin, Stephanie Clinical Lecturer Ophthalmology Drummond, Derek S. Clinical Assistant Professor Urology Dushinski, John W. Clinical Assistant Professor Urology  Duffy, Martin Clinical Lecturer Urology  Eccles, Robin C. Clinical Assistant Professor Ferri de Barros, Fabio Clinical Assistant Professor Frank, Ryan Clinical Lecturer Ford, Bryce Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gillis, Thomas M. Clinical Assistant Professor Goldstein, Simon G. Clinical Associate Professor Harder, James A. Clinical Lecturer Otolaryngology Huang, Ian T.  Clinical Lecturer Otolaryngology Otolaryngology	Burke, Robert	Clinical Associate Professor	Otolaryngology		
Cook, Anthony J. Clinical Assistant Professor Cooper, Linda Associate Professor Dilay, Jocelyn E. Donnelly, Bryan J. Clinical Assistant Professor Dotchin, Stephanie Clinical Lecturer Ophthalmology Drummond, Derek S. Clinical Assistant Professor Dushinski, John W. Clinical Assistant Professor Uurology Duffy, Martin Clinical Lecturer Urology Eccles, Robin C. Clinical Assistant Professor Ferri de Barros, Fabio Clinical Assistant Professor Frank, Ryan Clinical Lecturer Ford, Bryce Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gillis, Thomas M. Clinical Assistant Professor Goldstein, Simon G. Clinical Associate Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T.	Campbell, Earl A.D.	Clinical Assistant Professor	Plastic Surgery		
Cooper, Linda Associate Professor  Dilay, Jocelyn E.  Donnelly, Bryan J. Clinical Assistant Professor Urology  Dotchin, Stephanie Clinical Lecturer Ophthalmology  Drummond, Derek S. Clinical Assistant Professor  Dushinski, John W. Clinical Assistant Professor Urology  Duffy, Martin Clinical Lecturer Urology  Eccles, Robin C. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor Ophthalmology  Gelfand, Gary A.J. Clinical Assistant Professor  Gillis, Thomas M. Clinical Assistant Professor  Goldstein, Simon G. Clinical Associate Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer  Otolaryngology  Huang, Ian T. Otolaryngology	Cholette, Marie-Claude	Clinical Assistant Professor			
Dilay, Jocelyn E.  Donnelly, Bryan J.  Clinical Assistant Professor  Urology  Ophthalmology  Drummond, Derek S.  Clinical Assistant Professor  Uurology  Dushinski, John W.  Clinical Assistant Professor  Uurology  Clinical Lecturer  Urology  Eccles, Robin C.  Clinical Assistant Professor  Ferri de Barros, Fabio  Clinical Assistant Professor  Frank, Ryan  Clinical Lecturer  Ford, Bryce  Clinical Assistant Professor  Gelfand, Gary A.J.  Clinical Assistant Professor  Gillis, Thomas M.  Clinical Assistant Professor  Goldstein, Simon G.  Harder, James A.  Clinical Associate Professor  Hoshowsky, Borys O.  Clinical Lecturer  Otolaryngology  Otolaryngology  Huang, Ian T.	Cook, Anthony J.	Clinical Assistant Professor			
Donnelly, Bryan J. Clinical Assistant Professor Urology  Dotchin, Stephanie Clinical Lecturer Ophthalmology  Drummond, Derek S. Clinical Assistant Professor  Dushinski, John W. Clinical Assistant Professor Urology  Duffy, Martin Clinical Lecturer Urology  Eccles, Robin C. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor Ophthalmology  Gelfand, Gary A.J. Clinical Assistant Professor  Gillis, Thomas M. Clinical Assistant Professor  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer  Otolaryngology  Huang, Ian T. Otolaryngology	Cooper, Linda	Associate Professor			
Dotchin, Stephanie Clinical Lecturer Ophthalmology  Drummond, Derek S. Clinical Assistant Professor  Dushinski, John W. Clinical Assistant Professor Urology  Duffy, Martin Clinical Lecturer Urology  Eccles, Robin C. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor Ophthalmology  Gelfand, Gary A.J. Clinical Assistant Professor Thoracic Surgery  Gillis, Thomas M. Clinical Assistant Professor  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer Otolaryngology  Huang, Ian T. Otolaryngology	Dilay, Jocelyn E.				
Drummond, Derek S.  Clinical Assistant Professor  Dushinski, John W.  Clinical Assistant Professor  Urology  Urology  Eccles, Robin C.  Clinical Assistant Professor  Ferri de Barros, Fabio  Clinical Assistant Professor  Frank, Ryan  Clinical Lecturer  Ford, Bryce  Clinical Assistant Professor  Gelfand, Gary A.J.  Clinical Assistant Professor  Gillis, Thomas M.  Clinical Assistant Professor  Goldstein, Simon G.  Clinical Assistant Professor  Harder, James A.  Clinical Associate Professor  Hoshowsky, Borys O.  Clinical Lecturer  Otolaryngology  Otolaryngology  Huang, Ian T.  Clinical Assistant Professor  Otolaryngology	Donnelly, Bryan J.	Clinical Assistant Professor	Urology		
Dushinski, John W.Clinical Assistant ProfessorUrologyDuffy, MartinClinical LecturerUrologyEccles, Robin C.Clinical Assistant ProfessorFerri de Barros, FabioClinical Assistant ProfessorFrank, RyanClinical LecturerFord, BryceClinical Assistant ProfessorOphthalmologyGelfand, Gary A.J.Clinical Assistant ProfessorThoracic SurgeryGillis, Thomas M.Clinical Assistant ProfessorOtolaryngologyGoldstein, Simon G.Clinical Assistant ProfessorOtolaryngologyHarder, James A.Clinical Associate ProfessorOtolaryngologyHoshowsky, Borys O.Clinical LecturerOtolaryngologyHuang, Ian T.Otolaryngology	Dotchin, Stephanie	Clinical Lecturer	Ophthalmology		
Duffy, Martin Clinical Lecturer Urology  Eccles, Robin C. Clinical Assistant Professor  Ferri de Barros, Fabio Clinical Assistant Professor  Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor Ophthalmology  Gelfand, Gary A.J. Clinical Assistant Professor Thoracic Surgery  Gillis, Thomas M. Clinical Assistant Professor Otolaryngology  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer Otolaryngology  Huang, Ian T. Otolaryngology	Drummond, Derek S.	Clinical Assistant Professor			
Eccles, Robin C. Clinical Assistant Professor Ferri de Barros, Fabio Clinical Assistant Professor Frank, Ryan Clinical Lecturer Ford, Bryce Clinical Assistant Professor Ophthalmology Gelfand, Gary A.J. Clinical Assistant Professor Thoracic Surgery Gillis, Thomas M. Clinical Assistant Professor Otolaryngology Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Dushinski, John W.	Clinical Assistant Professor	Urology		
Ferri de Barros, Fabio Clinical Assistant Professor Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor Gelfand, Gary A.J. Clinical Assistant Professor Gillis, Thomas M. Clinical Assistant Professor Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Clinical Current Clinical Associate Professor	Duffy, Martin	Clinical Lecturer	Urology		
Frank, Ryan Clinical Lecturer  Ford, Bryce Clinical Assistant Professor Ophthalmology Gelfand, Gary A.J. Clinical Assistant Professor Thoracic Surgery Gillis, Thomas M. Clinical Assistant Professor Otolaryngology Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Eccles, Robin C.	Clinical Assistant Professor			
Ford, Bryce Clinical Assistant Professor Ophthalmology Gelfand, Gary A.J. Clinical Assistant Professor Thoracic Surgery Gillis, Thomas M. Clinical Assistant Professor Otolaryngology Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Ferri de Barros, Fabio	Clinical Assistant Professor			
Gelfand, Gary A.J.  Gillis, Thomas M.  Clinical Assistant Professor  Goldstein, Simon G.  Harder, James A.  Clinical Associate Professor  Hoshowsky, Borys O.  Clinical Lecturer  Otolaryngology  Otolaryngology  Otolaryngology  Otolaryngology  Otolaryngology	Frank, Ryan	Clinical Lecturer			
Gillis, Thomas M. Clinical Assistant Professor Otolaryngology  Goldstein, Simon G. Clinical Assistant Professor  Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer Otolaryngology  Huang, Ian T. Otolaryngology	Ford, Bryce	Clinical Assistant Professor	Ophthalmology		
Goldstein, Simon G. Clinical Assistant Professor Harder, James A. Clinical Associate Professor Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Gelfand, Gary A.J.	Clinical Assistant Professor	Thoracic Surgery		
Harder, James A. Clinical Associate Professor  Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Gillis, Thomas M.	Clinical Assistant Professor	Otolaryngology		
Hoshowsky, Borys O. Clinical Lecturer Otolaryngology Huang, Ian T. Otolaryngology	Goldstein, Simon G.	Clinical Assistant Professor			
Huang, lan T. Otolaryngology	Harder, James A.	Clinical Associate Professor			
	Hoshowsky, Borys O.	Clinical Lecturer	Otolaryngology		
Hui, Anita Clinical Assistant Professor Otolaryngology	Huang, lan T.		Otolaryngology		
	Hui, Anita	Clinical Assistant Professor	Otolaryngology		

	011111111111111111111111111111111111111	
Harrop, A. Robertson	Clinical Associate Professor	
Hulland, Sarah		DI (1 0
Humphreys, Douglas		Plastic Surgery
Joughin, V. Elaine	Clinical Assistant Professor	
Kiefer, Gerhard N.	Clinical Associate Professor	
Kherani, Femida	Clinical Assistant Professor	Ophthalmology
Kirk, Angus	Clinical Associate Professor	Ophthalmology
Kirker, G.E. Mervyn	Clinical Associate Professor	Ophthalmology
Kozak, Gregory N.	Clinical Assistant Professor	Urology
Lange, Elizabeth J.	Clinical Associate Professor	Otolaryngology
Lau, Henry	Clinical Lecturer	
Lee, Jay	Clinical Assistant Professor	Urology
Leong, James		Urology
Loeppky, Warren		
Lopushinsky, Steven	Clinical Assistant Professor	
McKenzie, C. David	Clinical Assistant Professor	Plastic Surgery
McPhalen, Donald F.	Clinical Assistant Professor	
Mehra, Tarun		
Metcalfe, Donald G.	Clinical Assistant Professor	Urology
Park, Phillip S.	Clinical Assistant Professor	Otolaryngology
Parsons, David L.	Clinical Associate Professor	
Pilipowicz, Orest		
Romanchuk, Kenneth G.	Clinical Professor	
Savage, Paul R.G.	Clinical Assistant Professor	Ophthalmology
Schwann, Sandra		
Skov, Carolyn M.B.	Clinical Lecturer	
Shandro, W.G. (Bud)		Otolaryngology
Smith, Leonard		7 0 07
Vinsky, Rory		
Wagner, Garth A.L.	Clinical Associate Professor	Otolaryngology
Warshawski, S. Joseph	Clinical Lecturer	Otolaryngology
Weber, Bryce	Clinical Assistant Professor	J.C.C. J.Igology
Wong, Andrew L.	Clinical Associate Professor	
Yunker, Warren	Clinical Assistant Professor	
Tullkel, Wallell	Cililical Assistatit Fidiessol	

	Section of Plastic Surgery	
Name	Title/Rank	Primary Appointment
Harrop, A. Robertson	Section Chief & Clinical Associate Professor	Pediatric Surgery
Beveridge, John A.	Clinical Lecturer	
Birdsell, Dale C.	Clinical Professor	
Campbell, Earl A.D.	Clinical Assistant Professor	
Dawes, Jeffrey	Clinical Lecturer	
De Haas, William G.	Clinical Assistant Professor	
Dilay, Jocelyn		Pediatric Surgery
Frank, Ryan	Clinical Lecturer	Pediatric Surgery
Fraulin, Frankie	Clinical Associate Professor	Pediatric Surgery
Hall-Findlay, Elizabeth		Rural Medicine
Hamilton, George D.	Clinical Assistant Professor	
Haugrud, Mark J.	Clinical Assistant Professor	
Humphreys, Douglas		
Kennedy, James	Clinical Lecturer	
Lee, Jonathan	Clinical Lecturer	
Lin, Alan	Clinical Assistant Professor	
Lindsay, Robert L.	Clinical Associate Professor	
Loiselle, Frederick	Clinical Lecturer	
Magi, Enzio	Clinical Associate Professor	
Mathews, Jennifer	Clinical Lecturer	
McKenzie, C. David	Clinical Assistant Professor	
McPhalen, Donald F.	Clinical Assistant Professor	Pediatric Surgery
Nickerson, Duncan A.	Clinical Assistant Professor	
Perron, Wayne		
Schrag, Christiaan	Clinical Assistant Professor	
Sinclair, Thomas M.		Rural Medicine
Sutton, Frank		
Waslen, Gregory D.	Clinical Assistant Professor	
Whidden, Paul G.R.	Clinical Lecturer	
Yau, Farrah	Clinical Lecturer	
Yeung, Justin	Clinical Lecturer	

Section of Podiatric Surgery			
Name	Title/Rank	Primary Appointment	
Harton, Francois	Section Chief & Clinical Lecturer		
Bulanda, Catherine S.	Clinical Lecturer		
Feldman, Ziv S.	Clinical Lecturer		
Gurevitch, Darryl	Clinical Lecturer		
Gurevitch, Jason	Clinical Lecturer		
Haverstock, Brent D.	Clinical Assistant Professor		
Humble, R. Neal	Clinical Assistant Professor		
Lelievre, Phillip M.	Clinical Lecturer		
Manji, Karim	Clinical Lecturer		
Newsom, Russell			
Paul, Darrell			
Somer, Gregory			
Unger, Kenneth			
Zivot, Mark L.	Clinical Assistant Professor		
	Section of Surgical Oncolog	V	

Section of Surgical Oncology				
Name	Title/Rank	Primary Appointment		
J. Gregory McKinnon	Section Chief & Professor			
Arlette, John	Clinical Professor			
Ball, Chad	Clinical Associate Professor	General Surgery		
Bathe, Oliver F.	Professor	General Surgery		
Buie, W. Donald	Professor	General Surgery		
Bosch, J. Douglas	Clinical Assistant Professor	Otolaryngology		
Chandarana, Shamir	Clinical Assistant Professor	Otolaryngology		
Dawes, Jeffrey	Clinical Lecturer	Plastic Surgery		
Dixon, Elijah	Professor	General Surgery		
Dort, Joseph C.	Professor	Otolaryngology		
Gelfand, Gary A.J.	Clinical Assistant Professor	Thoracic Surgery		
Graham, Andrew J.	Clinical Associate Professor	Thoracic Surgery		
Lafreniere, Rene	Professor	General Surgery		
Lindsay, Robert L.	Clinical Associate Professor	Plastic Surgery		
Mack, Lloyd	Assistant Professor	General Surgery		
MacLean, Anthony R.	Clinical Associate Professor	General Surgery		
Magi, Enzio	Clinical Associate Professor	Plastic Surgery		
Matthews, T. Wayne	Associate Professor	Otolaryngology		

McFadden, Sean	Clinical Assistant Professor	Thoracic Surgery
Mew, Daphne J.Y.	Clinical Assistant Professor	General Surgery
Pasieka, Janice	Clinical Professor	General Surgery
Quan, May Lynn	Associate Professor	General Surgery
Schachar, Norman S.	Clinical Professor	Orthopedics
Sutherland, Francis R.	Professor	General Surgery
Temple, Walley	Professor	General Surgery
Temple-Oberle, Claire	Associate Professor	Oncology

	Section of Thoracic Surgery	
Name	Title/Rank	Primary Appointment
McFadden, Sean	Section Chief & Clinical Assistant Professor	
Gelfand, Gary A.J.	Clinical Assistant Professor	
Graham, Andrew J.	Clinical Associate Professor	
Grondin, Sean C.	Clinical Professor	
	Section of Transplant Surgery	

**Primary Appointment** 

Name	Title/Rank
Salazar, Anastasio	Section Chief & Associate Professor
Monroy, F. Mauricio	Associate Professor
Yilmaz, Serdar	Associate Professor

	Section of Urology	
Name	Title/Rank	Primary Appointment
Carlson, Kevin	Section Chief & Clinical Associate Professor	
Barr, Richard		
Baverstock, Richard	Clinical Associate Professor	
Cook, Anthony J.	Clinical Assistant Professor	Pediatric Surgery
Donnelly, Bryan J.	Clinical Assistant Professor	
Duffy, Martin	Clinical Lecturer	
Dushinski, John W.	Clinical Assistant Professor	
Gotto, Geoffrey	Clinical Assistant Professor	
Hyndman, C. William	Clinical Assistant Professor	Pediatric Surgery
Hyndman, Matthew Eric	Clinical Assistant Professor	
Kawakami, Jun	Clinical Assistant Professor	
Kozak, Gregory N.	Clinical Assistant Professor	
Lee, Jay	Clinical Assistant Professor	
Leong, James		
Metcalfe, Charles	Clinical Lecturer	
Metcalfe, Donald G.	Clinical Assistant Professor	
Shields, William R.		
Weber, Bryce	Clinical Assistant Professor	Pediatric Surgery
Wilkin, R. Peter	Clinical Assistant Professor	
	Section of Vascular Surgery	
Name	Title/Rank	Primary Appointment
Petrasek, Paul F.	Section Chief & Associate Professor	
Clark, Jeffrey	Clinical Lecturer	
Guimond, Marie-France	Assistant Professor	
Moore, Randy D.	Associate Professor	
Nutley, Mark	Assistant Professor	
Samis, Gregory A.	Assistant Professor	
Wong, Joyce	Clinical Assistant Professor	

	Non Clinical	
Name	Title/Rank	Non Clinical
Krawetz, Roman	Assistant Professor	Surgery and Cell Biology & Anatomy
Oddone Paolucci, Elizabeth	Assistant Professor	Department of Surgery
Thornton, Gail M.	Associate Professor	Civil Engineering
	Joint Appointments	
Name	Title/Rank	Joint Appointments
Appoo, Jehangir	Clinical Assistant Professor	Cardiac Sciences
Bayes, Alexander J.	Clinical Associate Professor	Cardiac Sciences
Biernaskie, Jeffrey A.	Assistant Professor	Veterinary Medicine
Bech-Hansen, N. Torben	Professor	Medical Genetics
Burgess, John J.	Clinical Associate Professor	Cardiac Sciences
Casha, Steven	Assistant Professor	Clinical Neurosciences
Clark, Andrea	Assistant Professor	Kinesiology
Costello, Fiona	Clinical Assistant Professor	Clinical Neurosciences
Dobson, Gary M.	Associate Professor	Anaesthesia
Duplessis, Stephan J.	Clinical Assistant Professor	Clinical Neurosciences
Fedak, Paul W. M.	Assistant Professor	Cardiac Sciences
Fletcher, William A.	Professor	Clinical Neurosciences
Gabriel, Vincent	Clinical Assistant Professor	Clinical Neurosciences
Gregg, Sean	Clinical Lecturer (Red Deer)	General Surgery
Hamilton, Mark	Associate Professor	Clinical Neurosciences
Hayry, Pekka	Clinical Professor	Pathology and Laboratory Medicine
Hurlbert, R. John	Associate Professor	Clinical Neurosciences
Kidd, William T.	Clinical Assistant Professor	Cardiac Sciences
Jena, Debakanta	Clinical Assistant Professor	Family Medicine
Kurwa, Habib	Clinical Associate Professor	Medicine/Oncology
MacEachern, Paul R.	Clinical Assistant Professor	Medicine/Oncology
McColl, Ryan	Clinical Lecturer (Lethbridge)	General Surgery
Lysack, John	Clinical Associate Professor	Radiology/Clinical Neurosciences
Maitland, Andrew	Associate Professor	Cardiac Sciences
Muldrew, Kenneth B.	Assistant Professor	Cell Biology & Anatomy
Prieur (Kieser), Teresa M.	Associate Professor	Cardiac Sciences
Rothschild, John	Clinical Associate Professor	Cardiac Sciences
Stell, William K.	Professor	Cell Biology & Anatomy
Subramaniam, Suresh	Clinical Assistant Professor	Clinical Neurosciences

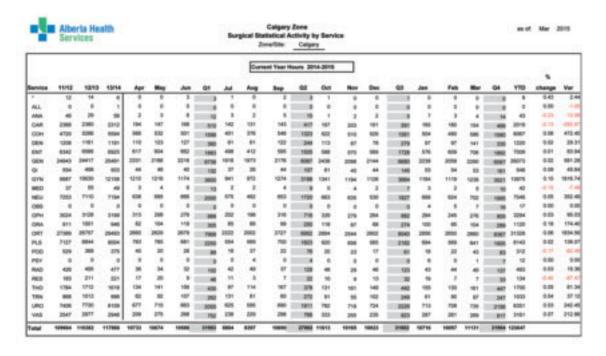
	Adjunct Appointments	
Name	Title/Rank	
Bultz, Barry D.	Adjunct Professor	Surgery, Oncology & Psychiatry
Crump, Trafford	Adjunct Lecturer	Department of Surgery
Duncan, Neil A.	Adjunct Associate Professor	Department of Surgery
Herzog, Walter	Adjunct Associate Professor	Department of Surgery
McGann, Locksley E.	Adjunct Professor	Department of Surgery
Nigg, Benno M.	Adjunct Professor	Department of Surgery
Plaas, Anna H.K.	Adjunct Associate Professor	Department of Surgery
Ponton-Carss, Alicia	Adjunct Assistant Professor	Department of Surgery
Poulin, Paule	Adjunct Assistant Professor	Cell Biology & Anatomy and Surgery
Rangayyan, Rangaraj M.	Adjunct Professor	Radiology and Surgery
Shrive, Nigel G.	Adjunct Professor	Department of Surgery
Sigalet, David L.	Adjunct Professor	Department of Surgery
Wishart, Paul M.	Adjunct Assistant Professor	Department of Surgery
Zernicke, Ronald F.	Adjunct Professor	Surgery/Physiology & Pharmacology

## Surgical Statistical Activity by Service All Hospitals (FMC,RGH, PLC, ACH, SHC)

### **Total Activity Cases**

								[6	urrent 1	Year Act	ivity 2014	2915										
Service	11/12	1313	13/14	Apr	May	Jun	01	Jul .	Aug	Swp	ar	Out	Nov	Dec	03	Jan	Feb	Mar	Q4	TTD	change	Variano
	19-	. 10	2 .	. 0	- 1	- 2			- 1	9.	. 7	. )				. 1	1.0	0.	- 2	15	5.54	-
ALL:				. 0		0				0			0	0	0	0		0	. 0		0.00	-1
MAGA.	44	207	- 40	- 3	. 3	7	- 11	. 5		6	19	. 1	2		7		2	4	. 12	42	-0.10	- 4
DAR	1355	1200	1006	111	92	177	214	92	00	99	290	122	108	109	330	107	100	80	299	1229	-0.08	-107
DOH	1009	1086	1158	121	110	108	341	81	80	115	279	118	107	115	340	111	98	134	343	1300	0.10	146
DEN	870	794	131	.72	60	100	200	38	29	72	140	72	40	54	172	- 17	63	80	200	728	0.06	-0
DNT .	6158	9094	6202	574	576	594	1744	453	360	100	1979	554	538	452	1954	542	542	631	5718	6475	0.04	260
3674	14275	13843	14904	1367	1307	1284	3619	1082	1012	1255	3409	1408	1340	977	3625	1213	1215	1299	3627	15067	0.01	140
31	158	607	611	62	61	53	100	40	32	64	156	67	45	62	758	62	64	67	190	661	0.08	. 60
2174	2044	9181	10034	940	974	900	2870	. 750	120	1000	2515	1040	945	795	2090	902	863	962	2347	10990	0.09	919
WEO:	58	50	67	- 5	3		14	. 1	. 2					5			3	4.1	12	42	-0.28	-19
MEU	1964	1919	1979	174.	194	182	500	109	140	174	485	796	177	191	526	187	109	185	341	2102	0.06	123
286			.0	0		.0				0		. 0	. 0		9	- 3		.7	18	18	0.00	1
364	2340	3400	2746	200	244	241	751	184	165	280	829	290	266	223	779	251	229	237	717	2676	0.05	100
DRA	389	411	400	36	63	66.	121	63	30	40	110	190	37	28	7115	40	40	47	130	480	0.13	. 54
DRT	13951	13791	15007	1916	1009	1384	4137	1154	1045	1367	3550	1488	1292	208	5175	1402	1367	1478	4297	18106	0.07	1.069
PLB.	34/0	3223	3636	310	364	302	1048	261	380	338	847	410	316	246	977	312	308	301	921	3819	0.08	181
POD	410	276	267	. 16	10	19	72	- 811	29	20	511	10	16	. 19	42	12	20	32	54	229	-0.14	-98
PER			. 0	0		.0	. 0		10	0	10	0	. 0	. 0	0		0	1.	7	30	0.00	
MAD	481	549	550	41	40	30	322	49	58	40	146	102	42	53	157	10	611	40	150	575	0.05	25
963	- 88	97	104		116	3	29		2	.3	10			10	31	- 11		0	22	86	0.19	-01
THO	587	562	530	47	44	55	188	50	36	50	119	42	40	52	141	50	40	50.	140	547	0.10	51
TRAI	400	400	5215	- 40	50	40	148	54	40	30	136	. 117	29	- 40	330	29	40	41	112	534	0.00	-1
JPIO.	7949	7623	8150	700	794	574	2111	647	1000	701	1910	794	672	677	2143	715	690	790	5106	8305	0.10	146
/AS	816	961	907	63	79	79	217	19	79	87	227	. 62	ħ	78	341	88	74	81	243	108	0.00	- 21
Fotel	45299	68080	790006	0485	4007	6277	19049	6000	4860	6330	16670		9005	5004	47947	6348	8860	6620	18880	72434		

### **Total Activity Cases by Hours**



## Surgical Statistical Activity by Admit Type All Hospitals (FMC,RGH, PLC, ACH, SHC)

_	Alberta					8	urgical	Calgo Statistica	ary Zone Il Activity		imit Typ	pe pe								as of	Mar 2	2015
	Servic	es						Zone/S	ite: _C	algary	_											
· A	dmit Type	11/12	12/13	13/14	Apr	May	Jun	Q1	Ad	Aug	Sep	Q2	Out	New	Des	Q3	Jan	Feb	Mar	Q4	YTD «	% chan
							[	Surrent Yes	ar Activity	_	_											
	Elective	3	6	+1		0	0			0	1	-		. 0	0	- 0		- 1		- 1	2	100
	Emergency	4	9		0	0	1	,	1	0	1	2	2	0	0	2			0			
	Urgent		2	1	0	1	1	- 2	2	1	1	4	4	0	0	- 1	1	0	0	- 4	8	70
	Total	13	10"	7		1	2	3	3	1	5	7	3			3	4	1		2	15	
ш	Elective	0	0	1		0	0			0	0			0	0	0	0			-	0	
	Total			1				-												_		
¥A.	Elective	41	3	'		D	0		.0	0	0	- 9		2	1	-	۰					
	Emergency Urgant	3	23	10	3	3	7	13	2	2	0				3 0			2	3	10	36	
	Total	44	27	40	9	9	0	13	2			10	1	2	4	,				12	42	-9
NR.			0	0		0	0	-		0	0			0	0						0	
•••	Elective	717	729	682	63	45	58	100	44	39	57	140	58	45	49	152	62	66	61	168	626	
	Emergency	145	156	106	7	10	13	30	11	15	99	37	18	13	11	42	11	10	2	23	132	
	Urgent	462	473	410	41	37	40	118	37	36	31	100	47	46	49	142	34	35	39	108	471	
	Total	1388	1360	1336	111	92	111	314	92	89	99	280	123	104	109	336	907	100	92	299	1229	
ЭН		0	0	0	0	+	0	- 1	0	0	0	- 9	.0	0	0	- 0	0	0		. 0	- 1	
	Elective	22	32	11	1	2	2	- 5	. 0	1	0		5	4		14	3	2	3		28	11
	Emergency	214	234	273	29	21	16	65	13	16	26	55	23	13	23	59	15	13	25	53	232	-1
	Urgant	793	820	674	91	88	91	270	68	66	80	223	90	90	87	267	93	83	108	262	1042	1
	Total	1029	1086	1158	121	112	108	341	81	83	115	279	118	107	115	340	111	98	134	183	1383	
EN	Elective	16	749	14	60	58	63	100	30	36	63	136	3	- 64	49	1002	52	100	72	2	870 54	
	Emergency Urgant	27	29	31	0	5	2	11		3	7	- 11	-	2	4	,	4	3		15	44	
	Total	879	794	231	72	66	68	206	38	39	72	549	73	46	54	173	87	63		200	728	-
eT.		0	0	1		0	0			0	0			0	0	. 0					0	
	Declive	5378	5258	5357	508	518	518	1544	364	298	498	1180	501	458	400	1435	479	458	544	1401	5650	
	Emergency	330	318	342	27	32	34	53	34	33	19	05	27	35	33	95	25	32	41	140	372	
	Urgent	450	518	522	39	26	42	107	35	28	42	105	36	36	44	115	38	42	46	126	453	-4
Srv	Admit Type	11/12	12/13	13/14	Apr	May	Jun	Q1	Jul	Aug	Bep	Q2	Oct	Nov	Dec	G0	Jan	Feb	Mar	94	YTD o	han
GER	Total	0.00	0094	6333	874	676		1744	480	389		1271	004	808	040	1040	842	1	621	1710	6475	
ues	Dective	1602	5484	6068	960	862	500	1713	310	294	529	1133		807	449	1983	873	523	573	1009	6096	
	Emergency	5009	4414	4800	442	290	295	1207	450	497	401	1548	452	293	418	1203	397	365	404	1156	8004	
	Urgard Total	14275	13845	14924	1367	1367	1284	1038	1002	1072	1215	5409	1408	1340	1200	1007	1313	1216	1299	3627	3544 18067	
GI.	Dective	545	485	490	40	53	45	138	32	22	. 54	108	87	307	41	136	45	- 40	80	147	528	
	Emergency	71	74	87				17	7		7	22			11	27	13	11	14	36	104	1
	Lingwell	42	40	28		2	2	11	1	3		- 0		0	2	4	1		9		20	
GYN	Total -	***	807	811	62	- 1	0	100		32		138	0			166	0		- 67	193	***	
-	Dective	6297	6600	6899	843	600	663	1992	491	438	708	1636		660	566	2001	654	807	602	1953	7581	
	Emergency	1009	1301	1802	185	183	160	548	174	191	168	563		180	160	499	167	155	170	492	2002	1
	Urgani Total	8844	1009	1333	112	104	113	2879	760	722	128	307	100	110	100	2616	932	963	100	2747	1276	
MICE		36	24	14			2	7	0	0	9	2		1	.0	- 2	0	1		- 1	12	.5
	Emergency	14	13	211	- 3	0	. 2	- 3	0	1	2	3	. 0	- 1	2	3	3	2	3		17	-11
	Urgani Tutol		22	22	1	1	2		1	1		3				3	2	0		-	13	-4
NEX	Total			67		0	:													13	42	
HEA	Decive	878	852	798	63	78	68	200	71	67		216		100		207	82	81	80	262	984	2
	Emergency	403	416	362	38	80	48	136	47	50	411	138	41	40	30	- 113	42	36	411	110	506	2
	Lingerst	1984	1919	767	73	194	00	209	100	36	45	131		177	33	116	10	169	188	160	91G2	-2
овя	Total E Declive	0		0	174	0	983		0	142		488	0	0		- 100	187		-4	041	9	
10000												-										
	Emergency	0	. 0		0	. 0			0	0	. 0	- 4	100		0		- 3	2	3			1
	Urgent	o	0		0	0			0	0	.0	0	0	0	0		0	. 1	0	- 1	- 1	
OPI	Urgani Tetal							9					0	0	0				7			

	Admit Type	11/12	12/13	13/14	Apr	May	Jun	Q1	Jul	Aug	Sep	Q2	Out	Nov	Dec	Q3	Jan	Feb	Mar	Q4	YTD e	% change
OPH	Urgent	458	585	850	62	46	54	162	42	41	37	120	36	64	34	914	28	37	48	113	509	-21
	Total	2042	3490	2746	266	244	241	789	184	165	280	629	290	266	223	279	261	329	217	717	2876	
)RA	Elective	305	323	358	29	32	33	54	33	27	36	56	38	32	24	94	36	36	. 59	110	294	10
	Emergency	76	30	26	1	5	3			2	2	9	5	. 1	3			. 0	2	- 3	29	10
	Urgent	4	58	40	- 4			18		4	5	14	7	4	2	13		4		18	63	26
	Total	385	411	432	34	43	44	121	43	33	43	719	50	37	29	116	43	40	47	138	486	
DRT	**	1	1	1		0	0	. 0		0	0	- 0	.0	.0	. 0	. 0		. 0			. 0	. 0
	Elective	8081	8485	6247	936	889	870	2695	606	539	852	1967	953	834	796	2563	907	859	958	2724	9000	
	Emergency	3106	2237	2528	228	192	236	656	262	341	215	718	232	206	240	676	240	227	234	701	2753	
	Urgent	2283	3018	3261	250	258	276	766	286	265	290	841	303	212	300	855	315	271	286	872	3354	2
	Total	13961	13761	15007	1414	1339	1384	4137	1194	1045	1357	3556	1488	1292	1236	4116	1462	1367	1478	4297	16106	
PLS	Elective	2276	2202	2493	266	252	196	704	137	121	231	400	209	224	177	870	219	220	209	548	2511	0
	Emergency	539	426	400	48	51	55	154	67	58	34	169	55	39	37	131	43	36	43	121	565	21
	Lirgent	867	595	679	55	61	71	167	47	73	73	193	.91	53	67	211	50	53	49	152	743	9
	Total	3412	3223	3638	319	364	302	1045	281	262	338	941	415	316	281	1012	312	308	301	921	3819	
POD	Dective	248	157	109	24	15	13	52			12	27			7	- 24		11	23	40	145	-13
	Emergency	148	30	24	5	0	0	. 5			2	90	2	2		- 4	1	2		- 4	23	4
	Urgent	54	89	74		3	6	15	2	6	6	14	2			14	2	7		17	60	
	Total	410	276	267	18	16	19	72	11	20	20	61	13	10	13	42	12	20	32	64	229	
PSY	Elective	0	0	0		0	0				0					. 0						0
	Emergency	0	0	0		0	0			1	0			0	0	0			1	2		0
	Urgent.	0	0	0		0	0	- 4			0	4		0	0	0					- 4	0
	Total									13		13							1	7	29	
RAD		0	0			0	0			0	0			0	0						0	0
-	Elective	113	143	156	15	19	18	52	14	13		33	14	10	10	39	17	17	16	50	174	
	Emergency	354	379	313	18	24	16	58	32	39	32	100	40	27	41	114	32	33	32	97	372	18
	Lirgent	54	27	40		0	4	12		6	2	10	2	0	2	4	-	1	1	3	29	-30
	Total	481	549	850	41	43	38	122	- 48		40	146	62	42	83	157	80	81	- 49	180	675	-70
RES	Elective	17	18	22	2		0	-		0	,	- 2		4	3	13	3	1	3		27	22
nes	Emergency	25	29	33	,	,	2	-	2	,		- 4	- 1	1	2	4	4				10	
Irv	Admit Type	11/12	12/13	13/14	Apr	May	Jun	Q1	Jul	Aug	Sep	Q2	Out	Nov	Dec	Q3	Jan	Feb	Mar	Q4	YTD el	% hanp
_					Apr	_				Aug	Sep	Q2			Dec					Q4 9		hang
Sev RES	Admit Type Urpent Total	11/12	50	13/14 49 104		May 0	Jun 1 3	Q1 15 28	Jul 2	1	1	4	Out 3	Nov 3	Dec 5	Q3	4	Feb 3 5	2	Q4 9 22	YTD ci	
RES	Lirgant Total	40	50 97	49 164	5	14	1	15 26	2 5	1 2	1 3	G2 4 19	3 9	3	5 10	11	11	3 5	8	9	39 84	-20
_	Urgent Total Elective	46	50 97 30	49 164 15	8 3	14	3 2	15	2 5 0	1 2 0	3 0	4	3	3	5 10 0	11	4 11 2	3 5 2	2 6 2	9	39 84 15	-20- 01
RES	Lirgant Total Elective Emergency	46 88 32	50 97	49 164 15 31	5 8 3 0	9 14 1	2 2	15 28 6 2	2 5 0	1 2 0 2	1 3	19	3 9 2	3 4	5 10 0 1	11	4 11 2 2	3 5 2 1	8	9	39 84 15 20	-20- 0: -35-
RES	Urgent Total Elective	46 88 52 40	80 87 30 23	49 164 15	8 3	14	3 2	15 26 6	2 5 0	1 2 0	1 3 0 3	4 19 0 5	3 9 2 3	3 8 1	5 10 0	11 27 3	4 11 2	3 5 2	2 2 2	9 22 8 5	39 84 15	-20- 0: -35-
тно	Lirgant Total Elective Emergency Urgant	46 86 52 40 516	90 97 30 29 409	49 164 15 31 490	5 8 2 0 44 47	0 14 1 0 43 44	1 3 2 2 49 60	15 28 5 2 136 144	2 5 0 0 32 52	1 2 0 2 33 35	1 3 0 3 49	4 19 0 5	3 9 2 3 37	3 8 1 4 42	5 10 0 1	11 27 3 8 130	4 11 2 2 49 50	3 5 2 1 37 40	2 2 2 46	9 22 6 5 132	39 84 15 30 512	01 -354 44
RES	Urgent Total Elective Emergency Urgent Total	46 88 32 40 516 587	50 97 30 20 400 562	49 164 15 21 490 536	5 8 3 0 44 47 40	0 14 1 0 43 44 40	1 3 2 2 49 83	15 29 6 2 126 144 116	2 5 0 0 32 52	1 2 0 2 33	1 3 0 3 49 52	4 10 0 5 114 119	3 9 2 3 37 42	3 8 1 4 42 47	5 10 0 1 51 52	11. 27 3 6 130	4 11 2 2 49 50	3 5 2 1 37	2 6 2 2 45 50	9 22 8 5 132 143	39 84 15 30 512 547	-20 - 0 / -35 - 4 /
RES THO	Urgent Total Elective Emergency Urgent Total Elective	46 88 32 40 516 587 96	60 97 30 23 409 862 344	49 164 15 31 490 538 389	5 8 2 0 44 47	0 14 1 0 43 44	1 3 2 2 49 60	15 28 5 2 136 144	2 5 0 0 32 52	1 2 0 2 33 35 41	1 3 0 3 49 82 28	4 10 0 5 114 119	3 9 2 3 37 42 48	3 8 1 4 42 47 23	5 10 0 1 51 52 27	11. 27 3 6 130 141 86	4 11 2 2 49 50	3 5 2 1 37 40 28	2 6 2 2 46 50 24	9 22 6 5 132 143 78	39 84 15 30 512 547 386	-20 -25 -35 -4
RES THO	Urgent Total Elective Emergency Urgent Total Elective Emergency	46 86 52 40 515 887 96 69	60 97 30 23 489 562 344 90	49 164 15 31 490 538 389 108	5 8 3 0 44 47 40 3	9 14 1 0 43 44 40 8	1 3 2 2 49 83 36	15 29 8 2 136 144 116 21	2 5 0 0 32 52 56 18	1 2 0 2 33 35 41 4	1 3 0 3 49 52 26 7	4 19 0 5 114 119 105 29	3 9 2 3 37 42 45 4	3 8 1 4 42 47 23 3	5 10 0 1 51 52 27	11. 27 3 5 130 141 99 20	4 11 2 2 40 53 24 3	3 5 2 1 37 40 26	2 6 2 2 46 50 24 10	9 22 6 5 132 143 76 24	39 84 15 20 512 547 386 84	-20 -25 -35 -4 -12
RES THO TRN	Lirgent Total Elective Emergency Urgent Total Elective Emergency Urgent	46 88 52 40 516 587 96 69 306	60 97 30 23 409 562 344 50 68	49 164 15 21 490 536 389 108 28	5 8 3 0 44 47 40 3 3	9 14 1 0 43 44 40 8	1 3 2 2 49 83 36 10	15 28 8 2 130 144 116 21	2 5 0 0 32 52 36 16	1 2 0 2 33 35 41 4	1 3 0 3 49 52 28 7	4 99 0 5 114 119 105 29	3 9 2 3 37 42 45 4 5	3 8 1 4 42 47 20 3 3	5 10 0 1 51 52 27 13 5	11 27 3 6 130 141 56 20	4 11 2 2 49 53 24 3	3 5 2 1 37 40 28	2 6 2 2 46 50 24 10 0	9 22 6 5 132 143 76 24 12	30 84 15 20 512 547 385 94 35	-35 -35 -4 -12 -12 -25
RES THO TRN	Lirgent Total Elective Emergency Lirgent Total Elective Emergency Lirgent Total	46 88 52 40 515 887 96 69 305 476	60 97 30 23 409 862 344 50 68	49 164 15 21 460 538 389 108 28 535	5 8 3 0 44 47 40 3 3 46	9 14 1 0 43 44 40 8 2 59	1 3 2 2 49 80 30 10 3 49	15 28 6 2 126 144 116 21	2 8 0 0 32 32 36 18 0	1 2 0 2 33 35 41 4 4	1 3 0 3 49 52 28 7 1	4 99 0 5 114 119 105 29	3 9 2 3 37 42 45 4 5	3 8 1 4 42 47 23 3 3 29	5 10 0 1 51 52 27 13 5 45	11 27 3 6 130 141 56 20	4 11 2 2 40 50 24 3 2 29	3 5 2 1 37 40 28 11 1 40	2 6 2 2 46 50 24 10 0 43	9 22 6 5 132 143 76 24 12	30 84 15 30 512 547 365 94 35	30 0 -35 4 1,-12 25
RES THO TRN	Lirgent Total Elective Emergency Lirgent Total Elective Emergency Lirgent Total	46 88 52 40 515 587 96 60 205 470	60 97 30 23 409 862 344 90 68 492	40 164 15 31 490 536 389 100 28 525	5 8 2 0 44 47 40 3 3 46 0	9 14 1 0 43 44 40 8 2 50	1 3 2 2 49 53 36 10 3 49	15 28 8 2 136 544 116 21 48 548 0	2 8 0 0 32 52 36 16 0 54	1 2 0 2 33 35 41 4 1	1 3 0 3 49 52 28 7 1 36 0	4 19 0 5 114 116 116 129 29 136 0	3 9 2 3 37 42 45 4 5	3 8 1 4 42 47 23 3 3 28	5 90 0 1 51 82 27 13 5 46	11 27 3 8 130 148 56 20 13 128	4 11 2 2 49 55 24 3 2 29 0	3 5 2 1 37 40 26 11 1 40	2 6 2 2 46 50 24 10 0 43	9 22 8 5 132 143 76 24 12 112 0	39 84 15 30 512 547 386 84 35 534	30. 0. -35. 4. 1. -12. 25. 0.
RES THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total Elective Elective	46 88 32 40 515 587 96 60 305 470 1 2540	50 97 30 23 499 562 344 50 58 492 1	49 164 15 21 490 536 100 29 525 0 3153	5 8 2 0 44 47 40 3 3 46 0 326	9 14 1 0 43 44 40 8 2 80 0 106	1 3 2 2 49 53 36 10 3 49 0	15 28 8 2 126 544 116 211 8 145 0 953	2 5 0 0 32 52 36 18 0 54	1 2 0 2 33 35 41 4 1 46 0	1 3 0 3 49 52 28 7 1 36 0 310	4 19 0 5 114 115 105 29 2 136 0 753	3 9 2 3 37 42 45 4 5 67 0	3 8 1 4 47 23 3 3 29 0	5 90 0 1 61 82 27 13 5 46 0	71 27 3 8 130 141 80 20 13 125 0	4 11 2 49 53 24 3 2 29 0 347	3 5 2 1 37 40 26 11 1 40 0 362	2 6 2 2 46 50 24 10 0 43 0 342	9 22 8 5 132 143 79 24 12 112 0 1041	39 84 15 30 512 547 366 94 35 534 0	-35 4 1, -12 25 0 0 0 3
RES THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total	46 88 32 40 515 587 96 60 305 470 1 3540 2351	50 87 30 23 400 562 344 90 18 482 1 1 3596 2634	49 164 15 21 490 536 100 29 525 0 3753 2890	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 14 1 0 43 44 40 8 2 88 0 326 271	1 3 2 2 49 80 30 10 3 49 0 296 248	15 28 8 2 136 544 116 211 8 146 0 952 760 760 3	2 5 0 0 32 52 36 18 0 54 0 252 259	1 2 0 2 33 35 41 4 1 46 0 191 288	1 9 0 3 49 82 28 7 1 9 9 0 310 341	4 19 0 5 114 105 29 2 136 0 753	3 9 2 3 37 42 45 4 5 67 0 401 232	3 8 1 4 42 47 23 3 3 29 0 311 296	5 10 0 1 51 52 27 13 5 45 0 323 230	11. 27 3 8 130 548 89 20 13 125 0 1006 718	4 11 2 40 53 24 3 2 29 0 347 240	3 5 2 1 37 40 28 11 1 40 0 362 236	2 6 2 2 46 50 24 10 9 43 0 342 267	9 22 8 5 132 143 178 124 112 113 113 113 113 113 113 113 113 113	29 84 15 20 512 547 365 64 35 534 0 2781	-35 4 1, -12 25 0 0 0 3
THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Urgent	46 88 32 40 516 587 96 60 305 470 1 3840 2351 1148	50 87 30 23 400 562 344 50 68 482 1 3596 2604	49 164 15 21 490 536 100 29 525 0 3753 2696 1505	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 14 1 0 43 44 40 8 2 88 0 126 271 137	1 3 2 2 49 53 36 10 3 49 0 296 248 128	15 29 29 100 110 110 110 110 110 110 110 110 11	2 5 0 0 32 32 36 18 0 54 0 252 259	1 2 0 2 33 35 41 4 4 1 46 0 191 288 89	1 9 0 3 49 82 28 7 1 96 0 310 341 150	4 19 0 0 5 114 115 115 115 115 115 115 115 115 1	3 9 2 3 37 42 45 4 5 67 0 401 232 161	3 8 1 4 42 47 23 3 3 29 0 311 296 106	5 10 0 1 51 52 27 13 5 46 0 323 230 124	11. 27 3 8 130 148 86 20 13 125 0 1036 718	4 11 2 2 49 53 2 29 0 347 240 128	3 5 2 1 37 46 26 11 1 40 0 362 236 102	2 6 2 2 46 50 24 10 0 43 0 342 267 131	9 22 8 5 132 143 78 12 113 0 1041 733 301	29 84 15 20 512 547 365 64 35 534 0 2781 3002 1522	-30 -35 -4 -12 -35 -0 -3 -1
THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total	46 88 32 40 515 587 96 60 305 470 2351 1148 7649	50 87 30 23 409 552 544 50 68 492 1 3596 2034 1402 7823	49 164 15 21 490 538 100 28 525 0 3753 2890 1500 8196	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 14 1 0 43 44 40 6 2 80 0 326 271 137 734	1 3 2 2 49 53 36 10 3 49 0 296 248 128 674	15 29 29 100 110 110 110 110 110 110 110 110 11	2 5 0 0 32 32 36 18 0 54 0 262 269 136 847	1 2 0 2 23 35 41 4 46 0 191 288 89 568	1 3 0 0 3 49 9 52 28 7 1 36 0 310 341 150 791	4 19 0 0 5 114 115 115 115 115 115 115 115 115 1	3 9 2 3 37 42 45 4 6 67 0 401 232 161 764	3 8 1 4 42 47 23 3 3 29 0 311 296 105 672	5 90 0 1 51 82 27 13 5 45 0 323 230 124 677	11 27 3 6 130 146 99 20 13 126 0 1039 718 380 2143	4 11 2 2 40 53 24 3 2 29 0 347 240 128 715	3 5 2 1 37 46 28 11 1 46 0 362 236 102 680	2 6 2 2 46 50 24 10 0 43 0 342 257 131 790	9 22 8 5 132 143 78 12 113 0 1041 733 301	29 84 15 20 512 547 385 84 35 538 0 2781 3002 1522 8965	-30 -35 -4 -12 -35 -0 -3 -1 -0
THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total **	46 88 32 40 515 587 96 60 305 470 2301 1148 7049 0	50 87 30 23 409 552 344 50 68 492 1 3566 2634 1462 7823	49 184 15 21 490 538 589 100 28 525 0 2753 2896 1505 8156	6 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 14 1 0 43 44 40 8 2 80 0 206 271 137 734	1 3 2 2 49 53 36 10 3 49 0 296 248 128 674	15 28 8 2 106 144 116 211 8 149 20 20 20 20 20 20 20 111 1	2 5 0 0 32 32 36 18 0 54 0 202 200 136 647 0	1 2 0 2 33 38 41 4 1 46 0 191 288 89 888 0	1 3 0 0 3 49 82 28 7 1 36 0 310 341 150 761 0	4 19 0 5 114 118 105 29 2 138 0 753 775 1918	3 9 2 3 37 42 45 4 5 67 0 401 232 161 794 0	3 8 1 4 42 47 23 3 3 29 0 311 296 105 672 0	5 90 0 1 51 52 27 13 5 45 0 323 230 124 677 0	11 27 3 8 130 546 99 20 13 128 0 1035 718 380 2143	4 11 2 2 49 55 3 24 3 2 29 0 347 340 128 715 0	3 5 5 2 1 37 46 28 11 1 46 0 362 236 102 680 0	2 6 2 2 46 50 24 10 0 43 0 342 267 131 790	9 22 6 6 5 732 76 76 76 77 76 77 76 77 76 77 77 77 77	29 84 15 20 512 547 385 64 35 534 0 2781 3002 1522 8965	-20 0 0 -35 4 1 -12 25 0 0 0 3 1 0 0 0
THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective	46 88 32 40 515 587 96 60 305 470 1 1148 7049 0 327	50 87 30 23 489 582 344 50 68 482 1 3066 1402 7823 9	49 184 15 31 490 538 389 100 28 525 0 3753 2896 1505 8156 0	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 14 1 0 43 44 40 8 2 80 0 106 271 137 734 0 29	1 3 2 2 49 63 30 10 3 49 0 296 248 128 634 0 35	15 28 8 2 136 144 116 211 8 146 15 15 15 15 15 15 15 15 15 15 15 15 15	2 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 2 0 2 33 35 41 4 4 1 460 0 191 288 89 888 0 24	1 3 0 0 3 49 82 28 7 1 36 0 310 241 150 791 0 30	4 19 0 5 114 195 505 29 2 138 0 753 788 375 1916	3 9 2 3 37 42 45 4 5 67 0 401 794 0 40 40 40 40 40 40 40 40 40 40 40 40	3 8 1 4 42 47 23 3 3 3 29 0 311 296 105 672 0 25	5 90 0 1 51 52 27 13 5 45 0 323 230 124 627 0 26	11. 27 3 8 130 541 50 20 13 13 12 10 1038 718 380 2443	4 11 2 2 40 53 53 24 29 0 128 795 0 47	3 5 2 1 1 37 40 28 11 1 40 0 352 236 102 680 0 29	2 6 2 2 46 50 24 10 0 43 0 342 267 131 730 0 32	9 92 93 95 95 95 95 95 95 95 95 95 95 95 95 95	39 84 15 30 512 547 386 64 35 538 0 3781 3002 1522 8366 1	20 0 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
RES THO TRN	Urgent Total Elective Energency Urgent Total Elective Energency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total	46 88 32 40 516 587 96 506 470 1 1568 7649 2351 1568 0 327 241	50 87 30 23 400 562 344 50 68 492 1 3006 2034 1402 7823 0 405 200	490 1984 15 31 490 536 389 109 525 0 2753 2699 1505 8156 0 395 170	5 8 3 0 44 47 40 3 3 46 0 20 244 131 793 1 24 13	9 14 1 0 43 44 40 0 0 2 80 0 227 1 137 726 0 29 13	1 3 2 2 49 63 36 10 3 49 0 296 248 128 634 0 35 18	15 28 8 2 106 544 116 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 8 0 0 0 0 32 36 16 0 0 54 0 252 250 546 647 0 21 19 19	1 2 0 2 33 35 41 4 4 1 460 0 191 200 600 600 0 24 10	1 3 0 3 49 82 28 7 1 36 0 310 241 150 391 0 30 19	4 19 0 5 114 100 29 2 138 0 753 778 275 1918	3 9 2 3 3 7 42 45 4 5 5 67 101 101 101 101 101 101 101 101 101 10	3 8 1 4 42 47 23 3 3 29 0 311 256 105 672 0 25 16	5 90 0 1 51 52 27 13 5 46 0 323 230 124 677 0 26 19	11. 27 3 6 130 141 50 20 13 126 0 1036 718 380 2143 0	4 11 2 2 40 53 24 3 2 29 0 547 240 128 795 0 47 13	3 5 2 1 37 40 28 11 1 40 0 352 236 102 680 0 29 8	2 6 6 2 2 60 69 69 60 60 60 60 60 60 60 60 60 60 60 60 60	9 22 8 5 1332 1443 179 244 172 1733 241 241 251 251 251 251 251 251 251 251 251 25	39 84 15 20 512 547 386 64 35 538 0 3781 3002 1522 8365 1 370 184	-25 4 1 -12 25 0 0 0 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
RES THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total	46 88 32 40 515 587 96 60 305 470 0 3251 1148 7049 0 327 241 248 816	50 87 30 23 409 552 544 50 68 492 7823 0 405 203 405 203 405 203 405 203 405 203 405 203 405 203 405 203 405 203 405 203 405 203 203 203 203 203 203 203 203 203 203	499 1844 15 31 490 538 538 100 29 535 2000 1505 8156 0 395 170 342 907	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 144 1 0 43 444 40 6 8 2 2 80 0 336 271 137 734 0 29 13 3 3 3 75	1 3 2 2 2 40 60 30 10 3 40 9 248 634 0 35 18 26 79	15 28 8 2 120 144 118 21 145 20 20 20 20 20 20 20 20 20 20 20 20 20	2 5 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 2 0 2 330 355 411 4 4 6 0 1911 2885 89 8886 0 24 18 28 70	1 3 0 0 3 40 82 25 25 26 0 0 210 241 150 26 26 27 26 27 26 27 26 27 27 27 27 27 27 27 27 27 27 27 27 27	# 19	3 9 2 2 3 37 42 45 4 5 67 0 401 232 161 794 4 5 62 62 62 62 62 62 62 62 62 62 62 62 62	3 8 1 4 4 42 47 23 3 3 29 20 0 311 206 672 0 25 18 30 75	5 5 90 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11. 27 3 6 130 546 560 500 500 500 500 500 500 500 500 50	4 4 11 2 2 40 53 24 2 29 0 347 240 128 745 0 4 47 3 28 88	3 5 5 2 1 1 377 40 28 11 1 40 2 256 226 600 0 20 20 8 377 44	2 6 2 2 46 59 24 10 0 342 287 131 739 0 30 1 131 131 131 141	9 22 8 5 132 143 143 179 246 172 173 261 273 273 273 273 273 273 273 273 273 273	39 84 15 20 512 547 286 64 35 534 0 3781 1522 8365 1 570 184 373 938	-30 0 -35 4 1 -12 25 0 0 3 1 0 6 8
THO TRN	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total	46 88 32 40 516 587 96 500 470 1 1568 7689 0 327 241 246 866	50 87 30 23 400 562 344 50 68 492 1 1 3596 2034 1402 7823 9 405 200 343 981	490 1644 15 311 4900 5346 3899 1090 2753 26900 1505 8155 0 395 170 342 967	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 14 40 40 46 40 50 50 50 50 50 50 50 50 50 50 50 50 50	2 2 49 89 99 99 99 99 99 99 99 99 99 99 99 99	15 28 8 2 100 544 116 21 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 9 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 2 0 2 33 355 41 4 4 4 4 6 0 191 288 80 60 24 18 20 70	1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 19 10 10 10 10 10 10 10 10 10 10 10 10 10	3 9 9 2 3 37 42 45 4 5 67 0 401 794 0 40 1 17 35 92 8	3 4 4 4 42 47 23 3 3 3 28 0 311 296 672 0 25 16 30 71	5 99 0 1 1 51 5 5 6 6 6 7 6 7 8 7 8 6 6 6 6 6 6 6 6 6 6 6	11. 27 3 6 130 148 300 1036 718 300 2144 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 11 2 2 40 55 55 55 56 56 56 56 56 56 56 56 56 56	3 5 5 2 1 1 37 40 28 11 1 40 0 302 236 00 29 8 37 74	2 6 2 2 66 50 50 50 50 50 50 50 50 50 50 50 50 50	9 22 8 5 5 1332 5 1443 1443 15	39 84 15 20 512 547 386 64 25 538 1622 1622 1624 273 938 44	-25 4 1 -12 25 0 0 0 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
THO TRN	Urgent Total Elective Energency Urgent Total Elective Energency Urgent Total ** Elective Emergency Urgent Total ** Elective Energency Urgent Total ** Elective Energency Urgent Total	46 88 32 40 516 587 96 500 470 1 108 7049 2301 1148 7049 866 47 248 866	50 87 30 23 400 562 344 50 58 492 1 3006 2034 1402 7823 0 405 203 343 981	490 1984 15 311 490 538 389 109 525 0 3753 2090 1505 8158 0 395 170 342 987	5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	9 14 40 40 40 50 50 50 50 50 50 50 50 50 50 50 50 50	2 2 49 83 36 83 49 83 26 348 83 49 83 26 35 83 49 83 40 80 80 80 80 80 80 80 80 80 80 80 80 80	15 28 8 2 100 144 115 125 125 125 125 125 125 125 125 125	2 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	# 198   10   5   114   115   20   2   138   0   713   718   2015   1918   0   2015   1918   0   2017   6   8482	3 9 2 2 3 37 42 45 4 4 5 67 67 794 6 401 77 35 92	3 8 1 4 4 42 47 23 3 3 3 3 29 0 311 1266 672 0 25 16 30 71	5 99 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11. 27 3 6 130 146 150 150 150 150 150 150 150 150 150 150	4 91 2 2 40 55 55 55 56 56 56 56 56 56 56 56 56 56	3 5 5 2 1 1 37 40 28 60 0 0 20 8 27 74 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 6 2 2 66 50 50 50 50 50 50 50 50 50 50 50 50 50	9 22 8 5 5 132 140 140 140 140 140 140 140 140 140 140	39 84 15 20 512 547 386 64 35 36 35 16 20 20 21 527 388 4 41656 4 41656	20 0 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
RES THO	Urgent Total Elective Emergency Urgent Total Elective Emergency Urgent Total ** Elective Emergency Urgent Total ** Elective Emergency Urgent Total	46 88 32 40 516 587 96 60 206 470 1 2640 2301 1148 7049 41 240 816 4 37483 15364	50 97 30 23 409 562 344 50 56 492 1 3096 2004 1405 203 343 981 5 5 77232 12985	490 1984 15 311 490 538 389 109 535 0 3753 2890 1505 8156 0 395 170 342 907	5 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	9 144 1 0 0 43 44 40 8 8 8 8 8 8 8 7 7 7 7 7 7 7 7 7 7 7 7	1 3 2 2 2 49 50 50 50 50 50 50 50 50 50 50 50 50 50	15 28 8 2 120 144 118 21 148 16 14 16 16 16 16 16 16 16 16 16 16 16 16 16	2 5 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 2 2 33 38 41 4 1 46 0 191 286 89 24 18 27 1827	1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	### ### ### ### ### ### ### ### ### ##	3 9 9 2 3 37 42 46 4 4 5 6 67 9 10 10 10 10 10 10 10 10 10 10 10 10 10	3 8 1 4 4 42 47 23 3 3 3 29 0 311 1266 672 0 25 16 30 71	5 99 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11. 27 3 6 130 146 150 150 150 150 150 150 150 150 150 150	4 11 2 2 40 53 53 547 540 547 540 55 56 56 56 56 56 56 56 56 56 56 56 56	3 5 5 2 1 1 37 40 28 6 11 1 1 40 0 362 236 0 0 20 8 37 74 1 1280	2 6 2 2 66 50 50 50 50 50 50 50 50 50 50 50 50 50	9 22 8 5 132 144 145 145 145 145 145 145 145 145 145	39 84 15 20 512 547 385 64 35 35 534 57 370 164 373 938 44655 16333	-20 -25 -35 -4 -12
THO TRN	Urgent Total Elective Energency Urgent Total Elective Energency Urgent Total ** Elective Emergency Urgent Total ** Elective Energency Urgent Total ** Elective Energency Urgent Total	46 88 32 40 516 587 96 500 470 1 108 7049 2301 1148 7049 866 47 248 866	50 87 30 23 400 562 344 50 58 492 1 3006 2034 1402 7823 0 405 203 343 981	490 1984 15 311 490 538 389 109 525 0 3753 2090 1505 8158 0 395 170 342 987	5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	9 14 40 40 40 50 50 50 50 50 50 50 50 50 50 50 50 50	2 2 49 83 36 83 49 83 26 348 83 49 83 26 35 83 49 83 40 80 80 80 80 80 80 80 80 80 80 80 80 80	15 28 8 2 100 144 115 125 125 125 125 125 125 125 125 125	2 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 2 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	# 198   10   5   114   115   20   2   138   0   713   718   2015   1918   0   2015   1918   0   2017   6   8482	3 9 2 2 3 37 42 45 4 4 5 67 67 794 6 401 77 35 92	3 8 1 4 4 42 47 23 3 3 3 3 29 0 311 1266 672 0 25 16 30 71	5 99 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11. 27 3 6 130 146 150 150 150 150 150 150 150 150 150 150	4 91 2 2 40 55 55 55 56 56 56 56 56 56 56 56 56 56	3 5 5 2 1 1 37 40 28 6 11 1 1 40 0 362 236 0 0 20 8 37 74 1 1280	2 6 2 2 66 50 50 50 50 50 50 50 50 50 50 50 50 50	9 22 8 5 5 132 140 140 140 140 140 140 140 140 140 140	39 84 15 20 512 547 386 64 35 36 35 16 20 20 21 527 388 4 41656 4 41656	-30 0 -35 4 1 -12 25 0 0 3 1

## Surgical Statistical Activity by Patient Type All Hospitals (FMC,RGH, PLC, ACH, SHC)

	Albert	a Healt	h				Surgic		Calgary etical A	ctivity b	y Patien	st Type							ms of	Mar	2015
	Servic	es					46.1		we/lite		pary										
Bry .	Patient Type	11/12	12/13	13/14			No.	91		Aug	Sep	G2	Out		Dec	Q3	200	Feb	Mar	94	vn
	- 111-0	11112	12012	1311	Apr	May	Jun		Jul				7	Hov	Det	-	Jan		New York		-
								Gur		r Activity	2014-20	115									
*	InPatient OutPatient		13		1 :		2		. 5	5	- 3		3	0	0	2	1	0	0	- 1	
	Bubbutal	13	97	,			2	3	3		1	,		0	0			,		2	
ALL	<b>OutPatient</b>			1			01	0	0	0		. 0		0	0	0		0			
	Subtotal			1	0				. 0	0		. 0		0	0				0	. 0	
AMA	InPatient	44	24	45			. 7	13	3	3.		50		8.	3.	- 6		2		12	
	Gubbotal	44	27	40	1			13	0 8			10			- 31	- 1			4		
CAR		914	677	100	10	63	74	207	- 60	67		194	00	73	62	241	71	74	62	107	
CAN	<b>GutPatient</b>	441	483	467	41	29	37	107	20	22	28	80	37	31	27	90	36	26	90	92	
	Subtotal	1355	1360	1336	111	92	111	314	9/2	00	99	200	123	104	109	336	107	100	92	299	12
оон		1000	1085	1150	101	112	107	340	91	82	115	270	117	107	115	339	911	98	134	243	13
	OutPatient	+					,,,,		0				4	0	0		. 0	0	0	.0	
	Subtotal	1029	1086	1158	121	112	108	341	01	85	115	279	118	107	115	340	111	**	194	343	13
DEN	OutPatient	817	743	673	79	61	65	190	34	37		134	00	41	60	160	80	50	79	181	
	Subtotal	879	794	721	72		60	200	26	29	72	149	73	40	54	173	87	83	80	200	. 7
ENT	InPalsent	1285	1410	1372	1311	124	129	374	106	100	136	348	116	130	199	385	101	142	191	626	16
	OutPatient	4873	4084	4850	453	452	405	1370	347	255	400	1003	440	402	410	1260	411	400	480	1291	49
	Subtotal InPatient	6158	8094	6222	974 800	876 760	766	2410	463 762	359	559	2362	820	791	773	1045	793	726	807	2320	84
GEN	OutPatient	9000 5215	4949	5724	537	527	410	1860	300	273	454	1007	563	449	432	1404	820	489	490	1901	55
	Subtotal	14278	13843	14924	1387	1307	1284	2979	1082	1072	1255	3409	1400	1240	1205	3853	1313	1216	1299	3827	150
GI.	InPatient	116	102	108		11	10	30	T.	11	10	28	10		13	39	17	46	117	49	1
	OutPatient	542	505	903	43	50	43	136	33	21	54	100	57	30	41	134	46	40	80	166	
	Bubbotal	458	6371	8204	63	- 61	400	166	40	32	84	1380	67	807	84	166	63	400	400	193	
GYN	OutPatient	4799	4810	4830	409	400	457	1356	424 336	423 310	489	1130	010	438	104	1946	417	400	476	1384	51
	Bubbetal	8844	9191	10034	940	974	996	2870	760	733	1022	2818	1040	946	833	2818	922	863	962	2747	1001
					-																
	Patient																				
Sirv	Type	11/12	12/13	13/14	Apr	May	Jun	91	Jul	Aug	Sep	Q2	Oct	Nov	Dec	Q3	Ja	n Feb	_	94	٧
	Type InPatient	25	18	30	2	1	. 2	91	1	.1	4	G2	0	3	2	Q3 5	3	2	4		٧
	Type InPatient OutPatient	23 36	18	20 27	2 3	1 2	2	1	1 0	1	*	6 63	0	3	8		3 2	2	4 0	9	٧
MED	Type InPatient OutPatient Subtotal	23 36 58	18 41 59	30 27 57	2 3 5	2 3	1	14	1 0	1 1 2	1	5 0	1	2 6	0 5	5 3 8	3 2 5	1 5	0 4	0 3 12	
MED	Type InPatient OutPatient Subfotal InPatient	23 36 58 1749	18 41 59 1704	27 57 1779	2 3 5 153	1 2 3 174	2 4 6	14	1 D 1	1 2 131	4 1 8	0 2 8 443	0 1 1 1 170	3 2 6 153	2 0 2 120	5 3 8 452	3 2 5 100	2 1 3 102	4 0 4 167	0 3 12 405	
MED MEU	Type InPatient OutPatient Subtotal InPatient OutPatient	25 36 58 1749 216	18 41 58 1704 215	90 27 <b>87</b> 1779 200	2 3 5 153 21	1 2 3 174 20	4 6 167 16	9 94 464 50	1 0 1 161 16	1 2 131	4 1 8 161 13	0 2 8 443 42	0 1 1 170 26	3 2 6 163 24	2 0 2 120 22	5 3 8 452 78	3 2 5 100 21	2 1 3 102 17	4 0 4 167 18	9 3 12 485 56	
MED	Type InPatient OutPatient Subtotal InPatient OutPatient Subtotal	25 36 58 1749 215 1964	18 41 59 1704 215 1919	20 27 57 1779 200 1879	2 3 5 153 21 174	1 2 3 174 20	2 4 6	14	1 0 1 101 16 160	1 2 131 11 142	4 1 5 161 13 174	0 2 8 443	0 1 1 170 28	3 2 6 163 24 177	2 0 2 120 32 161	5 3 8 452	3 2 5 106 21 187	2 1 3 152 17 169	4 0 4 167 18 185	0 3 12 405	
NEU	Type InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient	23 36 58 1749 216 1964	18 41 59 1704 215 1919 0	20 27 57 1779 200 1979 0	2 3 5 153 21 174 0	1 2 3 174 20 194 0	4 6 167 16	9 94 464 50	1 0 1 101 10 100 0	1 2 131 11 142 0	4 1 8 161 13 174	0 2 8 443 42	0 1 1 170 28 198 0	3 2 6 163 24 177 0	2 0 2 120 22 161 0	5 3 8 452 78	3 2 5 100 21 187 3	2 1 3 152 17 169 2	4 0 4 167 18	0 3 12 405 56 541	
MED	Type InPatient OutPatient Subtotal InPatient OutPatient Subtotal	25 36 58 1749 215 1964	18 41 59 1704 215 1919	20 27 57 1779 200 1879	2 3 5 153 21 174	1 2 3 174 20	2 4 6 107 10 18 182	9 94 464 50	1 0 1 101 16 160	1 2 131 11 142	4 1 5 161 13 174	0 2 8 443 42 485 0	0 1 1 170 28	3 2 6 163 24 177	2 0 2 120 32 161	5 3 8 452 74 526	3 2 5 106 21 187	2 1 3 152 17 169	4 0 4 167 18 185	9 3 12 485 56	
NEU	Type InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient OutPatient OutPatient	23 36 58 1749 216 1964 0	18 41 59 1704 215 1919 0	20 27 57 1779 200 1979 0	2 3 5 153 21 174 0	1 2 3 174 20 194 0	2 4 6 107 10 182 0	9 94 464 50	1 0 1 101 10 100 0 0 0	1 2 131 11 142 0	4 1 5 161 13 174 0	0 2 8 443 42 485 0	0 1 1 170 26 198 0	3 2 5 163 24 177 0	2 0 2 129 22 161 0	5 3 8 452 74 526	3 2 5 100 21 187 3	2 1 3 152 17 169 2 6	4 0 4 167 18 185	0 3 12 405 56 541 8	
MED NEU DBS	Type InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient OutPatient OutPatient OutPatient Subtotal	23 36 58 1749 216 1964 0 0	18 41 59 1704 215 1919 0 0	20 27 57 1779 200 1979 0 0	2 3 5 153 21 174 0 0	1 2 3 174 20 194 0 0	2 4 6 167 18 182 0 0	5 54 464 55 550 0	1 0 1 101 100 100 0 0 0 0	1 2 131 11 142 0 0	4 1 5 101 13 174 0 0	0 2 8 443 42 485 0 0	0 1 1 170 28 198 0 0	3 2 5 163 24 177 0 0	2 0 2 129 22 161 0 0	5 3 8 452 74 526 0	3 2 5 106 21 187 3 0	2 1 5 152 17 169 2 6	4 0 4 167 18 185 3 4 7	0 3 12 465 56 641 0 10	2
MED NEU DBS	Type InPatient CutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient	23 36 58 1749 216 1964 0 0 0	18 41 59 1704 215 1919 0 0 0	27 87 1779 200 1979 0 0 0	2 3 5 153 21 174 0 0 0	1 2 3 174 20 194 0 0 0 75	2 4 6 167 16 182 0 0 0 0	5 54 464 56 559 0 0 0 0 209	1 0 1 101 101 100 0 0 0 0 52	1 2 131 11 142 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 1 5 161 13 174 0 0 8	0 2 8 443 42 486 0 0 0	0 1 1 170 28 198 0 0 0	3 5 163 24 177 0 0	2 0 2 120 22 161 0 0 6	5 3 8 452 74 526 0 0	3 2 5 100 21 187 3 0 3	2 1 5 152 17 169 2 6 8	4 167 18 185 3 4 7	0 3 12 405 56 641 0 10 18	2
MED NEU OBS	Type InPatient CudPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient CudPatient Subtotal InPatient CudPatient CudPatient	25 36 58 1749 216 1964 0 0 0 863 1759	18 41 59 1704 215 1919 0 0 0 506 1896	30 27 57 1779 200 1979 0 0 0 662 2064	2 5 153 21 174 0 0 0 0 76	1 2 3 174 20 1984 0 0 0 75 100	2 4 6 167 16 182 0 0 0 0 0	5 54 404 56 560 0 0 0 0 200 542	1 0 1 101 100 100 0 0 0 0 0 102 102	1 1 2 135 11 542 0 0 0 67 108	4 1 5 161 13 174 0 0 8 71 209	6 2 8 440 42 485 0 0 0 0 0 0 0 0 0	0 1 1 170 28 198 0 0 0 8 85 200	3 2 5 153 24 177 0 0 6 61 206	2 0 2 129 22 181 0 0 6 43	5 3 8 452 74 526 0 0 0 209 570	3 2 5 100 21 187 3 0 3 09	2 1 3 152 17 169 2 6 8 60 160	4 0 4 167 19 185 3 4 7 60 160	0 3 12 405 56 641 0 10 18 567	2
MED NEU OBS	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient OutPatient OutPatient OutPatient OutPatient OutPatient Subtotal	23 35 58 1749 215 1964 0 0 9 663 1750 2342	16 41 59 1704 215 1919 0 0 0 595 1995 2480 327 64	30 27 57 1779 200 1979 0 0 0 662 2004 2746	2 3 5 153 21 174 0 0 0 76 190 266	1 2 3 174 20 1994 0 0 75 100 244	2 4 6 107 10 182 0 0 0 0 0 56 103 241	5 54 404 56 560 0 0 0 0 200 542	1 0 1 101 100 100 0 0 0 0 102 1032 184	1 2 135 11 142 0 0 0 67 108 168	4 1 5 161 13 174 0 0 0 0 71 200 280	6 2 8 440 42 485 0 0 0 0 0 0 0 0 0	0 1 1 170 28 198 0 0 0 6 80 200 290	3 2 5 163 24 177 0 0 61 206 286	2 0 2 120 22 161 0 0 6 43 160 223	5 3 8 452 74 526 0 0 0 200 570 779	3 2 5 100 21 187 3 0 3 100 102 281	2 1 3 152 17 169 2 6 8 60 160 229	4 0 4 167 10 185 3 4 7 00 100 237	0 3 12 405 50 841 8 10 18 107 850 717	2
MED NEU OBS	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal OutPatient Subtotal	23 36 58 1749 216 1964 0 0 9 883 1759 2342	18 41 59 1704 215 1919 0 0 0 506 1805 2490 327	30 27 87 1779 200 1879 0 0 0 682 2004 2746	2 3 5 153 21 574 0 0 0 76 190 266	1 2 3 174 20 194 0 0 0 75 100 244 30	2 4 6 107 16 182 0 0 0 0 56 163 241	5 50 50 50 50 50 50 50 50 50 50 50 50 50	1 0 1 101 100 0 0 0 0 102 1032 1844 200	1 1 2 135 11 1542 0 0 0 67 108 1665 22	4 1 5 101 13 174 0 0 0 0 71 209 280 31	6 2 8 443 425 0 0 0 950 440 629 79	0 1 1 170 28 198 0 0 0 6 85 205 290	3 2 5 163 24 177 0 0 61 206 286 26	2 0 2 120 22 161 0 0 6 43 190 223 23	5 3 8 462 74 826 0 0 0 200 570 779 86	3 2 5 100 21 187 3 0 3 100 1102 281	2 1 3 152 17 160 2 6 8 60 100 229 29	4 167 18 185 3 4 7 60 160 237 36	0 3 12 405 56 541 6 10 18 107 550 717	2
HEU DBS DPH DRA	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient	23 36 58 1749 216 1964 0 0 0 883 1759 2342 216 69 385	18 41 59 1704 215 1919 0 0 596 1996 327 64 411 10070	20 27 57 1775 200 1979 0 0 682 2004 2746 301 131 432 1088	2 3 5 153 211 174 0 0 0 76 190 286 30 4 34	1 2 3 174 20 1984 0 0 0 75 189 2444 30 13 839	2 4 6 107 16 182 0 0 0 0 56 163 241 34 10 44	5 54 404 56 550 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 101 100 100 100 100 100 100 100 1	1 1 2 135 111 142 0 0 0 67 108 166 22 11 23 266	4 1 5 101 13 174 0 0 0 71 200 200 31 12 43	6 2 8 443 42 485 0 0 0 980 440 450 450 119 2834	0 1 1 170 28 198 0 0 0 6 85 205 290 37 13 80	3 2 5 163 24 177 0 0 61 206 286 28 11 37	2 129 22 161 0 6 63 190 223 23 6 29 944	5 3 8 462 74 626 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 100 21 187 3 0 3 9 192 251 26 17 43	2 1 3 152 17 169 2 6 8 60 100 229 21 11 40 963	4 0 4 167 18 185 3 4 7 88 180 237 36 12 47	0 3 12 405 56 541 6 10 18 107 530 717 500 717 60 120 120	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
HEU DBS DPH DRA	Type InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient OutPatient OutPatient OutPatient OutPatient OutPatient	23 36 58 1749 216 1984 0 0 683 1759 2342 316 69 385 10383 3666	18 41 59 1704 215 1919 0 0 0 596 1896 2490 327 64 411 10170 3571	20 27 57 1779 200 0 0 0 682 2004 2746 301 131 432 1008 4349	2 3 5 153 21 174 0 0 0 76 190 286 30 4 34	1 2 3 174 20 1994 0 0 0 9 75 189 2844 20 13 43 839 400	2 4 6 167 16 182 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9 9 14 464 56 559 0 0 0 0 545 54 54 54 54 54 54 54 54 54 54 54 54	1 0 1 10 1 10 1 10 0 0 0 0 0 0 10 2 10 2 10 2 10 17 43 005 200	1 1 2 135 11 1542 0 0 67 100 1665 22 11 33 264 261	4 1 5 101 13 174 0 0 0 0 71 200 280 31 12 43 975	6 2 8 443 42 485 0 0 0 629 40 40 119 2834 922	0 1 1 170 28 198 0 0 0 85 205 290 37 13 80	3 2 5 163 24 177 0 0 6 1 206 266 26 11 37 934 966	2 129 22 161 0 6 63 190 223 23 6 29 944 392	5 3 8 452 74 8 526 0 0 0 0 0 570 779 80 30 116 2899 1227	3 2 5 100 21 167 3 0 3 90 102 251 26 17 43	2 1 3 152 17 169 2 6 8 60 100 239 21 11 40 963 274	4 167 19 185 3 4 7 60 1237 35 12 47 1034 444	0 3 12 405 541 8 10 18 10 717 90 40 130 130 130 120 120	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED MEU DOBS DOPH DORA	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient OutPatient OutPatient OutPatient Subtotal InPatient OutPatient OutPatient Subtotal InPatient OutPatient Subtotal OutPatient Subtotal Subtotal	23 35 58 1740 215 1964 0 0 0 883 1759 2342 216 60 385 10283 3668 12951	18 41 59 1704 215 0 0 0 0 0 505 1805 2480 327 64 411 10070 3571 12741	20 27 57 1779 200 0 0 682 2004 2746 301 131 432 4040 18637	2 3 5 153 21 1774 0 0 0 76 190 286 30 4 34 989 445	1 2 3 174 20 1994 0 0 0 75 189 244 20 13 800 400 1339	2 4 6 1907 115 1802 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 550 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 10 1 10 1 10 0 0 0 0 0 0 1 10 10	1 1 2 135 11 542 0 0 0 67 108 565 22 11 33 254 261 1005	4 1 5 1001 13 174 0 0 0 0 71 2000 2860 31 12 43 9075 3002 1367	0 2 8 443 42 485 0 0 0 980 480 629 79 40 119 2834 822 2856	0 1 1 170 280 198 0 0 0 6 85 205 290 37 13 50 1021 407	3 2 5 153 24 177 0 0 61 205 286 29 11 37 634 368 1292	2 0 2 129 22 161 0 6 63 190 223 23 6 29 944 392 1336	5 3 8 492 74 8 526 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 100 21 187 3 9 9 192 251 251 43 1017 445 1462	2 1 3 152 17 169 2 6 8 00 100 229 11 40 963 274 1367	4 167 18 185 24 160 237 25 17 160 444 15478	9 3 12 405 56 541 6 10 11 8 10 10 10 10 10 10 10 10 10 10 10 10 10	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED MEU DOS DONA DORA	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient OutPatient OutPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient	23 36 58 1749 216 1964 0 0 663 1759 2342 316 69 385 10363 10363 10363 12365 12365	18 41 59 1704 1915 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 27 57 1779 200 1979 0 0 682 2064 2746 301 131 432 10088 4369 15697 1740	2 3 5 153 211 1774 0 0 0 76 790 286 30 4 900 445 5454	1 2 3 174 20 1994 0 0 0 75 1899 2444 30 1339 1800 18339	2 4 6 167 16 16 16 16 16 16 16 16 16 16 16 16 16	9 94 484 586 589 0 0 0 209 542 781 544 27 1224 4137 486	1 0 1 10 1 10 1 10 1 10 1 10 1 10 1 10	1 1 2 134 111 142 0 0 0 67 108 166 22 11 33 764 281 1065 155	4 1 5 101 13 174 0 0 0 0 200 200 21 12 43 43 1257 150	0 2 8 443 42 485 0 0 0 180 449 629 79 40 119 2834 922 2856 450	0 1 1 170 28 196 0 0 0 0 0 85 205 290 37 13 80 9221 467 1488	3 2 5 153 24 177 0 0 61 205 286 20 11 37 004 906 1292	2 0 2 120 221 161 0 0 0 63 190 223 6 29 1936 1936 1936 1936 1936 1936 1936 193	5 3 8 465 74 8 74 8 74 8 74 8 74 8 74 8 74 8 74	3 2 5 100 21 1687 3 0 3 50 150 251 251 43 1017 445 1462 151	2 1 3 152 17 169 2 6 8 60 229 11 40 963 274 1367	4 167 188 1885 2 4 7 68 169 237 36 120 47 100 444 1448 134	9 3 12 485 5641 8 10 10 10 10 10 10 10 10 10 10 10 10 10	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED MEU DOBS DOPH DORA	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient	23 36 58 1749 216 216 0 0 83 1759 2342 316 69 385 10383 3666 12951 1815	18 41 59 1704 215 0 0 0 0 1895 2480 327 64 411 10170 3571 13741 1027 1596	20 27 57 1779 200 1979 0 0 682 2004 2746 301 131 432 1086 4049 18637 1740 1896	2 3 5 153 21 174 0 0 76 190 286 30 4 445 1445 157 202	1 2 3 174 20 194 0 0 0 75 100 244 30 13 43 0 100 1339 100 110 110 110 110 110 110 110 110 11	2 4 6 1007 180 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	9 94 464 550 550 550 550 550 550 550 550 550 55	1 0 1 101 100 0 0 0 0 102 1034 105 1154 105 1154 100 0	1 1 2 134 111 142 0 0 0 67 108 108 108 22 11 1 33 754 281 1045 155 67	4 1 5 100 100 100 100 100 100 100 100 100	0 2 8 443 485 0 0 0 100 629 40 119 2634 922 2556 450 385	0 1 1 170 286 1986 0 0 0 86 205 290 37 13 80 1527 1488 204 211	3 2 5 153 34 177 0 0 61 205 286 29 11 37 034 366 1282 142 174	2 0 2 2 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 74 526 0 0 200 270 779 80 116 2899 1227 4116 480 524	3 2 5 100 21 187 3 0 3 50 182 281 26 17 43 1017 43 1017 445	2 1 3 152 17 169 2 6 6 60 160 229 21 40 963 214 1367 140 160	4 167 1885 3 4 7 60 160 172 47 100 4 644 6 154 167 167	0 3 12 485 541 6 10 18 507 530 717 90 40 126 3034 1203 429 426 426	2 2 2 2 1 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1
MED HEU DOS DONA DORA	Type InPatient OutPatient Subtotal InPatient Subtotal	23 36 58 1740 215 1964 0 0 83 1750 2342 216 0 0 385 10283 3066 12981 1915 1907 3412	18 41 59 1704 215 1919 0 0 0 1805 2480 327 64 411 10070 3571 13741 1607 50 3223	20 27 57 1779 0 0 0 682 2004 2746 301 131 1088 4049 18637 1740 1996 3638	2 3 5 153 21 174 0 0 76 190 266 30 4 445 5454 191 202 359	1 2 3 174 20 1984 0 0 0 75 100 2844 20 12 42 82 820 420 12 120 120 120 120 120 120 120 120 12	2 4 6 107 182 0 0 0 56 103 241 34 10 44 103 100 322	5 54 404 500 550 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 101 100 0 0 0 102 1034 206 206 1154 100 251	1 1 2 134 15 16 16 16 16 16 16 16 16 16 16 16 16 16	4 1 5 101 13 174 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 2 8 443 425 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 1 170 26 198 0 0 0 85 205 280 37 13 80 1021 467 1488 204 221 467	3 2 5 163 24 177 0 0 61 206 286 29 11 37 004 908 1292 142 174 346	2 0 2 2 120 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 2 5 100 21 187 3 0 3 50 182 281 26 17 43 1017 445 1662 151 161 312	2 1 3 152 17 169 2 6 8 60 160 229 20 11 40 963 374 1367 140 100 306	4 167 185 185 2 4 7 60 160 172 172 172 173 161 167 301	0 3 12 485 541 6 10 18 10 717 500 717 90 420 429 420 921	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED HEU DOS DONA DORA	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient	23 35 58 1740 215 1964 0 0 853 1750 2342 210 09 385 10283 10283 10283 1405 1407 3412 267	18 41 59 1704 215 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 27 57 1779 200 0 0 682 2004 2746 301 131 432 1008 4049 18027 1760 1802 1802 1803 1803 1803	2 3 5 153 21 1774 0 0 0 3 76 190 288 30 4 34 900 445 5454 157 202 359 19	1 2 3 174 3 194 4 0 0 0 0 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1	2 4 6 167 118 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 14 464 56 560 560 560 560 560 560 560 560 560	1 0 1 10 1 10 1 10 1 10 1 10 1 10 1 10	1 1 2 135 111 142 0 0 0 67 100 1665 22 111 1533 261 15045 155 27 252 17	4 1 5 101 133 1774 0 0 0 0 1774 1200 280 31 12 300 1367 1500 1506 9	0 2 8 443 485 0 0 90 90 629 79 40 119 2634 922 2656 456 305	0 1 1 170 28 198 0 0 0 85 200 290 37 13 8 0 1021 467 1488 204 211 415 10	3 2 5 6 163 24 177 0 0 0 61 200 288 20 1292 142 242 243 450 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 0 2 120 22 161 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 74 8 526 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 100 21 1887 3 0 3 9 110 281 26 17 43 1017 445 5462 181 312 6	2 1 3 152 17 160 2 6 8 60 100 229 29 11 40 963 374 1367 140 306 11	4 0 4 167 185 3 4 7 60 150 150 4 4 7 100 4 444 15478 136 136 136 136 136 136 136 136 136 136	0 3 12 405 5641 8 10 18 10 500 717 90 40 130 4297 426 921 34	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED HEU DOS DONA DORA	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient OutPatient OutPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient	23 36 58 1749 216 1964 0 0 663 1759 2342 310 69 385 10383 10383 10383 13851 1915 1907 3412 207	18 41 59 1704 1915 0 0 0 505 1805 2480 327 64 411 10170 15741 1627 1596 3929 94	20 27 57 1779 200 1979 0 0 682 2064 2746 301 131 432 10089 4340 15627 1740 1996 3636 111	2 3 5 153 21 174 0 0 76 190 288 30 4 34 900 445 5454 157 202 359 16	1 2 3 174 20 1994 0 0 0 0 100 100 100 100 100 100 100 10	2 4 6 167 165 165 165 165 165 165 165 165 165 165	8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	1 0 1 10 1 10 1 10 1 10 1 10 1 10 1 10	1 1 2 13 11 11 142 0 0 0 67 100 100 100 100 100 100 100 100 100 10	4 1 5 101 13 174 0 0 0 0 0 0 11 12 13 0 0 10 10 10 10 10 10 10 10 10 10 10 10	0 2 8 445 485 0 0 0 180 400 629 70 40 119 2634 824 825 835 845 845 305 841 10	0 1 1 170 28 198 0 0 0 0 85 205 295 237 13 80 1321 467 1486 204 211 415 3	3 2 5 5 153 24 1777 0 0 0 0 0 11 1 1 1 1 1 1 1 1 1 1 1	2 0 2 120 22 161 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 462 74 74 75 75 75 75 75 75 75 75 75 75 75 75 75	3 2 5 100 21 1087 3 3 50 100 285 17 43 1017 445 161 161 161 161 251 2	2 1 3 152 17 169 2 6 8 60 100 229 21 11 40 963 274 1357 140 100 306 11	4 0 4 167 168 168 168 169 169 169 169 169 169 169 169 169 169	9 3 12 485 5641 8 10 10 11 18 18 18 18 18 18 18 18 18 18 18 18	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED  MEU  DBS  DPH  DRA  DRA  PUB	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal	23 36 58 1749 216 1964 0 0 0 0 0 0 0 0 0 0 0 2342 216 09 2342 216 09 385 10363 10363 10365 14967 3412 267 160 499 499 499 499 499 499 499 49	18 41 59 1704 515 1919 0 0 0 506 1895 2490 327 64 411 10170 3571 1927 1996 3223 182 94 276	20 27 57 1779 200 1979 0 0 662 2064 2746 301 131 432 1088 4069 1740 1869 1740 1868 156 157	2 3 5 153 21 174 0 0 76 190 286 30 44 5 5454 157 202 359 16 35	1 2 3 3 174 0 0 0 1994 0 0 0 75 189 9 244 30 133 433 136 180 196 6 6 19 196 196 196 196 196 196 196	2 4 4 6 167 16 16 16 16 16 16 16 16 16 16 16 16 16	5 14 464 56 560 560 560 560 560 560 560 560 560	1 0 1 101 160 160 0 0 0 0 17 17 17 17 17 17 17 17 17 17 17 17 17	1 1 2 13 11 142 0 0 0 67 108 165 22 11 233 754 261 155 97 252 17 3 20	4 1 5 101 13 174 0 0 0 0 0 11 12 13 13 174 13 112 13 13 13 13 13 13 13 13 13 13 13 13 13	0 2 8 443 485 0 0 90 90 629 79 40 119 2634 922 2656 456 305	0 1 1 170 28 198 0 0 0 85 205 280 37 13 80 1021 467 1488 204 211 415 10 3	3 2 5 5 1653 24 4777 0 0 0 611 2006 286 28 11 37 1282 174 296 6 7 7 98 8 8 9 7 98 8 9 9 8 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 9 8 9 9 9 8 9 9 9 8 9 9 9 8 9 9 9 9 9 8 9	2 0 2 120 22 161 0 0 0 63 190 223 23 6 6 29 944 190 2136 140 150 160 17 6 13	5 3 8 452 74 8 526 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 100 21 1007 3 3 50 102 251 251 43 1017 443 1017 445 151 161 312 0 7	2 1 3 152 17 169 2 6 6 60 160 239 21 4 6 963 274 11 40 106 140 106 106 106 106 106 106 106 106 106 10	4 0 4 167 16 16 16 16 16 16 16 16 16 16 16 16 16	0 3 12 405 5641 8 10 18 107 530 717 90 40 130 4297 426 921 34	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED HEU DOBS DOPH DORA DORA PUS	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient OutPatient Subtotal InPatient	23 36 58 1740 215 1984 0 0 83 1750 2342 216 69 385 10283 3666 12951 1915 1507 3412 267 143 419 0	18 41 59 1704 215 1919 0 0 0 506 1805 2480 327 64 411 10170 3511 13741 1027 1506 3223 162 94 276 0	20 27 57 1779 0 0 0 682 2004 2746 301 131 432 1088 4049 1893 1740 1898 3438 150 111 267 0	2 3 5 53 21 874 0 0 76 100 286 30 4 445 1415 1415 1517 2002 359 10 16 35 0	1 2 3 3 174 4 0 0 0 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 4 6 1957 165 182 0 0 0 0 66 1957 170 170 170 170 170 170 170 170 170 17	5 54 464 55 55 55 55 55 55 55 55 55 55 55 55 55	1 0 1 10 1 10 1 10 1 10 1 10 1 10 1 10	1 1 2 134 2 0 0 0 0 87 108 1685 22 11 33 784 281 195 87 252 17 3 20 13	4 1 5 101 13 174 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 2 8 443 485 0 0 0 900 449 629 79 40 119 2834 922 2836 450 365 841 32 19	0 1 1 170 28 198 0 0 0 60 205 290 37 13 80 1021 467 1485 204 211 415 10 3	3 2 5 5 1653 24 4777 0 0 0 0 1206 286 286 286 1292 142 174 396 0 0	2 0 2 120 2 150 161 161 161 161 161 161 161 161 161 16	5 3 8 452 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 2 5 100 21 187 3 0 3 5 0 182 281 26 17 43 1017 445 161 161 312 0 7 7	2 1 3 152 17 169 2 6 8 60 160 229 239 21 40 963 274 1367 140 160 306 11 9 20 0	4 0 4 167 16 16 16 16 16 16 16 16 16 16 16 16 16	0 3 12 485 541 6 10 18 507 550 717 90 420 420 420 420 521 334 426 521 34 354	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
MED  MEU  DBS  DPH  DRA  DRA  PUS	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal	23 36 58 1740 215 1964 0 0 83 1750 2342 216 69 385 10283 3666 12951 1915 1907 3412 267 149 0 0	18 41 59 1704 515 1919 0 0 0 506 1895 2490 327 64 411 10170 3571 1927 1996 3223 182 94 276	20 27 57 1779 200 1979 0 0 662 2064 2746 301 131 432 1088 4069 1740 1869 1740 1868 156 157	2 3 5 153 21 174 0 0 76 190 286 30 44 5 5454 157 202 359 16 35	1 2 3 3 174 0 0 0 1994 0 0 0 75 189 9 244 30 133 433 136 180 196 6 6 19 196 196 196 196 196 196 196	2 4 4 6 167 16 16 16 16 16 16 16 16 16 16 16 16 16	5 54 4 55 55 55 55 55 55 55 55 55 55 55	1 0 1 10 1 10 1 10 1 10 1 10 1 10 1 10	1 1 2 131 1542 0 0 0 87 108 108 22 11 1 33 784 281 105 67 252 17 3 20 13 13	4 1 5 101 13 174 0 0 0 0 171 200 280 31 12 1367 150 1606 338 0 11 20 0 0 0 0	0 2 8 445 485 0 0 0 100 449 629 79 60 119 2034 922 2656 450 305 841	0 1 1 170 28 198 0 0 0 85 205 280 37 13 80 1021 467 1488 204 211 415 10 3	3 2 5 5 1653 24 4777 0 0 0 611 2006 286 28 11 37 1282 174 296 6 7 7 98 8 8 9 7 98 8 9 9 8 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 8 9 9 9 8 9 9 9 8 9 9 9 8 9 9 9 8 9 9 9 9 9 8 9	2 0 2 120 2 150 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 2 5 100 21 167 3 3 50 162 261 26 17 43 1017 440 1462 151 151 151 151 26 6	2 1 3 152 17 169 2 6 8 60 160 229 29 11 40 963 374 140 156 11 96 366 11 96 366 11 96 96 96 96 96 96 96 96 96 96 96 96 96	4 0 4 167 18 167 167 167 167 167 167 167 167 167 167	0 3 12 405 541 0 10 18 10 10 10 10 10 10 10 10 10 10 10 10 10	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
MED NEU DBS	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient Subtotal	23 35 58 1740 215 1964 0 0 853 1750 2342 216 09 385 10083 3908 12851 1907 3412 267 143 499 0 0	18 41 59 1704 215 1919 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 27 57 1779 0 0 0 0 0 0 2004 2746 301 131 1088 4049 11603 1740 1996 3638 150 111 267 0 0	2 3 5 53 21 574 0 0 76 100 266 30 4 45 5454 157 202 359 19 16 35 30 445	1 2 3 3 174 4 0 0 0 0 1339 166 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 4 6 167 165 162 0 0 0 0 163 244 1 100 1380 1380 1380 1380 1384 163 159 159 159 159 159 159 159 159 159 159	5 54 464 55 55 55 55 55 55 55 55 55 55 55 55 55	1 0 1 101 101 100 100 100 100 100 100 1	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 1 5 101 113 1174 0 0 0 0 1174 113 113 113 113 113 113 113 113 113 11	0 2 8 443 485 0 0 0 900 469 79 400 2634 922 2634 400 305 841 32 13	0 1 1 170 20 198 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 5 1653 24 5 7 7 0 0 0 0 0 1200 2866 20 1114 2000 1292 142 2 7 7 9 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 0 2 150 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 74 8 526 0 0 0 0 0 1277 4116 455 10 12 26 10 0 0 0 127 75 10 0 0 0 0 0 127 75 10 0 0 0 0 127 75 10 0 0 0 0 127 75 10 0 0 0 0 127 75 10 0 0 0 0 127 75 10 0 0 0 0 127 75 10 0 0 0 0 127 75 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 100 21 1887 3 3 3 3 3 3 3 3 100 1102 281 17 43 1017 440 1612 151 101 101 252 151 161 161 161 161 161 161 161 161 161	2 1 3 152 17 169 2 6 8 60 160 229 239 21 40 963 274 1367 140 160 306 11 9 20 0	4 0 4 167 168 168 168 168 168 168 168 168 168 168	9 3 12 485 541 8 10 10 11 10 11 11 11 11 11 11 11 11 11	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MED  NEU  OBS  OPH  ORA  ORT  PUS	Type  InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient	23 36 58 1740 215 1964 0 0 83 1750 2342 216 69 385 10283 3666 12951 1915 1907 3412 267 149 0 0	18 41 59 1704 215 1919 0 0 0 505 1805 2490 327 64 411 10070 15071 12741 1002 100 246 0 0 6460	20 27 57 1779 200 1979 0 0 0 682 2064 2746 301 131 432 1088 4049 1503 1740 1966 363 1740 1966 1111 267 0 0	2 3 5 153 21 174 0 0 76 190 288 30 4 34 900 445 5454 157 202 359 16 35 0 0 0 16 16 16 16 16 16 16 16 16 16 16 16 16	1 2 2 3 3 1744 0 0 0 75 100 100 100 100 100 100 100 100 100 10	2 4 4 6 167 165 162 0 0 0 56 163 241 10 163 163 163 163 163 163 163 163 163 163	5 54 466 550 550 550 550 550 550 550 550 550 5	1 0 1 10 1 10 1 10 1 10 1 10 1 10 1 10	1 1 2 131 1542 0 0 0 87 108 108 22 11 1 33 784 281 105 67 252 17 3 20 13 13	4 1 5 101 13 174 0 0 0 0 171 200 280 31 12 1367 150 1606 338 0 11 20 0 0 0 0	0 2 8 445 465 0 0 0 180 629 70 40 119 2656 400 305 841 52 10 51 13	0 1 1 170 290 1988 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 2 5 5 1653 24 1777 0 0 0 61 1200 288 20 111 37 142 174 296 0 0 0 0 29 29 29 29 29 29	2 0 2 120 2 150 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 2 5 100 21 167 3 3 50 162 261 26 17 43 1017 440 1462 151 151 151 151 26 6	2 1 3 102 17 169 2 6 8 60 100 229 29 11 40 963 274 1367 140 100 306 11 9 20 0	4 0 4 167 18 167 167 167 167 167 167 167 167 167 167	0 3 12 405 541 8 10 18 10 18 10 717 90 40 429 429 429 429 429 54 54 54 54 54 54 54 7 7 7 7 7 7	2
MED MEU DOS DONA DORA PUS POD	Type InPatient OutPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient Subtotal InPatient OutPatient	23 36 58 1749 216 1964 0 0 683 1759 2342 216 69 385 10383 10383 10383 1049 1495 1497 3412 267 149 0 0 0 0 0 0 0 0 0 0 0 0 0	18 41 59 1704 1915 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 27 57 1779 200 1979 0 0 662 2064 2746 301 131 432 1068 4363 1740 1966 363 196 197 0 0 0 0 197 197 197 197 197 197 197 197 197 197	2 3 5 153 21 174 0 0 76 190 286 30 4 34 999 445 157 202 359 19 16 35 0 0	1 2 3 3 174 4 0 0 0 0 0 1 1 2 3 9 9 1 1 2 3 9	2 4 4 6 167 15 162 0 0 0 6 1284 163 163 163 163 163 163 163 163 163 163	5 54 466 550 550 550 550 550 550 550 550 550 5	1 0 1 101 100 100 100 100 100 100 100 1	1 1 2 13 11 142 0 0 0 67 108 165 22 11 233 754 261 155 97 252 17 3 20 13 13 147 11	4 1 5 101 13 174 0 0 0 0 11 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	0 2 8 445 485 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 1 1 170 200 1988 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 2 5 5 163 3 4 4 7 7 7 6 6 1 1 3 7 6 3 4 8 9 7 7 9 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	2 0 2 120 221 161 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 3 8 452 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	3 2 5 100 21 1007 3 3 50 100 251 43 1017 444 1017 444 1007 444 1007 444 1007 444 1007 444 1007 444 1007 444 1007 444 100 444 100 444 100 444 100 444 100 100	2 1 3 552 17 169 2 6 6 60 169 229 11 40 963 274 1367 140 100 306 11 9 20 0 11 10 10 10 10 10 10 10 10 10 10 10	4 0 4 167 168 168 168 168 168 168 168 168 168 168	9 12 400 541 540 540 540 540 540 540 540 540 540 540	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

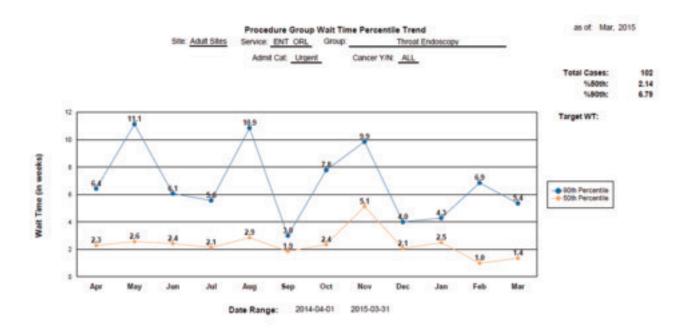
## Surgical Statistical Activity by Patient Type All Hospitals (FMC,RGH, PLC, ACH, SHC)

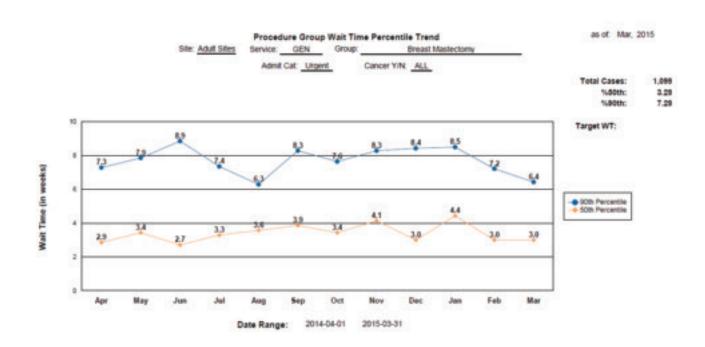
_	Service							Zon	e/Site:	Calg	ary										
Srv	Patient Type	11/12	12/13	13/14	Apr	May	Jun	Q1	Jul	Aug	Sep	Q2	Oct	Nov	Dec	Q3	Jan	Feb	Mar	Q4	YTO
	Subtotal	88	97	104		14	3	25	- 6	2	3	10		. 8	10	27	11	5	6	22	8
тно	InPatient	537	486	482	40	39	51	130	29	30	50	109	39	45	51	135	53	36	47	136	510
	OutPatient	50	66	54	7	5	2 2	54	3	5	2	10	. 3	2	1	- 6	0	4	3	7	37
	Subtotal	587	552	536	47	44	53	144	32	35	52	119	42	47	62	141	63	40	50	143	547
TRN	inPatient	140	209	221		.19	22	49	22	9	10	41	16	13	24	53	13	16	23	82	195
	OutPatient	330	283	304	38	31	27	90	32	37	26	95	41	16	21	76	16	24	20	60	325
	Subtotal	470	492	525	46	50	49	145	54	46	36	136	67	29	45	131	29	40	43	112	524
URD	InPatient	4452	4878	5219	455	472	439	1367	430	419	434	1283	460	424	427	1311	431	425	493	1349	5310
	OutPatient	2597	2745	2937	247	262	236	764	217	140	267	633	334	248	250	832	284	295	237	706	2995
	Subtotal	7049	7623	8156	703	734	674	2111	647	548	701	1916	794	672	677	2143	715	690	730	2135	8305
VAS	InPatient	703	765	761	52	68	64	184	62	62	76	200	77	58	65	200	72	61	72	205	780
	OutPatient	113	186	146	- 11	7	16	33		8	11	27	18	13	13	41	16	13		38	130
	Subtotal	816	951	907	63	76	79	217	70	70	87	227	92	71	78	241	**	74	81	243	929
Sumn	nary																				
	InPatient	37885	38309	40838	3700	3610	3054	10964	3339	3223	3682	10244	3001	3522	3480	10809	3005	3649	3807	10921	4299
	OutPatient .	27374	27083	29166	2755	2747	2623	8125	1001	1639	2648	6168	3047	2463	2381	7911	2663	2533	2713	7929	3013
	Total	65259	65392	70006	6455	6357	6277	19089	5220	4862	6330	16412	6908	6005	5867	18780	6348	5982	6520	18850	7313

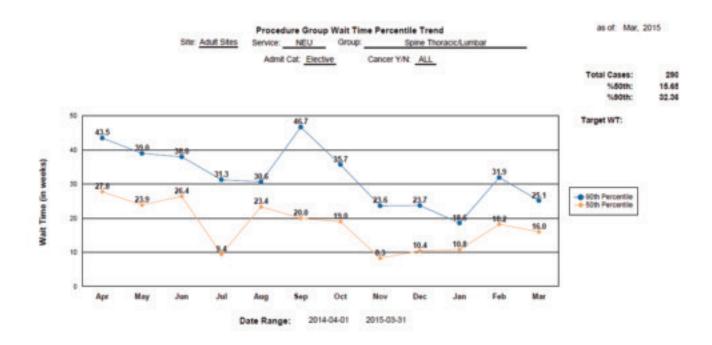
## **NHSF Surgical Indicator Report**

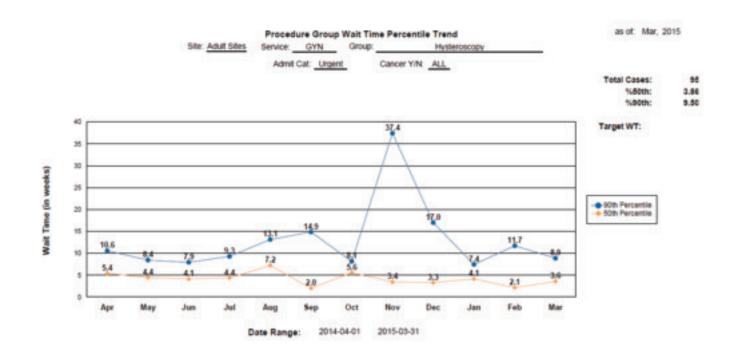
Alberta Health	to Head								Σţ	HSF Su	ingical od end	NHSF Surgical Indicator Report for the period ending March 31, 2015	5 Rep. 31, 20	# 5											
	Flacal	Fiscal	Fiscal	Fiscal		Flacel 201	2013-2014		Fiscal							Fisc	Flacal 2014-2015	91.						-	lacal.
NAMES Activity	2009/10	2009/10 2010/11	2011112	2012/13	101	2 OT	3 QT	4 0 1	2013/14	Apr	Amy J	Une 1	OT July	V Ass	Sept	2 OT	Oct	Nov	Dec	307	Jan	Feb	Aur 'TD	10T	5416
Cathrada	9,291	12,284	12,966	12.607	3.362	3,177	2,921	3,784	13,244	1,040	012	3.0	3,066	90	1,114	2,855	1,109	1,079	683	3,001	1,153	1.166	1,285	3,604	2,596
Non-Catanachi	3,484	2,331	3,661	3,965	1,002	260	600	1,000	3,662	340	317	366 1,0	100/	27	271 304	900	329	327	280	946	398	357	302	000	3,871
Ophthalmology Total	12,755	14,535	96,656	16,572	4,394	3,987	3,791	4,794	906,906	1,380	329	370 4,000	107 1,2	17.1	1,410	3,739	1,430	1,406	1,173	4,017	1,549	1,535	1,550	4,624	10,467
One Mexicological Surgery	636	767	2000	304	245	220	240	200	915	81	99	90	700	20	70 61	180	62	0.0	2.	206	09	51	38	187	840
Podiatry	764	803	000	30	310	234	284	300	1,595	108	111	96	300	57	100	276	123	906	71	299	- 80	80	100	204	1,002
Responsible Dentility	696	409	404	929	134	98	101	100	4003	48	43	42	137	20	0 9	114	99	35	99	125	98	3	98	984	591
Vestbuler Testing	138	299	229	7,57	88	40	- 38	74	000	OVC	OC	000	OC OC	OK OK	200	DVC CVC	Dec	000	000	DAC	OVC	000	OC	30	8
MHSF Astivity	15,848	17,389	19,063	19,265 6,12	÷	4,509	4,451	8,408	19,666	1,616 1	582	594 4.	4,791 1,38	1,290	1,671	4,319	1,708	1,636	1,364	4,697	1,354	1,739	1,699	6,180 19	8,997
Sensington Clinic	4,289	4,667	4913	5,015	1,251	1,224	1,239	1,331	5,045	423	442	408 1,2	4 677	456 42	29 408	1,291	404	400	410	1,305	411	392	472	275	9 340
Total NHSF Activity	20,137	20,137 22,086 23,976	23,976	24,200	6,372	6,733	069'5	900'9	24,601	2,039 2	1,004	2,002 6,0	6,064 1,0	121	2,077	5,610	2,192	2,044	1,784	4,000	2,165	2,120	2,170 6	6,466 24	24,129
(Note: Data is continuously & retrospectively updated & adjusted as int	ofy & retro	devision div	page good	S. artjustred	de Priore	abon is	veceived).																		
PAHSF Waterg List	2009/10	2008/10 2010/11 2011/12 2012/13	2011/12	2012/13	101	207	301	4 OT	2013/14	Ager	May	June 11	1 OT July	N Aug	Bept.	2 07	Det	Mer	Dec	307	- Jan	ga,	Mar	4 QT	
Catavads	8,500	6.515	6.729	5.409	5.502	5,603	6,585	6.294	6,294	8,111 8	1,282	565 63	6,565 6,783	2,12	7,436	7,436	7,408	7,500	7,350	3,750	7,730	7,616	7.528	528	
Non-Catanacts	1,906	2,134	2,077	5,454	1,573	1,699	1,800	1,4594	1,494	1,298	188	1 000	1,0	900	2 98	2967	000	1,034	126	100	808	942	1,000	000	
Ophthemology Total	10,406	6999	7,800	6,863	7,075	7,302	8,485	2,768	7,788	7,389	7,447	7.116	111 7.3	1.0	88 8,418	8,418	8,368	8,630	8,725	8,721	899'8	8,558	8,528	(528	
One Manifoliaciet Surgery	180	22	918	536	581	6119	808	800	900	386	385	328	2 828	11 3	248	90	303	250	383	280	288	279	380	280	
Podutry	1,099	1,005	1,344	976	982	1,129	1,257	160	894	781	700	960	0.046	909	199 543	543	5407	499	676	909	609	645	725	725	
Restorative Dentistry	416	80	169	174	199	231	274	223	122	188	200	220 2	220 2	253	310	313	100	355	399	200	288	384	339	330	
Total NHISF Wait List	12,136	10,125	069'6	0,602	0,877	9234	10,611	1,000	9,371	0.780 0	0,740 0	0.963 0.9	1,963 8,914	14 9,300	9,522	9,622	9,522	9,740	90,069	10,069	10,014	3,866	9,877	210	
Walt List is a snapshot taken at the end of each reporting perior	taken at	the end	of each n	Designa	-	le.g. month.	h. quatrie	quarter, year)																	

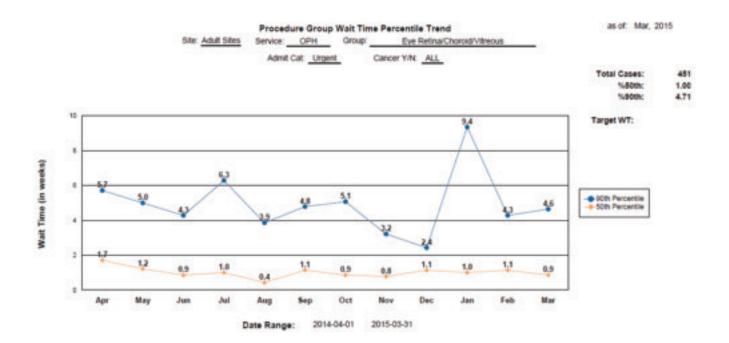
### **Wait Time Reports by Procedure Group**

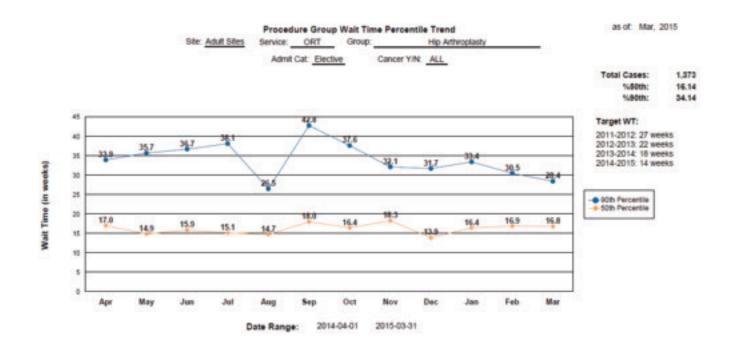


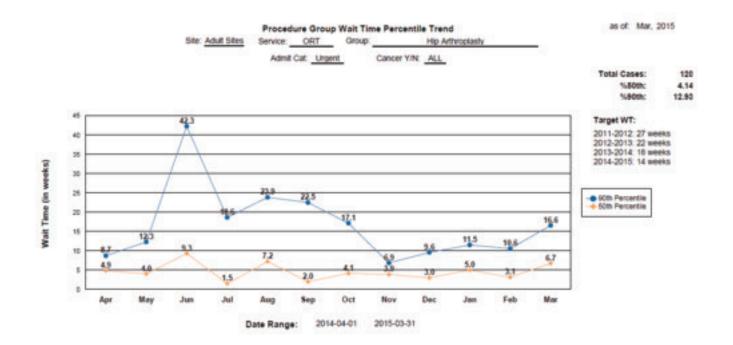


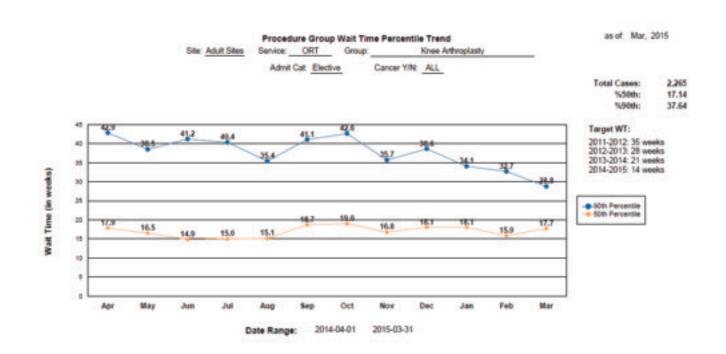


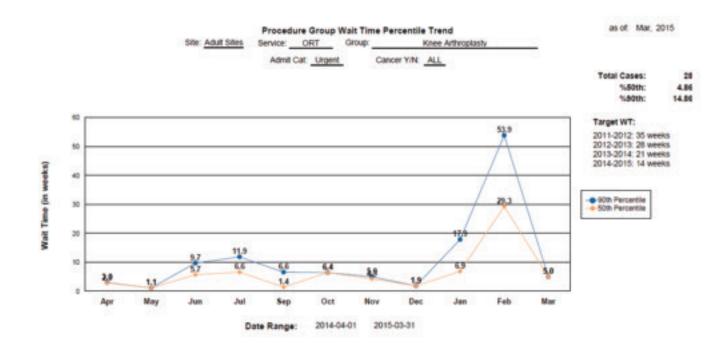


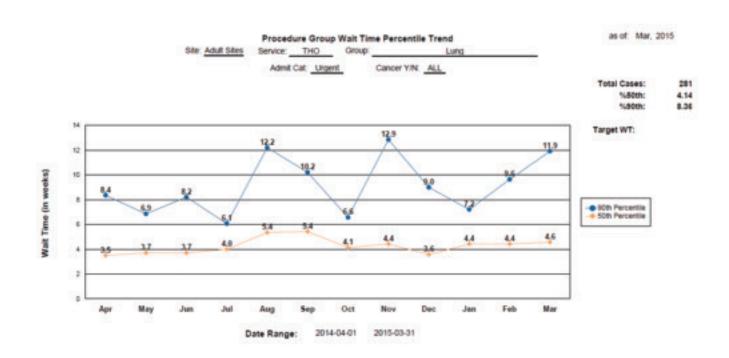


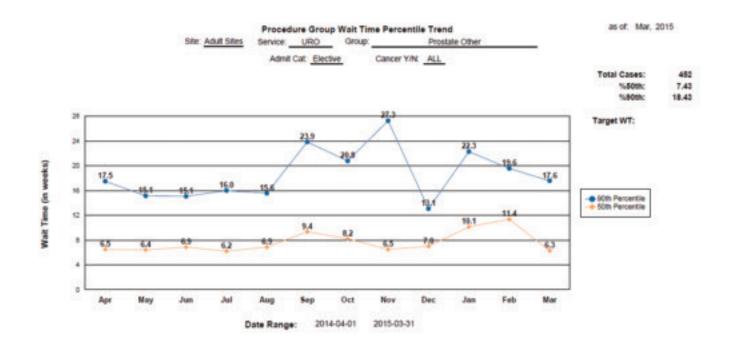


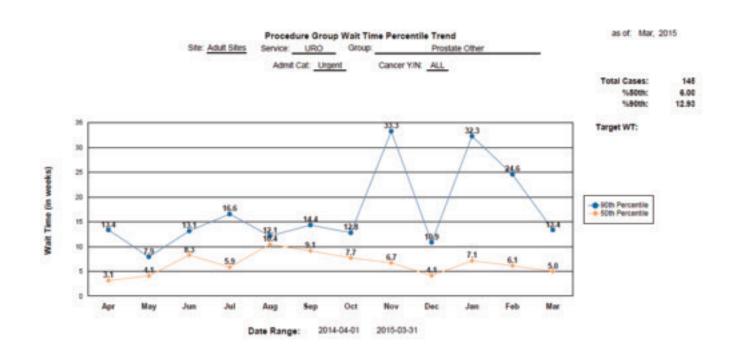






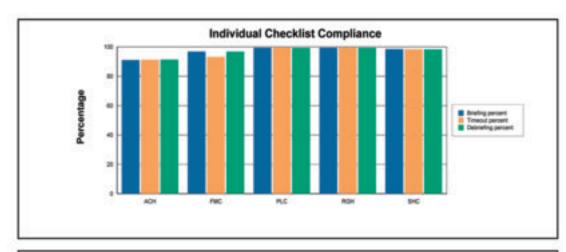






# 2.4 Safe Surgery Checklist Compliance

Date: 03/01/2015 to 03/31/2015



Site	Total Case Counts	Briefing Yes	Briefing Percent	Timeout	Timeout Percent	Debriefing Yes	Debriefing Percent
ACH	1086	989	91	991	91	992	91
FMC	1846	1787	97	1719	93	1787	97
PLC	1293	1286	99	1287	100	1284	99
RGH	1664	1655	99	1656	100	1653	99
SHC	962	948	99	947	98	945	98

### 3.1 Peer-Reviewed Journal Articles

#### Section of Dentistry and Oral Health

 Nogueira-Filho G., Pesun I., Isaak-Ploegman C., Wijegunasinghe M., Wierzbicki T., McCulloch CA (2014) Longitudinal Comparison of Cytokines in Peri-Implant Fluid and Gingival Crevicular Fluid in Healthy Mouths. J Periodontol 2014 Nov;85(11):1582-8 (ISSN: 1943-3670)

#### Section of General Surgery

- 1. Poulin P; Chapman K; McGahan L; Austen L; Schuler T (2014) Preoperative skin antiseptics for preventing surgical site infections: what to do? ORNAC J 2014 Sep;32(3):12-5, 24-9 (ISSN: 1927-6141)
- 2. Ball CG (2015) Primary skin closure after damage control laparotomy. Br J Surg 2015 Jan; 102(1):76 (ISSN: 1365-2168)
- **3. Ball CG** (2014) Use of a novel energy technology for arresting ongoing liver surface and laceration hemorrhage. Can J Surg 2014 Aug;57(4):E146 (ISSN: 1488-2310)
- **4. Ball CG**; **Grondin SC**; Schieman C; Feliciano DV; **Dixon E**; **Kirkpatrick AW**; Ivatury RR; Salomone JP; Reed LR (2014) Trauma surgery associations and societies: which organizations match your goals? J Trauma Manag Outcomes 2014;8:6 (ISSN: 1752-2897)
- **5. Ball CG** (2014) Current management of penetrating torso trauma: nontherapeutic is not good enough anymore. Can J Surg 2014 Apr;57(2):E36-43 (ISSN: 1488-2310)
- 6. Ball CG; Das D; Roberts DJ; Vis C; Kirkpatrick AW; Kortbeek JB (2015) The evolution of trauma surgery at a high-volume Canadian centre: implications for public health, prevention, clinical care, education and recruitment. Can J Surg 2015 Feb;58(1):19-23 (ISSN: 1488-2310)
- 7. Saciragic L; **Ball CG**; Islam S; Fung-Kee-Fung M (2014) Incidental endometrial carcinoma diagnosed at first trimester pregnancy loss: a case report. J Obstet Gynaecol Can 2014 Nov;36(11):1010-3 (ISSN: 1701-2163)
- 8. Mai KT; **Ball CG**; Kos Z; Belanger EC; Islam S; Sekhon H (2014) Three-dimensional cell groups with disordered nuclei and cellular discohesion (3DDD) are associated with high sensitivity and specificity for cystoscopic urine cytopathological diagnosis of low-grade urothelial neoplasia. Diagn Cytopathol 2014 Jul;42(7):555-63 (ISSN: 1097-0339)
- 9. Baker L; Almadani A; **Ball CG** (2015) False negative pericardial Focused Assessment with Sonography for Trauma examination following cardiac rupture from blunt thoracic trauma: a case report. J Med Case Rep 2015;9(1):155 (ISSN: 1752-1947)
- 10. Butte JM; Hameed M; **Ball CG** (2015) Hepato-pancreato-biliary emergencies for the acute care surgeon: etiology, diagnosis and treatment. World J Emerg Surg 2015;10:13 (ISSN: 1749-7922)
- 11. Mai KT; Hakim SW; Ball CG; Flood TA; Belanger EC (2014) Nested and microcystic variants of urothelial carcinoma displaying immunohistochemical features of basal-like urothelial cells: an immunohistochemical and histopathogenetic study. Pathol Int 2014 Aug;64(8):375-81 (ISSN: 1440-1827)
- 12. Secretain F; Pollard A; Uddin M; **Ball CG**; Hamilton A; Tanzola RC; Thorpe JB; Milne B (2015) A novel software program for detection of potential air emboli during cardiac surgery. Cardiovasc Ultrasound 2015;13(1):3 (ISSN: 1476-7120)
- 13. Roberts DJ; Niven DJ; James MT; **Ball CG**; **Kirkpatrick AW** (2014) Thoracic ultrasonography versus chest radiography for detection of pneumothoraces: challenges in deriving and interpreting summary diagnostic accuracy estimates [In Process Citation]. Crit Care 2014;18(2):416 (ISSN: 1466-609X)

- 14. Mckee JL; Roberts DJ; van Wijngaarden-Stephens MH; Vis C; Gao H; Belton KL; Voaklander D; **Ball CG**; Bratu I; Ibbotson GC; Martin K; Engels P; Paton-Gay D; Parks P; Thomas L; **Guilfoyle J**; **Kortbeek JB**; **Kirkpatrick AW**, Collective Name: Provincial Trauma Committee of Alberta. (2015) The right treatment at the right time in the right place: a population-based, before-and-after study of outcomes associated with implementation of an all-inclusive trauma system in a large Canadian province. Ann Surg 2015 Mar;261(3):558-64 (ISSN: 1528-1140)
- **15. Bathe OF**; Farshidfar F (2014) From genotype to functional phenotype: unraveling the metabolomic features of colorectal cancer. Genes (Basel) 2014;5(3):536-60 (ISSN: 2073-4425)
- 16. Butte JM; Grendar J; **Bathe O**; **Sutherland F**; **Grondin S**; **Ball CG**; **Dixon E** (2014) The role of peri-hepatic drain placement in liver surgery: a prospective analysis. HPB (Oxford) 2014 Oct;16(10):936-42 (ISSN: 1477-2574)
- 17. Wei AC; Devitt KS; Wiebe M; **Bathe OF**; McLeod RS; Urbach DR (2014) Surgical process improvement tools: defining quality gaps and priority areas in gastrointestinal cancer surgery. Curr Oncol 2014 Apr;21(2):e195-202 (ISSN: 1198-0052)
- 18. Wei AC; Urbach DR; Devitt KS; Wiebe M; **Bathe OF**; McLeod RS; Kennedy ED; Baxter NN (2014) Improving quality through process change: a scoping review of process improvement tools in cancer surgery. BMC Surg 2014;14:45 (ISSN: 1471-2482)
- 19. Steele SR; McCormick J; Melton GB; Paquette I; Rivadeneira DE; Stewart D; **Buie WD**; Rafferty J (2015) Practice parameters for the management of Clostridium difficile infection. Dis Colon Rectum 2015 Jan;58(1):10-24 (ISSN: 1530-0358)
- 20. Kaiser AM; Orangio GR; Zutshi M; Alva S; Hull TL; Marcello PW; Margolin DA; Rafferty JF; **Buie WD**; Wexner SD (2014) Current status: new technologies for the treatment of patients with fecal incontinence. Surg Endosc 2014 Aug;28(8):2277-301 (ISSN: 1432-2218)
- 21. Brasel KJ; Birnbaum EH; **Datta I** (2014) Canadian Association of General Surgeons, the American College of Surgeons, the Canadian Society of Colorectal Surgeons and the American Society of Colorectal Surgeons evidence based reviews in surgery colorectal surgery. Dis Colon Rectum 2014 Sep;57(9):1149-51 (ISSN: 1530-0358)
- 22. James MT; **Dixon E**; Roberts DJ; Barry R; Balint C; Bharwani A; **Buie WD**; Godinez T; Hemmelgarn BR; **Kortbeek JB**; Manns BJ; Marin A; Scott-Douglas N; Stelfox HT; Pannu N (2014) Improving prevention, early recognition and management of acute kidney injury after major surgery: results of a planning meeting with multidisciplinary stakeholders. Can J Kidney Health Dis 2014;1:20 (ISSN: 2054-3581)
- 23. Hamilton TD; Leugner D; Kopciuk K; **Dixon E**; **Sutherland FR**; **Bathe OF** (2014) Identification of prognostic inflammatory factors in colorectal liver metastases. BMC Cancer 2014;14:542 (ISSN: 1471-2407)
- 24. Bressan AK; Roberts DJ; Edwards JP; Bhatti SU; **Dixon E; Sutherland FR; Bathe O**; **Ball CG** (2014) Efficacy of a dual-ring wound protector for prevention of incisional surgical site infection after Whipple's procedure (pancreaticoduodenectomy) with preoperatively-placed intrabiliary stents: protocol for a randomised controlled trial [In Process Citation]. BMJ Open 2014;4(8):e005577 (ISSN: 2044-6055)
- 25. Minter RM; Alseidi A; Hong JC; Jeyarajah DR; Greig PD; **Dixon E**; Thumma JR; Pawlik TM (2015) Training in Hepatopancreatobiliary Surgery-: Assessment of the Hepatopancreatobiliary Surgery Workforce in North America. Ann Surg 2015 Jan 9; p S1528-1140
- 26. Cunningham CT; Quan H; Hemmelgarn B; Noseworthy T; Beck CA; **Dixon** E; Samuel S; Ghali WA; Sykes LL; Jette N (2015) Exploring physician specialist response rates to web-based surveys. BMC Med Res Methodol 2015;15(1):32 (ISSN: 1471-2288)
- 27. Quan S; Frolkis A; Milne K; Molodecky N; Yang H; **Dixon E**; **Ball CG**; Myers RP; Ghosh S; Hilsden R; van Zanten SV; Kaplan GG (2014) Upper-gastrointestinal bleeding secondary to peptic ulcer disease: Incidence and outcomes. World J Gastroenterol 2014 Dec 14;20(46):17568-77 Saciragic (ISSN: 2219-2840)

- 28. Jhaveri K; Cleary S; Audet P; Balaa F; Bhayana D; Burak K; Chang S; **Dixon** E; Haider M; Molinari M; Reinhold C; Sherman M (2015) Consensus statements from a multidisciplinary expert panel on the utilization and application of a liver-specific MRI contrast agent (gadoxetic acid). AJR Am J Roentgenol 2015 Mar;204(3):498-509 (ISSN: 1546-3141)
- 29. Causer J; **Harvey A**; Snelgrove R; Arsenault G; Vickers JN (2014) Quiet eye training improves surgical knot tying more than traditional technical training: a randomized controlled study. Am J Surg 2014 Aug;208(2):171-7 (ISSN: 1879-1883)
- 30. Stuart HC; **Harvey A**; **Pasieka JL** (2014) Normocalcemic hyperparathyroidism: preoperatively a disease, postoperatively cured? Am J Surg 2014 May;207(5):673-80; discussion 680-1 (ISSN: 1879-1883)
- 31. Kline GA; Dias VC; So B; **Harvey A**; **Pasieka JL** (2014) Despite limited specificity, computed tomography predicts lateralization and clinical outcome in primary aldosteronism. World J Surg 2014 Nov;38(11):2855-62 (ISSN: 1432-2323)
- 32. Causer J; Vickers JN; Snelgrove R; Arsenault G; **Harvey A (2014)** Performing under pressure: quiet eye training improves surgical knot-tying performance. Surgery 2014 Nov;156(5):1089-96 (ISSN: 1532-7361)
- **33. Kirkpatrick AW**; De Waele JJ; De Laet I; De Keulenaer BL; D'Amours S; Bjorck M; Balogh ZJ; Leppaniemi A; Kaplan M; Chiaka Ejike J; Reintam Blaser A; Sugrue M; Ivatury RR; Malbrain ML (2015) WSACS The Abdominal Compartment Society. A Society dedicated to the study of the physiology and pathophysiology of the abdominal compartment and its interactions with all organ systems [In Process Citation]. Anaesthesiol Intensive Ther 2015;47(3):191-4 (ISSN: 1731-2515)
- **34. Kirkpatrick AW**; **Ball CG**; Duchesne J; Pavenski K Collective Name: CAGS/ACS Evidence Based Reviews in Surgery Group. (2014) CAGS and ACS evidence based reviews in surgery. 50. Is early transfusion of plasma and platelets in higher ratios associated with decreased in-hospital mortality in bleeding patients? Can J Surg 2014 Oct;57(5):358-60 (ISSN: 1488-2310)
- **35. Kirkpatrick AW**; Vis C; Dube M; Biesbroek S; **Ball CG**; Laberge J; Shultz J; Rea K; Sadler D; Holcomb JB; Kortbeek J (2014) The evolution of a purpose designed hybrid trauma operating room from the trauma service perspective: the RAPTOR (Resuscitation with Angiography Percutaneous Treatments and Operative Resuscitations). Injury 2014 Sep;45(9):1413-21 (ISSN: 1879-0267)
- **36. Kirkpatrick AW**; McKee JL (2014) Tactical Hemorrhage Control Case Studies Using a Point-of-Care Mechanical Direct Pressure Device. J Spec Oper Med 2014 Winter;14(4):7-10 (ISSN: 1553-9768)
- 37. De Waele JJ; Malbrain ML; **Kirkpatrick AW** (2015) The abdominal compartment syndrome: evolving concepts and future directions. Crit Care 2015;19(1):211 (ISSN: 1466-609X)
- 38. Roberts DJ; Zygun DA; **Kirkpatrick AW**; **Ball CG**; Faris PD; Bobrovitz N; Robertson HL; Stelfox HT (2014) A protocol for a scoping and qualitative study to identify and evaluate indications for damage control surgery and damage control interventions in civilian trauma patients. BMJ Open 2014;4(7):e005634 (ISSN: 2044-6055)
- 39. Roberts DJ; Ouellet JF; McBeth PB; **Kirkpatrick AW**; **Dixon E**; **Ball CG** (2014) The "weekend warrior": fact or fiction for major trauma? Can J Surg 2014 Jun;57(3):E62-8 (ISSN: 1488-2310)
- 40. Blackmore C; Ouellet JF; Niven D; **Kirkpatrick AW**; **Ball CG** (2014) Prevention of delirium in trauma patients: are we giving thiamine prophylaxis a fair chance? Can J Surg 2014 Apr;57(2):78-81 (ISSN: 1488-2310)
- 41. Malbrain ML; Marik PE; Witters I; Cordemans C; **Kirkpatrick AW**; Roberts DJ; Van Regenmortel N (2014) Fluid overload, de-resuscitation, and outcomes in critically ill or injured patients: a systematic review with suggestions for clinical practice. Anaesthesiol Intensive Ther 2014 Nov-Dec;46(5):361-80 (ISSN: 1731-2515)

- 42. Zeiler FA; Unger B; Zhu Q; Xiao J; **Kirkpatrick AW**; Kramer AH; Aleassa EM; Gillman LM (2014) A Unique Model for ONSD Part II: Inter/Intra-operator Variability. Can J Neurol Sci 2014 Jul;41(4):430-5 (ISSN: 0317-1671)
- 43. Malbrain ML; De Laet I; De Waele JJ; Sugrue M; Schachtrupp A; Duchesne J; Van Ramshorst G; De Keulenaer B; **Kirkpatrick AW**; Ahmadi-Noorbakhsh S; Mulier J; Pelosi P; Ivatury R; Pracca F; David M; Roberts DJ (2014) The role of abdominal compliance, the neglected parameter in critically ill patients a consensus review of 16. Part 2: measurement techniques and management recommendations. Anaesthesiol Intensive Ther 2014 Nov-Dec; 46(5):406-32 (ISSN: 1731-2515)
- 44. Malbrain ML; Roberts DJ; De Laet I; De Waele JJ; Sugrue M; Schachtrupp A; Duchesne J; Van Ramshorst G; De Keulenaer B; **Kirkpatrick AW**; Ahmadi-Noorbakhsh S; Mulier J; Ivatury R; Pracca F; Wise R; Pelosi P (2014) The role of abdominal compliance, the neglected parameter in critically ill patients a consensus review of 16. Part 1: definitions and pathophysiology. Anaesthesiol Intensive Ther 2014 Nov-Dec;46(5):392-405 (ISSN: 1731-2515)
- 45. Roberts DJ; Das D; Mercado M; Vis C; **Kortbeek JB**; **Kirkpatrick AW**; **Ball CG** (2014) A booming economy means a bursting trauma system: association between hospital admission for major injury and indicators of economic activity in a large Canadian health region. Am J Surg 2014 May;207(5):653-7; discussion 657-8 (ISSN: 1879-1883)
- 46. McConnell YJ; Mack LA; Gui X; Carr NJ; Sideris L; Temple WJ; Dube P; Chandrakumaran K; Moran BJ; Cecil TD (2014) Cytoreductive surgery with hyperthermic intraperitoneal chemotherapy: an emerging treatment option for advanced goblet cell tumors of the appendix. Ann Surg Oncol 2014 Jun;21(6):1975-82 (ISSN: 1534-4681)
- 47. Ng D; Falck V; McConnell YJ; Mack LA; Temple WJ; Gui X (2014) Appendiceal goblet cell carcinoid and mucinous neoplasms are closely associated tumors: lessons from their coexistence in primary tumors and concurrence in peritoneal dissemination. J Surg Oncol 2014 May;109(6):548-55 (ISSN: 1096-9098)
- 48. Lee LH; MacLean AR; Falck VG; Gui X (2015) Ileocaecal junction carcinoma: a clinicopathological study of 199 cases. Colorectal Dis 2015 Jan;17(1):01-9 (ISSN: 1463-1318)
- 49. Kline GA; **Pasieka JL**; **Harvey A**; So B; Dias VC (2014) High-probability features of primary aldosteronism may obviate the need for confirmatory testing without increasing false-positive diagnoses. J Clin Hypertens (Greenwich) 2014 Jul;16(7):488-96 (ISSN: 1751-7176)
- 50. Kline GA; **Pasieka JL**; **Harvey A**; So B; Dias VC (2014) A marked proportional rise in IVC aldosterone following cosyntropin administration during AVS is a signal to the presence of adrenal hyperplasia in primary aldosteronism. J Hum Hypertens 2014 May;28(5):298-302 (ISSN: 1476-5527)
- 51. Kuo JH; **Pasieka JL**; Parrack KM; Chabot JA; Lee JA (2014) Endocrine surgery in present-day academia. Surgery 2014 Dec;156(6):1461-69; discussion 1469-70 (ISSN: 1532-7361)
- 52. Wang TS; **Pasieka JL**; Carty SE (2014) Techniques of parathyroid exploration at North American endocrine surgery fellowship programs: what the next generation is being taught. Am J Surg 2014 Apr;207(4):527-32 (ISSN: 1879-1883)
- 53. Metcalfe KA; Zhong T; Narod SA; **Quan ML**; Holloway C; Hofer S; Bagher S; Semple J (2015) A prospective study of mastectomy patients with and without delayed breast reconstruction: long-term psychosocial functioning in the breast cancer survivorship period. J Surg Oncol 2015 Mar;111(3):258-64 (ISSN: 1096-9098)
- 54. Shea-Budgell M; **Quan ML**; Mehling B; **Temple-Oberle C** (2014) Breast reconstruction following prophylactic or therapeutic mastectomy for breast cancer: Recommendations from an evidence-based provincial guideline. Plast Surg (Oakv) 2014 Summer;22(2):103-11 (ISSN: 2292-5503)
- 55. Parvez E; Hodgson N; Cornacchi SD; Ramsaroop A; Gordon M; Farrokhyar F; Porter G; **Quan ML**; Wright F; Lovrics PJ (2014) Survey of American and Canadian general surgeons' perceptions of margin status and practice patterns for breast conserving surgery. Breast J 2014 Sep-Oct;20(5):481-8 (ISSN: 1524-4741)

- **56. Temple WJ**; Chin-Lenn L; **Mack LA** Collective Name: Cancer Surgery Alberta. (2014) Evaluating population-based breast cancer surgical practice in real time with a web-based synoptic operative reporting system. Am J Surg 2014 May;207(5):693-6; discussion 696-7 (ISSN: 1879-1883)
- 57. Rivard JD; **Temple WJ**; McConnell YJ; Sultan H; **Mack LA (2014)** Preoperative computed tomography does not predict resectability in peritoneal carcinomatosis. Am J Surg 2014 May;207(5):760-4; discussion 764-5 (ISSN: 1879-1883)

#### Section of Ophthalmology

- **1.** Adatia FA; Munro M; Jivraj I; Ajani A; Braga-Mele R (2015) Documenting the subjective patient experience of first versus second cataract surgery. J Cataract Refract Surg 2015 Jan;41(1):116-21 (ISSN: 1873-4502)
- 2. Augustine H; Munro M; **Adatia F**; Webster M; Fielden M (2014) Treatment of ocular metastasis with anti-VEGF: a literature review and case report. Can J Ophthalmol 2014 Oct;49(5):458-63 (ISSN: 0008-4182)
- 3. Le TD; Liu ES; Adatia FA; Buncic JR; Blaser S (2014) The effect of adding orbital computed tomography findings to the Chandler criteria for classifying pediatric orbital cellulitis in predicting which patients will require surgical intervention. J AAPOS 2014 Jun;18(3):271-7 (ISSN: 1528-3933)
- 4. Thomas RE; **Crichton A**; Thomas BC (2014) Antimetabolites in cataract surgery to prevent failure of a previous trabeculectomy. Cochrane Database Syst Rev 2014;7:CD010627 (ISSN: 1469-493X)
- 5. Robitaille JM; Gillett RM; Le Blanc MA; Gaston D; Nightingale M; Mackley MP; Parkash S; Hathaway J; Thomas A; Ells A; Traboulsi El; Heon E; Roy M; Shalev S; Fernandez CV; MacGillivray C; Wallace K; Fahiminiya S; Majewski J; McMaster CR; Bedard K (2014) Phenotypic Overlap Between Familial Exudative Vitreoretinopathy and Microcephaly, Lymphedema, and Chorioretinal Dysplasia Caused by KIF11 Mutations [In Process Citation]. JAMA Ophthalmol 2014 Dec 1;132(12):1393-9 (ISSN: 2168-6173)
- 6. Oloumi F; Rangayyan RM; **Ells AL** (2014) Assessment of vessel tortuosity in retinal images of preterm infants. Conf Proc IEEE Eng Med Biol Soc 2014 Aug;2014:5410-3 (ISSN: 1557-170X)
- 7. Quinn GE; Ying GS; Daniel E; Hildebrand PL; **Ells A**; Baumritter A; Kemper AR; Schron EB; Wade K (2014) Validity of a telemedicine system for the evaluation of acute-phase retinopathy of prematurity. JAMA Ophthalmol 2014 Oct;132(10):1178-84 (ISSN: 2168-6173)
- 8. Oloumi F; Rangayyan RM; **Ells AL** (2014) Quantification of the changes in the openness of the major temporal arcade in retinal fundus images of preterm infants with plus disease. Invest Ophthalmol Vis Sci 2014;55(10):6728-35 (ISSN: 1552-5783)
- 9. Arjmand P; **Gooi P**; Ahmed II (2015) Surgical technique for explantation of cosmetic anterior chamber iris implants. J Cataract Refract Surg 2015 Jan;41(1):18-22 (ISSN: 1873-4502)
- **10. Gooi P**; Teichman JC; Ahmed II (2014) Sutureless intrascleral fixation of a custom-tailored iris prosthesis with an intraocular lens [In Process Citation]. J Cataract Refract Surg 2014 Nov;40(11):1759-63 (ISSN: 1873-4502)
- **11. Gooi P**; Ahmed Y; Ahmed II (2014) Use of a microscope-mounted wide-angle point of view camera to record optimal hand position in ocular surgery. J Cataract Refract Surg 2014 Jul;40(7):1071-4 (ISSN: 1873-4502)
- 12. Smith EE; O'Donnell M; Dagenais G; Lear SA; Wielgosz A; Sharma M; Poirier P; Stotts G; Black SE; Strother S; Noseworthy MD; Benavente O; Modi J; Goyal M; Batool S; Sanchez K; Hill V; McCreary CR; Frayne R; Islam S; De Jesus J; Rangarajan S; Teo K; Yusuf S; Collective Name: PURE Investigators. (2015) Early cerebral small vessel disease and brain volume, cognition, and gait. Ann Neurol 2015 Feb;77(2):251-61 (ISSN: 1531-8249)
- 13. Lam WC; Albiani DA; Yoganathan P; Chen JC; **Kherani A**; Maberley DA; Oliver A; Rabinovitch T; Sheidow TG; Tourville E; Wittenberg LA; Sigouin C; Baptiste DC (2015) Real-world assessment of intravitreal dexamethasone implant (0.7 mg) in patients with macular edema: the CHROME study. Clin Ophthalmol 2015;9:1255-68 (ISSN: 1177-5467)

- 14. Warrian KJ; **Kherani A**; Gooi A; **Gooi P** (2014) Surgeons' point-of-view video recording technique for scleral buckling. Retina 2014 Oct;34(10):2151-2 (ISSN: 1539-2864)
- 15. Munro M; McWhae J; Romanchuk K; Crichton A; Carter G; Ball A (2014) Two cases of spontaneous filtering blebs, one idiopathic and one associated with Terrien marginal degeneration. Cornea 2014 Jul;33(7):752-4 (ISSN: 1536-4798)
- 16. Zhang H; Micomonaco DC; Dziegielewski PT; Sowerby LJ; **Weis E**; Wright ED (2015) Endoscopic vidian neurectomy: a prospective case series [epub ahead of print] [Record Supplied By Publisher] Int Forum Allergy Rhinol 2015 Mar 2; p S2042-6984
- 17. Durling B; Toren A; Patel V; Gilberg S; **Weis E**; Jordan D (2014) Incidence of discordant temporal artery biopsy in the diagnosis of giant cell arteritis. Can J Ophthalmol 2014 Apr;49(2):157-61 (ISSN: 0008-4182)
- 18. Rudnisky CJ; Wan D; **Weis E** (2014) Antibiotic choice for the prophylaxis of post-cataract extraction endophthalmitis. Ophthalmology 2014 Apr;121(4):835-41 (ISSN: 1549-4713)

#### Section of Orthopaedic Surgery

- 1. Batuyong ED; Brock HS; Thiruvengadam N; Maloney WJ; Goodman SB; Huddleston JI (2014) Outcome of porous tantalum acetabular components for Paprosky type 3 and 4 acetabular defects. J Arthroplasty 2014 Jun;29(6):1318-22 (ISSN: 1532-8406)
- 2. Batuyong ED; Jowett AJ; Wickramasinghe N; Beischer AD (2014) Using multimedia to enhance the consent process for bunion correction surgery. ANZ J Surg 2014 Apr;84(4):249-54 (ISSN: 1445-2197)
- 3. Woodmass JM; Matthewson G; Ono Y; **Bois AJ**; **Boorman RS**; **Lo IK**; **Thornton GM** (2015) Suture locking of isolated internal locking knotless suture anchors is not affected by bone quality. Open Access J Sports Med 2015;6:201-8 (ISSN: 1179-1543)
- 4. Berdusco R; Trantalis JN; Nelson AA; Sohmer S; More KD; Wong B; **Boorman RS**; **Lo IK** (2015) Arthroscopic repair of massive, contracted, immobile tears using interval slides: clinical and MRI structural follow-up. Knee Surg Sports Traumatol Arthrosc 2015 Feb;23(2):502-7 (ISSN: 1433-7347)
- 5. Matthewson G; Beach CJ; Nelson AA; Woodmass JM; Ono Y; **Boorman RS**; **Lo IK**; **Thornton GM** (2015) Partial Thickness Rotator Cuff Tears: Current Concepts. Adv Orthop 2015;2015:458786 (ISSN: 2090-3464)
- 6. Woodmass JM; Esposito JG; Ono Y; Nelson AA; **Boorman RS**; **Thornton GM**; **Lo IK** (2015) Complications following arthroscopic fixation of acromioclavicular separations: a systematic review of the literature. Open Access J Sports Med 2015;6:97-107 (ISSN: 1179-1543)
- 7. Boorman RS; More KD; Hollinshead RM; Wiley JP; Brett K; Mohtadi NG; Nelson AA; Lo IK; Bryant D (2014) The rotator cuff quality-of-life index predicts the outcome of nonoperative treatment of patients with a chronic rotator cuff tear. J Bone Joint Surg Am 2014 Nov 19;96(22):1883-8 (ISSN: 1535-1386)
- 8. Woods TC; Carroll MJ; Nelson AA; More KD; Berdusco R; Sohmer S; **Boorman RS**; **Lo IK** (2014) Transtendon rotator-cuff repair of partial-thickness articular surface tears can lead to medial rotator-cuff failure. Open Access J Sports Med 2014;5:151-7 (ISSN: 1179-1543)
- **9. Buckley R** (2015) Operative care did not benefit closed, displaced, intra-articular calcaneal fractures. J Bone Joint Surg Am 2015 Feb 18;97(4):341 (ISSN: 1535-1386)
- 10. Sharr PJ; **Buckley** RE (2014) Current concepts review: open tibial fractures [In Process Citation] Acta Chir Orthop Traumatol Cech 2014;81(2):95-107 (ISSN: 0001-5415)

- 11. Weber D; Dulai SK; Bergman J; **Buckley** R; Beaupre LA (2014) Time to initial operative treatment following open fracture does not impact development of deep infection: a prospective cohort study of 736 subjects. J Orthop Trauma 2014 Nov;28(11):613-9 (ISSN: 1531-2291)
- **12. Buckley R**; Leighton R; Sanders D; Poon J; Coles CP; Stephen D; **Paolucci EO** (2014) Open reduction and internal fixation compared with ORIF and primary subtalar arthrodesis for treatment of Sanders type IV calcaneal fractures: a randomized multicenter trial. J Orthop Trauma 2014 Oct;28(10):577-83 (ISSN: 1531-2291)
- 13. Arastu M; Sheehan B; **Buckley R** (2014) Minimally invasive reduction and fixation of displaced calcaneal fractures: surgical technique and radiographic analysis. Int Orthop 2014 Mar;38(3):539-45 (ISSN: 1432-5195)
- 14. Smith J; Lee D; Bali K; Railton P; Kinniburgh D; Faris P; Marshall D; **Burkart B**; Powell J (2014) Does bearing size influence metal ion levels in large-head metal-on-metal total hip arthroplasty? A comparison of three total hip systems. J Orthop Surg Res 2014;9:3 (ISSN: 1749-799X)
- 15. Almansoori K. A., **Clark M** (2015) Increasing Trends in Orthopedic Fellowships Are Not due to Inadequate Residency Training. Education Research International Vol 2015 (2015), Article ID 191470, 9 pages doi:10.1155/2015/191470
- Solbak NM; Heard BJ; Achari Y; Chung M; Shrive NG; Frank CB; Hart DA (2015) Alterations in Hoffa's fat pad induced by an inflammatory response following idealized anterior cruciate ligament surgery [In Process Citation]. Inflamm Res 2015 Aug;64(8):615-26 (ISSN: 1420-908X)
- 17. Heard BJ; Barton KI; Chung M; Achari Y; **Shrive NG**; **Frank CB**; Hart DA (2015) Single intra-articular dexamethasone injection immediately post-surgery in a rabbit model mitigates early inflammatory responses and post-traumatic osteoarthritis-like alterations [epub ahead of print]. J Orthop Res 2015 Jul 1; p S1554-527X
- 18. Marshall DA; Vanderby S; Barnabe C; MacDonald KV; Maxwell C; Mosher D; Wasylak T; Lix L; Stat P; Enns E; **Frank C**; Noseworthy T (2015) Estimating the Burden of Osteoarthritis to Plan for the Future [epub ahead of print]. Arthritis Care Res (Hoboken) 2015 May 4; p S2151-4658
- 19. Atarod M; Ludwig TE; **Frank CB**; Schmidt TA; **Shrive NG** (2015) Cartilage boundary lubrication of ovine synovial fluid following anterior cruciate ligament transection: a longitudinal study [In Process Citation]. Osteoarthritis Cartilage 2015 Apr;23(4):640-7 (ISSN: 1522-9653)
- 20. Kopka M; Mohtadi N; Naylor A; Walker R; Donald M; **Frank C** (2015) The use of magnetic resonance imaging in acute knee injuries can be reduced by non-physician expert clinics [In Process Citation]. Phys Sportsmed 2015 Feb;43(1):30-6 (ISSN: 0091-3847)
- 21. Atarod M; **Frank CB**; **Shrive NG** (2015) Increased meniscal loading after anterior cruciate ligament transection in vivo: a longitudinal study in sheep [In Process Citation] Knee 2015 Jan;22(1):11-7 (ISSN: 1873-5800)
- 22. Mickiewicz B; Heard BJ; Chau JK; Chung M; **Hart DA**; **Shrive NG**; **Frank CB**; Vogel HJ (2015) Metabolic profiling of synovial fluid in a unilateral ovine model of anterior cruciate ligament reconstruction of the knee suggests biomarkers for early osteoarthritis. J Orthop Res 2015 Jan;33(1):71-7 (ISSN: 1554-527X)
- 23. Beveridge JE; Heard BJ; Brown JJ; **Shrive NG**; **Frank CB** (2014) A new measure of tibiofemoral subchondral bone interactions that correlates with early cartilage damage in injured sheep. J Orthop Res 2014 Oct;32(10):1371-80 (ISSN: 1554-527X)
- 24. Atarod M; Rosvold JM; **Frank CB**; **Shrive NG** (2014) A novel testing platform for assessing knee joint mechanics: a parallel robotic system combined with an instrumented spatial linkage. Ann Biomed Eng 2014 May;42(5):1121-32 (ISSN: 1573-9686)
- 25. Conner-Spady BL; Marshall DA; Bohm E; Dunbar MJ; Loucks L; Hennigar AW; **Frank C**; Noseworthy TW (2014) Patient factors in referral choice for total joint replacement surgery. Med Care 2014 Apr;52(4):300-6 (ISSN: 1537-1948)

- 26. Huebner KD; **Shrive NG**; **Frank CB** (2014) Dexamethasone inhibits inflammation and cartilage damage in a new model of post-traumatic osteoarthritis. J Orthop Res 2014 Apr;32(4):566-72 (ISSN: 1554-527X)
- 27. Egloff C; Sawatsky A; Leonard T; **Hart DA**; Valderrabano V; Herzog W (2014) Effect of muscle weakness and joint inflammation on the onset and progression of osteoarthritis in the rabbit knee [In Process Citation]. Osteoarthritis Cartilage 2014 Nov;22(11):1886-93 (ISSN: 1522-9653)
- 28. Huisman ES; Andersson G; Scott A; Reno CR; **Hart DA; Thornton GM** (2014) Regional molecular and cellular differences in the female rabbit Achilles tendon complex: potential implications for understanding responses to loading. J Anat 2014 May;224(5):538-47 (ISSN: 1469-7580)
- 29. Hiemstra LA; Kerslake S; Irving C (2014) Anterior knee pain in the athlete. Clin Sports Med 2014 Jul;33(3):437-59 (ISSN: 1556-228X)
- **30.** Hildebrand KA; Zhang M; Befus AD; Salo PT; Hart DA (2014) A myofibroblast-mast cell-neuropeptide axis of fibrosis in post-traumatic joint contractures: an in vitro analysis of mechanistic components. J Orthop Res 2014 Oct;32(10):1290-6 (ISSN: 1554-527X)
- 31. Wani Z; Mangattil R; Butterfield T; **Hildebrand** K; Kamineni S (2015) Subscapularis partial tear nodule causing shoulder rotational triggering. Knee Surg Sports Traumatol Arthrosc 2015 Feb;23(2):573-6 (ISSN: 1433-7347)
- 32. Carroll MJ; Da Cambra MP; **Hildebrand KA** (2014) Neurologic complications of distal biceps tendon repair with 1-incision endobutton fixation [In Process Citation]. Am J Orthop (Belle Mead NJ) 2014 Jul;43(7):E159-62 (ISSN: 1934-3418)
- **33.** Hiscox C; La Mothe J; White N; Bromley M; Oddone Paolucci E; Hildebrand K (2014) Diagnosis of occult scaphoid fractures: a randomized, controlled trial comparing bone scans to radiographs for diagnosis [In Process Citation]. CJEM 2014 Jul;16(4):296-303 (ISSN: 1481-8035)
- 34. Blair-Pattison A; **Hu RW**; **Swamy G**; Anglin C (2014) Forces in spinal cannulation and breaches ex vivo [In Process Citation]. Proc Inst Mech Eng H 2014 Jul;228(7):693-702 (ISSN: 2041-3033)
- 35. Tomkins-Lane CC; Battie MC; **Hu R**; Macedo L (2014) Pathoanatomical characteristics of clinical lumbar spinal stenosis [In Process Citation]. J Back Musculoskelet Rehabil 2014;27(2):223-9 (ISSN: 1878-6324)
- 36. Bali K; Railton P; **Kiefer GN**; **Powell JN** (2014) Subcapital osteotomy of the femoral neck for patients with healed slipped capital femoral epiphysis. Bone Joint J 2014 Nov;96-B(11):1441-8 (ISSN: 2049-4408)
- 37. Dodd A; **Oddone Paolucci E**; **Korley R** (2015) The effect of three-dimensional computed tomography reconstructions on preoperative planning of tibial plateau fractures: a case-control series. BMC Musculoskelet Disord 2015;16:144 (ISSN: 1471-2474)
- **38. Kuchinad R**; Fourman MS; Fragomen AT; Rozbruch SR (2014) Knee arthrodesis as limb salvage for complex failures of total knee arthroplasty. J Arthroplasty 2014 Nov;29(11):2150-5 (ISSN: 1532-8406)
- 39. Da Cunha RJ; Al Sayegh S; **La Mothe JM**; Letal M; Johal H; **Parsons DL**; **Ferri-de-Barros F** (2015) Intraoperative skull-femoral traction in posterior spinal arthrodesis for adolescent idiopathic scoliosis: the impact on perioperative outcomes and health resource utilization [In Process Citation] Spine (Phila Pa 1976) 2015 Feb 1;40(3):E154-60 (ISSN: 1528-1159)
- 40. Halvorson JJ; **Lamothe J**; Martin CR; Grose A; Asprinio DE; Wellman D; Helfet DL (2014) Combined acetabulum and pelvic ring injuries. J Am Acad Orthop Surg 2014 May;22(5):304-14 (ISSN: 1067-151X)
- 41. Shandiz MA; MacKenzie JR; Hunt S; Anglin C (2015) Accuracy of an adjustable patient-specific guide for acetabular alignment in hip replacement surgery (Optihip). Proc Inst Mech Eng H 2014 Sep;228(9):876-89 (ISSN: 2041-3033)

- 42. Kaniki N; Willits K; **Mohtadi NG**; Fung V; Bryant D (2014) A retrospective comparative study with historical control to determine the effectiveness of platelet-rich plasma as part of nonoperative treatment of acute achilles tendon rupture. Arthroscopy 2014 Sep;30(9):1139-45 (ISSN: 1526-3231)
- **43. Sabo MT**; Talwalkar S; Hayton M; Watts A; Trail IA; Stanley JK (2014) Intermediate outcomes of ulnar head arthroplasty [In Process Citation]. J Hand Surg Am 2014 Dec;39(12):2405-2411.e1 (ISSN: 1531-6564)
- 44. Leonard CA; Lee WY; Tailor P; **Salo PT**; Kubes P; **Krawetz RJ** (2015) Allogeneic Bone Marrow Transplant from MRL/MpJ Super-Healer Mice Does Not Improve Articular Cartilage Repair in the C57BI/6 Strain. PLoS One 2015;10(6):e0131661 (ISSN: 1932-6203)
- 45. Ahmed AS; Li J; Schizas N; Ahmed M; Ostenson CG; **Salo P**; Hewitt C; **Hart** DA; Ackermann PW (2014) Expressional changes in growth and inflammatory mediators during Achilles tendon repair in diabetic rats: new insights into a possible basis for compromised healing. Cell Tissue Res 2014 Jul;357(1):109-17 (ISSN: 1432-0878)
- 46. Passias PG; **Soroceanu A**; Smith J; Boniello A; Yang S; Scheer JK; Schwab F; Shaffrey C; Kim HJ; Protopsaltis T; Mundis G; Gupta M; Klineberg E; Lafage V; Ames C (2014) Postoperative Cervical Deformity in 215 Thoracolumbar Patients With Adult Spinal Deformity: Prevalence, Risk Factors, and Impact on Patient-Reported Outcome and Satisfaction at 2-Year Follow-up [In Process Citation]. Spine (Phila Pa 1976) 2015 Mar 1;40(5):283-91 (ISSN: 1528-1159)
- 47. Fisher CG; Vaccaro AR; Patel AA; Prasad SK; Chi J; Mulpuri K; **Thomas KC**; Whang PG (2015) Evidence-based recommendations for spine surgery [In Process Citation]. Spine (Phila Pa 1976) 2015 Mar 1;40(5):E309-16 (ISSN: 1528-1159)
- 48. Bailey CS; Urquhart JC; Dvorak MF; Nadeau M; Boyd MC; **Thomas KC**; Kwon BK; Gurr KR; Bailey SI; Fisher CG (2014) Orthosis versus no orthosis for the treatment of thoracolumbar burst fractures without neurologic injury: a multicenter prospective randomized equivalence trial. Spine J 2014 Nov 1;14(11):2557-64 (ISSN: 1878-1632)
- 49. Vaccaro AR; Fisher CG; Whang PG; Patel AA; **Thomas KC**; Mulpuri K; Chi J; Prasad SK (2014) Evidence-based recommendations for spine surgery. Spine (Phila Pa 1976) 2014 Sep 1;39(19):E1183-9 (ISSN: 1528-1159)
- 50. Marshall DA; Pykerman K; **Werle J**; Lorenzetti D; Wasylak T; Noseworthy T; Dick DA; O'Connor G; Sundaram A; Heintzbergen S; **Frank C** (2014) Hip resurfacing versus total hip arthroplasty: a systematic review comparing standardized outcomes. Clin Orthop Relat Res 2014 Jul;472(7):2217-30 (ISSN: 1528-1132)

#### Section of Otolaryngology

- 1. Randall DR; **Rudmik LR**; **Ball CG**; **Bosch JD** (2014) External laryngotracheal trauma: Incidence, airway control, and outcomes in a large Canadian center. Laryngoscope 2014 Apr;124(4):E123-33 (ISSN: 1531-4995)
- 2. Liu CC; Livingstone D; **Dixon E**; **Dort JC** (2015) Early versus late tracheostomy: a systematic review and meta-analysis. Otolaryngol Head Neck Surg 2015 Feb;152(2):219-27 (ISSN: 1097-6817)
- 3. Lui JT; Khalil MN; **Chandarana SP** (2014) Primary squamous cell of the thyroid-an abbreviated clinical presentation. J Otolaryngol Head Neck Surg 2014;43:17 (ISSN: 1916-0216)
- 4. Dang M; Lysack JT; Wu T; Matthews TW; Chandarana SP; Brockton NT; Bose P; Bansal G; Cheng H; Mitchell JR; Dort JC (2015) MRI Texture Analysis Predicts p53 Status in Head and Neck Squamous Cell Carcinoma [In Process Citation]. AJNR Am J Neuroradiol 2015 Jan:36(1):166-70 (ISSN: 1936-959X)
- 5. Randall DR; Lysack JT; Hudon ME; Guggisberg K; Nakoneshny SC; Wayne Matthews T; Dort JC; Chandarana SP (2015) Diagnostic utility of central node necrosis in predicting extracapsular spread among oral cavity squamous cell carcinoma [In Process Citation]. Head Neck 2015 Jan;37(1):92-6 (ISSN: 1097-0347)
- 6. Bose P; Brockton NT; Guggisberg K; Nakoneshny SC; Kornaga E; Klimowicz AC; Tambasco M; **Dort JC** (2015) Fractal analysis of nuclear histology integrates tumor and stromal features into a single prognostic factor of the oral cancer microenvironment. BMC Cancer 2015;15:409 (ISSN: 1471-2407)

- 7. Harris JR; Lau H; Surgeoner BV; Chua N; Dobrovolsky W; **Dort JC**; **Kalaydjian E**; Nesbitt M; Scrimger RA; Seikaly H; Skarsgard D; Webster MA; Collective Name: Members of the Alberta Provincial Head and Neck Tumour Team. (2014) Health care delivery for head-and-neck cancer patients in Alberta: a practice guideline. Curr Oncol 2014 Oct;21(5):e704-14 (ISSN: 1198-0052)
- 8. Bose P; Thakur SS; Brockton NT; Klimowicz AC; Kornaga E; Nakoneshny SC; Riabowol KT; **Dort JC** (2014) Tumor cell apoptosis mediated by cytoplasmic ING1 is associated with improved survival in oral squamous cell carcinoma patients. Oncotarget 2014 May 30;5(10):3210-9 (ISSN: 1949-2553)
- 9. Dautremont JF; **Mechor B**; **Rudmik L** (2014) The role of immediate postoperative systemic corticosteroids when utilizing a steroid-eluting spacer following sinus surgery. Otolaryngol Head Neck Surg 2014 Apr;150(4):689-95 (ISSN: 1097-6817)
- 10. Macdonald KI; Wright ED; Sowerby LJ; Rotenberg BW; Chin CJ; Rudmik L; Sommer DD; Nayan S; Des Rosiers M; Tewfik MA; Valdes CJ; Massoud E; Thomas D; Kilty SJ; Vescan A; Mechor B; Lavigne F; Fandino M; Javer AR; Witterick IJ (2015) Squeeze bottle versus saline spray after endoscopic sinus surgery for chronic rhinosinusitis: A pilot multicentre trial [In Process Citation]. Am J Rhinol Allergy 2015 Jan;29(1):13-7 (ISSN: 1945-8932)
- 11. Liu CC; Lui J; **Oddone Paolucci E**; **Rudmik L** (2015) Systematic review of the quality of economic evaluations in the otolaryngology literature. Otolaryngol Head Neck Surg 2015 Jan;152(1):106-15 (ISSN: 1097-6817)
- **12. Rudmik L**; Starreveld YP; Vandergrift WA; Banglawala SM; Soler ZM (2015) Cost-effectiveness of the endoscopic versus microscopic approach for pituitary adenoma resection. Laryngoscope 2015 Jan;125(1):16-24 (ISSN: 1531-4995)
- **13. Rudmik L**; Soler ZM; Mace JC; Schlosser RJ; Smith TL (2015) Economic evaluation of endoscopic sinus surgery versus continued medical therapy for refractory chronic rhinosinusitis. Laryngoscope 2015 Jan;125(1):25-32 (ISSN: 1531-4995)
- 14. Smith KA; Sommer DD; **Grondin S**; Rotenberg B; Tewfik MA; Kilty S; Wright E; Janjua A; Lee J; Diamond C; **Rudmik L** (2015) Assessment of the current Canadian rhinology workforce. J Otolaryngol Head Neck Surg 2015;44(1):15 (ISSN: 1916-0216)
- **15. Rudmik L** (2015) Chronic rhinosinusitis: an under-researched epidemic. J Otolaryngol Head Neck Surg 2015;44(1):11 (ISSN: 1916-0216)
- 16. Lui JT; **Rudmik L**; Randall DR (2014) Reducing the preoperative ecological footprint in otolaryngology [In Process Citation] Otolaryngol Head Neck Surg 2014 Nov;151(5):805-10 (ISSN: 1097-6817)
- 17. De Conde AS; Mace JC; Bodner T; Hwang PH; **Rudmik L**; Soler ZM; Smith TL (2014) SNOT-22 quality of life domains differentially predict treatment modality selection in chronic rhinosinusitis. Int Forum Allergy Rhinol 2014 Dec;4(12):972-9 (ISSN: 2042-6984)
- **18. Rudmik L**; Smith KA; Soler ZM; Schlosser RJ; Smith TL (2014) Routine magnetic resonance imaging for idiopathic olfactory loss: a modeling-based economic evaluation. JAMA Otolaryngol Head Neck Surg 2014 Oct;140(10):911-7 (ISSN: 2168-619X)
- 19. Smith KA; Smith TL; Mace JC; **Rudmik L** (2014) Endoscopic sinus surgery compared to continued medical therapy for patients with refractory chronic rhinosinusitis. Int Forum Allergy Rhinol 2014 Oct;4(10):823-7 (ISSN: 2042-6984).
- 20. Gan EC; Thamboo A; **Rudmik L**; Hwang PH; Ferguson BJ; Javer AR (2014) Medical management of allergic fungal rhinosinusitis following endoscopic sinus surgery: an evidence-based review and recommendations. Int Forum Allergy Rhinol 2014 Sep;4(9):702-15 (ISSN: 2042-6984)

- 21. Rudmik L; Leung R (2014) Cost-effectiveness analysis of endoscopic sphenopalatine artery ligation vs arterial embolization for intractable epistaxis. JAMA Otolaryngol Head Neck Surg 2014 Sep;140(9):802-8 (ISSN: 2168-619X)
- **22. Rudmik L**; Smith TL; Schlosser RJ; Hwang PH; Mace JC; Soler ZM (2014) Productivity costs in patients with refractory chronic rhinosinusitis. Laryngoscope 2014 Sep;124(9):2007-12 (ISSN: 1531-4995)
- 23. Orlandi RR; Smith TL; Marple BF; Harvey RJ; Hwang PH; Kern RC; Kingdom TT; Luong A; **Rudmik L**; Senior BA; Toskala E; Kennedy DW (2014) Update on evidence-based reviews with recommendations in adult chronic rhinosinusitis. Int Forum Allergy Rhinol 2014 Jul;4 Suppl 1:S1-S15 (ISSN: 2042-6984)
- 24. Smith KA; **Yunker WK** (2014) Kawasaki disease is associated with sensorineural hearing loss: a systematic review. Int J Pediatr Otorhinolaryngol 2014 Aug;78(8):1216-20 (ISSN: 1872-8464)

#### Section of Pediatric Surgery

- 1. Mataftsi A; Haidich AB; Kokkali S; Rabiah PK; Birch E; Stager DR; Cheong-Leen R; Singh V; Egbert JE; **Astle WF**; Lambert SR; Amitabh P; Khan AO; Grigg J; Arvanitidou M; Dimitrakos SA; Nischal KK (2014) Postoperative glaucoma following infantile cataract surgery: an individual patient data meta-analysis. JAMA Ophthalmol 2014 Sep;132(9):1059-67 (ISSN: 2168-6173)
- 2. Skarsgard ED; Meaney C; Bassil K; **Brindle M**; Arbour L; Moineddin R Collective Name: Canadian Pediatric Surgery Network (CAPSNet). (2015) Maternal risk factors for gastroschisis in Canada [In Process Citation] Birth Defects Res A Clin Mol Teratol 2015 Feb;103(2):111-8 (ISSN: 1542-0760)
- 3. Turner B; Dasgupta R; **Brindle ME** (2014) A contemporary prediction rule for esophageal atresia (EA) and tracheo-esophageal fistula (TEF) [In Process Citation]. J Pediatr Surg 2014 Dec;49(12):1758-61 (ISSN: 1531-5037)
- **4. Brindle ME**; Cook EF; Tibboel D; Lally PA; Lally KP Collective Name: Congenital Diaphragmatic Hernia Study Group. (2014) A clinical prediction rule for the severity of congenital diaphragmatic hernias in newborns. Pediatrics 2014 Aug;134(2):e413-9 (ISSN: 1098-4275)
- 5. Ross MJ; Liu H; Netherton SJ; Eccles R; Chen PW; Boag G; Morrison E; Thompson GC (2014) Outcomes of children with suspected appendicitis and incompletely visualized appendix on ultrasound. Acad Emerg Med 2014 May;21(5):538-42 (ISSN: 1553-2712)
- 6. Da Cunha RJ; Al Sayegh S; La Mothe JM; Letal M; Johal H; **Parsons DL**; **Ferri-de-Barros F** (2015) Intraoperative skull-femoral traction in posterior spinal arthrodesis for adolescent idiopathic scoliosis: the impact on perioperative outcomes and health resource utilization [In Process Citation] Spine (Phila Pa 1976) 2015 Feb 1;40(3):E154-60 (ISSN: 1528-1159)
- 7. Da Cambra MP; Gupta SK; **Ferri-de-Barros F** (2014) Subungual exostosis of the toes: a systematic review. Clin Orthop Relat Res 2014 Apr;472(4):1251-9 (ISSN: 1528-1132)
- 8. Hui C; Joughin E; Nettel-Aguirre A; Goldstein S; Harder J; Kiefer G; Parsons D; Brauer C; Howard J (2014) Comparison of cast materials for the treatment of congenital idiopathic clubfoot using the Ponseti method: a prospective randomized controlled trial. Can J Surg 2014 Aug;57(4):247-53 (ISSN: 1488-2310)
- 9. Bali K; Railton P; **Kiefer GN**; **Powell JN** (2014) Subcapital osteotomy of the femoral neck for patients with healed slipped capital femoral epiphysis. Bone Joint J 2014 Nov;96-B(11):1441-8 (ISSN: 2049-4408)
- 10. Schouten R; **Lewkonia P**; Noonan VK; Dvorak MF; Fisher CG (2015) Expectations of recovery and functional outcomes following thoracolumbar trauma: an evidence-based medicine process to determine what surgeons should be telling their patients. J Neurosurg Spine 22(1):101-11
- 11. Blackmore C; Austin J; **Lopushinsky SR**; Donnon T (2014) Effects of Postgraduate Medical Education "Boot Camps" on Clinical Skills, Knowledge, and Confidence: A Meta-Analysis. J Grad Med Educ 6(4):643-52

12. Romao RL; **Weber B**; Gerstle JT; Grant R; Pippi Salle JL; Bagli DJ; Figueroa VH; Braga LH; Farhat WA; Koyle MA; Lorenzo AJ (2014) Comparison between laparoscopic and open radical nephrectomy for the treatment of primary renal tumors in children: single-center experience over a 5-year period. J Pediatr Urol 2014 Jun;10(3):488-94 (ISSN: 1873-4898)

#### Section of Plastic Surgery

- Doherty C; Nickerson D; Southern DA; Kieser T; Appoo J; Dawes J; De Souza MA; Harrop AR; Rabi D Collective Name: Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) Investigators. (2014) Trends in postcoronary artery bypass graft sternal wound dehiscence in a provincial population. Plast Surg (Oakv) 2014 Fall;22(3):196-200 (ISSN: 2292-5503)
- 2. Hall-Findlay EJ (2015) Comments on "Three-Dimensional Imaging for Breast Augmentation: Is this Technology Providing Accurate Simulations?" Aesthetic Surgery Journal 35(3): 68-72, 2015
- **3. Hall-Findlay EJ** (2015) Breast Augmentation: Simplifying the Principles. Plastic Surgery Pulse, Quality Medical Publishing, March 2015.
- 4. Yeung JK; Dautremont JF; Harrop AR; Asante T; Hirani N; Nakoneshny SC; de Haas V; Mckenzie D; Matthews TW; Chandarana SP; Schrag C; Dort JC (2014) Reduction of pulmonary complications and hospital length of stay with a clinical care pathway after head and neck reconstruction. Plast Reconstr Surg 2014 Jun;133(6):1477-84 (ISSN: 1529-4242)
- 5. Dumestre D; **Nickerson D** (2014) Use of cyanide antidotes in burn patients with suspected inhalation injuries in North America: a cross-sectional survey. J Burn Care Res 2014 Mar-Apr;35(2):e112-7 (ISSN: 1559-0488)
- 6. McBeth PB; Sass K; **Nickerson D**; **Ball CG**; **Kirkpatrick AW** (2014). A necessary evil? Intra-abdominal hypertension complicating burn patient resuscitation. J Trauma Manag Outcomes 2014;8:12 (ISSN: 1752-2897)

#### Section of Surgical Oncology

- 1. Chin-Lenn L; Temple-Oberle C; McKinnon JG (2015) Isolated limb infusion: Efficacy, toxicity and an evolution in the management of in-transit melanoma. Plast Surg (Oakv) 2015 Spring;23(1):25-30 (ISSN: 2292-5503)
- 2. Urbanellis P; **Chin-Lenn L**; Teman CJ; **McKinnon JG** (2015) Kikuchi-Fujimoto lymphadenitis imitating metastatic melanoma on positron emission tomography: a case report. BMC Surg 2015;15(1):50
- 3. Byers BA; **Temple-Oberle CF**; Hurdle V; **McKinnon JG** (2014) Treatment of in-transit melanoma with intra-lesional interleukin-2: a systematic review. J Surg Oncol 2014 Nov;110(6):770-5 (ISSN: 1096-9098)

#### Section of Thoracic Surgery

- 1. Gelberg J; **Grondin** S; Tremblay A (2014) Mediastinal staging for lung cancer. Can Respir J 2014 May-Jun;21(3):159-61 (ISSN: 1916-7245)
- 2. Edwards JP; Schofield A; **Paolucci EO**; Schieman C; Kelly E; **Servatyari R**; **Dixon E**; **Ball CG**; **Grondin SC** (2014) Identifying areas of weakness in thoracic surgery residency training: a comparison of the perceptions of residents and program directors. J Surg Educ 2014 May-Jun;71(3):360-6 (ISSN: 1878-7452)
- 3. Edwards JP; **Datta I**; Hunt JD; Stefan K; **Ball CG**; **Dixon E**; **Grondin SC** (2014) The impact of computed tomographic screening for lung cancer on the thoracic surgery workforce. Ann Thorac Surg (Netherlands), Aug 2014, 98(2) p447-52

#### Section of Transplant Surgery

Garg AX; Nevis IF; McArthur E; Sontrop JM; Koval JJ; Lam NN; Hildebrand AM; Reese PP; Storsley L; Gill JS; Segev DL; Habbous S; Bugeja A; Knoll GA; Dipchand C; Monroy-Cuadros M; Lentine KL Collective Name: DONOR Network. (2015) Gestational hypertension and preeclampsia in living kidney donors. N Engl J Med 2015 Jan 8;372(2):124-33 (ISSN: 1533-4406)

- 2. Baig LA; Beran TN; Vallevand A; Baig ZA; **Monroy-Cuadros M** (2014) Accuracy of portrayal by standardized patients: results from four OSCE stations conducted for high stakes examinations. BMC Med Educ 2014;14:97 (ISSN: 1472-6920)
- 3. Barnieh L; Yilmaz S; McLaughlin K; Hemmelgarn BR; Klarenbach S; Manns BJ; For The Alberta Kidney Disease Network (2014) The cost of kidney transplant over time. Prog Transplant 2014 Sep;24(3):257-62 (ISSN: 1526-9248)

#### Section of Urology 2013-2015

- 1. Karsenty G; **Baverstock R**; **Carlson K**; Diaz DC; Cruz F; Dmochowski R; Fulford S; Giannantoni A; Heesakkers J; Kaufmann A; Peyrat L; Thavaseelan J; Dasgupta P (2015) Technical aspects of botulinum toxin type A injection in the bladder to treat urinary incontinence: reviewing the procedure [In Process Citation] Int J Clin Pract 2014 Jun;68(6):731-42 (ISSN: 1742-1241)
- 2. Flannigan RK; **Baverstock RJ** (2014) Management of post-radiation therapy complications among prostate cancer patients: A case series. Can Urol Assoc J 2014 Sep;8(9-10):E632-6 (ISSN: 1911-6470)
- 3. Lawson KA; Rudzinski JK; Vicas I; **Carlson KV** (2013) Assessment of antibiotic prophylaxis prescribing patterns for TURP: A need for Canadian guidelines? Can Urol Assoc J 2013 Jul-Aug;7(7-8):E530-6 (ISSN: 1911-6470)
- 4. Huang KC; Dolph M; **Donnelly B**; Bismar TA (2014) ERG expression is associated with increased risk of biochemical relapse following radical prostatectomy in early onset prostate cancer. Clin Transl Oncol 2014 Nov;16(11):973-9 (ISSN: 1699-3055)
- 5. Huang KC; Alshalalfa M; Hegazy SA; Dolph M; **Donnelly B**; Bismar TA (2014) The prognostic significance of combined ERG and androgen receptor expression in patients with prostate cancer managed by androgen deprivation therapy. Cancer Biol Ther 2014 Sep;15(9):1120-8 (ISSN: 1555-8576)
- 6. Al Bashir S; Alshalalfa M; Hegazy SA; Dolph M; **Donnelly B**; Bismar TA (2014) Cysteine- rich secretory protein 3 (CRISP3), ERG and PTEN define a molecular subtype of prostate cancer with implication to patients' prognosis. J Hematol Oncol 2014;7:21 (ISSN: 1756-8722)
- 7. Sfakianos JP; Lin Gellert L; Maschino A; **Gotto GT**; Kim PH; Al-Ahmadie H; Bochner BH (2014) The role of PTEN tumor suppressor pathway staining in carcinoma in situ of the bladder. Urol Oncol 2014 Jul;32(5):657-62 (ISSN: 1873-2496)
- 8. Flannigan RK; **Gotto GT**; **Donnelly B**; **Carlson KV** (2014) Standardized follow-up program may reduce emergency room and urgent care visits for patients undergoing radical prostatectomy. Can Urol Assoc J 2014 Jul;8(7-8):E505-9 (ISSN: 1911-6470)
- 9. Al Bashir S; Yilmaz A; **Gotto G**; Trpkov K (2014) Long term outcome of primary urothelial papilloma: a single institution cohort. Pathology 2014 Jan;46(1):37-40 (ISSN: 1465-3931)
- **10. Gotto GT**; Yu C; Bernstein M; Eastham JA; Kattan MW (2014) Development of a nomogram model predicting current bone scan positivity in patients treated with androgen-deprivation therapy for prostate cancer. Front Oncol 2014;4:296 (ISSN: 2234-943X)
- 11. Patel P; **Gotto G**; Kavanagh A; Al Bashir S; Bismar TA; Trpkov K (2013) Urinary bladder melanosis associated with urothelial dysplasia and invasive urothelial carcinoma: a report of two cases. Anal Quant Cytopathol Histpathol 2013 Oct;35(5):294-300
- 12. Patel P; Reikie BA; Maxwell JP; Yilmaz A; **Gotto GT**; Trpkov K (2013) Long-term clinical outcome of inverted urothelial papilloma including cases with focal papillary pattern: is continuous surveillance necessary? Urology 2013 Oct;82(4):857-60 (ISSN: 1527-9995)

- 13. Lavallee LT; Tanguay S; Jewett MA; Wood L; Kapoor A; Rendon RA; Moore RB; Lacombe L; **Kawakami J**; Pautler SE; Drachenberg DE; Black PC; Lattouf JB; Morash C; Cagiannos I; Liu Z; Breau RH (2015) Surgical management of stage T1 renal tumours at Canadian academic centres. Can Urol Assoc J 2015 Mar-Apr;9(3-4):99-106 (ISSN: 1911-6470)
- 14. Kim M; Boyle SL; Fernandez A; Matsumoto ED; Pace KT; Anidjar M; **Kozak GN**; Dave S; Welk BK; Johnson MI; Pautler SE (2014) Development of a novel classification system for anatomical variants of the puboprostatic ligaments with expert validation. Can Urol Assoc J 2014 Nov;8(11-12):432-6 (ISSN: 1911-6470)
- 15. Bella AJ; **Lee JC**; Carrier S; Benard F; Brock GB (2015) 2015 CUA Practice guidelines for erectile dysfunction. Can Urol Assoc J 2015 Jan-Feb;9(1-2):23-9 (ISSN: 1911-6470)

#### Department of Surgery

- Lee WY; Sanz MJ; Wong CH; Hardy PO; Salman-Dilgimen A; Moriarty TJ; Chaconas G; Marques A; Krawetz R; Mody CH; Kubes P (2014) Invariant natural killer T cells act as an extravascular cytotoxic barrier for joint-invading Lyme Borrelia. Proc Natl Acad Sci U S A 2014 Sep 23;111(38):13936-41 (ISSN: 1091-6490)
- 2. Heard BJ; Rosvold JM; Fritzler MJ; El-Gabalawy H; Wiley JP; **Krawetz RJ** (2014) A computational method to differentiate normal individuals, osteoarthritis and rheumatoid arthritis patients using serum biomarkers. J R Soc Interface 2014 Aug 6;11(97):20140428 (ISSN: 1742-5662)
- 3. Taiani JT; Buie HR; Campbell GM; Manske SL; **Krawetz RJ**; Rancourt DE; Boyd SK; Matyas JR (2014) Embryonic stem cell therapy improves bone quality in a model of impaired fracture healing in the mouse; tracked temporally using in vivo micro-CT. Bone 2014 Jul;64:263-72 (ISSN: 1873-2763)
- 4. Ando W; Kutcher JJ; **Krawetz R**; Sen A; Nakamura N; **Frank CB**; Hart DA (2014) Clonal analysis of synovial fluid stem cells to characterize and identify stable mesenchymal stromal cell/mesenchymal progenitor cell phenotypes in a porcine model: a cell source with enhanced commitment to the chondrogenic lineage. Cytotherapy 2014 Jun;16(6):776-88 (ISSN: 1477-2566)
- 5. Gareau T; Lara GG; Shepherd RD; **Krawetz R**; Rancourt DE; Rinker KD; Kallos MS (2014) Shear stress influences the pluripotency of murine embryonic stem cells in stirred suspension bioreactors. J Tissue Eng Regen Med 2014 Apr;8(4):268-78 (ISSN: 1932-7005)
- 6. Thornton GM; Reno CR; Achari Y; Morck DW; Hart DA (2015) Surgical menopause initiates molecular changes that do not result in mechanical changes in normal and healing ligaments. Bone Joint Res 2015 Mar;4(3):38-44 (ISSN: 2046-3758)

#### Joint Appointments

- 1. Di Eusanio M; Trimarchi S; Peterson MD; Myrmel T; Hughes GC; Korach A; Sundt TM; Di Bartolomeo R; Greason K; Khoynezhad A; **Appoo JJ**; Folesani G; De Vincentiis C; Montgomery DG; Isselbacher EM; Eagle KA; Nienaber CA; Patel HJ (2014) Root replacement surgery versus more conservative management during type A acute aortic dissection repair. Ann Thorac Surg 2014 Dec;98(6):2078-84 (ISSN: 1552-6259)
- 2. Kent WD; **Appoo JJ**; Bavaria JE; Herget EJ; Moeller P; Pochettino A; Wong JK (2014) Results of type II hybrid arch repair with zone 0 stent graft deployment for complex aortic arch pathology. J Thorac Cardiovasc Surg 2014 Dec;148(6):2951-5 (ISSN: 1097-685X)
- 3. Martufi G; Gasser TC; **Appoo JJ**; Di Martino ES (2014) Mechano-biology in the thoracic aortic aneurysm: a review and case study. Biomech Model Mechanobiol 2014 Oct;13(5):917-28 (ISSN: 1617-7940)
- 4. Gregory AJ; Prusinkiewicz CA; Herget E; Wong J; Kent WD; **Appoo JJ** (2014) Subclavian graft thrombosis as an alternative cause for delayed spinal cord ischemia following hybrid aortic arch repair. J Cardiothorac Vasc Anesth 2014 Jun;28(3):718-22 (ISSN: 1532-8422)

- 5. Nagendran J; Norris CM; **Appoo JJ**; Ross DB; Nagendran J Collective Name: Alberta Provincial Project for Outcome Assessment in Coronary Heart Disease (APPROACH) Investigators. (2014) Left ventricular end-diastolic pressure predicts survival in coronary artery bypass graft surgery patients. Ann Thorac Surg 2014 Apr;97(4):1343-7 (ISSN: 1552-6259)
- 6. Rahmani W; Abbasi S; Hagner A; Raharjo E; Kumar R; Hotta A; Magness S; Metzger D; **Biernaskie J** (2014) Hair follicle dermal stem cells regenerate the dermal sheath, repopulate the dermal papilla, and modulate hair type. Dev Cell 2014 Dec 8;31(5):543-58 (ISSN: 1878-1551)
- 7. Burnett LN; Carr E; Tapp D; Raffin Bouchal S; Horch JD; **Biernaskie J**; **Gabriel V** (2014) Patient experiences living with split thickness skin grafts. Burns 2014 Sep;40(6):1097-105 (ISSN: 1879-1409)
- 8. Khuong HT; Kumar R; Senjaya F; Grochmal J; Ivanovic A; Shakhbazau A; Forden J; Webb A; **Biernaskie** J; Midha R (2014) Skin derived precursor Schwann cells improve behavioral recovery for acute and delayed nerve repair. Exp Neurol 2014 Apr;254:168-79 (ISSN: 1090-2430)
- 9. Rizkallah J; Kent W; Kuriachan V; **Burgess J**; Exner D (2015) Troubleshooting during a challenging high-risk pacemaker lead extraction: a case report and review of the literature. BMC Res Notes 2015;8(1):94 (ISSN: 1756-0500)
- 10. Rizkallah J; **Burgess J**; Kuriachan V (2014) Absent right and persistent left superior vena cava: troubleshooting during a challenging pacemaker implant: a case report. BMC Res Notes 2014;7:462 (ISSN: 1756-0500)
- 11. Kuhle J; Gaiottino J; Leppert D; Petzold A; Bestwick JP; Malaspina A; Lu CH; Dobson R; Disanto G; Norgren N; Nissim A; Kappos L; Hurlbert J; Yong VW; Giovannoni G; **Casha S** (2015) Serum neurofilament light chain is a biomarker of human spinal cord injury severity and outcome. J Neurol Neurosurg Psychiatry 2015 Mar;86(3):273-9 (ISSN: 1468-330X)
- 12. Munro M; **Costello F**; Burrowes D; Yau R (2015) Maffucci syndrome and intracranial chondrosarcomas: a case report featuring spontaneous resolution of sixth nerve palsy [In Process Citation]. J Neuroophthalmol 2015 Mar;35(1):41-4 (ISSN: 1536-5166)
- **13. Costello F**; Pan YI; Yeh EA; Hodge W; Burton JM; Kardon R (2015) The temporal evolution of structural and functional measures after acute optic neuritis [epub ahead of print] [Record Supplied By Publisher]. J Neurol Neurosurg Psychiatry 2015 Feb 10; p S1468-330X
- 14. Schippling S; Balk Lj; **Costello F**; Albrecht P; Balcer L; Calabresi P; Frederiksen J; Frohman E; Green A; Klistorner A; Outteryck O; Paul F; Plant G; Traber G; Vermersch P; Villoslada P; Wolf S; Petzold A (2015) Quality control for retinal OCT in multiple sclerosis: validation of the OSCAR-IB criteria [In Process Citation]. Mult Scler 2015 Feb;21(2):163-70 (ISSN: 1477-0970)
- 15. Chen JJ; **Costello F**; Kardon RH (2015) Sex disparities in neuro-ophthalmologic disorders. Curr Eye Res 2015 Feb;40(2):247-65 (ISSN: 1460-2202)
- 16. Zhornitsky S; Greenfield J; Koch MW; Patten SB; Harris C; Wall W; Alikhani K; Burton J; Busche K; **Costello F**; Davenport JW; Jarvis SE; Lavarato D; Parpal H; Patry DG; Yeung M; Metz LM (2015) Long-term persistence with injectable therapy in relapsing-remitting multiple sclerosis: an 18-year observational cohort study. PLoS One 2015;10(4):e0123824 (ISSN: 1932-6203)
- 17. Yeh EA; Marrie RA; Reginald YA; Buncic JR; Noguera AE; O'Mahony J; Mah JK; Banwell B; **Costello F** (2014) Functional-structural correlations in the afferent visual pathway in pediatric demyelination. Neurology 2014 Dec 2;83(23):2147-52 (ISSN: 1526-632X)
- **18. Costello FE** (2014) Optical coherence tomography technologies: which machine do you want to own? J Neuroophthalmol 2014 Sep;34 Suppl:S3-9 (ISSN: 1536-5166)

- **19. Costello F**; Modi J; Lautner D; Bhayana D; Scott JN; Davenport WJ; Trufyn J; Frayne R; Ciura VA; Goyal M; Mah J; Hill MD (2014) Validity of the diagnostic criteria for chronic cerebrospinal venous insufficiency and association with multiple sclerosis. CMAJ 2014 Aug 5;186(11):E418-26 (ISSN: 1488-2329)
- **20. Costello F** (2014) Inflammatory optic neuropathies. Continuum (Minneap Minn) 2014 Aug;20(4 Neuro-ophthalmology):816-37 (ISSN: 1538-6899)
- 21. Petzold A; Wattjes MP; **Costello** F; Flores-Rivera J; Fraser CL; Fujihara K; Leavitt J; Marignier R; Paul F; Schippling S; Sindic C; Villoslada P; Weinshenker B; Plant GT (2014) The investigation of acute optic neuritis: a review and proposed protocol. Nat Rev Neurol 2014 Aug;10(8):447-58 (ISSN: 1759-4766)
- 22. Brasher PM; **Dobson G** (2014) Understanding non-inferiority trials: an introduction [In Process Citation] Can J Anaesth 2014 May;61(5):389-92 (ISSN: 1496-8975)
- 23. Smith BC; **Dobson G**; Dawson D; Charalampopoulos A; Grapsa J; Nihoyannopoulos P (2014) Three-dimensional speckle tracking of the right ventricle: toward optimal quantification of right ventricular dysfunction in pulmonary hypertension. J Am Coll Cardiol 2014 Jul 8;64(1):41-51 (ISSN: 1558-3597)
- 24. Girgis F; Shing M; **Duplessis S** (2014) Thoracic epidural blood patch for spontaneous intracranial hypotension: case report and review of the literature [In Process Citation] Turk Neurosurg 2015;25(2):320-5 (ISSN: 1019-5149)
- Svystonyuk DA; Ngu JM; Mewhort HE; Lipon BD; Teng G; Guzzardi DG; Malik G; Belke DD; Fedak PW (2015)
   Fibroblast growth factor-2 regulates human cardiac myofibroblast-mediated extracellular matrix remodeling. J
   Transl Med 2015;13:147 (ISSN: 1479-5876)
- 26. Teo KK; Cohen E; Buller C; Hassan A; Carere R; Cox JL; Ly H; **Fedak PW**; Chan K; Legare JF; Connelly K; Tanguay JF; Ye J; Gupta M; John Mancini GB; Dagenais G; Williams R; Teoh K; Latter DA; Townley R; Meyer SR (2014) Canadian Cardiovascular Society/Canadian Association of Interventional Cardiology/Canadian Society of Cardiac Surgery position statement on revascularization--multivessel coronary artery disease. Can J Cardiol 2014 Dec;30(12):1482-91 (ISSN: 1916-7075)
- 27. Mahadevia R; Barker AJ; Schnell S; Entezari P; Kansal P; **Fedak PW**; Malaisrie SC; McCarthy P; Collins J; Carr J; Markl M (2014) Response to letter regarding article, "Bicuspid aortic cusp fusion morphology alters aortic three-dimensional outflow patterns, wall shear stress, and expression of aortopathy" Circulation 2014 Nov 4;130(19):e171 (ISSN: 1524-4539)
- **28. Fedak PW**; Verma S (2014) Bicuspid aortopathy and the development of individualized resection strategies. J Thorac Cardiovasc Surg 2014 Nov;148(5):2080-1 (ISSN: 1097-685X)
- 29. Rinewalt D; McCarthy PM; Malaisrie SC; **Fedak PW**; Andrei AC; Puthumana JJ; Bonow RO (2014) Effect of aortic aneurysm replacement on outcomes after bicuspid aortic valve surgery: validation of contemporary guidelines. J Thorac Cardiovasc Surg 2014 Nov;148(5):2060-9 (ISSN: 1097-685X)
- 30. Ngu JM; Teng G; Meijndert HC; Mewhort HE; Turnbull JD; Stetler-Stevenson WG; **Fedak PW** (2014) Human cardiac fibroblast extracellular matrix remodeling: dual effects of tissue inhibitor of metalloproteinase-2. Cardiovasc Pathol 2014 Nov-Dec;23(6):335-43 (ISSN: 1879-1336)
- 31. Bracey NA; Gershkovich B; Chun J; Vilaysane A; Meijndert HC; Wright JR; **Fedak PW**; Beck PL; Muruve DA; Duff HJ (2014) Mitochondrial NLRP3 protein induces reactive oxygen species to promote Smad protein signaling and fibrosis independent from the inflammasome. J Biol Chem 2014 Jul 11;289(28):19571-84 (ISSN: 1083-351X)
- 32. Mewhort HE; Turnbull JD; Meijndert HC; Ngu JM; **Fedak PW** (2014) Epicardial infarct repair with basic fibroblast growth factor-enhanced CorMatrix-ECM biomaterial attenuates postischemic cardiac remodeling. J Thorac Cardiovasc Surg 2014 May;147(5):1650-9 (ISSN: 1097-685X)
- **33. Gabriel VA**; McClellan EA; Scheuermann RH (2014) Response of human skin to esthetic scarification. Burns 2014 Nov;40(7):1338-44 (ISSN: 1879-1409)

- 34. Hader WJ; Brooks BL; Partlo L; **Hamilton M** (2014) Neuropsychological outcome after endoscopic third ventriculostomy [In Process Citation] Can J Neurol Sci 2014 Nov;41(6):729-34 (ISSN: 0317-1671)
- 35. Roldan Urgoiti GB; Singh AD; Tsang RY; Nordal RA; Lim G; Chan JA; Starreveld YP; de Robles PA; Biagioni BJ; Hamilton MG; Easaw JC (2014) Population based analysis ependymoma patients in alberta from 1975 to 2007 [In Process Citation]. Can J Neurol Sci 2014 Nov;41(6):742-7 (ISSN: 0317-1671)
- 36. de Guzman P; **Hamilton M**; Khan A; Eesa M; Kirton A (2014) Moyamoya Syndrome Associated with Mucolipidosis-II [In Process Citation] Can J Neurol Sci 2014 Jul;41(4):522-4 (ISSN: 0317-1671)
- **37. Hurlbert RJ**; Hadley MN; Walters BC; Aarabi B; Dhall SS; Gelb DE; Rozzelle CJ; Ryken TC; Theodore N (2015) Pharmacological therapy for acute spinal cord injury [In Process Citation] Neurosurgery 2015 Mar;76 Suppl 1:S71-83 (ISSN: 1524-4040)
- 38. Shamji MF; Bains I; Yong E; Sutherland G; **Hurlbert RJ** (2014) Treatment of herniated lumbar disk by sequestrectomy or conventional diskectomy. World Neurosurg 2014 Nov;82(5):879-83 (ISSN: 1878-8750)
- 39. Dvorak MF; Noonan VK; Fallah N; Fisher CG; Rivers CS; Ahn H; Tsai EC; Linassi AG; Christie SD; Attabib N; **Hurlbert RJ**; Fourney DR; Johnson MG; Fehlings MG; Drew B; Bailey CS; Paquet J; Parent S; Townson A; Ho C; Craven BC; Gagnon D; Tsui D; Fox R; Mac-Thiong JM; Kwon BK (2014) Minimizing errors in acute traumatic spinal cord injury trials by acknowledging the heterogeneity of spinal cord anatomy and injury severity: an observational Canadian cohort analysis. J Neurotrauma 2014 Sep 15;31(18):1540-7 (ISSN: 1557-9042)
- **40. Hurlbert RJ** (2014) Methylprednisolone for the treatment of acute spinal cord injury: point. Neurosurgery 2014 Aug;61 Suppl 1:32-5 (ISSN: 1524-4040)
- 41. Mummaneni PV; Whitmore RG; Curran JN; Ziewacz JE; Wadhwa R; Shaffrey CI; Asher AL; Heary RF; Cheng JS; **Hurlbert RJ**; Douglas AF; Smith JS; Malhotra NR; Dante SJ; Magge SN; Kaiser MG; Abbed KM; Resnick DK; Ghogawala Z (2014) Cost-effectiveness of lumbar discectomy and single-level fusion for spondylolisthesis: experience with the NeuroPoint-SD registry. Neurosurg Focus 2014 Jun;36(6):E3 (ISSN: 1092-0684)
- 42. Thomas R; Piccolo F; Miller D; **MacEachern PR**; Chee AC; Huseini T; Yarmus L; Bhatnagar R; Lee HJ; Feller-Kopman D; Maskell NA; Tremblay A; Lee YC (2015) Intrapleural Fibrinolysis for the Treatment of Indwelling Pleural Catheter-Related Symptomatic Loculations: A Multi-Center Observational Study [epub ahead of print] [Record Supplied By Publisher] Chest 2015 Mar 5; p S1931-3543
- 43. Stather DR; Chee A; **MacEachern P**; Dumoulin E; Hergott CA; Gelberg J; Folch E; Majid A; Gonzalez AV; Tremblay A (2015) Endobronchial ultrasound learning curve in interventional pulmonary fellows [In Process Citation] Respirology 2015 Feb;20(2):333-9 (ISSN: 1440-1843)
- 44. Cressman S; Lam S; Tammemagi MC; Evans WK; Leighl NB; Regier DA; Bolbocean C; Shepherd FA; Tsao MS; Manos D; Liu G; Atkar-Khattra S; Cromwell I; Johnston MR; Mayo JR; McWilliams A; Couture C; English JC; Goffin J; Hwang DM; Puksa S; Roberts H; Tremblay A; **MacEachern P**; Burrowes P; Bhatia R; Finley RJ; Goss GD; Nicholas G; Seely JM; Sekhon HS; Yee J; Amjadi K; Cutz JC; Ionescu DN; Yasufuku K; Martel S; Soghrati K; Sin DD; Tan WC; Urbanski S; Xu Z; Peacock SJ Collective Name: Pan-Canadian Early Detection of Lung Cancer Study Team. (2014) Resource utilization and costs during the initial years of lung cancer screening with computed tomography in Canada. J Thorac Oncol 2014 Oct;9(10):1449-58 (ISSN: 1556-1380)
- 45. Jivraj K; Elliot T; **MacEachern PR** (2014) Tracheobronchial amyloidosis. Can Respir J 2014 Sep-Oct;21(5):272 (ISSN: 1916-7245)
- 46. Tremblay A; MacEachern P (2014) Dr David Stather. J Bronchology Interv Pulmonol 2014 Apr;21(2):181 (ISSN: 1948-8270)
- 47. Moustafa S; Patton DJ; Alvarez N; Al Shanawani M; Al Dossari K; Connelly MS; **Prieur T**; Mookadam F (2015) Double chambered right ventricle with ventricular septal defect in adults: case series and review of the literature. J Cardiovasc Ultrasound (Korea 2015 Mar;23(1):48-51 (ISSN: 1975-4612)

- 48. Moustafa S; Patton DJ; Al Shanawani M; Connelly MS; Alvarez N; **Prieur T**; Mookadam F (2015) Unusual myocardial late gadolinium enhancement in isolated noncompaction cardiomyopathy [In Process Citation] Echocardiography 2015 Feb;32(2):400-2 (ISSN: 1540-8175)
- 49. Moustafa S; Patton DJ; Connelly MS; Alvarez N; **Prieur T**; Mookadam F (2015) An atypical case of left atrial myxoma [In Process Citation] Rev Port Cardiol 2015 Jan;34(1):75-7 (ISSN: 2174-2030)
- 50. Moustafa S; Alvarez N; Connelly MS; **Prieur T**; Patton DJ; Mookadam F (2014) Severe form of tetralogy of fallot: late presentation. J Cardiovasc Ultrasound (Korea 2014 Dec;22(4):228-9 (ISSN: 1975-4612)
- 51. Moustafa S; Patton DJ; Alvarez N; **Prieur T**; Connelly MS; Alnasser M; Mookadam F (2014) Unusual cardiac infiltration in diffuse large B-cell lymphoma. J Cardiovasc Ultrasound (Korea 2014 Sep;22(3):160-1 (ISSN: 1975-4612)
- 52. Rizkallah J; Rothschild JM; Exner DV (2014) Getting by with less the "frugal tie". Can J Surg 2014 Dec;57(6):412-6 (ISSN: 1488-2310)
- 53. Jiang L; Long K; Schaeffel F; Zhou X; Zheng Y; Ying H; Lu F; **Stell WK**; Qu J (2014) Effects of dopaminergic agents on progression of naturally occurring myopia in albino guinea pigs (Cavia porcellus). Invest Ophthalmol Vis Sci 2014 Nov;55(11):7508-19 (ISSN: 1552-5783)
- 54. Goyal M; Demchuk AM; Menon BK; Eesa M; Rempel JL; Thornton J; Roy D; Jovin TG; Willinsky RA; Sapkota BL; Dowlatshahi D; Frei DF; Kamal NR; Montanera WJ; Poppe AY; Ryckborst KJ; Silver FL; Shuaib A; Tampieri D; Williams D; Bang OY; Baxter BW; Burns PA; Choe H; Heo JH; Holmstedt CA; Jankowitz B; Kelly M; Linares G; Mandzia JL; Shankar J; Sohn SI; Swartz RH; Barber PA; Coutts SB; Smith EE; Morrish WF; Weill A; **Subramaniam** S; Mitha AP; Wong JH; Lowerison MW; Sajobi TT; Hill MD (2015) Randomized assessment of rapid endovascular treatment of ischemic stroke. N Engl J Med 2015 Mar 12;372(11):1019-30 (ISSN: 1533-4406)
- 55. Coutts SB; Dubuc V; Mandzia J; Kenney C; Demchuk AM; Smith EE; **Subramaniam S**; Goyal M; Patil S; Menon BK; Barber PA; Dowlatshahi D; Field T; Asdaghi N; Camden MC; Hill MD Collective Name: TEMPO-1 Investigators. Tenecteplase-tissue-type plasminogen activator evaluation for minor ischemic stroke with proven occlusion. Stroke 2015 Mar;46(3):769-74 (ISSN: 1524-4628)

#### **Adjunct Appointments**

- 1. Bultz BD; Cummings GG; Grassi L; Travado L; Hoekstra-Weebers J; Watson M (2014) 2013 President's Plenary International Psycho-oncology Society: embracing the IPOS standards as a means of enhancing comprehensive cancer care. Psychooncology 2014 Sep;23(9):1073-8 (ISSN: 1099-1611)
- 2. Valentini V; Abrahamsson PA; Aranda SK; Astier A; Audisio RA; Boniol M; Bonomo L; Brunelli A; **Bultz B**; Chiti A; De Lorenzo F; Eriksen JG; Goh V; Gospodarowicz MK; Grassi L; Kelly J; Kortmann RD; Kutluk T; Plate A; Poston G; Saarto T; Soffietti R; Torresin A; van Harten WH; Verzijlbergen JF; von Kalle C; Poortmans P (2014) Still a long way to go to achieve multidisciplinarity for the benefit of patients: commentary on the ESMO position paper (Annals of Oncology 25(1): 9-15, 2014). Ann Oncol 2014 Sep;25(9):1863-5 (ISSN: 1569-8041)
- **3. Crump T**; Repin N; Sutherland J (2015) Reforming Long-Term Care Funding in Alberta [In Process Citation]. Healthc Q 2015;18(1):26-31 (ISSN: 1710-2774)
- **4. Crump T**; Wing K; Bansback N; Sutherland JM (2015) Surgical assessment: measuring unobserved health. BMC Surg 2015;15:4 (ISSN: 1471-2482)
- 5. Damaraju S; Matyas JR; Rancourt DE; **Duncan NA** (2014) The effect of mechanical stimulation on mineralization in differentiating osteoblasts in collagen-I scaffolds. Tissue Eng Part A 2014 Dec;20(23-24):3142-53 (ISSN: 1937-335X)

- 6. **Duncan NA**; Bruehlmann SB; Hunter CJ; Shao X; Kelly EJ (2014) In situ cell-matrix mechanics in tendon fascicles and seeded collagen gels: implications for the multiscale design of biomaterials. Comput Methods Biomech Biomed Engin 2014;17(1):39-47 (ISSN: 1476-8259)
- 7. Desrochers J; **Duncan** NA (2014) Intercellular communication via gap junctions affected by mechanical load in the bovine annulus fibrosus. Comput Methods Biomech Biomed Engin 2014;17(1):64-71 (ISSN: 1476-8259)
- 8. Madden RM; Han SK; **Herzog W** (2015) The effect of compressive loading magnitude on in situ chondrocyte calcium signaling. Biomech Model Mechanobiol 2015 Jan;14(1):135-42 (ISSN: 1617-7940)
- 9. Leumann A; Fortuna R; Leonard T; Valderrabano V; **Herzog W** (2015) Tibiofemoral loss of contact area but no changes in peak pressures after meniscectomy in a Lapine in vivo quadriceps force transfer model. Knee Surg Sports Traumatol Arthrosc 2015 Jan;23(1):65-73 (ISSN: 1433-7347)
- 10. Jordan MJ; Aagaard P; **Herzog W** (2015) Rapid Hamstrings/Quadriceps Strength in ACL-Reconstructed Elite Alpine Ski Racers [In Process Citation] Med Sci Sports Exerc 2015 Jan;47(1):109-19 (ISSN: 1530-0315)
- **11. Herzog W**; Powers K; Johnston K; Duvall M (2015) A new paradigm for muscle contraction. Front Physiol 2015;6:174 (ISSN: 1664-042X)
- 12. Schappacher-Tilp G; Leonard T; Desch G; **Herzog W** (2015) A novel three-filament model of force generation in eccentric contraction of skeletal muscles. PLoS One 2015;10(3):e0117634 (ISSN: 1932-6203)
- 13. Piper SL; Howarth SJ; Triano J; **Herzog W** (2014) Quantifying strain in the vertebral artery with simultaneous motion analysis of the head and neck: A preliminary investigation [In Process Citation] Clin Biomech (Bristol, Avon) 2014 Dec;29(10):1099-107 (ISSN: 1879-1271)
- 14. Egloff C; Sawatsky A; Leonard T; Hart DA; Valderrabano V; **Herzog W** (2014) Effect of muscle weakness and joint inflammation on the onset and progression of osteoarthritis in the rabbit knee [In Process Citation] Osteoarthritis Cartilage 2014 Nov;22(11):1886-93 (ISSN: 1522-9653)
- 15. Powers K; Schappacher-Tilp G; Jinha A; Leonard T; Nishikawa K; **Herzog W** (2014) Titin force is enhanced in actively stretched skeletal muscle [In Process Citation] J Exp Biol 2014 Oct 15;217(Pt 20):3629-36 (ISSN: 1477-9145)
- **16.** Herzog W (2014) The role of titin in eccentric muscle contraction [In Process Citation] J Exp Biol 2014 Aug 15;217(Pt 16):2825-33 (ISSN: 1477-9145)
- 17. Power GA; **Herzog W**; Rice CL (2014) Decay of force transients following active stretch is slower in older than young men: support for a structural mechanism contributing to residual force enhancement in old age. J Biomech 2014 Oct 17;47(13):3423-7 (ISSN: 1873-2380)
- 18. Rautiainen J; Nissi MJ; Liimatainen T; **Herzog W**; Korhonen RK; Nieminen MT (2014) Adiabatic rotating frame relaxation of MRI reveals early cartilage degeneration in a rabbit model of anterior cruciate ligament transection. Osteoarthritis Cartilage 2014 Oct;22(10):1444-52 (ISSN: 1522-9653)
- 19. Power GA; Makrakos DP; Stevens DE; **Herzog** W; Rice CL; Vandervoort AA (2014) Shortening-induced torque depression in old men: implications for age-related power loss. Exp Gerontol 2014 Sep;57:75-80 (ISSN: 1873-6815)
- 20. Journaa V; **Herzog W** (2014) Calcium sensitivity of residual force enhancement in rabbit skinned fibers. Am J Physiol Cell Physiol 2014 Aug 15;307(4):C395-401 (ISSN: 1522-1563)
- 21. Hahn D; **Herzog** W; Schwirtz A (2014) Interdependence of torque, joint angle, angular velocity and muscle action during human multi-joint leg extension. Eur J Appl Physiol 2014 Aug;114(8):1691-702 (ISSN: 1439-6327)
- 22. Hoppeler H; **Herzog W** (2014) Eccentric exercise: many questions unanswered. J Appl Physiol (1985) 2014 Jun 1;116(11):1405-6 (ISSN: 1522-1601)

- 23. Herzog W (2014) Mechanisms of enhanced force production in lengthening (eccentric) muscle contractions. J Appl Physiol (1985) 2014 Jun 1;116(11):1407-17 (ISSN: 1522-1601)
- 24. Makela JT; Rezaeian ZS; Mikkonen S; Madden R; Han SK; Jurvelin JS; **Herzog W**; Korhonen RK (2014) Site-dependent changes in structure and function of lapine articular cartilage 4 weeks after anterior cruciate ligament transection. Osteoarthritis Cartilage 2014 Jun;22(6):869-78 (ISSN: 1522-9653)
- 25. Matthiasdottir S; Hahn M; Yaraskavitch M; **Herzog W** (2014) Muscle and fascicle excursion in children with cerebral palsy. Clin Biomech (Bristol, Avon) 2014 Apr;29(4):458-62 (ISSN: 1879-1271)
- 26. Reardon AJ; Elliott JA; **McGann LE** (2014) Fluorescence as an alternative to light-scatter gating strategies to identify frozen-thawed cells with flow cytometry [In Process Citation] Cryobiology 2014 Aug;69(1):91-9 (ISSN: 1090-2392)
- 27. Zhurova M; **McGann LE**; Acker JP (2014) Osmotic parameters of red blood cells from umbilical cord blood [In Process Citation] Cryobiology 2014 Jun;68(3):379-88 (ISSN: 1090-2392)
- 28. Zielinski MW; McGann LE; Nychka JA; Elliott JA (2014) Comparison of non-ideal solution theories for multi-solute solutions in cryobiology and tabulation of required coefficients. Cryobiology 2014 Oct;69(2):305-17 (ISSN: 1090-2392)
- 29. Lienhard K; Vienneau J; Nigg S; Meste O; Colson SS; **Nigg BM** (2015) Relationship between lower limb muscle activity and platform acceleration during whole-body vibration exercise [epub ahead of print] [Record Supplied By Publisher] J Strength Cond Res 2015 Mar 10; p S1533-4287
- 30. Buckeridge E; Le Vangie MC; Stetter B; Nigg SR; **Nigg BM** (2015) An on-ice measurement approach to analyse the biomechanics of ice hockey skating. PLoS One 2015;10(5):e0127324 (ISSN: 1932-6203)
- 31. Baltich J; Maurer C; **Nigg BM** (2015) Increased vertical impact forces and altered running mechanics with softer midsole shoes. PLoS One 2015;10(4):e0125196 (ISSN: 1932-6203)
- 32. Friesenbichler B; Lienhard K; Vienneau J; **Nigg BM** (2015) Vibration transmission to lower extremity soft tissues during whole-body vibration [In Process Citation] J Biomech 2014 Sep 22;47(12):2858-62 (ISSN: 1873-2380)
- **33. Ponton-Carss AC**; Donnon T; **Kortbeek JB** (2014) Two for one: surgical skills and CanMEDS roles--a combined course for surgical residents [In Process Citation] J Surg Educ 2014 May-Jun;71(3):419-25 (ISSN: 1878-7452)
- 34. Casti P; Mencattini A; Salmeri M; **Rangayyan RM** (2015) Analysis of structural similarity in mammograms for detection of bilateral asymmetry [In Process Citation] IEEE Trans Med Imaging 2015 Feb;34(2):662-71 (ISSN: 1558-254X)
- 35. Oloumi F; Rangayyan RM; Ells AL (2014) Assessment of vessel tortuosity in retinal images of preterm infants [In Process Citation] Conf Proc IEEE Eng Med Biol Soc 2014 Aug;2014:5410-3 (ISSN: 1557-170X)
- 36. Casti P; Mencattini A; Salmeri M; Ancona A; Mangieri F; **Rangayyan RM** (2014) Development and validation of a fully automated system for detection and diagnosis of mammographic lesions [In Process Citation] Conf Proc IEEE Eng Med Biol Soc 2014 Aug;2014:4667-70 (ISSN: 1557-170X)
- 37. Oloumi F; Rangayyan RM; Ells AL (2014) Quantification of the changes in the openness of the major temporal arcade in retinal fundus images of preterm infants with plus disease. Invest Ophthalmol Vis Sci 2014;55(10):6728-35 (ISSN: 1552-5783)
- 38. Ehnes DD; Price FD; **Shrive NG**; Hart DA; Rancourt DE; Zur Nieden NI (2015) Embryonic stem cell-derived osteocytes are capable of responding to mechanical oscillatory hydrostatic pressure [In Process Citation] J Biomech 2015 Jul 16;48(10):1915-21 (ISSN: 1873-2380)
- 39. Andrews SH; Rattner JB; **Shrive NG**; Ronsky JL (2015) Swelling significantly affects the material properties of the menisci in compression [In Process Citation] J Biomech 2015 Jun 1;48(8):1485-9 (ISSN: 1873-2380)

- 40. Andrews SH; Rattner JB; Jamniczky HA; **Shrive NG**; Adesida AB (2015) The structural and compositional transition of the meniscal roots into the fibrocartilage of the menisci [In Process Citation] J Anat 2015 Feb;226(2):169-74 (ISSN: 1469-7580)
- 41. Tyberg JV; Bouwmeester JC; Parker KH; **Shrive NG**; Wang JJ (2014) Response to the letter of Mynard and Smolich. Int J Cardiol 2014 Oct 20;176(3):1391 (ISSN: 1874-1754)
- 42. Bouwmeester JC; Belenkie I; **Shrive NG**; Tyberg JV (2014) Genesis of the characteristic pulmonary venous pressure waveform as described by the reservoir-wave model. J Physiol 2014 Sep 1;592(Pt 17):3801-12 (ISSN: 1469-7793)
- 43. Bouwmeester JC; Belenkie I; **Shrive NG**; Tyberg JV (2014) Wave reflections in the pulmonary arteries analysed with the reservoir-wave model. J Physiol 2014 Jul 15;592(Pt 14):3053-62 (ISSN: 1469-7793)
- 44. Andrews SH; Rattner JB; Abusara Z; Adesida A; **Shrive NG**; Ronsky JL (2014) Tie-fibre structure and organization in the knee menisci. J Anat 2014 May;224(5):531-7 (ISSN: 1469-7580)
- 45. Soon IS; de Bruyn JC; Hubbard J; Wrobel I; Sauve R; **Sigalet DL**; Kaplan GG (2014) Rising post-colectomy complications in children with ulcerative colitis despite stable colectomy rates in United States [In Process Citation] J Crohns Colitis 2014 Nov 1;8(11):1417-26 (ISSN: 1876-4479)
- 46. Suri M; Turner JM; **Sigalet DL**; Wizzard PR; Nation PN; Ball RO; Pencharz PB; Brubaker PL; Wales PW (2014) Exogenous glucagon-like peptide-2 improves outcomes of intestinal adaptation in a distal-intestinal resection neonatal piglet model of short bowel syndrome. Pediatr Res 2014 Oct;76(4):370-7 (ISSN: 1530-0447)
- 47. Hua Z; Turner JM; Mager DR; **Sigalet DL**; Wizzard PR; Nation PN; Ball RO; Pencharz PB; Wales PW (2014) Effects of polymeric formula vs elemental formula in neonatal piglets with short bowel syndrome. JPEN J Parenter Enteral Nutr 2014 May;38(4):498-506 (ISSN: 0148-6071)

# 3.2 Research Grants

## **Department of Surgery**

**Total Grants: 166** 

**Total Funding:** \$45,449,120.40

### Dr. William Astle - Pediatric Surgery - Ophthalmology

Title	Role	Theme	Status	Funding Source	Award			
Research with no funding or non-peer reviewed support								
Refractive Surgery in Children. Huang PT, Farran P, Paszuk A	principal investigator	clinical						
Trachoma. Wiafe B, Ingram AD, Mwanga M, Glassco BC	principal investigator	social, cultural, environmental and population						
The Clinical-Demographic, Epidemiology, Pathology, Neuroimaging Features and Outcome of Acute Demyelation in Canadian Children. Romanchuk K, Costello F, Slick D, AbouReslan W, Wei XC, Burton J, Tellier R, Metz L	co-investigator	clinical						
Research funded with peer-reviewed grant support								
ATS 1, & 10-16	co-investigator	clinical	Ongoing / Renewed	NIH	\$4,000.00			
				4 grants	\$4,000.00			

### Dr. Oliver Bathe – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed suppo	ort				
Research funded with peer-reviewed grant support					
Cancer Cachexia: Phenotype Definition, Markers for Genetic Predisposition and Prognosis	co-investigator	basic/biomedical	Ongoing / Renewed	Canadian Institutes of Health Research	\$470,365.00
Development of a Metabolomic Response Biomarker	principal investigator	multi-themed	New	Breast Cancer Society of Canada	\$36,330.00
Tissue Procurement for The Cancer Genome Atlas Project - renewal	principal investigator	multi-themed	Ongoing / Renewed	National Cancer Institute (US)	\$243,681.00
Predicting and improving responses of colorectal cancer patients to anti-VEGF therapy	co-investigator	multi-themed	New	Canadian Cancer Research Society	\$199,498.00
Prospective, Randomized Controlled Trial of Early Enteral Feeding Via a New Gastrojejunostomy Tube in Patients Undergoing Lapraotomy for Periampullary and Pancreatic Neoplasms	principal investigator	multi-themed	Ongoing / Renewed	Novartis	\$15,000.00
The Biological Role of TEM8 in Human Breast Cancer	principal investigator	multi-themed	Ongoing / Renewed	Breast Cancer Society of Canada	\$21,364.00
Metabolomic Biomarker Development for Metastatic Colorectal Cancer	principal investigator	multi-themed	New	NSERC	
Genetic and Molecular Basis of Severe Muscle Wasting (Sarcopenia)	co-investigator	multi-themed	Ongoing / Renewed	Canadian Institutes of Health Research	\$105,000.00
Vascular heterogeneity in colorectal cancer: regulation of VEGFR2 by TGF-beta	co-investigator	multi-themed	Ongoing / Renewed	National Cancer Institute of Canada (NCIC)	\$417,846.00
Randomized controlled trial of early enteral feeding via a new gastrojejunostomy tube in patients undergoing lapratomy for perimpullary and pancreatic neoplasms	principal investigator	multi-themed	Ongoing / Renewed	Novartis Nutrition Corporation	\$15,000.00
Canadian-International Network for the Advancement of the Treatment of Cancer-Associated Cachexia	co-investigator	multi-themed	Ongoing / Renewed	Canadian Institutes of Health Research	\$381,000.00
The role of vitamin D and inflammation in colorectal cancer metastases, Alberta Cancer Research Institute	co-investigator	basic/biomedical	Ongoing / Renewed	Alberta Cancer Research Institute	\$543,247.00
				12 grants	\$2,448,331.00

### Dr. Paul Beaudry – Pediatric Surgery – General Surgery

Title	Role	Theme	Status	Funding Source	Award		
Research with no funding or non-peer reviewed support							
Research funded with peer-reviewed grant support							
Phage Display Study of Neuroblastoma	co-principal investigator	basic/biomedical	New	James Fund/Hospital for Sick Children/Peloton 65	\$80,000.00		
Characterization and Targeting of Neuroblastoma Cancer Stem Cells (KCCFA Grant)	principal investigator	basic/biomedical	Ongoing / Renewed	Kids Cancer Care Foundation of Alberta	\$300,000.00		
Immunotherapy for Cancer - Repurposing Targeted Therapeutics with Oncolytic Viruses (CRIO Grant)	co-principal investigator	basic/biomedical	New	Alberta Innovates - Health Solutions (AIHS)	\$750,000.00		
				3 grants	\$1,130,000.00		

### Dr. Carmen Brauer – Pediatric Surgery – Orthopedic Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Research funded with peer-reviewed grant support					
Treatment of medial epicondyle fractures in children: A systematic review	co-principal investigator	clinical	Ongoing / Renewed	Calgary Surgical Research Development Fund	\$1,750.00
An interdisciplinary collaboration to explore quality indicators in pediatric orthopaedics	co-principal investigator	social, cultural, environmental and population	Ongoing / Renewed	Canadian Institute for Heath Research	\$14,360.00
Treatment of medial epicondyle fractures in children: A systematic review	co-principal investigator	clinical	Ongoing / Renewed	Canadian Orthopaedic Foundation	\$2,500.00
Quality Indicators in Cerebral Palsy: A Scoping Review	principal investigator	clinical	New	Alberta Innovates Health Solutions Knowledge Transfer/Innovation Research Grant	\$24,663.00
Quality indicators in pediatric orthopaedics: A literature review	co-principal investigator	health services (education)	Ongoing / Renewed	University of Calgary, COREF Research Grant	\$5,000.00
Quality indicators in pediatric orthopaedic surgery	principal investigator	clinical	Ongoing / Renewed	University of Calgary, Department of Surgery Research Prize	\$75,000.00
		•	<u> </u>	6 grants	\$123,273.00

### Dr. Robert Bray – Orthopedic Surgery

Title	Role	Theme	Status	Funding Source	Award		
Research with no funding or non-peer reviewed support							
Research funded with peer-reviewed grant support							
Development Implementation and Testing of Temporary, Controllable Pseudobezoars for Reducing Excess Weight	co-investigator	clinical	Ongoing / Renewed	Development of Innovations by Startup Enterprises, Co- Financed by the EU	\$260,000.00		
		1		1 grant	\$260,000.00		

### Dr. Mary Brindle - Pediatric Surgery - General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Research funded with peer-reviewed grant support					
Effects of Educational Strategies on Cognitive Load for Teaching Medical and Surgical Procedures: An Exploratory Study	co-principal investigator	health services (education)	Ongoing / Renewed	UCMG	\$10,000.00
The Canadian Pediatric Surgery Network (CAPSNet): Establishing Best Practices for Gastroschisis and Congenital Diaphragmatic Hernia	co-investigator	clinical	Ongoing / Renewed	Canadian Institutes of Health Research	\$100,000.00
CIHR Secondary Analysis of Databases: Canadian Pediatric Surgery Network (CAPSNet)	co-principal investigator	social, cultural, environmental and population	Ongoing / Renewed	Canadian Institutes of Health Research	\$100,000.00
The impact of maternal Serotonin Specific Re-uptake Inhibitors on neonatal pulmonary hypertension: An animal model	principal investigator	basic/biomedical	Ongoing / Renewed	ACH- Foundation	\$49,200.00
Improving outcomes following diaphragmatic hernia repair using national data, systematic review and prospective trials	principal investigator	multi-themed	Ongoing / Renewed	ACHRI	\$60,000.00
Overcoming surfactant inhibition in neonates and infants: a clinical prospective cohort study with an animal model correlate	co-principal investigator	basic/biomedical	Ongoing / Renewed	Alberta Children's Hospital Foundation	\$49,200.00
Improving outcomes for infants with Myelomeningocele: From fetus to child	principal investigator	health services	Ongoing / Renewed	Spinal Bifida Association	\$25,000.00
CIHR Secondary Analysis of Databases: Canadian Pediatric Surgery Network (CAPSNet)	co-principal investigator	multi-themed	Ongoing / Renewed	Canadian Institutes of Health Research	\$100,000.00
				8 grants	\$493,400.00

### Dr. William Buie - General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Long term oncologic outcomes for rectal cancer in the province of Alberta	principal investigator	clinical			\$0.00
Adenoma detection rate in screening colonoscopy	co-investigator	clinical			\$0.00
Long term outcomes for the treatment for rectal cancer in the Province of Alberta	principal investigator	clinical			\$12,000.00
Research funded with peer-reviewed grant support					
Timing of Rectal Cancer- response to chemoradiation	local principal investigator	clinical	Ongoing / Renewed	National Institutes of Health Research (NIH US)	\$38,000.00
Rectal Cancer Care Clinical Pathway	co-investigator	health services	New	Alberta Innovates - Health Solutions (AIHS)	\$750,000.00
				5 grants	\$800,000.00

### Dr. Linda Cooper – Pediatric Surgery - Ophthalmology

Title	Role	Theme	Status	Funding Source	Award		
Research with no funding or non-peer reviewed support							
Research funded with peer-reviewed grant support							
ATS 1, 10-16	co-investigator	clinical	Ongoing / Renewed	NIH	\$4,000.00		
Corneal Confocal Microscopy: A Rapid Noninvasive Approach to Detect Diabetic Neuropathy in Children with type 1 Diabetes	co-investigator	clinical	Ongoing / Renewed	Juvenile Diaetes Research Foundation	\$365.00		
	•			2 grants	\$4,365.00		

### Dr. Elijah Dixon – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed suppo	ort				
Resectable colonic hepatic metastases: type of initial referral, time to surgical intervention and disease free survival.	local principal investigator	clinical			\$0.00
Research funded with peer-reviewed grant support					
Tranexamic Acid Versus Placebo to Reduce Preoperative Blood Transfusion in Patients Undergoing Major Liver Resection: A pilot randomized controlled trial.	co-investigator	clinical	New	Canadian Institutes of Health Research	\$248,319.00
"Effect of Physician Alternative Payment Plans on the Completeness and Validity of Administrative Data."	co-investigator	health services	Ongoing / Renewed	Canadian Institutes of Health Research	\$230,492.00
"Improving safety in the operating room: Evaluating implementation of the Safe Surgery Checklist"	co-investigator	clinical	New	M.S.I. Foundation	\$98,000.00
"Rates and waits for cancer surgery in Canada: Mixed method assessment."	principal investigator	health services	Ongoing / Renewed	Canadian Institutes of Health Research	\$430,000.00
Tranexamic Acid Versus Placebo to Reduce Perioperative Blood Transfusion in Patients Undergoing Major Liver Resection: A Pilot Randomized Controlled Trial	co-investigator	clinical	New	Canadian Institutes of Health Research	\$248,319.00
"The Effects of Call and Call Scheduling on General Surgeons' and General Surgery Residents' Perceived Quality of Life."	principal investigator	health services	New	Calgary Surgical Research Development Fund	\$1,230.00
"Laparoscopic Cholecystectomy for Acute Calculous Cholecystitis: How Urgent is 'Urgent'?"	co-investigator	clinical	New	Calgary Surgical Research Development Fund	\$2,300.00
The Use of Wound Protectors to Prevent Surgical Site Infection in Patients Undergoing Pancreatoduodenectomy with Intrabiliary Stents: A Randomized Controlled Trial	co-investigator	clinical	Ongoing / Renewed	Calgary Surgical Research Development Fund	\$3,861.00
Establishment of the Hepatopancreaticobiliary Community of Surgical Oncologists: Clinical, Evaluative and Prospective.	co-investigator	health services	New	Canadian Institutes of Health Research	\$24,900.00
"Postoperative Outcomes Following Colectomy in Elderly Ulcerative Colitis Patients."	principal investigator	clinical	Ongoing / Renewed	M.S.I. Foundation	\$47,858.00
Predictors of Acute Kidney Injury after Major Surgical Procedures.	co-investigator	clinical	New	University of Calgary Department of Medicine and Department of Surgery Research Development Fund Award	\$12,500.00
				12 grants	\$1,347,779.00

### Dr. Joseph Dort - Otolaryngology

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Image Guided Surgery - Head and Neck Cancer Project	principal investigator	basic/biomedical			\$60,449.00
Research funded with peer-reviewed grant support					
Loop mediated isothermal amplification PCR (LAMP) for bedside detection of human papillomavirus (HPV) in oropharyngeal squamous cell carcinoma (OPSCC).	co-principal investigator	clinical	Ongoing / Renewed	Calgary Surgical Research Development Fund	\$4,000.00
FFPE Validation of a Survival Gene Signature in HPV-Negative Oral Cavity Cancer	co-investigator	basic/biomedical	New	National Institutes of Health Research (NIH US)	\$2,008,985.00
Developing and Testing a New Treatment for Oral Squamous Cell Carcinoma	co-principal investigator	basic/biomedical	New	Alberta Innovates - Health Solutions (AIHS)	\$746,000.00
Efficacy of optically-guided surgery in the management of early-stage oral cancer	local principal investigator	clinical	New	Terry Fox Research Institute	\$180,000.00
2014 Royal College Janes Visiting Professorship in Surgery	national principal investigator	health services (education)	New	Royal College of Physicians and Surgeons of Canada	\$7,000.00
				6 grants	\$3,006,434.00

### Dr. Cyril Frank – Orthopedic Surgery

Title	Role	Theme	Status	Funding Source	Award		
Research with no funding or non-peer reviewed support							
Research funded with peer-reviewed grant support							
The Mechanical Causes of Osteoarthritis	co-investigator	basic/biomedical	New	Canadian Institutes of Health Research	\$133,002.00		
Training program for Biomedical Engineers for the 21st century	co-investigator	basic/biomedical	Ongoing / Renewed	NSERC	\$1,650,000.00		
Total joint replacement: Strategic management for timely treatment	co-investigator	social, cultural, environmental and population	Ongoing / Renewed	Canadian Institutes of Health Research	\$1,478,500.00		
CIHR Team in models of care in arthritis (MOCA)	co-investigator	health services	Ongoing / Renewed	Canadian Institutes of Health Research	\$1,486,095.00		
				4 grants	\$4,747,597.00		

### Dr. David Hart – Surgery

Title	Role	Theme	Status	Funding Source	Award		
Research with no funding or non-peer reviewed support							
Research funded with peer-reviewed grant support							
Roll of Inflammation in Pseudotumor Development	co-investigator	basic/biomedical	Ongoing / Renewed	OREF	\$79,000.00		
Stem Cells and Cartilage Repair	principal investigator	basic/biomedical	Ongoing / Renewed	Canadian Arthritis Network	\$50,000.00		
Sex Differences in Nerve Involvement in OA	co-investigator	basic/biomedical	Ongoing / Renewed	ISIS MK Network Grant (Society for Women's Health Research (USA)	\$200,000.00		
Stem Cells as Diagnostic Markers	co-principal investigator	basic/biomedical	Ongoing / Renewed	Alberta Innovates - Health Solutions (AIHS)	\$750,000.00		
OA Team grant	co-investigator	basic/biomedical	Ongoing / Renewed	Alberta Innovates - Health Solutions (AIHS)	\$6,000,000.00		
	•		•	5 grants	\$7,079,000.00		

### Dr. Kevin Hildebrand – Orthopedic Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed supp	ort				
Research funded with peer-reviewed grant support					
Typtase as Biomarker of Post-traumatic Joint Contractures	co-principal investigator	basic/biomedical	New	Orthopaedic Research Portfolio Grant, Section of Orthopaedics	\$4,500.00
Randomized Controlled Trial on the use of Low- Intensity Pulsed Ultrasound in the Healing of Scaphoid Non-Unions Treated with Surgical Fixation	co-principal investigator	basic/biomedical	New	Orthopaedic Research Portfolio Grant, Section of Orthopaedics	\$5,000.00
Investigations of Mechanisms and Treatment in Post- traumatic Joint Contractures	principal investigator	basic/biomedical	New	Workers' Compensation Board Research Program Alberta	\$20,000.00
The Dose-response Effect of the Mast Cell Stabilizer, Ketotifen Fumarate, on Post-traumatic Joint Contractures	co-investigator	basic/biomedical	New	Orthopaedic Trauma Association	\$20,000.00
The Dose-response Effect of the Mast Cell Stabilizer, Ketotifen Fumarate on Post-traumatic Joint Contractures	co-investigator	basic/biomedical	New	2013 COREF Research Grant, Section of Orthopaedics	\$20,000.00
Investigations of Mechanisms and Treatment in Post- Traumatic Joint Contractures- Part II	principal investigator	basic/biomedical	New	Worker's Compensation Board Research Program	\$40,000.00
Randomized Controlled Trial on the use of Low- Intensity Pulsed Ultrasound in the Healing of Scaphoid Non-Unions Treated with Surgical Fixation	co-investigator	basic/biomedical	New	Worker's Compensation Board Research Program	\$40,000.00
Randomized Controlled Trial of Ketotifen to Prevent Post-traumatic Elbow Contractures	principal investigator	basic/biomedical	New	American Foundation for Surgery of the Hand	\$100,000.00
Post-Traumatic Joint Contractures: Correlation between the Human Condition and an Animal Model, and Identification of Potential Preventative Intervention.	principal investigator	basic/biomedical	New	Canadian Orthopaedic Foundation	\$10,000.00
Post-Traumatic Elbow Joint Contractures: Defining Pathologic Capsular Mechanisms and Potential Future Treatment Paradigms.	principal investigator	basic/biomedical	New	American Society for Surgery of the Hand	\$20,000.00
Feasibility of randomized controlled trial of ketotifen for lateral epicondylalgia	local sub- investigator	basic/biomedical	New	Canadian Institutes of Health Research	\$15,000.00
Tryptase as a Biomarker for Post-Traumatic Elbow Contracture	principal investigator	basic/biomedical	New	Calgary Surgical Research Development Fund	\$3,725.00
				12 grants	\$298,225.00

### Dr. Gwendolyn Hollaar – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed supp	ort				
Canadian Consensus on Global Health Resident Electives	co-principal investigator	health services (education)			\$0.00
Improving Rural Health Initiative: A Lao PDR and University of Calgary Collaboration	co-principal investigator	health services (education)			\$0.00
Research funded with peer-reviewed grant support					
Asian Academic Partnership	principal investigator	health services (education)	New	McLaughlin Traveling Medical Education Fund: University of Calgary Faculty of Medicine	\$15,280.00
Improving Rural Health: A Lao PDR / University of Calgary Collaboration to Develop and Disseminate Maternal Health Learning Materials	local sub- investigator	health services (education)	New	McLaughlin Traveling Medical Education Fund: University of Calgary Faculty of Medicine	\$10,000.00
		<u>,                                      </u>	•	4 grants	\$25,280.00

### **Dr. Carolyn Hutchison – Orthopedic Surgery**

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Joint-Sparing Transplant with fresh osteochondral allografts. Schachar N, Timmerman S, Hutchison CR, Heard M, Miller S.	co-investigator	basic/biomedical			
Assessment of Communication, Professional and Surgical Skills in an OSPRE: A Psychometric Study. Ponton-Carss, Donnone T, Hutchison CR.	co-investigator	health services (education)			\$40,000.00
Research funded with peer-reviewed grant support					
Medical Imaging of Knee Kinematics after Joint Replacement. Anglin C, Frayne R, Hutchison CR, Ronsky J, Wilson D: NSERC-CIHR Collaborative Health Research Projects (\$380,800; 2008-extended beyond 2011).	co-investigator	basic/biomedical	Ongoing / Renewed	NSERC	\$380,800.00
	-	1	1	3 grants	\$420,800.00

### Dr. Andrew Kirkpatrick – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Research funded with peer-reviewed grant support	,	<u> </u>			
Tele-mentored Ultrasonography (TMUS) to Support Remote Canadian Communities. (\$10,000.00) Collaborative Program – Letter of Intent. Alberta Innovates Health Solutions. PI – Douglas Hamilton; Co-investigators Kirkpatrick AW, Wilson S,	co-investigator	health services	New	Alberta Innovates - Health Solutions (AIHS)	\$10,000.00
Peritoneal Vacuum therapy to reduce the systemic inflammatory insult from intra-peritoneal sepsis/injury/hypertension: A randomized comparison of baseline wall suction versus KCI AbThera abdominal dressing. Kirkpatrick AW (Principle Investigator). Ouellet JF (Resident Investigator). Ouellet JF, Kirkpatrick AW, McBeth PB, Doig C, Ball CG, Kubes P, Leger C, Tiruta C. Calgary Surgical Research Development Fund (\$4000.00).	principal investigator	clinical	Ongoing / Renewed	Calgary Surgical Research Development Fund	\$4,000.00
2014 Telementoring of Resuscitative Care in Austere Environments (\$175,000.00) – Awarded from the Canadian Forces Health Services, PI – Major Andrew W Kirkpatrick	investigator	health services	Ongoing / Renewed	Canadian Forces Health Services	\$175,000.00
2015 Telementoring of Resuscitative Care in Austere Environments (\$10,000.00) – Awarded from the Royal College of Physicians and Surgeons of Canada Services, PI – Major Andrew W Kirkpatrick	local principal investigator	health services	Ongoing / Renewed	Royal College of Physicians and Surgeons of Canada	\$10,000.00
Requested - CIHR ICRH Community Development Program Proposal: The Canadian Resuscitation Outcomes Consortium (CanROC). Principle Investigators Morrison L, Christenson J, and Stiell I. Co-investigator Kirkpatrick AW – Proposed Role Co-Investigator, Alberta Lead Trauma, Trauma Committee. Requested \$3,000,000.00	co-investigator	health services	New	Canadian Institutes of Health Research	\$0.00
Telementoring to support Austere Resuscitations	principal investigator	clinical	New	Canadian Forces Department of National Defense	\$175,000.00
Peritoneal Vacuum therapy to reduce the systemic inflammatory insult from intra-peritoneal sepsis/injury/hypertension: A randomized comparison of baseline wall suction versus KCI AbThera abdominal dressing. Kirkpatrick AW (Principle Investigator). Ouellet JF, Kirkpatrick AW, McBeth PB, Doig C, Ball CG, Kubes P, Leger C, Tiruta C. Investigator Initiated Trial Agreement between KCI USA and the Governors of the University of Calgary and Andrew W Kirkpatrick (\$218,550.00). KCI-Contract Number: KCI-Clinical/UniversityCalgaryAlbertaHealth/082611-000/7		clinical	Ongoing / Renewed	KCI USAand University of Calgary	\$218,550.00
2011 Developing a Patient and Family-Centered Approach for Measuring the Quality of Trauma Care. STELFOX HT (Principle Investigator). STELFOX HT (Principle Investigator). Straus S, Nathens AB, Tallon JM, Gagliardi A, Hudak P, Quan H, Chernoff J, Burns K, Evans D, Loughheed V, Vuksic A, Fortin CM, Kagan C, Zarins H, KIRKPATRICK AW, Straus SE. CIHR's Partnerships for Health System Improvement Competition, \$628692.00 over three years (C)		health services (education)	New	CIHR Partnerships for Health System	\$628,692.00
				8 grants	\$1,221,242.00

### Dr. John Kortbeek – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research funded with peer-reviewed grant support					
Research with no funding or non-peer reviewed support	ort				
Impact of Massive Transfusion Protocol and Exclusion of Plasma Products from Female Donors on Outcome of Trauma Patients in Calgary Zone of Alberta Health Services	co-principal investigator	health services			\$0.00
		•	•	1 grant	\$0.00

### Dr. Roman Krawetz - Surgery

Title	Role	Theme	Status	Funding Source	Award			
Research with no funding or non-peer reviewed support								
Research funded with peer-reviewed grant support								
Synovial Mesenchymal Stem Cells: Distinct roles in cartilage regeneration and the pathogenesis of Osteoarthritis	principal investigator	basic/biomedical	New	Alberta EAE small equipment grant	\$272,000.00			
Synovial Mesenchymal Stem Cells: Distinct roles in cartilage regeneration and the pathogenesis of Osteoarthritis.	principal investigator	basic/biomedical	New	CFI	\$272,000.00			
Cellular basis of endogenous cartilage repair in super-healer mice	principal investigator	basic/biomedical	New	Canadian Institutes of Health Research	\$100,000.00			
Cellular basis of endogenous cartilage repair in super-healer mice	principal investigator	basic/biomedical	New	Canadian Institutes of Health Research	\$731,270.00			
Identification of inhibitors to cyclin-dependent kinase inhibitors (CDKis) for use in regenerative medicine strategies	principal investigator	basic/biomedical	New	Canadian Stem Cell Network	\$75,000.00			
Bone and Joint Stem Cell Biology. CRC.	principal investigator	basic/biomedical	New	CRC	\$500,000.00			
Cellular basis of endogenous cartilage repair in super-healer mice.	principal investigator	basic/biomedical	New	McCaig Professorship	\$70,000.00			
Monocyte chemotactic protein-1 regulates progenitor cell mediated cartilage repair	local principal investigator	basic/biomedical	New	University of Calgary Seed Grant	\$17,000.00			
The p21 signaling axis in accelerated fracture repair.	principal investigator	basic/biomedical	New	AO Foundation	\$120,000.00			
Synovial stem cell biology	principal investigator	basic/biomedical	New	NSERC	\$195,000.00			
Consequences of knee joint injury in youth sport: Implications for knee osteoarthritis and other health outcomes.	co-investigator	clinical	New	Canadian Institutes of Health Research	\$380,640.00			
				11 grants	\$2,732,910.00			

### Dr. Wayne Matthews - Otolaryngology

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Head and Neck Cancer Dysphagia Outcomes	co-principal investigator	clinical			\$5,000.00
Head and Neck Oncology Outcomes	co-investigator	clinical			\$0.00
Research funded with peer-reviewed grant support		•			
Pan Canadian Optically Guided Approach for Oral Lesions Surgical Trial	local sub- investigator	clinical	New	Terry Fox Research Institute	\$4,734,000.00
The Impact of CAIX in Cervical Node Metastases in Oral Cavity Squamous Cell Carcinoma	co-investigator	basic/biomedical	New	University Calgary Office of Surgical Research - Research Prize	\$75,000.00
Does the Harmonic Scalpel reduce Operating Time and Blood Loss in Patients Undergoing Major Surgery for Oral Cavity Squamous Cell Carcinoma?: A Prospective, Randomized Trial.	co-investigator	clinical	New	Ohlson Research Initiative	\$11,243.00
	•	•	- 1	5 grants	\$4,825,243.00

### Dr. J. Gregory McKinnon – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research funded with peer-reviewed grant support	•				
Research with no funding or non-peer reviewed support	ort				
Multicenter Selective Lymphadenectomy Trial II – John Wayne Cancer Center and NCI 2005-	principal investigator	clinical			\$0.00
	•			1 grant	\$0.00

#### **Dr. Mauricio Monroy – Transplant**

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed supp	ort	•		•	
Research funded with peer-reviewed grant support					
Safety and Outcomes of Accepting Hypertensive Individuals as Living Kidney DOnors.	principal investigator	clinical	New	Canadian Institutes of Health Research	\$352,098.00
Effect of living kidney donation on blood pressure during pregnancy	co-investigator	basic/biomedical	New	Kidney Foundation of Canada	\$97,620.00
Standard Criteria Living Kidney Donor Safety Study	co-investigator	clinical	Ongoing / Renewed	Canadian Institutes of Health Research	\$1,214,665.00
Canadian Living Kidney Donor Safety Study	co-investigator	clinical	Ongoing / Renewed	Canadian Institutes of Health Research	\$200,000.00
The Long-term Effects of becoming a living Kidney Donor	principal investigator	clinical	Ongoing / Renewed	Canadian Institutes of Health Research	\$200,000.00
	•		<u> </u>	5 grants	\$2,064,383.00

### Dr. Randy Moore – Vascular Surgery

Title	Role	Theme	Status	Funding Source	Award			
Research with no funding or non-peer reviewed support	Research with no funding or non-peer reviewed support							
Thoraflex: A New Approach to aortic arch disease	local principal investigator	clinical			\$20,000.00			
FDA Phase 2 STUDY OF THE ANACONDA ENDOVASCULAR STENT GRAFT REPAIR FOR THE TREATMENT OF INFRARENAL AAA	co-principal investigator	clinical			\$300,000.00			
Research funded with peer-reviewed grant support								
Fluid Flow and Vascular Endothelial Cell Drug Response	co-investigator	basic/biomedical	Ongoing / Renewed	Heart & Stroke Foundation of Canada	\$300,000.00			
TX2 trial for the endovascular repair of thoracic aortic aneurysm	principal investigator	basic/biomedical	New	FDA	\$30,000.00			
				4 grants	\$650,000.00			

### Dr. Mark Nutley – Vascular Surgery

Title	Role	Theme	Status	Funding Source	Award
Research funded with peer-reviewed grant support					
Research with no funding or non-peer reviewed suppo	ort				
Multi-center Same Day Discharge Post Endovascular and Percutaneous Endovascular Aneurysm Repair (EVAR and PEVAR).	national principal investigator	clinical			\$0.00
				1 grant	\$0.00

### Dr. Elizabeth Oddone-Paolucci - Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Exploring the learning experiences in the general surgery clerkship.	principal investigator	health services (education)			\$0.00
"Faculty Development and Evaluation."	co-investigator	health services (education)			\$0.00
"An investigation of the relationship between conformity and communication in medical education."	co-investigator	health services (education)			\$0.00
"Assessment of Conformity."	co-investigator	health services (education)			\$0.00
"Formative Curriculum Evaluation of the University of Calgary O&G Clerkship: A Mixed-Methods Case Study."	co-investigator	health services (education)			\$5,000.00
Research funded with peer-reviewed grant support					
"Boot camp training for pediatric general surgery fellows: Is there a need for it to ease the transition to fellowship?"	principal investigator	health services (education)	New	Calgary Surgical Research Development Fund, Department of Surgery	\$602.00
"From education to engagement to action: A dynamic, interactive, and integrated knowledge translation approach to bring evidence into practice for introducing new health technologies."	co-principal investigator	health services (education)	New	Alberta Innovates - Health Solutions (AIHS)	\$25,000.00
Multi-Source feedback for assessing clinical competence in surgical residents.	co-investigator	health services (education)	New	Dept of Surgery - Calgary Surgical Research Development Fund	\$2,900.00
"Identification of factors related to experiences of conformity in medical education."	co-principal investigator	health services (education)	New	Dept of Surgery - Calgary Surgical Research Development Fund	\$1,900.00
Local tools to global challenge: Standardizing clinical patient handovers	principal investigator	health services (education)	New	Departments of Medicine & Surgery, University of Calgary	\$12,500.00
				10 grants	\$47,902.00

### Dr. May Lynn Quan – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support					
Research funded with peer-reviewed grant support	<u>'</u>				
Towards better outcomes for young women with breast cancer: A Pan Canadian Collaborative	co-principal investigator	clinical	New	Canadian Institutes of Health Research	\$5,695,303.00
Towards better outcomes for young women with breast cancer: A Pan Canadian Collaborative	principal investigator	clinical	New	Canadian Institutes of Health Research	\$25,000.00
Improving safety in the operating room: Evaluating implementation of the safe surgery checklist	principal investigator	health services	Ongoing / Renewed	MSI Foundation	\$100,000.00
	•	•	•	3 grants	\$5,820,303.00

## Dr. Kenneth Romanchuk – Pediatric Surgery - Ophthalmology

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support					
Research funded with peer-reviewed grant support					
A two-year, double-blind, randomized, multicenter, active-controlled study to evaluate the safety and efficacy of fingolimod administered orally once daily versus interferon?-1a intramuscularly once weekly in pediatric patients with multiple sclerosis Protocol number CFTY720D2311	co-investigator	clinical	New	Novartis	\$10,000.00
Multinational Collaborative Evaluation of Corneal Confocal Microscopy as a Surrogate Endpoint for the Identification and Prediction of Diabetic Neuropathy in Type 1 Diabetes DP3DK104386-01	co-investigator	clinical	New	National Institutes of Health Research (NIH US)	\$1,106,824.00
Is Peripheral Neuropathy Occurring in Association with Idiopathic Parkinson's Disease, or an latrogenic Complication?"	co-investigator	clinical	New	HBI CRU award & Parkinson Society of Canada award	\$53,212.00
Intermittent Exotropia Study 1 (IXT1): A randomized trial of bilateral lateral rectus recession versus unilateral lateral rectus recession with medial rectus resection for intermittnet exotropia	local principal investigator	clinical	Ongoing / Renewed	Pediatric Eye Disease Investigator's Group	\$2,000.00
Intermittent Exotropia Study (IXT2): a randomized clinical trial of observation versus occlusion therapy for intermittent exotropia	co-investigator	clinical	Ongoing / Renewed	Pediatric Eye Disease Investigator's Group	\$2,000.00
Canadian Pediatric Acute Demyelinating Disease Study:	co-investigator	clinical	Ongoing / Renewed	Mulitple Sclerosis Research Foundation	\$454,709.00
Corneal Confocal Microscopy: A Rapid Noninvasive Approach to Detect Diabetic Neuropathy In Children With Type I Diabetes.	co-investigator	clinical	Ongoing / Renewed	Juvenile Diabetes Research Foundation	\$365,000.00
				7 grants	\$1,993,745.00

### Dr. Anastasio Salazar – Transplant Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
IMMUNO - Artificial Immune Systems	principal investigator	basic/biomedical			\$0.00
Research funded with peer-reviewed grant support					
Cellular Transplantation in Swine: Effect of Bone Marrow Seeding on Graft Rejection, Tolerance, and Survival (Protocol #M03018)	principal investigator	basic/biomedical	Ongoing / Renewed	Department of Surgery	\$50,000.00
				2 grants	\$50,000.00

### Dr. Paul Salo – Orthopedic Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Research funded with peer-reviewed grant support					
Derivation of a Clinical Prediction Guide in the Diagnosis of Facet Joint Mediated Pain in the Cervical Spine	co-investigator	basic/biomedical	Ongoing / Renewed	COREF	\$20,000.00
Biological Augmentation of Ligament and Tendon Healing	co-investigator	basic/biomedical	Ongoing / Renewed	American Orthopaedic Society for Sport	\$246,019.00
Role of the Central Nervous System in Arthritis: The Missing Link in Chronic Arthritis Pain	co-investigator	basic/biomedical	Ongoing / Renewed	McCaig Institute for Bone and Joint Health.	\$10,000.00
Role of the Central Nervous System in Arthritis: The Missing Link in Chronic Arthritis Pain	co-investigator	basic/biomedical	Ongoing / Renewed	Faculty of Veterinary Medicine, University of Calgary, Strategic Research Grant.	\$49,000.00
Investigations of Mechanisms and Treatment in Post- Traumatic Joint Contractures	co-investigator	basic/biomedical	Ongoing / Renewed	Canadian Institutes of Health Research	\$100,000.00
				5 grants	\$425,019.00

### **Dr. Norman Schachar – Orthopedic Surgery**

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Biological Aspects of Tissue Repait	principal investigator	health services			\$500,000.00
Meniscus Interest Group	team grant investigator	health services (education)			\$0.00
Investigating Osteochondral Allografts as a Biological Option to Repair Joint Defects	principal investigator	clinical			\$0.00
Meniscus Transplantation Research Group	co-investigator	basic/biomedical			\$0.00
Soft Tissue Sarcoma Project	co-investigator	clinical			\$0.00
Research funded with peer-reviewed grant support					
"Establishing a Culture of Mindful Practice in Surgery at a New Orthopaedic Centre"	principal investigator	clinical	New	University of Calgary - Orthopaedic Research	\$4,486.40
Primary Lead in Research Development	principal investigator	basic/biomedical	Ongoing / Renewed	Private Donor	\$1,000,000.00
				7 grants	\$1,504,486.40

### Dr. Francis Sutherland – General Surgery

Title	Role	Theme	Status	Funding Source	Award
Research funded with peer-reviewed grant support					
Research with no funding or non-peer reviewed support	ort		ı		
Preoperative steroid utilization in liver resections: A randomized clinical trial	co-investigator	clinical			\$0.00
Wound protectors in HPB surgery	co-investigator	clinical			\$10,000.00
	!	1	I .	2 grants	\$10,000.00

### **Dr. Gail Thornton - Surgery**

Title	Role	Theme	Status	Funding Source	Award	
Research with no funding or non-peer reviewed support						
A Biomechanical Evaluation of Suture Locking Mechanisms	co-principal investigator	clinical			\$15,000.00	
Research funded with peer-reviewed grant support						
Role of Mast Cells in Tendinopathy	co-investigator	basic/biomedical	New	Canadian Institutes of Health Research	\$100,000.00	
Mechanics of Damage in Biological Soft Tissues	principal investigator	basic/biomedical	Ongoing / Renewed	NSERC	\$125,000.00	
Role of Mast Cells in Achilles Tendinopathy	co-investigator	basic/biomedical	New	Canadian Institutes of Health Research	\$100,000.00	
				4 grants	\$340,000.00	

### Dr. Serdar Yilmaz - Transplant Surgery

Title	Role	Theme	Status	Funding Source	Award
Research with no funding or non-peer reviewed support	ort				
Long-term effects of becoming a living kidney donor study. CIHR sponsored study.	co-investigator	basic/biomedical			\$4,840.00
Research funded with peer-reviewed grant support					
Astellas Service Agreemnet RT703938 FKC Advagraf with IL-2 014	co-principal investigator	basic/biomedical	Ongoing / Renewed	Astellas Pharma	\$633,750.00
Central Biopsy Review for NOVARTIS Study CRAD001AUS92	principal investigator	basic/biomedical	Ongoing / Renewed	Novartis Pharma	\$936,813.00
	•		•	3 grants	\$1,575,403.00