UNIVERSITY OF CALGARY

CARDIOVASCULAR ANESTHESIA FELLOWSHIP PROGRAM MANUAL

UPDATED JUNE 2019

INTRODUCTION

Preamble

The University of Calgary (U of C) offers a one-year fellowship-training program in cardiovascular anesthesia and perioperative transesophageal echocardiography (TEE).

Training occurs primarily at the Foothills Medical Centre, but may include rotations at other sites both inside and outside of the Calgary region. Our goal is to optimize the learning experience of our fellows and create an environment that fosters development of both clinical and academic skills.

Teaching takes place primarily in the cardiac surgery operating room, where fellows will work one-on-one with faculty fellowship trained and NBE certified cardiovascular anesthesiologists. The cardiovascular operating room relies on teamwork. Fellows train within this team and includes communication and cooperation with cardiologists, surgeons, intensivists, perfusionists, nurses, anesthesia technicians and many other members of the healthcare team. Additional learning opportunities include off-service rotations, formal lecture series, attending educational conferences, and undertaking research activities.

Clinical Opportunities

Foothills Medical Centre (FMC) is the primary fellowship training site. There are approximately 1200-1400 cardiac surgery case per year. This includes coronary artery bypass (both on and off-pump), valvular replacement/repair, minimally invasive valve surgery, complex aortic surgery, ventricular assist device implantation, complex lead extraction, transcatheter valve procedures (aortic and mitral), cath lab & EP lab procedures, and support for patients with severe cardiac pathology undergoing non-cardiac procedures. Our program does not perform heart or lung transplants. Should a fellow wish training in transplants we will facilitate a rotation, likely at the University of Alberta (3 hours drive north of Calgary). There is additional available training in CV intensive care (including ECMO), intensive care, vascular anesthesia, thoracic anesthesia, echo lab, research and other elective options.

Code of Conduct

All fellows should be aware of the PGME policies on code of conduct expected of medical trainees. This can be found at http://wcm.ucalgary.ca/pgme/current-trainees/residency-training-policies under 'Code of Conduct'. Although directed towards residents, the same expectations apply to fellows. The PGME complete policy on clinical fellowships can be accessed through the following link: cumming.ucalgary.ca/pgme/files/pgme/clinical-fellows-policy-final.pdf.

Fellows are also expected to be aware of and abide by the College of Physician and Surgeons of Alberta's Standards of Practice (http://www.cpsa.ca/standardspractice/), Code of Conduct (http://www.cpsa.ca/cpsa-code-conduct/) and Code of Ethics (http://www.cpsa.ca/standardspractice/code-of-ethics/).

ROTATIONS AND SCHEDULES

The fellowship generally begins the first week of July each year, however an alternative start date may be considered in special circumstances. The training year is divided into 13 blocks, each bock consisting of a four-week period. A standard fellowship year would involve the following rotations:

1. Cardiovascular OR (CVOR): 8 blocks
2. Vascular or Thoracic OR: 1 block
3. Echo Lab: 1 block
4. CVICU: 1 block
5. Elective: 1 block

There is flexibility in the selection and distribution of the clinical rotations. For example blocks may be arranged in non-cardiac intensive care, heart-lung transplant, research, or time at other institutions. The goal of the program is to best match the fellowship training experience with the educational goals and future practice needs of each trainee. The minimum CVOR requirement is currently 7 blocks. Any requests for a non-standard rotation schedule must be reviewed by the fellowship program director, the division of cardiac anesthesia, and any other directors whose departments/divisions/programs may be affected.

FORMAL EDUCATIONAL OPPORTUNITIES

In addition to teaching that takes place in the setting of direct patient care there is also a formal educational component to the program.

1. CV Anesthesia Fellowship Lecture Series: Takes place during the first 3 months of the fellowship year. Exact time/dates vary year to year. Additional academic days will be given as needed (see section on Scheduling & Educational Polices). The topics include the physics of ultrasound and an introduction to clinical echocardiography.
2. CV Anesthesia SAQs. Fellows will be given a handout of short answer questions over the period of their first 6 months. This will act to lay the groundwork of the fellows' readings on topics related to cardiovascular anesthesia.
3. CV Mortality & Morbidity Rounds (Room C818). These take place approximately once each month on Friday morning prior to the OR. Attendance by the fellows is mandatory. The fellows will be asked to be a reviewer for an M&M case towards the end of their fellowship year, under the mentorship of one of the attending anesthesiologists.
4. Thoracic Aortic Rounds (Room C818). Take place the last Friday of each month. Attendance is mandatory.
5. Department of Cardiac Sciences Rounds (Room C818 unless otherwise specified). There are many educational rounds presented by the department of Cardiac Sciences. Some of these take place Friday mornings before the start of the OR. Others take place on other weekdays, both in the morning but also during the day. Fellows are encouraged to attend any rounds with topics that they find interesting. They will be excused from clinical duties to attend these rounds if possible.
6. Triage Rounds (Room C818). Multi-disciplinary discussion on triaging inpatients and considering operative options in complex patients. Take place Tuesday at 07:00 and Friday at 08:00 (07:00 when there are no rounds during the summer months of July and August).

7. Department of Anesthesia Grand Rounds (location variable). Take place Friday mornings before the start of the OR. If there are no cardiac anesthesia specific rounds then fellows are encouraged to attend department rounds.
8. CV Anesthesia Business Meetings (location variable). The division of cardiac anesthesia holds regular business meetings which begin in the evening and include dinner. The start of these meetings generally consist of an educational component, mainly critical review of a recently published article. Fellows are invited to attend this portion of the meeting and join the group for dinner (costs paid by the group).
9. SCA Complex Poster Presentation. Every year the Society of Cardiovascular Anesthesiologists calls for submissions from fellows to present a complex case at a poster session. Fellows are strongly encouraged to submit a poster. If accepted the registration and travel costs will be subsidized by the department so that fellows may attend.

TEACHING OPPORTUNITIES

CV anesthesia fellows will be involved in teaching other medical trainees. Fellows will at times be in CVOR rooms with anesthesia and non-anesthesia residents. The expectation will be that they participate in the supervision and education of these residents. The fellows will also be given the opportunity to formally teach the residents during the Cardiovascular Anesthesia Resident Core Program.

SCHEDULING

Fellowship CVOR Room Assignments

Fellows will be emailed the CV OR schedule and updates are emailed regularly as they occur. The fellow is expected to select their CV OR room assignment and contact the attending scheduled for that room before 3pm the day before (3pm Friday for Monday assignments). This allows for the fellow and attending to plan the day in terms of seeing any inpatients and deciding on learning topics for the day. If there are residents or other fellows assigned to the CV OR during the same time all learners must coordinate to decide on room assignments prior to 3pm. The fellows must ensure that the resident learners get acceptable exposure to complex cases. Should there be 1) a very rare complex case or 2) more learners than rooms

Selection of rooms include both open-heart and non open-heart opportunities. This would include TAVI, cath lab, EP lab and complex lead extractions. Fellows should select rooms that provide the broadest clinical exposure to all cardiovascular surgery and non open-heart procedures.

Most outpatients will have been seen in the pre-op admission clinic (PAC). Their pre-operative consultation can be reviewed electronically on either Sunrise Clinical Manager (SCM) or NetCare. Inpatients must be seen the day before their scheduled surgery and pre-operative orders must be placed in SCM. A note must be left in the patient's chart either in the "Consult" or "Progress Note" sections. Alternatively, an inpatient consult can be dictated or manually entered electronically on SCM.

TEE Interpretation Assignment

In order to qualify for the National Board of Echocardiography (NBE) Advanced PTE Certification a combined 300 perioperative TEE's must be completed. Half (150) of these exams must be both performed and interpreted. The other half (150) may be interpretations of exams performed by others. The CVOR assignments will ensure that the minimum 150 TEE exams performed and interpreted will be met. In order to ensure that the additional 150 interpreted exams are completed the fellows will select 2 days during each CVOR rotation for dedicated TEE Interpretation. This involves the fellow rotating through all CVOR's and reviewing the TEE exams for each patient. The fellow will then produce a preliminary report. The TEE exam interpretation and report generation will take place under the supervision and with feedback from the attending CV anesthesiologist assigned to each room. Additional TEE days will be scheduled in the second half of the fellowship year if needed in order to achieve the required number of studies for NBE Advanced Certification.

<u>Note</u>: there will be no TEE interpretation days in the first 2 CV OR blocks of the year<u>.</u>

Pre-op Admission Clinic

The Pre-Op Admission Clinic (PAC) is located in the north tower of the FMC complex. Cardiac surgery patients are seen and evaluated by a multi-disciplinary team including anesthesia, nursing, physiotherapy and social work. The anesthesia consultation is focused on performing a thorough history & physical exam, evaluating the patient's cardiac and non-cardiac medical issues, optimizing these issues prior to surgery, reviewing all labs and investigations, formulating a plan, discussing the anesthetic management with the patient and dictating the consultation.

The PAC day for cardiac surgery is Tuesdays. Fellows are expected to attend PAC 1 days out of each CVOR rotation. They will be supervised by the attending anesthesiologist assigned to PAC that day. Dictated pre-op consults will be reviewed and electronically confirmed/signed by that attending. Please confirm with your attending if they want you to dictate under your name, or on behalf of them- this will determine who must electronically proof-read and sign the consult.

Dictation information

Phone number: 1-855-648-3117
Speaker Code: Should be your CPSA number
Facility code: FMC= 192
Work type: PA = 11, Inpatient= 10

Additional information can be found on the AHS Insite website.

HelpDesk: 1-844-944-3099

Academic Day

Fellows will have one dedicated academic day each CV OR rotation. These days can be chosen by the fellows on any day. The purpose of these days is to allow time for reading around CV anesthesia topics.

Fellows' Block Schedule

Fellows will be responsible for emailing their schedule for the next block on the last Friday of their current block. For an upcoming CV OR block the fellows must indicate the days they have chosen to do PAC, dedicated TEE, academic day, CV call and any vacations which they have requested. For educational days (PAC, TEE, academic, or interesting cases) the fellows should book these off on the department's Physician Scheduler website so as to avoid being assigned a locum room on that day. These selections can be altered during the course of the block to accommodate interesting cases or other educational/personal needs.

If the fellow is scheduled in a non-CV OR rotation they do not need to submit a schedule.

Non-CVOR Rotations

All clinical assignments for non-CVOR rotations (vascular, thoracic, CVICU, echo lab) will be determined by the individual in charge of that rotation.

LEARNING OBJECTIVES

Medical Expert

The role relates to the clinical expertise of each physician and incorporates all of the CanMEDS roles applying medical knowledge and clinical skills for patient-centered care. This role is central to all of the other CanMEDS roles and central to the function of physicians.

<u>Cardiac Anatomy and Physiology</u>

1. Describe the normal coronary anatomy and common variants, including being able to describe the vascular supply of the major cardiac chambers and cardiac conduction systems
2. Describe the normal structure of coronary arteries and the determinants of arteriolar tone
3. Describe the determinants of coronary artery blood flow, myocardial oxygen supply and myocardial oxygen demand, including differences between the right and left ventricles
4. Describe the pathogenesis of myocardial ischemia, including the pathology of atherosclerotic heart disease, dynamic stenosis, collateral circulation and coronary steal
5. Describe the pathogenesis of perioperative ischemia and infarction, including similarities and differences from MI in the ambulatory (non-surgical) setting
6. Describe the phases of the cardiac cycle and relate these to the electrocardiogram
7. Discuss the determinants of cardiac output (heart rate and stroke volume), including those variables which influence stroke volume (preload, afterload, contractility)
8. Describe pressure volume relationships including pressure-volume loops
9. Describe the determinants of normal diastolic function and understand its importance in the normal function of the heart, as well as describe conditions associated with abnormal diastolic function

Neurohormonal regulation of the heart and electrophysiology

1. Describe the sympathetic and parasympathetic innervations of the heart
2. Describe the interaction of the SNS and PNS with cardiac variables (including HR, contractility, lucitropy, vascular tone)
3. Describe the major hormonal systems that regulate cardiac function (rennin-angiotensin-aldosterone, natriuretic peptides, vasopressin, catecholamines)
4. Describe major cardiac reflexes (baroreceptor reflex, Bezold-Jarisch reflex, vagal maneuvers, Cushing's reflex)
5. Describe the anatomy of the conduction system
6. Describe the automaticity of the cardiac conduction system including differences between the SA node, AV node, Bundle of His and Perkinje fibers
7. Describe the recognition and management of common rhythm abnormalities (Afib, atrial flutter, SVT, VT, bradyarrhythmias)
8. Understand the mechanism of action and indications for common antiarrhythmic agents
9. Describe the impact of the following devices on anesthetic care: pacemakers, ICDs, and cardiac re-synchronization therapy

Cardiac Pharmacology

Understand the pharmacology of the following agents, including their impact on the cardiovascular system:

1. IV induction agents
2. Sedatives
3. Opioids
4. Volatile anesthetics
5. Nitrous oxide
6. Local anesthetics
7. Neuromuscular blocking agents
8. Anti-cholinesterases and cholinergic agonists
9. Anti-cholinergic agents
10. NSAIDs and Cox-2 inhibitors
11. Vasoactive agents
12. Sympathomimetics, α- and β- adrenergic antagonists
13. Phosphodiesterase inhibitors
14. Calcium sensitizing agents (levosimendan)
15. Peripheral vasodilators, including the nitrates;
16. Calcium-channel blockers
17. Diuretics
18. Other anti-hypertensive agents
19. Other anti-dysrhythmic drugs, including digitalis
20. Prostaglandins
21. Nitric Oxide
22. Anti-fibrinolytic agents
23. Anti-platelet agents (including novel agents)
24. Thrombolytics
25. Heparin and non-heparin anticoagulants (including HITT, bivalirudin, and heparin resistance)
26. Protamine (including protamine reactions)

27. Drugs for pulmonary hypertension and right heart failure

Monitoring

1. Develop proficiency ECG interpretation of ischemia and arrhythmias
2. Develop proficiency in the interpretation of data from invasive monitoring including central venous pressure and pulmonary artery catheters
3. Develop proficiency in the use of cerebral oximetry

Cardiopulmonary bypass:

1. Understand the component of the cardiopulmonary bypass machine
2. Understand the optimal management of CPB, including:
    a. blood pressure
    b. temperature
    c. glucose/insulin
    d. hemoglobin
3. Understand the complications of CPB, including:
    a. CNS
    b. myocardial
    c. renal
    d. coagulopathic

4. Understand the management of emergencies on cardiopulmonary bypass, including:
    a. air embolism
    b. oxygenator malfunction
    c. electrical pump failure
    d. aortic dissection while on CPB
    e. malfunction/loss of arterial or venous cannulae while on CPB

Management of the patient for cardiac surgery

1. Indications for elective and emergent CABG (including outcomes: optimal medical management vs. PCA vs CABG)
2. Indications for valve repair and replacement (including TAVI, valvuloplasty)
3. Pathophysiology and management of complications after CV surgery (including bleeding, tamponade, graft occlusion, early and late arrhythmias, stroke, neurocognitive dysfunction, patient prosthetic mismatch)
4. Risk assessment for cardiac surgery (including STS, Euroscore II and Parsonnet score)
5. Overview of anesthetic technique for cardiac surgery (including risks/benefits/contraindications to spinal anesthesia)
6. Methods for blood conservation in cardiac surgery

Heart Failure

1. Medical management of CHF (systolic/diastolic)
2. Anesthetic management of the patient with chronic left CHF for non-cardiac surgery
3. Management of the patient with acute left heart failure
4. Management of the patient with right heart failure
5. Devices for the treatment of heart failure (including: IABP, ECMO, LVAD, CRT)
6. Management of the patient with a previous heart transplant

Non-ischemic heart disease

1. Understand the following conditions in term of pathophysiology, anesthetic considerations, and management for both cardiac and non-cardiac surgery:
2. Valvular heart disease (including HOCM)
3. Cardiomyopathies (dilated, restrictive, hypertrophic)
4. Pulmonary hypertension
5. Pericardial disease (constrictive pericarditis, pericardial tamponade)
6. Acute pulmonary emboli
7. Endocarditis (including guidelines for SBE prophylaxis)

Congenital heart disease

1. Basic embryology and fetal circulation
2. Common simple congenital lesions (including PDA, coarctation, ASD, VSD)
3. Complex cardiac lesions (including TOF, Ebstein's anomaly, pulmonary atresia, transposition, hypolastic left heart)
4. Common palliative procedures for CHD
5. Principles of anesthesia for adult patients with CHD

Vascular Anesthesia

1. Classification of aortic aneurysms
2. Classification of aortic dissection
3. Surgery on the ascending aorta
4. Surgery on the aortic arch
5. Brain protection strategies including deep hypothermic circulatory arrest and antegrade cerebral perfusion
6. Spinal cord blood supply and spinal cord protection strategies
7. Surgical considerations:
    a. When to operate (thoracic aneurysms, dissections)
    b. Open repair vs stenting
    c. Pathophysiology of aortic clamping/unclamping (supraceliac, supra-renal, infra-renal).
8. Anesthesia for abdominal aneurysm repair (including open and stenting)
9. Anesthesia for ruptured AAA
10. Anesthesia for peripheral vascular procedures
11. Anesthesia for carotid endarterectomy

Echocardiography/EchoLab

1. Understand the indications and contraindications for transesophageal echocardiography
2. Interpret at least 300 echocardiograms
3. Perform at least 150 complete transesophageal echocardiograms
4. Interpret at least 75 transthoracic echocardiograms
5. Perform at least 30 transthoracic echocardiograms
6. Interpret echocardiographic pathology in accordance with the American Society of Echogardiography (ASE) Guidelines, including:
    a. Left ventricular systolic and diastolic dysfunction
    b. Right ventricular dysfunction
    c. Valvular abnormalities
    d. Aortic abnormalities
    e. ASD/VSD
    f. Cardiac masses
    g. Pericardial tamponade
    h. Pericardial constriction
7. Suitability of a valve for repair vs. replacement
8. Understand the management of incidental findings on the pre-CPB TEE, including:
    a. Patent foramen ovale
    b. Mitral regurgitation
    c. Aortic stenosis
    d. Tricuspid regurgitation
    e. Aortic dilation
    f. Aortic atherosclerotic disease
9. Understand the management of pathology identified on the post-CPB TEE, including:
    a. New regional wall motion abnormalities
    b. New valvular regurgitation
    c. Paravalvular regurgitation following prosthetic heart valve replacement
    d. Patient-prosthesis mismatch
    e. Systolic anterior motion of the anterior mitral valve leaflet

Communicator

The role relates to physicians being effective at establishing rapport, patient-centered therapeutic relationships. Further, being effective in developing relationships with patients, families, other professionals and individuals is central to this role.

1. Demonstrate understanding and compassion in communicating with patients
2. Demonstrate an ability to explain a patient's options in a clear and complete manner
3. Demonstrate an ability to deal with a patient's family in a compassionate manner
4. Demonstrate an ability to communicate clearly and respectfully with other members of the surgical team
5. Demonstrate accurate, timely, and legible documentation

Collaborator

This role is central to conflict management and forming partnerships with others who are involved in patient care. This role is integral to working with multi-disciplinary teams as well as patients and families. Being an effective collaborator leads to the provision of optimal care as well as education.

1. Demonstrate effective interactions with other health care personnel and acknowledge their roles and expertise
2. Demonstrate an ability to delegate effectively and use other team members to the fullness of their abilities

Manager

This role relates to the everyday practice activities which involve co-workers, resources, and policies. Integral to this role is the ability engage in effective operation of the healthcare system.

1. Demonstrate an appreciation for the cost-effective use of health care resources, including operating rooms
2. Demonstrate realistic priorities and good time management
3. Understand and apply principles of quality and safety

Health Advocate

This role relates to the determinants of health, ensuring patient safety and the ability to improve the overall health of patients and communities. Physicians must be able to appropriately influence public health and policy.

1. Intervene or speak on behalf of individual patients, when indicated
2. Recognize and respond to needs for general patient safety advocacy
3. Understand and apply the guidelines for anesthesia practice and equipment in Canada

Scholar

This role is central to physicians' mastering their domain of expertise and furthering knowledge. They must be able to facilitate education as well as create, disseminate and apply medical knowledge. As Scholars physicians are expected to engage in lifelong learning.

1. Demonstrate an ongoing and effective personal learning strategy
2. Accesses and critically appraises medical information
3. Uses evidence in clinical decision-making appropriately
4. Gives guidance and teaching to others
5. Gives feedback effectively

Professional

This role is guided by the code of ethics and high professional standards of behavior. Through this role, physicians must demonstrate commitment to their patients, profession and society through ethical practice.

1. Demonstrates integrity, honestly, compassion, and a respect for diversity
2. Meets medical, legal, and professional obligations of a specialist
3. Is reliable and conscientious
4. Is aware of own limitations, is able to seek advice when needed, and engages in accurate self-appraisal
5. Compares own performance to standards

CALL REQUIREMENTS

CVOR Rotation

1. During the 1st two CV OR rotations the fellow will select one weekend (Fri-Sun inclusive) to do call. No weekday call required in these first two blocks.
2. For the remainder of the year fellows will do 3 weekdays (Mon-Thurs) and 1 weekend (Fri-Sun inclusive) per 4 week block. If vacation > 3 days is taken then the weekday call requirement is reduced proportionately (ex: 3 weekdays for a 3 week block, 2 weekdays for a 2 week block and so forth).
3. A call schedule will be posted. If possible the fellow should schedule themselves in the room with the on-call CV anesthesiologist. If they are in a different room (or in PAC or post-call) they should contact the on-call CV anesthesiologist in the morning to remind them that the fellow is on call with them.
4. Fellows must decide on their call assignments for the entire block by 15:00 on the Friday afternoon prior to the start of the block. Fellows may assign themselves call on days that they are booked in a locum room. It is discouraged to be post-call on a day assigned for a locum OR shift.
5. Call assignments can be switched in the middle of the block if needed, though it is best to minimize switches whenever possible. If a call assignment requires changing contact the FD so that the schedule can be updated.
6. If the fellow is on call and is post-call from the day before then they will be available for call duties from 1630 onward.
7. The post-call day will depend on the time that the fellow finished working during the evening of call:
    - Done before 23:00 = normal next day
    - Done between 23:00 – 02:00 = 09:30 start for next day (finish first case and do 2nd case)
    - Done past 02:00 = full post-call day off.
8. The decision on which cases the fellow will be called in for as well as whether the fellow should stay to the very end of a late on-call case should be decided between the fellow and the CV anesthesiologist they are assigned with for that call shift. The overriding principle should be to maximize the educational experience. Example: not coming in for a 3 am take back when scheduled the next day for a complex total arch case would be reasonable.

9. Additional call. Fellows may wish to be called in for specific types of cases when they are not assigned to be on-call where they feel they have an experience deficit (ex: Type A Dissection, ECMO, etc.). This is to be arranged by the fellow with the CV anesthesiologist on call, including parameters under which the fellow would like to be called. The regular post-call rules for call will apply.

Non-CV OR Rotation

Non-CV OR rotations will not have any required CV OR call coverage. Call coverage for that particular rotation will depend on the call needs for the rotation and may vary depending on those needs. Call coverage and assignments will be determined by the supervisor for each rotation. Some Non-CV OR rotations include the fellow being assigned a spot that would otherwise be given to a resident trainee. As such there may be a need for the fellow to cover a resident-type call shift. These types of call shifts will be kept to an absolute minimum and will be monitored by the fellowship director to ensure the educational experience of the fellow is not being overly compromised.

ICU Rotation

ICU and CVICU rotations will not have any required CV OR coverage.
Call requirements in these rotations will be consistent with what residents and other fellows are asked to provide.

Echo Lab

There is no weekday call requirement during this rotation (may be schedule for weekend Main OR shift).

EVALUATION POLICY

1. Verbal feedback during the course of each day while working with preceptors.
2. A formal electronic evaluation will then be provided using the UofC one45 online system. These are to be submitted by the fellow at the end of each day and will be completed by the preceptor. It is mandatory for fellows to submit a one45 evaluation for each day otherwise they will be considered to have failed the day. It is acceptable to fellows to submit one evaluation for a block of serial days (ex a weekend of call) but must have the approval of the CV anesthesia attending they worked with during this time.
3. At the end of each block a final evaluation (ITER) will be produced by the program director for the fellow. This ITER will be based on the daily evaluations as well as any other formal feedback received by the program director.
4. Off-service rotation evaluations will be completed by the supervisor of that rotation. These will be sent to and reviewed by the CV anesthesia fellowship director.
5. The fellow will be required to maintain a case log of OR and echocardiograph experience during the year. The log-book will be provided to the fellow by the program.
6. The fellow will meet quarterly to review his/her progress in the training program. This review will include the ITERs, logbook, and any other feedback received by the program director.

REMUNERATION/LOCUM

Locum Scheduling

The fellow's income for the training year is generated through locum Main OR assignments where the fellow bills the day as an independent practitioner. The locum assignments will be at the FMC. If a fellow is interested in locum opportunities at other Calgary hospitals this can be explored. The FMC locum shifts are assigned by the FMC Main OR schedulers and can be in any OR including but not limited to Foothills, McCaig, Labor & Delivery (day assignments only), Tom Baker Cancer Center, Diagnostic, and subspecialty rooms (thoracics, neuro, etc.).

Fellows are also expected to cover weekend 2nd or 3rd call Main OR shift. These shifts generally begin between at 7:30 am (assuming there is a need for 2 or 3 OR rooms). They typically end by 18:00. Fellows bill during these assignments similar to any other locum assignment. Fellows will not be given any 1st call Main OR or OB evening shifts during their fellowship year. Any special requests by the department for a fellow to cover one of these shifts will have to be approved by the FMC site chief, the fellowship director and the fellow himself/herself.

The fellows will be assigned approximately 60 weekday assignments per year and 8 weekend assignments per year. The locum shifts will be distributed in a fashion that will 1) minimize impact on fellowship education and 2) provide additional OR coverage during time periods where the schedulers are traditionally short-staffed.

- CV OR blocks: 2-6 locum assignments
- CVICU/ICU: 0-2 locum assignments (no weekends)
- EchoLab: 4 locum assignments
- Vascular: 4 locum assignments
- Thoracics: 2-4 locum assignments
- Electives: TBD

Ideally the locum assignments will be evenly spread out over the block, however depending on need/availability fellows may be asked to provide locum coverage concentrated within periods of their block (ex: 3 assignments in one week followed by 2 weeks with no assignments). Fellows will need to be available for room assignments (though may not actually be booked) for 2 of the 4 high demand vacation periods: Thanksgiving, Christmas, New Year and Spring Break. At the start of the fellowship year the fellows are expected to choose which 2 periods they will be available for potential scheduling. If you are scheduled on a STAT you may choose any other day to have as an "in-lieu". The choice of in-lieu day can be made by 1) emailing the program secretary and director (same as vacation requests) as well as 2) booking them on Physician Scheduler as an "Academic Day" with a note to the schedulers.

Billing

Fellows are responsible to obtain billing codes from the surgeon they are working with as well as entering appropriate modifiers. Billing slips will be submitted for 3rd party billing (provided by MediCom) to be submitted to Alberta Health & Wellness. Billing will be paid by AH&W into an account reserved exclusively for anesthesia fellows. Fellows will then be paid out of this account on a monthly basis. Billings and the fellowship accounts are maintained by our program. Individual fellow billing summaries and statements can be made available upon request.

Billing slips are submitted to MediCom by placing a sealed envelope in the mail slot marked "CAS" in the FMC 2nd floor anesthesia mail room. Slips are picked up Thursday morning. If possible, please try submit all billings for each rotation on the last Wednesday prior to the start of the next rotation.

Any WBC payments will come to the account directly. In the rare event that you bill an international patient that payment will be sent directly to you from MediCom and will not be counted in your annual salary or quarterly bonuses from AHS (IE if and when you get paid it will be "bonus" money).

For any "split-cases", where the case has been split between a fellow and another attending, the following procedure will need to be followed.

- Scenario 1: You are billing the "split-case". You need to write down on the billing slip that it is a split case, the name of the other anesthesiologist, and the times each person was involved in the case. This is in addition to the regular billing info. Submit this slip. The other anesthesiologist will be paid their portion directly from the Fellowship Program.

- Scenario 2: The other anesthesiologist is billing the "split-case." You must still fill in a complete billing slip as described above. The difference will be **to note clearly that it is the other anesthesiologist submitting to AH&W**. The billing anesthesiologist should write a cheque for your portion to Fellowship Program. Cheques should be made out to: **Anesthesia Department Fellowship Fund**.

- Please do not arrange to have any billings paid to you directly from another attending, for a split-case or otherwise. Doing so will be considered an unprofessional action, and may result in loss of the end-of-year bonus.

Fellowship Salary

<u>NOTE</u>: No tax will be withheld by AHS so please plan to set aside an appropriate amount of your salary and bonus payments to account for income tax payment. In addition, any professional membership/registration fees, CMPA dues, and supplemental health care insurance is NOT provided by the Fellowship Program.

Fellows will be paid a yearly salary of $95 000.00. This salary will be paid out monthly at the end of each month. Fellows' billings will be reviewed quarterly: June 30, September 30, December 31, and March 31. A 50% proportion of billings above a calculated rate of $95 000/year will be paid to the Fellows as a bonus after the completion of their fellowship year. It takes several weeks to ensure all billings have been received and the accounting is complete. Therefore, fellows can expect to receive their bonus 2-3 months after completion of their fellowship.

The remaining 50% of the billing income will be transferred to a University of Calgary Research Account. The purpose of this account will be to enhance the academic experience for the fellows. Expenditures from the Research Account will be decided by a committee and approved by the Program Director. There will be fellow representation on this committee.

The mandate of the Research Account is to spend funds only on requests which are directly related to Fellowship Academics. This includes, but is not limited to the following:

1. equipment/statistical assistance/administrative help for research projects
2. equipment used for fellowship education
3. reimbursement of ravel for conference presentations
4. honorariums for selected visiting speakers

Extra Locum Assignments

Fellows may elect to request additional locum assignments during their vacation time. All billings during this time will still be subjected to the arrangement specified above (IE 50% retention above $95 000.00). Fellows may also elect to use vacation time to work at a hospital outside of Alberta. The specifics of such an arrangement (privileges, CMPA, etc.) is to be set-up by the fellow and that particular hospital. Any income generated outside of Alberta would not go through the AHS Fellowship Account and would not be subjected to any retention of funds.

ABSENCE FROM CLINICAL WORK

Early Termination the Fellowship Program

Requests for early termination of the fellowship program should be made to the Program Supervisor as soon as possible to facilitate the required paperwork and scheduling changes.

The fellow will be excused from all educational activities immediately. Attempts will be made to cover any locum shifts that have already been assigned. If no coverage is possible, the fellow will be asked to complete the assignment so that patient care is not negatively affected.

If there has been insufficient locum work to cover the fellow's monthly salary payments, the fellow will be required to reimburse the Fellowship Program for the difference.

Early departure will result in forfeiture of the fellows' 50% split of any overage billings accumulated up to the point of fellowship termination.

Vacation

Fellows are allotted up to 4 weeks (including weekends) of vacation time during the fellowship year. Fellows are encouraged to minimize vacation requests during non-CV OR blocks to limit the loss of educational activities during these short periods.

Vacation requests can be submitted to the Fellowship Director for CV OR blocks. Any requests during non-CV OR blocks should be directed to the director of that rotation, in addition to informing the Fellowship Director.

Conferences

Fellows are encouraged to attend relevant conferences/educational meetings. Attendance to these events will be allowed without requiring the use of vacation time for up to 5 weekdays or 3 events. Additional time off will be possible should the fellow be presenting a poster or speaking at a conference. These additional conference requests will be assessed on a case-by-case basis.

Leaves of Absence (LOA)

The PGME LOA policy can be found at: http://wcm.ucalgary.ca/pgme/current-trainees/residency-training-policies under the tab 'Leaves of Absence'. Special leave will be granted by the Fellowship Director in accordance with PGME/AHS/RCPSC policies. The general rule is that any LOA over 2 weeks duration (accumulative) will require extension of training.

FELLOWSHIP PROGRAM SUPERVISOR

The Fellowship Director (PS) is responsible for the overall conduct of the fellowship program and is accountable to the Division of Cardiac Anesthesia, the Head of the Department of Anesthesia, the Associate Dean for PGME, and the RCPSC.

Specific duties include:

1. the development and operation of the program to meet general and specific standards of accreditation;
2. selection of candidates for admission to the program, including the organization and conduct of interviews;
3. evaluation in accordance with appropriate policies and stated educational objectives;
4. maintenance of an appeal mechanism;
5. facilitation of career planning;
6. counseling fellows as required and dealing with professional and personal problems
7. ongoing program review to include:
8. the educational experience (including the curriculum as it relates to goals and objectives);
9. optimal use of available resources and facilities;
10. opinions of the fellows;
11. teaching and teachers.

The PS will ensure that the formal teaching in the program is organized, relevant, and continually updated. Assistance and resources will be provided to faculty involved in educational programs. The PS acts as a liaison between the fellows and faculty, frequently in the role of fellow advocate. Fellows' specific needs and requests are to be dealt with compassionately and rationally. With the assistance of faculty, the PS is required to have an ongoing awareness of fellow's performance. Performance (or other) concerns will be addressed with the fellow, Division of Cardiovascular Anesthesia and Department of Anesthesia in a timely and appropriate fashion.

The PS will ensure that program documents are current and widely available. The current PD is Dr. Alexander Gregory.

FELLOWSHIP TRAINING COMMITTEE

To provide the best possible education and evaluation, there is a Cardiovascular Anesthesiology Fellowship Training Committee. This committee is made up of: the Program Supervisor and the members of the Division of CV Anesthesiology. The Fellowship Training Committee is tasked with designing, implementing, evaluating, and modifying the fellowship educational curriculum. This includes optimizing learning opportunities, setting the rotation schedule, and identifying the core knowledge/skills that are required in order to complete the fellowship. The committee also plays a significant role in evaluation of the fellows. If any deficiencies are identified, modifications in the fellow's training will be applied in order to achieve completion of the program. Successful completion of the Fellowship Program is determined by the Fellowship Training Committee.

FELLOWSHIP SELECTION PROCESS

Applications for fellowship training in cardiovascular anesthesia will be submitted directly to the Fellowship Director. All applicants must have received FRCPC designation and qualify for licensing from the College of Physicians and Surgeons of Alberta. A complete application includes: cover letter, current CV and 3 letters of reference.

Candidate files are reviewed, and selected candidates are invited for an interview. The date for Calgary interviews is determined based on availability of Faculty for interviews as well as the schedule of the fellowship applicant. If the applicant is unable to travel for an in-person interview, then a series of phone interviews will be arranged. This will not be harmful to the success of an applicant in securing a fellowship position.

During the selection process, consideration is given to academic record, clinical performance record, suitability for training in cardiovascular anesthesia, letters of reference, cover letter, and the interviews. The interview is conducted in a multiple mini-interview format. The application decisions are final.

RESOURCES FOR FELLOWS

Agencies

The AMA offers a variety of services (https://www.albertadoctors.org/), including emergency support. The AMA Physician and Family Support Program (https://www.albertadoctors.org/services/physicians/pfsp) manages a hotline at 1-877-SOS-4MDS (767-4637) (https://www.albertadoctors.org/services/physicians/pfsp/i- need-help-now). Up to six one-hour counseling sessions per family member per year are available free of charge.

AHS also has an Employee and Family Assistance Program that can be reached at 1-877- 273-3134 or http://insite.albertahealthservices.ca/Files/hr-whs-fact-sheet-shepellfgi- online-access.pdf.

The main campus of the U of C offers a variety of services, including a bookstore, recreational facilities, The Chaplains' Association, Student Rights Advisor, and Academic Counseling.

Personal Health Care

No health care benefits are provided by the fellowship program. All fellows are strongly encouraged to purchase their own health care benefit coverage for services not covered by Alberta Health Care for the duration of their fellowship. If the fellow is from out of province they should obtain an Alberta Health Care Card upon moving to Alberta. If the fellow is from out of country they will need to arrange for their own health care insurance. All fellows are urged to have a Family Physician throughout their training. Self- medication, prescription writing without formal consultation, and removal of pharmaceuticals from the OR are not supported. While it is reasonable to keep a limited number of labeled syringes/vials to be taken to patient care areas while on call, keeping narcotic boxes in the on-call room is absolutely prohibited.

CMPA

Payment of CMPA dues are the responsibility of the fellow. If you think you might be, or are faced with, a serious complaint or a threat of a lawsuit, then you should notify the CMPA by telephone 1-800-267-6522 at once. Send complete, concise information. Do not contact the CMPA by e-mail. Wait for a reply from the CMPA before taking any further steps or making any statements. Be sure your clinical records are secure. Do not consult a lawyer without instructions from the CMPA. The CMPA does not accept responsibility for the payment of legal expenses incurred without its prior approval. Do not answer any letters of complaint from patients, lawyers or others without first receiving the CMPA's advice.

FELLOW WELLBEING

Fellow well-being is given a high priority in our program. For health, personal, and career concerns, fellows are encouraged to seek assistance early. In addition to the resources available within the department, excellent support is available through the University Health Services at the U of C (https://www.ucalgary.ca/wellnesscentre/services/health/medical) and the Physician and Family Support Program (PFSP) of the Alberta Medical Association (AMA) (https://www.albertadoctors.org/services/physicians/pfsp).

Personal and Professional Responsibilities

Be aware of escalating health problems, sleep deprivation, stress, worries and doubts, and promptly discuss these issues with the Fellowship Director or other Faculty Member.
Be aware of signs of drug misuse in your colleagues and seek advice if you have concerns.

Harassment and Bullying, Ombudsman

Any fellow who feels that they are being harassed or bullied should notify either: a Faculty member or the Fellowship Director. All allegations of harassment and bulling are taken seriously and will be investigated and addressed as needed.
In the event that the fellow is not comfortable addressing the matter with any member of the Department of Anesthesia, they should contact the program's ombudsman, Dr. John Graham (john.graham@ahs.ca) to have the matter addressed.

Fellow Safety Policy

All fellows should be aware of the PGME policy on resident safety. This can be found at http://wcm.ucalgary.ca/pgme/current-trainees/residency-training-policies under 'Resident Safety'. These same policies apply to fellows. The CV Anesthesia Fellowship Program wishes to act promptly to address identified safety concerns and incidents, and to be proactive in providing a safe learning environment.

Ombudsman

The role of the ombudsman is to assist fellows who perceive that they have been offended or treated unfairly, and feel that they are not being adequately supported within their own program. The ombudsman for the anesthesia residency training program is Dr. John Graham from the division of General Surgery at the Rockyview General Hospital.