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March 6, 2020

From: Antonia Stang
Sent: March 6, 2020 8:45 PM

Subject: FW: Update on Alberta cases of COVID-19

Please see update below about first presumptive cases of COVID-19 in Alberta, and the provincial and zone response and planning.

Key points for now:

1-Screening has been expanded to include all symptomatic patients with travel outside of Canada in the past 14 days

2-Plans are underway for stand alone Assessment centres where symptomatic patients will be directed by Health Link for assessment and testing.

3-PPE

Droplet and Contact which means: mask and face shield (prescription glasses are not sufficient), gloves, gown

For aerosolizing procedures (e.g. intubation, nebulized medications) above plus N95 mask

4-Avoid nebulized medications whenever possible.

Patients with travel history within 14 days who require nebulized medications should be treated in a negative pressure room

5- If a patient is who has traveled outside of Canada in the past 14 days is admitted, even if not symptomatic, inform admitting service of travel (in case patient becomes symptomatic during admission)

Wash your hands and rest up!

We will share information and plans as we receive them.

Antonia

March 9, 2020

From: Jenn D'Mello
Sent: March 9, 2020 9:06 PM

Here are the ACH ED COVID-19 plans effective now until further notice (which will likely be in a few days).
The current goal is viral containment which means keeping patients that screen positive out of the waiting room.

1) Patients that screen positive for COVID-19 risk at triage (symptomatic and with travel/contact hx) and are not immediately needing a monitored room will be preferentially put into rooms 1-4. They may get seen "sooner" than they need to be relative to the acuity of other patients in the department, but they also won't be exposing those same patients to COVID-19. The goal is to turn these patients/rooms over as quickly as possible. They do not need to be in a negative pressure room unless having an aerosolized procedure.

remember your PPE including a face shield or goggles, and don't bring charts in to these rooms. Don't send learners in to these rooms unless they can do everything without your direct supervision. We are working on having dedicated stethoscopes for these rooms

as per usual- bedside RNs will do the resp swabs, no need for physicians to do them

2) If rooms 1-4 are full but there are plenty of other rooms in the department available COVID-19 patients can be placed in those rooms with isolation precautions, but the priority will be to keep some monitored rooms available for patients that arrive and are "sick".

3) If there is a screen positive COVID-19 patient at triage and there are no rooms available- for CTAS 4/5 patients their phone # will be taken and they will be sent to their car to wait until they are called to triage to be taken to an available room. For CTAS 3 patients a physician will be paged to triage to either quickly see/discharge the patient, determine the patient should be moved to a monitored bed, or determine they are safe to wait in their car until called. Patients that don't have a car or mobile phone would also fall into this group to be seen by a physician at triage.

Please send questions to myself and Antonia. Our next meeting is on Wednesday and there will be further updates/plans at that time. Expect this to be an evolving plan as our volumes increase and community spread begins.

Jenn

Jenn D'Mello, MD, FRCPC-PEM
Pediatric Emergency and Child Maltreatment Physician
Alberta Children's Hospital Emergency Department Clinical Lead

March 10, 2020

Jenn D'Mello

ACH ED COVID-19 your questions answered

2020-03-10

Details



In follow-up to all the great questions that have been asked since last night's email. PLEASE READ! March 10th ACH ED COVID-19 Q & A

Q: Should the definition of symptomatic be broadened to include if a family member or close contact is symptomatic, and also I think that everyone who accompanies a patient needs to be screened?

A: We should screen anyone accompanying a patient for COVID-19 risk and isolate the family if anyone in their party screens positive even if the actual patient doesn't (or ideally send that caregiver home to be replaced by one who doesn't have ILI). Currently we aren't automatically isolating asymptomatic people with a potential sick contact or travel history. We will advise if this changes. If the patient is being admitted then they will likely be isolated if their history puts them at risk even if asymptomatic.

Q: What should the patient/family wear when they are being moved from triage to the room/out of the room back to their car. Will the patients/family have PPE put on them/who does the donning/doffing and should they be entering/exiting somewhere else?

A: Patients and caregivers that screen positive should put a mask on and once in a room be told no one can leave the room without a mask on. If they're too young to wear a mask the parent should carry them with their face into the parent's chest so that if they cough it's on the parent (or in a stroller with a blanket draped over it). Currently they will not be entering/exiting the department "somewhere else" but this may change as volumes increase.

Q: Where would a sick patient requiring intubation go?

A: Right now an unwell patient requiring intubation would still go to the trauma/resus room, preferably the right side of the trauma room. Everyone should be wearing PPE and those near the head of the bed N95s. We don't expect at present that our volume of patients needing ED intubation will increase substantially (which is a significant difference from what the adult EDs will face).

Q: I have some mild URTI symptoms that I'd normally come to work with. Do I need to self isolate?

A: If you've traveled outside Canada in the past 14 days then YES. If you're not sure whether it's safe to work call AHS Workplace Health and Safety (1-855-450-3619 ext. 4.- if outside of country) 403.955.2900 locally for further instructions and let Antonia/Jenn know ASAP.

Q: Is there a strategy for physician shortages if people get sick/need to self isolate? A: There will be one coming soon.

Q: Do we have access to hospital scrubs?

A: Not that we've been told currently but it's a good idea- we will look into it.

Q: Will the Richmond Road COVID-19 assessment centre be sending patients to the ED?

A: They may identify a potentially unwell child that needs to be sent to the ED. If so they should call and ask to speak to an ED MD through RAAPID. If the ED MD agrees the patient should be sent to the ED (eg can't comfortably say over the phone that the patient doesn't need a physician assessment) then notify charge so an isolation room can be ready for the patient when they arrive.

Q: Can we send patients away from the ED and to the Richmond Road Assessment Centre?

A: We are developing signage for the entrance to ED's which will ask people to consider calling 811 for COVID-19 testing questions, especially if they have no symptoms. We are currently NOT turning anyone away from an ED.

Q: Do we still need to order COVID-19 specifically or can we just order the regular RPP swab? How do the results show up in SCM? Do we need to notify patients of results?

A: Hospitalized and ED patients with Respiratory Viral Testing (Respiratory Pathogen Panel or RPP) or Rapid Influenza/RSV

testing ordered will have the COVID 19 test added automatically. COVID-19 will be reported separately in SCM and Netcare from the RPP. SCM has new orders specifically for COVID-19. You can order this directly or it will be added automatically (at this current time) by the lab if RPP testing is requested.

There are separate SCM/Netcare results for the RPP and the COVID-19 tests. The RPP currently has a confusing notice at the top stating that “The 2019 Novel Coronavirus, SARS, and MERS are NOT detectable...” that if expanded by clicking on the + sign will indicate that the RPP does not test for these. This has offered great confusion and will be fixed (ideally) in the next few days to indicate “The RPP does NOT test for COVID 19, SARS, or MERS...” and can be expanded for more information as well but will be much more clear.

We are not notifying patients of positive/negative COVID-19 results. MOH will call them if positive, Healthlink will call them if negative.

Q: Can I wear the same PPE my whole shift or do I need to change it between patients?

A: Please change it after every patient...I really hope this is something everyone knew already but don't want to put the ass in assume.

Jenn and Antonia

Jenn D'Mello, MD, FRCPC-PEM
Pediatric Emergency and Child Maltreatment Physician
Alberta Children's Hospital Emergency Department Clinical Lead

March 14, 2020, with Billing Code Advice

Antonia Stang 

COVID-19 Updates March 14

2020-03-14

[Details](#)



PPE

We have purchased reusable goggles for each of the ED MDs and fellows. Russ is putting them in ACH ED mailboxes today. Thank you Russ!

Updated Traveller guidance

Bottom line- asymptomatic returning travelers who returned on or before March 12 DO NOT need to self isolate but simply need to monitor for symptoms.

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-2019-traveller-guidance.pdf>

New billing code for telephone advice for COVID19

As of March 12th, there is a new code that can be used 03.01AD - Telephone advice to a patient during a viral epidemic. The rate is \$20/call. Unlike 305JR, there is no limit to 14 claims / physician / week. This can be used when physicians provide care to a patient who is being isolated. It can also be used for conditions where the physician is in self-isolation and providing telephone advice to patients. It does not require the patient to have COVID19. Can be claimed once per patient, per physician, per day. Documentation of the request and advice given must be recorded. To help with coding, on your diagnosis line, please write SARS-associated coronavirus so that AHCIP can track these. See attached bulletin for more information.

Thank you to all of you for your immediate response picking up on-call shifts and open shifts this weekend.

The ability of this group to step up and handle any situation is inspiring.

Check AHS insite regularly for updates, particularly on screening guidelines as the situation is changing rapidly.

<https://www.albertahealthservices.ca/topics/Page16947.aspx>

Please email Jenn and I directly with any questions or suggestions. Antonia

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Number: MED 221	Date: March 12, 2020	Page: 1 of 2
Subject: Telephone Advice during COVID-19 epidemic and appropriate Diagnostic Codes		Reference:

To: All Physicians and billing staff

Telephone Advice during COVID-19:

Effective March 12, 2020, to minimize the risk of exposure to the COVID-19 virus and to ensure continuation of care if a patient or physician self-isolates, the Ministry of Health is amending and activating Health Service Code (HSC) 03.01AD.

The amended description of 03.01AD will read:

- Telephone advice to a patient or their agent (agent as defined in the Personal Directives Act) during a viral epidemic.

When can a physician submit claims for HSC 03.01AD?

- Providing care in relation to COVID-19.
- Providing care for other conditions when the patient or physician is in self-isolation.

The following restrictions would apply:

1. May only be claimed once per patient, per physician, per day.
2. Benefit includes advice, providing a new prescription or prescription renewal
3. Documentation of the request and advice given must be recorded.
4. May only be claimed when communication is between patient or their agent and physician.
5. May not be claimed for providing general information on the virus.
6. May not be claimed for services provided through Health Link.

Changes to the Claim Assessment System (CLASS) are complete and physicians can use this code immediately. The Schedule of Medical Benefits is currently being updated to reflect the amendments, and will be published as soon as possible.

This code will remain active as long as the Chief Medical Officer of Health determines it should remain active.

Appropriate Diagnostic Codes:

To help with monitoring, please use ICD Code 079.82 on **all SOMB claims** related to COVID-19 even if the patient is not diagnosed with COVID-19 but consulted a physician for symptoms.

Inquiries:

Any general inquiries regarding this change can be sent to [**health-pcsp.admin@gov.ab.ca**](mailto:health-pcsp.admin@gov.ab.ca). Specific questions related to billing can be directed to 780-422-1600.

Contact:	Provider Compensation and Strategic Partnerships Branch	Approval:	Camille Bailer
Telephone:	Edmonton 780-422-1600 Toll free 310-0000	Position:	Executive Director Provider Compensation and Strategic Partnerships Branch
Email:	health-pcsp.admin@gov.ab.ca		
Fax:	780-422-3552		

March 15, 2020

☆ **Antonia Stang**

COVID-19 Updates March 15

March 15, 2020 at 5:48 PM

[Details](#)



School closures

We recognize that the announcement of school closures will cause childcare challenges for many of our staff.

For now we are focusing on posting and moving shifts for physicians who are on isolation and cannot work.

If you need to move shifts for child care please attempt to trade and post. If you have a shift that you absolutely cannot work please let Jenn and I know as soon as possible.

We will look into possible childcare options for physicians through AHS and U of C and keep you updated. Let us know if you hear of any options in the meantime.

We are closely monitoring the schedule and will make changes as required based on patient volumes, acuity and staff availability.

Health Link number for physicians

Health Link has established a direct line to call for physician access to assessments and triage for swabs. Please utilize the below number instead of the public access numbers.

Calgary: 587-284-5302

Rounds and Meetings

A reminder that all rounds and in-person teaching are cancelled for March and April.

The section meeting on March 18 at 9:30 will be call in only and will be focused on COVID-19 updates and discussion.

TO CALL IN: 403-232-0994 – CALGARY OR 1-877-385-4099 (TOLL FREE) PARTICIPANT ACCESS CODE: 1363077#

Thank you all for your flexibility and understanding in this time of uncertainty. We will send updates regularly.

Please continue to refer to Insite. <https://insite.albertahealthservices.ca/tools/Page24291.aspx>

Antonia

March 16, 2020: Email from Shabnam regarding SHC Protocols

Shabnam Minoosepehr 

COVID-19 SHC protocol

2020-03-16

[Details](#)



Hi all,

Thanks for your patience as the SHC COVID protocol has been formulating. Please note;

(1) At this time all patients will be triaged to H pod. This is an RN skill limitation, not all nurses covering C pod are trained for triage which means they are unable to allocate ?COVID patients to C pod. I expect with increasing volumes this will change but at the current time nurses did not feel comfortable transporting ?COVID patients to C pod directly.

(2) SWABS- in all adult sites, physicians are doing their own patient swab for COVID as a means to decrease the amount of PPE use. However, it is clear that if you need the patient to receive any treatment, whereby the nurse has to go back into the room with PPE, then, it is reasonable for them to do the swab, given they do it way more often than we do. No 95mask required if you need to do a swab, just a regular mask is needed as part of your PPE.

(3) If you have a sick patient that is ?COVID and requires intubation, they will be moved into C2 (negative pressure room), you can call for portable X-ray for acutely unwell.

However, if patients can go to Xray and are suspected for ?COVID, diagnostic imaging is to be called in advance to let them know such patient is on their way.

I will keep you posted as changes are made, Shabnam

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Immediately, and then delete the original message. Thank you.



Pre-Screen
Scripti...art.pdf



COVID
screeni...ter.pdf



COVID Peds
Proces...e 2.pdf

SHC ED – Covid-19 (Coronavirus) Screening Information for Patients & Families

You may have a respiratory illness. With confirmed cases of Covid-19 in our community, we are taking extra precautions to keep patients and families safe.

Patients with symptoms of ANY respiratory illness are being assessed and treated in a separate part of the Emergency Department. **Please refrain from leaving this area.** If you need to use the bathroom, let your nurse know.

You will be asked to wear a mask for the duration of your stay. This mask must cover both your mouth and nose at all times.

Wearing your mask properly and continually will help prevent the spread of respiratory illness. **Please perform hand hygiene regularly**, particularly before and after you touch your face. If you need a new mask, please let a nurse know.

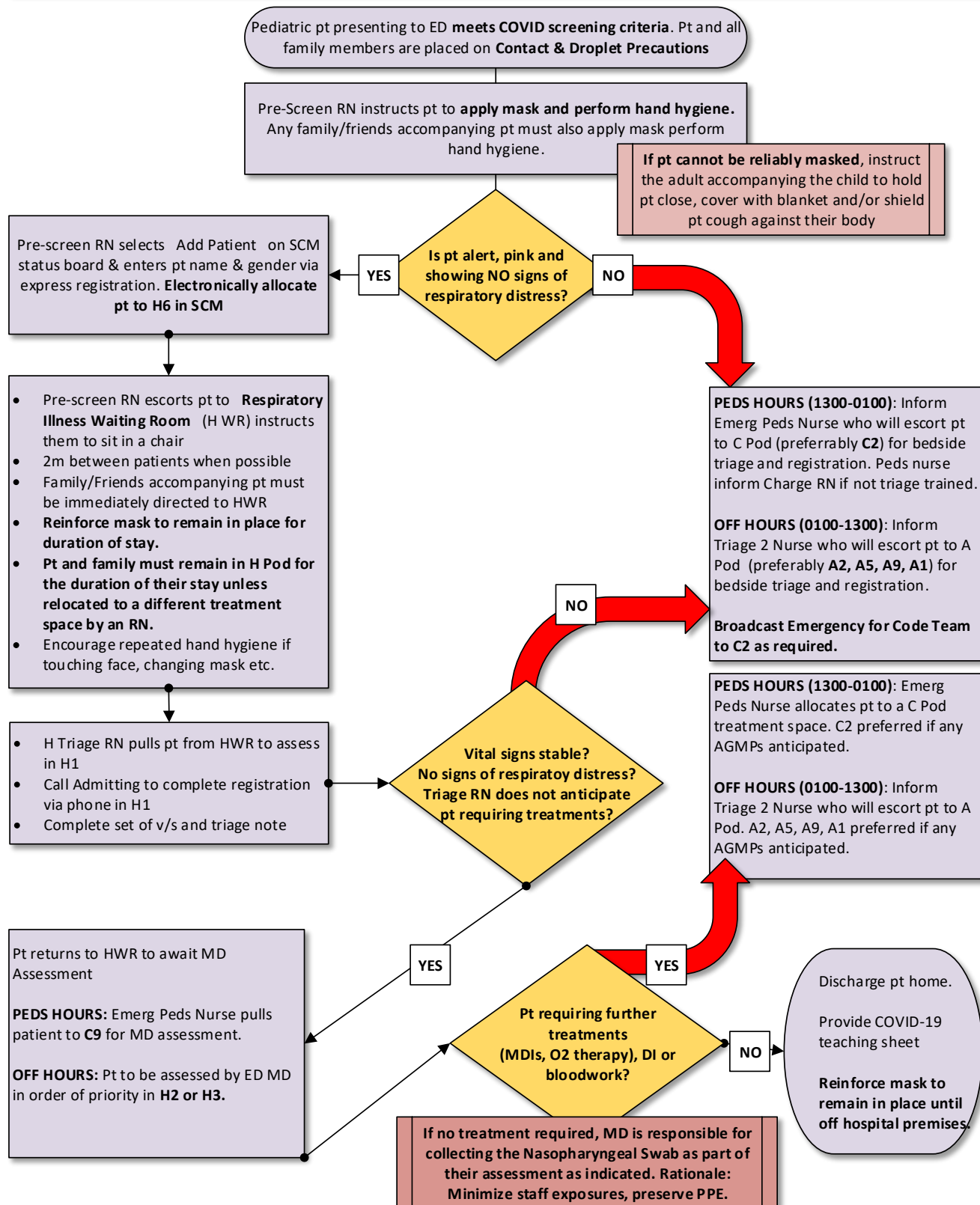
We are working hard to have you assessed by an Emergency physician as soon as possible. If your symptoms are worsening during your stay, please let your nurse know.

Friends and family accompanying patients must wear a mask and are not permitted to leave the designated area.

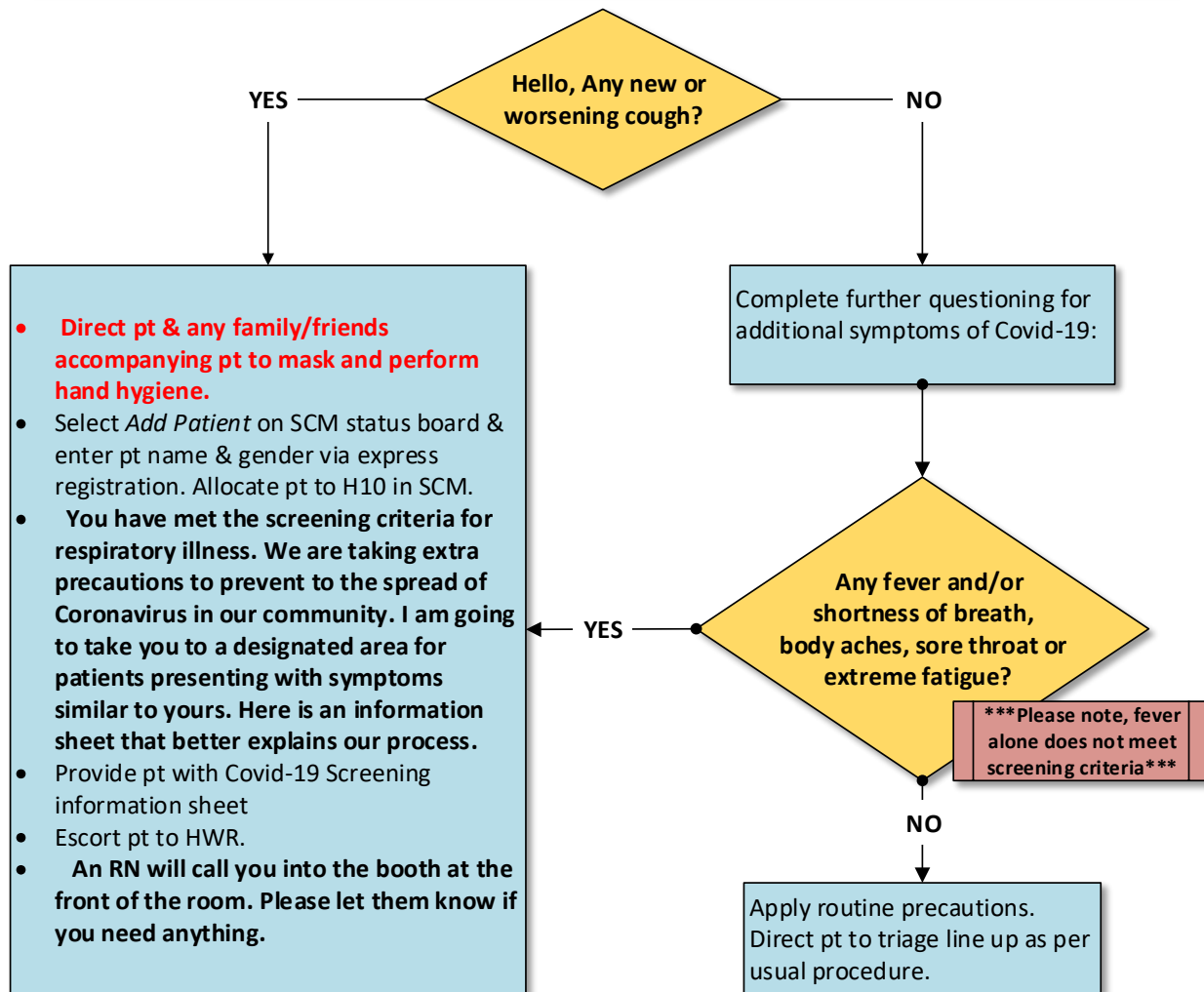
Thank you for your cooperation.

SHC ED Pediatric Patient Triage Process and Patient Location Guidelines for COVID-19

Stage 2



SHC ED – Covid-19 Pre-Screen RN Script



March 17, 2020, with ACH Pandemic Plan and COVID Isolation Resuscitation Room Staff

Antonia Stang
COVID-19 Update

COVID March 17, 2020 at 6:08 PM
Details



COVID-19 Update

See Insite for information and updates

<https://insite.albertahealthservices.ca/tools/Page24291.aspx>

ACH Pandemic Plan

Please see the attached updated memo (please read!!!) which describes our current pandemic plan. This plan was developed in consultation with IPC, PICU, RT and with feedback from simulations and RLS's. We recognize that using the procedure room for the resuscitation of patients who screen positive is a big change in practice, but it is important in order to protect our patients and staff. We have posted visual aids (attached) which are also on the procedure room door. We will also hold daily huddles with the trauma team (MD, nurses, Charge, RTs) at 7am, noon, 7pm and midnight (starting at 7pm tonite), outside of the procedure room, to briefly discuss and prepare for a potential COVID-19 resuscitation. When screening criteria are broadened or the number of patients who screen positive increases we will move to (and disseminate) our stage 2 screening algorithm. Forward Antonia and Jenn any questions or feedback on the plan.

Section Meeting

We will use our section meeting tomorrow, Wednesday 9:30 am, to discuss our pandemic plan, and answer any questions. If you are on site we will be in conference room 2, but I encourage you to call in. Under the best of times we have technical difficulties with calling in so please be patient. If phone lines are overwhelmed and call in does not work we will send an email to the group.

TO CALL IN: 403-232-0994 - CALGARY OR 1-877-385-4099 (TOLL FREE)

PARTICIPANT ACCESS CODE: 1363077#

MODERATOR ACCESS CODE: 5974942#

N95 fit testing

The site is working on offering 2 extra N95 fittings so that ED MDs can all be fitted. I will send out details as soon as available. For now if you have a spot in one of the previously posted sessions (which are full) keep it.

RAAPID

If usual RAAPID number (403-944-4486) is busy please use this alternate number: 403-592-2045

COVID-19 Telephone Consult Codes

Medeasy is receiving a number of telephone consultation codes from physicians who take calls from RNs from the COVID testing centre. Unfortunately, you cannot bill 03.01LJ, 03.01LK, 03.01LL as you are not speaking with a physician / midwife / NP. You also cannot bill 03.01AD unless you speak with the patient or their family directly. I would treat these phone calls like public health RN calls for a newborn child (where we also are not allowed to bill the telephone advice codes). Let me know if you have any questions. References:

<https://www.albertadoctors.org/fee-navigator/hsc/03.01LJ>

<https://www.albertadoctors.org/fee-navigator/hsc/03.01AD>

PLC admissions

1. Pediatric patients across the zone who currently meet previously established admission guidelines for PLC will continue to be admitted to PLC, including those with a respiratory presentation of unknown etiology. Suspect COVID patients do not require a different procedure from current IP&C practice for droplet isolation. Ongoing appropriate use of PPE will be emphasized with all staff including trainees.

2. Pediatric patients with known COVID-19 who are currently self-isolating in the community but deteriorate to the point of needing admission should be targeted for ACH Unit 4, our designated unit for COVID.

Resident Learners in the ACH ED

Effective immediately, all off service R1 residents will be removed from their PED rotation and redeployed by their home program (this does not include pediatrics and emergency medicine residents)

Effective Monday March 23, all off service R2 residents will be removed from their PED rotation and redeployed by their home program (this does not include pediatrics and emergency medicine residents). This step may be implemented sooner at the discretion of the Section Head if needed.

This policy differs from that of the adult sites and was developed following discussions with the PGME office and the Family Medicine Program Directors.

Scrubs

A number of you have asked about the possibility of using hospital scrubs in the ED. Here is the site response sent out today: "Scrubs must be used only by those staff and physicians currently designated to use them for direct patient care. Scrubs do not provide any additional protection than street clothes: PPE provides the protection. The Surgical Suite staff require scrubs in order to provide care. Scrubs must not be removed from the surgical suite locker rooms. If a change of clothes is desired, bring this in from home."

If you would like to have somewhere to change/shower/leave clothes during an ED shift you can use the ED saff room, 1343 in the hallway behind the ED, which has a bathroom and shower. Code for the door is 70699. We will let you know if the guidance re. scrubs changes.

PICU Help

PICU is asking for ED physicians who, if PICU is overwhelmed due to acuity or staffing, would be willing to assist in the PICU. Billing details etc will have to be worked out. If you are interested please email Simon Parsons with the information outlined below and cc Jenn and Antonia. Prior to taking on any PICU shifts please clear with Antonia and Jenn to ensure that we have met staffing requirements for the ED.

Name Specialty Cell Email Home phone Designation (Attending/CA/Fellow)

We will continue to send updates regularly.

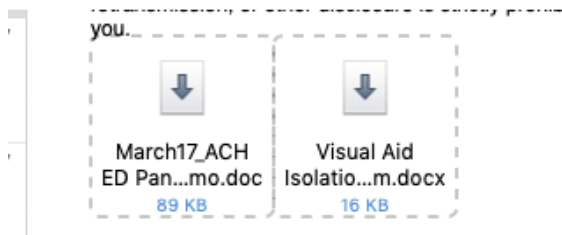
In an effort to minimize group emails please email Jenn or I directly with questions and suggestions.

Thank you for your flexibility in picking up open and call shifts and for supporting each other and the whole ED team! Stay healthy.

I am available on my cell phone (403-966-1234) any time for urgent issues or questions.

Antonia and Jenn

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Memorandum

Date: March 17, 2020
To: ACH ED Emergency Staff and Physicians
From: Antonia Stang, ACH ED Chief of Pediatric Emergency Medicine
RE: ACH ED Pandemic Plan

See Insite for latest updates

<https://insite.albertahealthservices.ca/tools/Page24291.aspx>

General Considerations:

Screening Criteria:

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-case-def.pdf>

Diagnostic Imaging:

- ☐ If a patient meets COVID-19 screening criteria call for portable x-ray in room.
- ☐ Indicate isolation precautions/suspected COVID-19 in x-ray order.
- ☐ Ensure droplet/contact sign is on the door to room.
- ☐ For patients who will be returning to ACH for outpatient imaging (e.g. US, MRI, CT), provide appropriate discharge planning to the family at discharge. If imaging is negative, the radiologist will send patient home directly from DI.

Patient Care Considerations:

- ☐ Bedside RNs will continue to perform respiratory swabs. The nurse may swab prior to MD assessment for patients who meet COVID-19 screening criteria.
- ☐ Avoid taking charts, computers etc. into patient rooms.
- ☐ Limit number of individuals entering isolated patients rooms and consolidate tasks with each entry.
- ☐ Do not send learners into isolation rooms unless they are able to practice independently without direct supervision.
- ☐ Areas that cohort patients who meet COVID-19 criteria will have dedicated stethoscopes, BP, O2 sat monitors. Clean equipment between each patient use with Cavi-wipes or alcohol swabs.
- ☐ Avoid nebulized medications whenever possible. If required, place patient in negative pressure room (room 2, 26, 33, 34, procedure room).
- ☐ Ensure commode or access to dedicated restroom for isolated patients.

Intubation/Resuscitation: (NEW)

- ☐ If patient meets COVID-19 screening criteria, resuscitation (eg: CPR, bagging, intubation and suction and NIV) should take place in procedure room with doors shut (negative pressure) and full PPE including N95.
- ☐ Team should consist of the following:
 - INSIDE ROOM: 2 physicians, 3 nurses, 1 RT, inside runner (ie. nursing attendant, resident, ED MD)
 - OUTSIDE ROOM: charge nurse, ED nurse, 1 RT, outside runner (ie. nursing attendant, resident, ED MD)
- ☐ Caregiver should initially stay outside room with social worker. If parent required at bedside due to patient condition, parent and social worker may enter with full PPE.
- ☐ ED Code Cart has been moved to the hallway in front of procedure room. For IPC reasons, only necessary equipment should be moved into procedure room.
- ☐ Designate a runner outside the room to gather any additional equipment (CMAC, Zoll monitor from ED code cart, etc.).
- ☐ Outside runner to ensure doors are shut and key is set to negative pressure isolation (in hallway to parent room).
- ☐ If intubation is required prepare all equipment to optimize early intubation and notify PICU. When bagging, confirm with RT that bag has HME (heat moisture exchange filter).
- ☐ If a patient would benefit from NIV (Non-Invasive Ventilation) or High Flow O2 call PICU attending ASAP and transfer patient to PICU prior to initiation of NIV or High Flow.
- ☐ Use video laryngoscopy to avoid having to directly visualize the larynx.
- ☐ If a second patient meets COVID-19 screening criteria and requires intubation/resuscitation, and procedure room is occupied, place patient in trauma room.
- ☐ Clear the hallway when transporting intubated patient within department and to PICU.
- ☐ Any Code 77 patient, regardless of screening criteria, should initially be treated in the trauma room. If screen positive can consider movement to procedure room for intubation or full PPE including N95 required for everyone in trauma room during intubation.

Procedures:

- ☐ Procedural sedation on patients who do not meet COVID-19 screening criteria will take place in either trauma D or Room 27.
- ☐ The orthopedic cart/casting equipment and C-arm will be stored in Fast track.
- ☐ Burn cart and spare LP cart will be stored in middle supply area.
- ☐ Patients who have a procedural sedation in the trauma room, should be moved to a monitored bed for recovery as soon as possible.

Code 50:

- ☐ Follow appropriate stage of COVID19 triage algorithm.

Discharge:

- ☐ Provide patients and families who have been tested for COVID 19 in the Emergency Department and discharged home to self-isolate with the 'Caring for yourself at Home' letter.
<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-pui-letter.pdf>



Asymptomatic Patients:

- ☐ As per the MOH on March 12, 2020, individuals without ILI symptoms should not be tested for COVID-19

<https://www.albertahealthservices.ca/assets/info/hp/phys/if-hp-phys-moh-novel-coronavirus-update-external.pdf>

Isolation Resuscitation Room

<u>Outside Room – No PPE</u>	<p><u>Triage Nurse/Admitting -</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Enter Triage Note at EMS computer <input type="checkbox"/> Gather info from caregiver outside room <p><u>Outside Runner (1) -</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Communicate with Inside Runner <input type="checkbox"/> PPE Donning Buddy (help staff follow poster with N95) <input type="checkbox"/> Get CMAC (from Trauma Room) <input type="checkbox"/> Zoll Monitor (hand to team inside if needed) <input type="checkbox"/> Negative Isolation On (in hallway to family room) <input type="checkbox"/> Ensure Doors Closed <p><u>Charge Nurse</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Medication Preparation <input type="checkbox"/> Crowd control <input type="checkbox"/> Ensure PICU room ready <input type="checkbox"/> Clear hallway for transport <p><u>Medication Nurse (1)</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Medication Preparation <p><u>RT Runner (1)</u></p>
<u>Inside Room – PPE</u>	<p><u>Trauma Team</u> (*<u>NO</u> personal stethoscopes inside)</p> <p><u>Inside Runner (1)</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Doffing Buddy (help staff follow poster) <input type="checkbox"/> Communicate with Outside Runner <p><u>Trauma Physicians (2)</u></p> <p><u>Nurses (3)</u> (*wear x-ray lead & PPE)</p> <p><u>RT (1)</u> (*wear x-ray lead & PPE)</p>

EMS should DOFF INSIDE ROOM prior to exiting

Caregivers should initially stay outside room with Social Worker

March 19, 2020, with Community Pediatrics Memo and COVID Stage 2 Triage Algorithm

Antonia Stang @
ACH ED Update

March 19, 2020 at 5:50 PM

[Details](#)



ACH ED Update

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page <https://www.albertahealthservices.ca/topics/Page16944.aspx>

ACH site specific Pandemic Plan

We moved to our Stage 2 pandemic plan at ACH today, screening and cohorting all patients with ILI (see attached, also posted in MD office) with a dedicated waiting room and ED rooms for patients who screen ILI + and - . The screening criteria <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-case-def.pdf>

for COVID-19 testing have not changed as yet so please refer to them when deciding whether or not to send swab for COVID-19. We will do another simulation in the procedure room tomorrow and will continue working with PICU, IPC, RTs and applying lessons learned from our adult colleagues. The most recent pandemic plan memo is attached, we will continue to make changes based on our simulations, your suggestions and the evolving situation. Thank you all for the excellent suggestions and feedback.

We are also setting up weekly Q & A calls over the next month on Wednesday at 9:30 to stay up to date on this rapidly evolving situation.

N 95 Fit Testing

Additional N-95 Fit Testing sessions are scheduled for next week. More sessions will be added based on need.

See below schedule and attached memo.

Fit-Testing will be prioritized for clinical staff and physicians who may need to perform or assist with Aerosol Generating Medical Procedures (AGMPs) on patients with confirmed or suspected Influenza Like Illness. Please refer to - Who needs a N95 Respiratory Algorithm for more information.

Tuesday, March 24 Wednesday, March 25 Thursday, March 26

COVID-19 and Ibuprofen Risk

Based on a few case reports some agencies have recommended against using ibuprofen for patients infected with COVID-19 as it may worsen the disease. Here's a BMJ link discussing the "evidence"

https://www.bmj.com/content/368/bmj.m1086?utm_source=twitter&utm_medium=social&utm_term=hootsuite&utm_content=sme&utm_campaign=usage&fbclid=IwAR0VV3EaGvF1yiF5di_mCZLgZkzG0H DU9QdyN1MA5ka9usvry6seVr5EUQY

At this point in time the evidence is scant. However it's worth being aware of as this information has been widely circulated and patients may ask about it. At the section meeting it was mentioned that the WHO was recommending against using ibuprofen in patient's with COVID-19. On further digging this is not entirely accurate- the WHO is "looking in to" whether guidance should be provided on this. At present there is no clear guidance to avoid ibuprofen, and we have no plan to stop using ibuprofen in our ED. Stephen will keep us updated if there is mounting evidence in one direction or another.

Pandemic Physician Staffing Plan

Currently we are very well staffed for the small volume of patients we are seeing. If we start to have increased volumes and or/lose physicians to illness, self-isolation, or re-deployment to adult sites, we will gradually drop shifts and increase length of shifts as needed (similar to the summer schedule).

We are looking in to things physicians could do if feeling well but at home due to self-isolation. Currently there is no need for physicians not on shift to contribute to patient care, however we will send out info on how to access Netcare/SCM remotely so physicians can initiate that process in the event they will need it in the future. (Of note this process may take a while as many physicians are currently trying to get remote access for the same reasons).

Research

All non-COVID-19 clinical research at ACH ED on hold until further notice Other items

Trauma Update: Unmatched blood units

The two unmatched blood units in the trauma room fridge will be removed today until further notice.

If you need blood call the Blood Bank 52332 and ask for unmatched blood to be sent to through the pneumatic tube system.

This will take under FIVE minutes.

If not required immediately, or called prior to patient arrival, please put in the blood fridge. If not required in the end please porter the blood back to the Blood Bank.

If known female or unknown gender ONeg will be sent.

If known male OPos will be sent.

Please fill out appropriate demographics on the unmatched blood form sent with the blood.

Community Pediatrics Availability (see attached Letter to Hospitals)

We, in the community, have heard that there has been difficulty booking urgent follow-up appointments for children who are being discharged from hospitals & EDs.

Most of our community pediatric clinics are OPEN and continue to see patients DAILY. In fact we have MORE availability as all of our non-urgent consults have been cancelled and most follow-ups have been changed to phone appointments. Most clinics have 1-2 pediatricians scheduled each day to see urgent consults and follow-ups in-person.

Due to limited access to PPE, these are the inclusion/exclusion criteria:

- No infectious symptoms within the past 14 days.
- Or if they have had infectious symptoms within the past 14 days, the symptoms must have resolved and they must have proof that they are COVID-19 NEGATIVE (**negative test result must be received by clinic with discharge summary prior to appointment**).
- No travel outside of Canada within the past 14 days.
- No contact with a person known to be COVID-19 positive.
- Patient cannot be COVID-19 positive.

During business hours please call the clinic first to ensure the patient is accepted and an appointment can be made. Then fax the paper referral with the chart.

During off hours, please fax a referral and make sure it is clearly marked as "urgent medical" so that the clinic responds as quickly as possible.

The following clinics have urgent spots that can accommodate patients QUICKLY (within days to a week). If you call one of our clinics and are turned away and your patient meets the above criteria, please ask to speak to an MD as we would be happy to speak with you! We are working to ensure our front staff are kept up to date with this rapidly evolving pandemic. We thank you for your patience.

SOUTHEAST:

Kiwi - phone 403-281-2500

SOUTHWEST :

Infinity - phone 403-727-5055 Southport - phone 403-253-2288 Kaleidoscope - phone 403-252-6651 Hygieia - phone 403 457 9117

CENTRAL:

Associate - phone 403-221-4434

NORTHEAST:

Children's Health Clinic - phone 403-955-1077

NORTHWEST:

Ladybug - phone 403-531-9757 SunnyHill - phone 403-284-0001

OUTSIDE CALGARY:

Bow Valley Children's in Canmore - phone 1-403-678-9600 Stoney Health Center pediatric clinic - phone 1-403-881-3920

Please DO consider referring to us in the community. We are keeping our clinics open despite most appointments being cancelled to do our part in social distancing. We want to help keep patients out of the hospitals and the emergency departments whenever possible. Thank you!

Section of Community Pediatrics Department of Pediatrics

Continue to email Jenn and I with any questions or comments. We are trying to minimize emails as we recognize how overwhelming the information is (loved the snowman in the avalanche image from rounds this morning!).

I am available on my cell phone (403-966-1234) any time for urgent issues or questions. Stay healthy,
Antonia and Jenn



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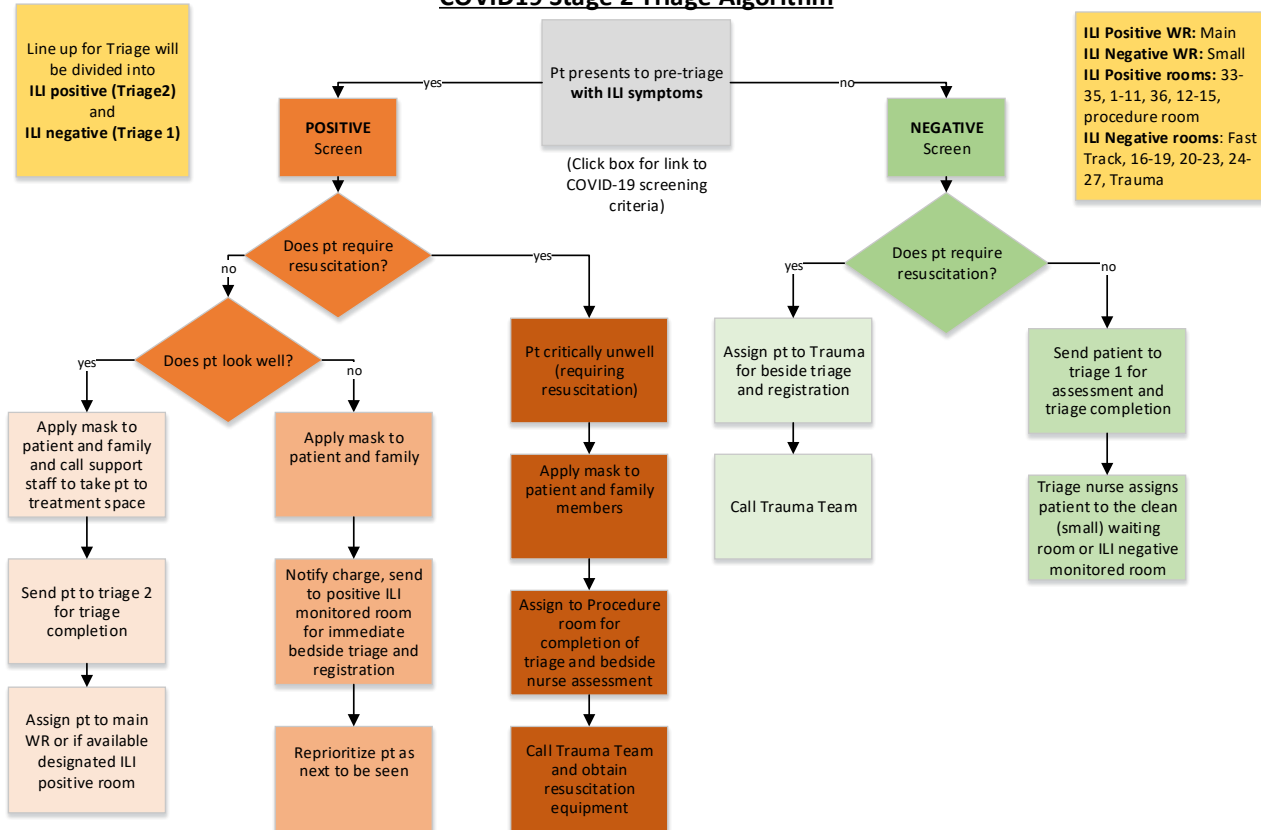
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Section of Community Pediatrics


Department of Pediatrics

Updated March 19, 2020 by Dr. Caroline Chee

COVID19 Stage 2 Triage Algorithm



March 20, 2020, with EMS Handover for COVID-19 Patients

Antonia Stang 
RE: ACH ED Update

March 20, 2020 at 5:51 PM

[Details](#)

AS

ACH ED Update

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page <https://www.albertahealthservices.ca/topics/Page16944.aspx>

A few items for today:

Another simulation today with fantastic suggestions and learning. More planned for next week. Thank you to all who are planning (Connie, Erin L, Erin P and Ashley), facilitating (Nick and Fiona) and participating in the simulations. In the simulation today we had the Trauma team (in full PPE) meet EMS in the ambulance bay for handover of an unstable suspected COVID-19 patient (see attached checklist reminder).

Thank you all for the emails, questions and suggestions you are sending. Even if Jenn or I don't have time to reply as quickly as we would like, know that we are reading and acting on your suggestions.

Two recent examples:

- * Gavin (this morning) suggested a second VRI (virtual translator screen), and as of this afternoon we have two (thanks to Jennifer Tweed for her quick action, and to the FCRC for securing).
- * Roger pointed out that the COVID-19 nucleic acid test was defaulted to unit to collect, not to unit to collect stat, with a delay in order printing. Ashley reached out to SCM and it was fixed today!

Keep the suggestions coming.

As much as possible try to enjoy some rest and time with family this weekend.

Scrubs

Message from Tara

I have initiated a scrub order for our ED staff just in case you would like a few sets. The online store will be open until March 25 for scrubs only.

We do not know how long they will take to be shipped, but hoping we get them sooner rather than later. We can try...

<https://store.kodiaksports.ca/stores/ach-emergency-team>

Kodiak Sports & Apparel (403) 291 - 4479

PLC

For now PLC is still admitting pediatric patients as per usual admission criteria except patients who are known COVID-19, or high risk, those should be admitted to ACH unit 4. We will let you know if/when this changes.

COVID resource page information developed for patients and families by the ACH FCRC

The COVID-19 resource page is now available on the FCRC website. You can direct families by sharing the direct

link: <http://fcrc.albertahealthservices.ca/health-information/covid-19/> [Quoted text hidden]

EMS ACH Team Handover Sign_.docx 16K

FOR STAFF GOING TO **AMBULANCE BAY FOR** **POTENTIAL COVID-19 PATIENT**

Unstable Patient

- ☐ Ensure ALL 'inside' Trauma Team present and donned in full PPE, including N95
- ☐ Bring Isolation Resuscitation Room stretcher with CPR Board and Slider
- ☐ Clear hallway to Isolation Resuscitation Room (former Proc Room)
- ☐ Ensure doors are closed to Fast Track and Trauma Room
- ☐ Confirm HME (filter) on BVM device
- ☐ If possible, complete transfer of care in Ambulance Bay (EMS can doff in Ambulance Bay)

Stable Patient

- ☐ Simple facemask for patient and caregivers
- ☐ Hold patient in area near decon showers until ED room ready

March 21, 2020, with nebulized medication information

Antonia Stang

FW: Use of Nebs and Care of Critical Pediatric Patents with COVID-19

COVID March 21, 2020 at 1:08 PM

[Details](#)

AS

Please see the attached update from pharmacy regarding use of nebulized medications in the ED.

Also review the document below on care of the pediatric critically ill covid-19 patient. Let me know if you have questions. I can collate and forward to our PICU and RT colleagues.

Antonia

From: Leila Davey On Behalf Of Emergency SCN

Sent: March 21, 2020 12:49 PM

Subject: Use of Nebs and Care of Critical Pediatric Patents with COVID-19

Hi All,

We wanted to make you all aware of two very important documents that have just been released.

1. The attached update from Pharmacy Services that should be printed and posted within your ED/UCC regarding the use of nebulized medications.

2. The Critical Care SCN has just posted the Care of the Pediatric Critically Ill COVID-19

Patient<<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-care-pedatric-critically-ill.pdf>>

(<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-care-pedatric-critically-ill.pdf>). This document has important considerations for care settings.

Andrew Fisher, ACP

Manager, Emergency Strategic Clinical NetworkTM (ESCN)

Alberta Health Services

Southport, Calgary, AB, Canada

(403) 312-8786

ESCN Website: www.albertahealthservices.ca/escn<<http://www.albertahealthservices.ca/escn>>

Visit AHS' COVID-19 page<<https://www.albertahealthservices.ca/topics/Page16944.aspx>> for the latest updates and accurate information: [ahs.ca/covid](https://www.ahs.ca/covid)<[http://www.ahs.ca/covid](https://www.ahs.ca/covid)>

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tms-phm-pub-
DTB-n...ed).pdf

Drugs and Therapeutics Backgrounder

UPDATE: Nebule to Metered Dose Inhaler (MDI) with spacer Therapeutic Interchange

BOTTOM LINE: Any order for nebulized ipratropium, salbutamol, combination ipratropium/salbutamol, or budesonide not compliant with the formulary restriction will be interchanged to a MDI with spacer.

Background: Conversion of nebulized ipratropium, salbutamol, combination ipratropium/salbutamol, or budesonide to a MDI with spacer reduces the risk of medical air/oxygen misconnects, spread of infection, drug exposure to staff, and adverse effects to patients.

Efficacy: MDI with spacer produces outcomes that are at least equivalent to administration by nebulizer in both adults and pediatrics in the emergency department and inpatient settings.^{1,2} Dose equivalence between drugs given by nebulization or MDI with spacer is not well-defined in the literature.^{1,2} The proposed dose conversions have been used successfully within AHS and Covenant Health.

Safety: Nebulization requires more delivery time and greater dosages of medication than MDI. Some nebulized particles are larger and will impact the upper airway leaving medication in the throat, which is then systemically absorbed and may result in greater side effects than MDI.² MDI with spacer reduces exposure risks and infection spread compared to nebulization therapy.³

Therapeutic interchanges are an authorized exchange of therapeutic alternatives, conducted by pharmacists, in accordance with the AHS formulary system

Spacers: Using a MDI without a spacer is **NOT** recommended. If using spacers with masks, ensure the mask covers the nose and mouth snugly. Patients ages 4 and up may use spacer with mouthpiece if able to seal lips tightly around mouthpiece and breathe through the mouth only. However, some patients may have facial characteristics (e.g. small lower jaw), which mean a size based on age alone may not fit. Developmental or cognitive concerns may make use of mouthpiece difficult and patients may require spacer with mask.

Therapeutic Interchange: In collaboration with clinical stakeholders and previous experience within AHS and Covenant Health, the following therapeutic interchanges have been changed to **Level 1** (excluding neonates/NICU):

Original Order	Interchange*
Ipratropium (Atrovent) solution via wet nebulizer 125 mcg per dose, any frequency 250 mcg per dose, any frequency 500 mcg per dose, any frequency 1000 mcg per dose, any frequency	Ipratropium (Atrovent) MDI 20 mcg/puff 20 mcg per dose, same frequency 40 mcg per dose, same frequency 80 mcg per dose, same frequency 160 mcg per dose, same frequency
Salbutamol (Ventolin) solution via wet nebulizer 1.25 mg, any frequency 2.5 mg, any frequency 5 mg, any frequency	Salbutamol (Ventolin) MDI 100 mcg/puff 100 mcg per dose, same frequency 200 mcg per dose, same frequency 400 mcg per dose, same frequency
Budesonide (Pulmicort) solution via wet nebulizer 0.25 mg per dose, any frequency 0.5 mg per dose, any frequency 1 mg per dose, any frequency	Fluticasone (Flovent) MDI 50 mcg per dose, same frequency 125 mcg per dose, same frequency 250 mcg per dose, same frequency

* **Level 1 interchange: lowest complexity – No patient specific information required/minimal pharmacist assessment required**

Note: If combination ipratropium/salbutamol (Combivent) nebulers are ordered, above interchange to be applied by separating into individual ipratropium and salbutamol components.

Prepared by: Jenny Shiu, BScPharm, PharmD, ACPR, Clinical Practice Leader

Reviewed by: Roberta Dubois, RRT, CHE, MA, FCSRT, Practice Director, Provincial Respiratory Therapy, HPSP; Brandie Walker, MD, PhD, FRCPC, Respiriology, Clinical Assistant Professor, University of Calgary

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March 22, 2020

Antonia Stang

March 22, 2020 at 8:40 PM

Details

AS

FW: chloroquine/hydroxychloroquine poisoning guidelines

To: Adam Chasen Adam Chasen (Phonetic) Adam Oates Adam Oates (Phonetic) adamik@albertahealthservices.ca Adam Mikheleuk 108 more

Hi all.

In light of the rapid changes in medications being repurposed for treatment and prophylaxis of COVID-19, please find attached some new documents:

1. PADIS management guidelines for chloroquine/hydroxychloroquine poisoning.
2. COVID-19 drug interactions document from University of Liverpool (with a link to the website for regular updates).

I've also attached a few papers on this topic.

You may be aware that these antimalarial drugs are being touted as cures for COVID-19 in the US. As a result, stock of these medications is running low in several states. There have been reports of new poisonings in Africa and the US as a result of this. The Alberta College Of Pharmacists has sent out an advisory to pharmacists about not filling prescriptions for the intent of stockpiling (i.e. filling scripts for friends and extended family members).

Any of you that have helped manage a patient exposed to these drugs knows how sick these people can get and how serious this is (think about the sickest TCA or CCB patient you've had, and then imagine someone sicker than that).

The most up to date version of the management guidelines will always be available at PADIS and posted on our Insite page within the week at <https://insite.albertahealthservices.ca/padis/Page7744.aspx>.

For COVID-19 drug interactions, antimalarials, macrolide antibiotics (aside from azithro), antifungals and protease inhibitors are all either substrates or inhibitors of CYP 3A4. Fatalities have occurred when a DI check isn't performed before starting patients on these drugs (e.g. fentanyl is metabolized through 3A4 and opioid toxicity risk is increased when starting 3A4 inhibitors).

Thanks and stay safe.

Mark Yarema

Mark Yarema, MD FRCPC

Medical Director

Poison and Drug Information Service (PADIS)

Section Chief

Clinical Pharmacology and Toxicology

Alberta Health Services

Phone: 403-944-6900

Fax: 403-944-6987

Website: <https://cumming.ucalgary.ca/departments/emergency-medicine/programs/clinical-pharmacology-and-toxicology>



Covid_InteractionDetail...r20.pdf



PADIS chloro hydrox...20.pdf



de Olano toxicok...19.pdf



Messant chloro...04.pdf



Riou Treatment of Sev...88.pdf

March 23, 2020

Antonia Stang
ACH ED Update

March 23, 2020 at 6:16 PM
[Details](#)



ACH ED Update

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Thank you all for the comments and suggestions over the past few days which we will incorporate into our pandemic plan and processes. We are planning more simulations this week.

Send Antonia and Jenn any additional questions that you would like addressed at the Q & A call Wednesday morning (9:30).

Physician Staffing

Currently AHS has not recommended that any particular physicians avoid assessing/treating patients with COVID-19.

Understandably however, some physicians are feeling uncomfortable about seeing these patients based on what we know of the risk factors for severe COVID-19 disease.

The approach to this situation is being discussed at all ED sites. As a first step sites are assessing the number of physicians who self-identify as potentially at risk to get a sense of the impact of this on staffing and operations.

With that in mind, if you feel you are more vulnerable to COVID-19 than most of the group and want to avoid seeing these patients, please let Jenn know of your request and the rationale behind. All info will be kept confidential.

Virtual Care by PEM physicians

Many of you have expressed an interest in doing more to help families during this pandemic when you are not on shift. One opportunity would be to provide virtual care via phone or video. Roger has had discussion with Health Link. In many instances families that call are advised that their child needs further assessment.

If you are interested in being part of a "virtual ED" that would contact these families then please let Roger know. At this stage we are trying to gauge the interest so this is not a commitment.

There are many logistical issues that would need to be sorted out including details of how we can bill for these. Certainly if we can help keep kids at home rather than going to ED, UCC or WIC we will be making a huge contribution.

There is also a pressing need to do Contact Tracing. Other opportunities for us to use our skills are being explored.

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March 24, 2020

Antonia Stang

RE: ACH ED Update

March 24, 2020 at 5:26 PM

[Details](#)



ACH ED Update

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PPE and IP&C questions/comments/concerns:

To help streamline the workload, Jennifer Thull-Freedman and Shirmee Doshi will be dealing with all PPE and IP&C issues

Please send all questions/comments/observations/concerns to: Shirmee.doshi@ahs.ca

All information will be collated and reviewed at regular meetings with IP&C to address the identified issues. We will share updates or process changes via email.

Any urgent concerns will be dealt with as quickly as possible.

Staff and Physician Screening at ACH

Logistics under development

Staff and physicians will be routed through the Rehab doors on the lower level, from Lot 1, and from Lot 5.

Screening will include questions, as well as a temperature check each time the employee or physicians enters the building.

The front door will be accessed by visitors only, screening will continue for visitors.

More details to follow

COVID-19 Testing

As of March 24, 2020

testing will be prioritized for individuals with symptoms, in the following categories:

- people who are hospitalized with respiratory illness
- residents of continuing care and other similar facilities
- people who returned from travelling outside of Canada, between March 8 and March 12 (before the self-isolation protocols were in place)
- healthcare workers with respiratory symptoms (testing will begin later this week and details will be shared as we have them).

For us this means we only test patients who travelled outside of Canada between March 8 and March 12, and those who are hospitalized with respiratory illness. In order to test appropriately, Nurses will review with MD prior to swab being done (as usual practice here swab can be done by nurse or MD).

RAAPID calls

ED Process

In order to reduce staff disruptions when in rooms in PPE, we are temporarily moving all RAAPID to calls to an overhead call for "Available physician for RAAPID call".

All other processes (referral process, consultant use of RAAPID and EDMD) remain the same. Please continue to communicate with the Charge RN any patients who are coming to ACH ED and if you will see them on arrival.

We will reassess this process on a regular basis and adjust accordingly.

From Site Leadership (Dr. Jennifer MacPherson)

Reminder to all physicians:

We have had a site policy in place at ACH since the fall mandating that all transfers to our site must go through RAAPID. This includes any out of province transfers. There are two key reasons for this policy.

1. To ensure appropriate communication between the sending and receiving site, particularly with respect to bed and staff availability.
2. To ensure that only patients appropriate for our site are coming here.

Now more than ever, this is extremely important. As we prepare our site to be able to manage a surge in capacity we must apply strict criteria to any admission. Out of province patients should not be accepted at our site unless there are specific circumstances that do not permit that patient to receive care in their home province. Any exceptions should be discussed

with department or site leaders.

I want to extend my thanks for the tireless efforts by all of you to provide exemplary patient care. I do understand that physicians often feel they are acting in the best interest of the patient by finding ways to circumvent our policy. However, this is the time for all of us to be transparent and bring any concerns forward to leadership. We will do our best to find the right solution.

COVID-19 Suggestion Board

A COVID-19 Staff Suggestion Board is now located in the middle supply room on the large white board. Regular summaries and updates will be provided from the feedback we receive. If you would like individual follow up, please sign your name with your suggestion.

We continue to learn from all the suggestions and feedback from the group, and our ongoing simulations. Based on the simulation today we made a number of changes to the Isolation Resuscitation Room, as outlined below.

Isolation Resuscitation Room Changes

Following the simulation session today, several significant changes have been made to the Isolation Resus Room (ie Procedure Room):

- Medication Cart: moved outside the Isolation Resus Room and into the hallway next to the computers. We will access medications from this cart rather than from the crash cart (as was the previous plan)
- Intubation Supplies: RT's will use a rolling cart stored under the computer desk across from the Isolation Resus Room to obtain intubation supplies from the Airway cart in the Trauma Bay.
- Name Tags: similar to a Code 77, these will be available outside the room. Please use them, we all look the same in gowns, masks and goggles
- Lead Aprons: moved to Fast Track and back of Trauma Room to clear hallway space. At least 1 RN and 1 RT should have an apron on under their yellow gown.
- PPE Carts: Now located by the Patch Phones and the hallway to the Family Room.
- Crash Cart: Moved back to its former home in the alcove across from 24-27. Note that if the Zoll defibrillator is needed in the Isolation Resus room, the runner will need to grab it off the Crash Cart.
- WOW computer: portable computer on wheels is stored in 24-27.
- Scales: standing scale and infant scale now in 24-27.
- Documentation: a Trauma Record should be stocked in the Isolation Resus Room; the entire Trauma pack is not needed.
- Floor Markings: added so that equipment doesn't migrate around the room and to ensure we optimize "social distancing" within the room.
- Oxygen Tank: Added to the stretcher, do not remove it.
- EMS Handover: Ask that EMS call in to the patch phone when they arrive in the ambulance bay. The entire "Inside" COVID team should go with a stretcher to collect the patient from the ambulance bay and receive handover.
- Phone: A phone is now available inside the room.
- Family: Chairs are available in the hallway to family room. The family can stay with social worker and see what is happening in the procedure room through the window.

Q & A call tomorrow morning at 9:30

(start calling in a few minutes early if possible so we don't overwhelm lines)

TO CALL IN: 403-232-0994 – CALGARY OR 1-877-385-4099 (TOLL FREE)

PARTICIPANT ACCESS CODE: 1363077#

MODERATOR ACCESS CODE: 5974942#

Brief agenda below, let me know if you have other items to discuss

Rounds last week/PICU guideline

PPE/IPC questions/observations

RAAPID process

New screening process for staff

Updated COVID-19 testing guidelines

Simulation updates

Moved equipment out of fast track/trauma hallway

- Meet EMS in trauma bay (with 02 and bagger)
- Videotaping sim next week
- Staffing/Scheduling Updates, including SHC
- Telehealth
- Education
 - Rounds
 - Payments for learners on shift
- Nebulization (strategy for moderate/severe croupers)
- Feasibility of sending patients to cars

March 24, 2020, with ED COVID Q&A, IPC Q&A

Antonia Stang

COVID March 24, 2020 at 5:30 PM



FW: Q&A responses from Grand Rounds - Mar 19th

To: Ariam Chann Ariam Chann (Dhucian) Ariam Oetar Ariam Oetar (Dhucian) samirh@talentia.net Andrea Mirhalchuk & 106 more

The Department of ED COVID Grand Rounds were a huge success. Thank you to all those who attended in real time (over 300) and all those who have watched and shared the video (over 3500's views as of this afternoon).

<https://www.youtube.com/watch?v=oL8cCWdJ1JE&feature=youtu.be>

The rounds created a lot of discussion and questions - unfortunately we did not have a chance to go through all the questions during the session - but attached you will find responses to the over 140 questions that were posed to the group (many have been combined because of overlap). I've also included a document from IP&C that addresses some FAQ's. Updated Calgary ED COVID resources can be found at <https://cumming.ucalgary.ca/departments/emergency-medicine/resources/ed-covid-19-updates>.

Going forward, each Thursday rounds will have a dedicated COVID update section that will be recorded and be available for viewing afterwards (for those not able to attend) care of Aaron Peterson with the Physician Learning Program. April 2nd Dr. Weber will provide an airway update and along with some COVID related resources. Have ideas for future COVID related topics? email Shawn Dowling (skdowling@gmail.com<<mailto:skdowling@gmail.com>>) or Stuart Rose (scrose02@gmail.com<<mailto:scrose02@gmail.com>>).

Special thanks to Huma Ali, Andrea Boone, Neil Collins, Andrew Fagan, Jason Fedwick, Eddy Lang, Stuart Rose, Chris Bond, Jason Lord, Gord McNeil and Bryan Weber for their time and energy in preparing the rounds.

Shawn

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ED COVID GR
Q&A -...19.pdf



IPC Q&A e-SIM
2020-... (1).pdf

March 19, 2020: COVID GR Q&A

Calgary Zone Department of Emergency Medicine

See disclaimer at the bottom

-
1. Are we going to discuss practices on how physicians can best practice protecting their family members? ie do we isolate when working? Separate living spaces? Can dr Conly or PH address this?
-

Answer: See minute 34:00 in the presentation.

2. I have heard concerns from some triage nurses that patients are scared to be triaged to the ILI waiting area, so they do not accurately report symptoms and/or travel. This would muddy isolation. Would having stable patients wait in their cars until they can be put directly in a room mitigate this concern?
-

Answer: This will be shared with ACH and Adult ED leadership.

3. Current recommendations are to change PPE between assessing each patient. Can we conserve PPE by donning, assessing multiple cohorted patient, and then doffing?
-

From Dr. Neil Collins : I would like to reinforce that we should buddy up for doffing for sure! Get someone to watch you!

4. The screening criteria for when to perform NP swabs is from March 13th. Are there any new updates? When do we need to start expanding screening for community spread? Will this be limited by supply and testing capacity?
-

Answer: As per the presentation by Dr. Jia Hu (MOH) there is a desire to do community testing but the issue is ensuring enough swabs are available. At the present time testing should be limited to those who meet criteria. The screening criteria are here - <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-case-def.pdf>.

5. If HCW treat a patient with COVID+ status (ie, intubated a subsequently positive pt), does the asymptomatic HCW require BOTH testing AND 14d isolation? How long do we need to be asymptomatic from URI symptoms before we can come back to work? Do we really need to self isolate for rhinorrhea/sore throat?
-

Answer: We are obliged to work under the rules of WHS however. These questions can be very nuanced and require an assessment and return to work decision by Workplace Health and Safety (WHS) - they can be reached at 1-855-450-3619. As of March 23rd – guidance around RTN TO work has changed – see <https://insite.albertahealthservices.ca/Main/assets/tls/ep/tls-ep-covid-19-expedited-return-to-work-fags.pdf>

6. Is there anyway that the rest of the hospital does not have access to N95 unless deemed necessary by ID or IP and C???
-

Answer: I have raised this suggestion with IP&C.

7. Can someone clarify whether the COVID and regular respiratory swab panel need to be collected separately, or whether they can both be run off the same swab. Need clarification from lab/educators as I have had the which swab order to order. my understanding, clarified with our educators was ANY NP resp swb DONE IN ED is automatically checked for COVID.
-

Answer: No – both respiratory panels and COVID are run off of the same swab, no additional swab or order is required.

8. Since housekeeping staff are not permitted to touch computers, can there be a policy that nurses wipe down keyboards, computers and workstation countertops every hour and physicians are responsible for wiping down doctors areas and rooms hourly? Any contamination could get many staff members sick and it seems that fomite transmission could be a big issue. Docs room computers are filthy at the best of time; could we all please clean with antiviral wipes - is anyone other than us going to do this?
-

Answer: I have raised this question with IP&C.

9. Currently no staff observing donning/doffing procedure at FMC. Can this be remedied? Donning/Doffing procedure outlined includes supervision. Can we audit PPE Don and Doff to ensure we are doing it ok.
-

Answer: I have raised this suggestion with IP&C. Have a buddy system for donning and doffing is a good strategy to ensure best/safe practices are followed.

10. What would you suggest for places like PLC that have one iso room and no anteroom. How is the crashing COVID patient going to be managed at PLC where we don't have an ante room? Given the absence of anti-rooms at PLC, any suggestions to reduce dept contamination?
-

Answer: This is answered in the Q&A section at 1:37:10 in the rounds. As per Dr. DelCasthilo - airborne isolation room for intubation is recommended but not essential.

11. Necks are exposed with our current PPE, and there's been a study showing contamination of upper chest / neck area. Should we include a step to cover this area?

ANSWER from IP&C: These items are not recommended by AHS. These areas have not be implicated in the transmission of pathogens that spread via contact and droplet.

12. Any reason you can't use a well sealed, hand held BVM with PEEP valve on it to try and improve oxygenation prior to intubation (trying not to bag the patient, but hopefully using the PEEP to get the sats up maximally) as a last step as needed?

Answer – see rounds next week April 2nd for deep dive into airway, intubation and preoxygenation

13. My question is geared to the 14 days Self-isolation especially for Health care workers who recently travelled abroad.
- What is the evidence that after 14days of being asymptomatic, one can safely go back to work especially front line health workers?
 - Some papers claim it could take up to 30 days before symptoms appear.
 - Should they be swabbed before returning to work even if asymptomatic?

Answer: We are obliged to work under the rules of WHS however. These questions can be very nuanced and require an assessment and return to work decision by Workplace Health and Safety (WHS) - they can be reached at 1-855-450-3619. As of March 23rd – guidance around RTN TO work has changed – see <https://insite.albertahealthservices.ca/Main/assets/tls/ep/tls-ep-covid-19-expedited-return-to-work-fags.pdf>

14. I think we should stop using N95s for simulation.

Answer – This practice has been stopped (at least by ED sim group)

15. For those CoVid +ve or assumed +ve should we changing CXR protocol? Do not want infectious patients going over to DI and possibly exposing other patients and health care workers? Or should we be isolating them and having DI come to them with the portable machine? Does DI have a protocol or process to limit exposure? What are the recommendations for use of ultrasound and portable chest xray in Code Covid patients?

DI has a process for ?COVID or COVID + patients to ensure droplet precautions are followed. At some sites (ie. FMC) a portable CXR in the ILI treatment area (although this is resource dependent).

-Dr. Danny Peterson and team are prepping a 1 pager on ultrasound and COVID including how to clean the machines and how to use in management of COVID patients. Sites are designating certain u/s machines to COVID areas to prevent cross-contamination.

16. When should we be wearing an N95?

N95's are only required for AGMP's. See page 3 of this document - <https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-emerging-issues-ncov.pdf>

17. We should remember anesthesia is around and less busy than usual. We may consider a lower threshold to call them in a predicted difficult tube given our emphasis on "most experienced operator". At SHC they are considering a CoVid airway team including anesthesia.

Thank you. Services such as anesthesia and ICU are available to provide support to ED physicians for patients predicted to be a difficult intubation either from an anatomical or physiological perspective. The discussion of COVID intubation teams is ongoing to best determine IF this is needed and if yes, who are the most appropriate team members to be involved.

18. As this pandemic takes hold, and the city-wide ICU capacity is exceeded, what have the bioethicists advised with regard to the very hard decision-making around whom to ventilate?

See 1:23:15 of the rounds for response from Dr. Lord.

19. The AHS Clinical Ethics Service has established a Rapid Response Clinical Ethics Consultation Service, to support patient care in decision-making related to COVID-19. This is composed of a small team of ethicists who will make themselves available to respond as issues arise.

This can be accessed by:

Phone

Business hours: 1-855-943-2821

After hours: 1-403-689-3548

Email: clinicaethics@ahs.ca

Ethics support for organizational level decision-making will continue to be responded to via the Emergency Coordination Center.

If you have any other questions, please feel free to contact me any time. Thank you.

Al-Noor Nenshi Nathoo

20. Sensitivity of NPS for COVID? I heard you can use STI swabs if we run out of the other swabs.

ANSWER (from MOH): What is the sensitivity of the NP swab? two part answer, 1> the sensitivity of our COVID is extremely high, hence based upon its detection threshold, our assay should pick up a symptomatic case at onset of symptoms and probably up to 7 may be even 10 days post onset (from the recent shedding data on the patients with multiple collection timepoints, your Team is running). **Also the primary target and replication site of the virus is the nasopharynx so a well collected swab should be positive(Dowling – please review how to collect a swab because an inadequately collected swab can result in a false negative).** The sensitivity of throat swabs appears to be lower, not surprisingly as the resp secretions can get diluted as they trickle down, and again it depends upon the sampling quality

2) We are already using STI swabs J Yes (Dowling – but in the ED we should use the current NPA swabs until directed otherwise)

3) POC is prime time I think, but I don't how far we are from getting it in AB depends if POCs are antibody based or molecular. If antibody based then as with other resp viruses there are a number of questions 1> when does IgM become detectable after symptom onset ? in some resp infections it is very variable, and often negative, 2> depends upon the sensitivity of the POC test, 3> the possibility of cross-reactivity with other resp viruses & human coronaviruses depends upon the kit. If this is a POC molecular assay, in general they should be good but will only know once we compare to what we use now

21. A percentage of COVID+ patients present with GI symptoms first, why is this not a triage question?

See 1:32:30 of the rounds.

22. Could you please touch on the use of ILI Stethoscopes? Where to store - inside or outside the room - ; when to clean - before or after doffing etc?

ANSWER FROM IP&C: IPC recommends that any contaminated/to-be-cleaned items that come out of patient rooms should be cleaned as follows:

1. Upon leaving patient room, set equipment/item aside on top of wipe, paper towel or blue pad.

2. Doff all PPE accordingly and perform Hand hygiene

3. Don new gloves and clean & disinfect equipment/item with wipe and soiled area. If no visible soilage gloves are not required for Accell wipe use.

4. Perform hand hygiene.

23. how many extra intubation assists do we have in the department? Magrath, Glidescope to use?

Answer: This is site dependent but we have a combination of glidescope, Glidescope GO (nonhyperangulated blade) and McGrath video laryngoscopes. Please discuss with RTs to familiarize yourself with what is available at your site.

24. Thanks to the COVID sim team and the code COVID procedure work! Many of us work at multiple sites and it would be much easier if the procedures are as similar as possible at all sites. Will sites work to make it similar?

Answer: The SIM team and the department leadership are working on standardizing approaches as much as possible, but given the unique environments and resources at each site, protocols and procedures have been individualized to each site. Your site chief will communicate these with you.

25. I'm sorry if this was addressed already — but are we going to try to get stable-ish patients to ICU to intubate there wherever possible?

Answer: It is reasonable to involve ICU in patients who you anticipate needed intubation but NOT requiring it urgently. One factor to consider if emphasizing with ICU the need for timely assessments/decisions given the need to free up our isolation rooms.

26. I would advocate let ICU do abx/tamiflu and we get them out of ED ASAP as we don't likely have enough isolation rooms. Rob Hall

Answer: Transfer to ICU should not be delayed for these treatments. If there is a delay for transferring the patient to the ICU – it is advised to start these meds assuming there are no contraindications/reasons not to.

27. Any update on how we are addressing ILI+ / COVID suspected patients who live in shelters? Is there a plan for private rooms in shelters? (This came up a few times at Sheldon Chumir Urgent Care yesterday during my shift)

Answer:Dr. DelCastilho mentioned there is a large provincial group working on this and there response will be coming out shortly.

28. With ED volumes low at the moment, do we need full staffing? We are exposing more MDs to a hazardous environment at a time when volumes are low. I think that we have to pace ourselves for a long haul. No point in having physicians stand around with few patients to see. There is going to come a time for an MD surge strategy as

volumes and acuity ramps up, and that's when you need healthy physicians who have not been forced into self-quarantine due to exposure at the onset of the pandemic.

Answer: See 1:40:30 of the rounds for Dr. Collins' response.

29. Can patients be transmitting COVID when they are Asymptomatic?

See minute 29:35 in the presentation

30. Wondering about recommendations coming out regarding best practice for post shift hygiene. Wondering about showering/hair washing prior to exposing myself to my kids post shift - can't find consensus on how long virus stays on hair. I already have been changing my clothes.

Answer from IP&C: These items are not recommended by AHS. These areas have not been implicated in the transmission of pathogens that spread via contact and droplet.

31. Should we discuss multiple patients for one ventilator? Should we discuss family members bagging patients with O2 and PEEP valves until a ventilator becomes available if all in use? How will we monitor or be apprised of ventilator availability before we intubate someone?

Answer: Many of these discussions are occurring at a provincial level in preparation for anticipated increase in patients requiring ICU. Guidance from provincial working groups will be available soon and tailored to the level of need in the province/departments. See 1:23:15 of the rounds for this discussion by Dr. Lord.

32. What happens if a family member of a physician tests positive but the physician themselves is negative?

Answer: These questions can be very nuanced and require an assessment and return to work decision by Workplace Health and Safety (WHS) - they can be reached at 1-855-450-3619

33. Is there something we should be writing in the diagnosis so that we can track data? Like ILI ?COVID

Answer: Suggest ILI or COVID or Probable COVID (don't write ?COVID)

34. Are we considering convalescent serum for health care workers?

Answer: Not that I am aware of at this point.

35. If we aren't to bag patients prior to intubation, why would we provide cpr?

Answer: See discussion at 1:27:50 in the rounds

36. Why are patients over 60 at increase risk of mortality?

Answer: I'm not sure if there is one specific reason, but studies have consistently showed older patients are at high risk of mortality as are those with comorbidities (which are more prevalent in elderly populations) – commonly identified risk factors include diabetes, HTN, immunosuppression.

37. Is there a limit to the amount of time that the N95 or other mask can protect someone...

Answer from IP&C: Both the N95 and surgical masks should be changed when moist or soiled. As per PPE principals, items should be doffed as soon as risk is eliminated and you have exited the environment. Wear facial (mask and eye) protection to protect your mouth, nose and eyes. If you need a mask, you also need eye protection (e.g. goggles, face shields, visors attached to masks). Note: It is important to also teach patients and public regarding proper [mask use](#).

38. Any thoughts on using arm bands to ID team members when in full PPE for a COVID code? ie RN1, RN2, RT, MD1, MD2.

Answer: Good idea. Will be raised with COVID working group/leadership.

39. What should be timing of the post intubation cxr?

Answer: I do not think the timing of postintubation (portable) CXR should change in a ?COVID patient.

40. In an effort to unburden ER, will there be a change to the normal RAAPID process of transferring non COVID19 patients from urgent care and peripheral ERs? ie, no longer having consultants "see the patient in ER". ?only direct admit or assess patient in some other area of hospital?

From Dr. Delcastilho Each site should have a designated unit and designated admitting service. If we can get hospital capacity below 100% which it currently is (SHC is almost there), direct admissions could be possible. This is part of the reason elective surgeries were cancelled- to help decrease hospital occupancy.

41. Working Urgent Care (thank for inviting us) and Rural ER. Is there specific recommendations for earlier transfer vs intubating potential patients in rural setting? Or currently RAPID the best way to discuss each case?

Answer: See discussion at 1:44:30 of the rounds for Dr. Lang and Dr. Collins's response.

42. For cardiac arrests that come in, are we treating them like potential COVID?

From Dr. Jason Lord: Most new recommendations regarding management of the arresting pt with possible Covid would suggest early airway capture and no CPR during intubation. As opposed to delaying intubation later in the process

43. Is there discussion, or can we start discussion, about SINGLE point medical admission consult call for us for patients with ILI/?COVID/pneumonia and then that person fans out to decide among icu/mtu/hosp who will take the patient to save us multiple phone calls and delayed dispo due to ping pong consults?

From Dr. Neil Collins – Good suggestion – this will be explored. See answer at 1:31:00

44. We have been advised to remove PPE in room after AGMP. Can we confirm this, and if there is any settle time needed post intubation before removing N95 in room?

That is correct – remove PPE in the room (if an anteroom is present it should be CLEAN – remove your PPE before entering the anteroom). And no settle time needed (1:39:10 of the rounds)

45. If pt requires central lines in the ED. There is some thought about leaving Right IJ site for possible CRRT (as it's a preferred site compared to femoral and depending on how much stock of the long and short uldall catheters sites tend to stock). Also reading about trying to keep lines on the (generally right) same side to facilitate/ease proning if needed.

Answer From Dr. Jason Lord: I would not worry about this - if anything, i would suggest that if there is any suggestion that a line will be needed, then place it after intubation while you are already in PPE

46. To clarify who are considered ILI+ patients. It sounds like fever (+37.5, cough) needs to be swabbed, but if patients have no travel or contact risk factors and symptoms that are consistent with a cold (runny nose, cough, sore throat, NO fever). They should self isolate until well and don't need a swab. Is this correct?

Answer: correct. refer to AHS policy on this - <https://www.albertahealthservices.ca/topics/Page16944.aspx>. these recommendations can change at any time so best to review the screening protocol regularly.

47. We need to get rid of curtains in the ED. They are filthy at the best of times, will quickly get contaminated, and should be replaced with cleanable barriers of some sort

Answer: This has been relayed to IP&C.

48. If a patient/family refuses to comply with self-isolation, do we as EPs have a role in reporting this to public health?

Answer from Dr. Del Castilhon: If the patient has tested positive and is supposed to be on home quarantine, yes you can report this to the MOH. If the patient is supposed to be on self isolation (haven't tested positive but perhaps they just travelled), this is still considered voluntary so MOH would not get involved.

49. The plan to turn away asymptomatic patients from the ED and send them to the testing centres seems both intuitive and in the best interest of diminishing the spread of this infection. It is disheartening to hear that it is not going forward due to AHS legal. As an extension to this, plans to have low acuity patients triaged to their cars rather than the emergency waiting room, while has the potential to increase liability, has a greater potential to reduce spread of the infection. My understanding is that legal council advises clients but does not command. My question is as follows - Is there a point where AHS (or individual hospitals) are ethically bound to do what is best for the general public rather than best for reducing liability?

From Dr. DelCastilho: Hey everybody, I'm the Medical Director for ZEOC. Laurie-Ann takes over tomorrow and will cover for the next week so the ED is well represented at that table. I've escalated the need to triage away again to ECC two days ago and asked for this to be reconsidered. We are awaiting a response.

50. Do we know what the reinfection rate?

ANSWER: reinfection does not seem to be a major driver. rapid review done by Dr. Hu found only two case reports. That being said - further information on this likely forthcoming.

51. If a likely COVID patient has a peri-intubation arrest, is CPR futile?

Answer: Current recommendations are to NOT change your decision re: futility/resuscitation based on their COVID status. That is - if you would resuscitate them if they were COVID negative - resuscitate them if they are COVID positive, ensuring you can protect yourself and your team.

52. What should an MD do if they have a cold, have been told they don't meet covid swab criteria and are now well? when can they go back to work?

Answer: There is a number to call for WHS (1-855-450-3619)- they will guide you through this process.

-
53. Would you consider nebulizers as airborne aerosol generating based on literature?

Answer: Nebes are considered an AGMP

<https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-respiratory-additional-precautions-assessment.pdf>

See the PEDS COVID management document: <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-care-pediatric-critically-ill.pdf>

54. At what flow rate of O2 are we considering O2 an AGMP? SK seems to be using 6L/min but I don't have a good reference for it.

Answer: See <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-care-adult-critically-ill.pdf> . There is no good convincing evidence for increased risk with non-humidified systems. Standard oxygen delivery up to and including NRB is deemed safe with our current info and is the recommendation in the provincial document

55. Is there any evidence to the avoiding of NSAIDS?

Answer: Both WHO and Health Canada have recently released statements saying there is no evidence to support this statement made by the French Health Minister on Twitter. <https://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2020/72633a-eng.php>

56. Are we using hydroxychloroquine on admitted patients?

Answer: See 1:16:00 of talk to see Dr. Fagans response. The decision made by admitting service in discussion with ID.

57. Intubation checklist. Why the “NO STEROIDS”?

Answer from Dr. Jason Lord: potential increased mortality in cases observed - with no benefit unless needed for another reason

58. what if first pass attempt fails for intubation and sats dropping? Would you:

- move to back up intubating device/method despite tanking sats?
- use iGel LMA to generate a decent seal/less aerosols and get sats up (and either leave for ICU to intubate or until sats are improved and then attempt intubation again)?
- jasonlord 10:50 AM

Answer from Dr. Jason Lord: No single best answer. LMA, BVM and/or second attempt with different device will all increase risk. Personally, I would accept lower sats, try to inc sats with apneic oxygenation or very gentle BVM and then either try again after optimizing position, view, different device etc if I think there was something I could optimize - Early call for help strongly recommended (e.g. ICU or Anesthesia) esp for pts with predicted difficulty

59. Other than for the purposes of counting absolute numbers (for epidemiologists) is it really that important to be testing mildly symptomatic people? Many resources encouraging testing and this seems like the wrong message to be promoting given limited resources.

Answer from Dr. Jia Hu answered this very eloquently in his CME presentation Mar 19th but his answer was an emphatic YES! Part of the reason the S Korea numbers are so low is because of aggressive testing in the community.

60. Can you speak to the mortality rate of those requiring intubation? My understanding is that it is abysmal.

- shawndowling 09:29 AM
 - italian data - 60% in ICU died (can't speak to whether they were intubated)
-

61. Did I hear that CPR is an aerosolizing generating procedure?

Answer: yes it is, as is BVM. See list of AGMP's here -

<https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-respiratory-additional-precautions-assessment.pdf>

62. Dr. Conly recommending mask on patient prior to doing NP swab. Good idea, BUT we are going to run out of masks as this winds on. Shouldn't we take every step to preserve supplies?

Answer: Dr. Conly is very aware of the balance between PPE sparring strategies - especially around N95.

63. What constitutes an acceptable pair of goggles from an IP&C perspective? After removing eye protection/mask/hand hygiene. To clean our eye protection glasses, is it enough to wear gloves/cavi-wipes to clean?

Answer: the reusable goggles that are in the ED are acceptable.

1. Upon leaving patient room, set equipment/item aside on top of wipe, paper towel or blue pad.

2. Doff all PPE accordingly and perform Hand hygiene

3. Don new gloves and clean & disinfect equipment/item with wipe (as per MIFU) and soiled area. If no visible soilage gloves are not required for Accell wipe use.

4. Perform hand hygiene.

64. If ED volumes are low is there any discussions going on with AHS to supplement income of the physicians who are in ER to receive patients? Sensitive topic but needs to be addressed at some point. Sorry to ask this. Further how much staffing is really needed.

Answer From Dr. Shawn Dowling: Community providers, surgeons, etc. will be the most impacted by COVID. I can't imagine there is any new money and beyond our control.

65. Have we built a PPE coach and checklist for donning/doffing similar to our PAPR/CBRN process?

Answer: Excellent point - That is the plan with the checklist.

66. Concerned re: isolation neg pressure room. any process to get these patients intubated and out to icu or assessed and admitted to the ward in matter of minutes to keep this room free?

Answer: That is the goal. I know Dr. Chris Bond and Dr. Collins have been working on this.

67. Are we sharing our covid airway checklist/approach with regional and rural sites? If we have colleagues there, is it okay if we share it?

Answer: Will be shared through the ESCN, good question. More discussion about this will happen April 2nd at rounds.

68. Do we have a pathway established for patients who we will palliate? (sorry if answered, also my kids first day of online school curriculum).

From Dr. Jason Lord - Hopefully I addressed this during my response. From Dr. Jennifer Hughes: CAEP palliative care committee on which is publishing a document on how to palliate these patients safely and effectively in the ED.

Will be in CJEM shortly but I can also share with the group soon.

69. Are NIV/Optiflow options in the M1 GOC patients with moderate resp distress and presumed COVID?

From Dr. Jason Lord: The AHS Covid guidelines recommend that if these therapies are needed/used, they should be provided in dedicated single rooms, with closed doors and all staff using full PPE

70. I understand that even despite being on a ventilator with a closed circuit there is still risk of the ETT being accidentally disconnected etc .. should someone who is tubed remain on airborne precautions given the risk of disconnection?

Answer: We are getting a final answer on this as current info is conflicting.

71. Given the upcoming shortage of N95's I understand under places affected have been re-using N95's or keeping the same N95 on for multiple patients, if multiple intubated or AGMPs - can you comment?

Answer from Dr. Jason Lord: Yes - the recommendation is full PPE for those caring for intubated patients. There is currently no recommendation for re-using N95 masks

72. Is there a covid treatment order set? Current SCM order sets will be modified to incorporate any specific investigations/treatments related to COVID

Answer: Currently in development.

73. All panelists : is there going to be a point in time that staff who work multiple areas in AHS just stay in er to to decrease risk to other pts? I will peds oncology as well as FMC ER

Answer: Planning is occurring at the provincial level for all these possible scenarios.

74. Could you advise who I should connect with regarding forensic evidence collection in our sexual assault patients regarding whether the swabs collected if in acutely ill covid patients are a risk for those downstream handling these swabs? (police, RCMP lab, our nursing and medical staff). Don't expect an answer on this stream.

Answer: Excellent question. I defer to the CSART leads 😊

75. I am interested to know how others feel about working at sites that you do not typically work at, should we be asked to cover at other sites. Especially if we have done sims only at our sites, and we do not know team members. My own personal opinion is that we should be site specific, unless there are exceptional circumstances.

Answer from Dr. Walker: I would agree. Ideally we work at sites we are familiar with. That said, exceptional circumstances are exactly what we are talking about.

76. For the rural docs concerned about intubating these patients shouldn't they call RAAPID and start the red patient referral and speak to the Transport Physician and we can get the receiving ICU MD on for advice too

Answer: See 1:44:30 for discussion and from Dr. Paul Tourigny - from a transport perspective, get STARS involved early. There is always a transport physician and a transport physician administrator available to help our colleagues at other sites.

77. Can we always do rounds on this medium? :-)

Answer: From Eddy Lang: All future grand rounds will be virtual for the time being.....

General comments

78. From shawndowling to All panelists : the 98% of patients have fever does require some clarification - they define fever as >37.3. 78% have temp >38.0 *NEJM reference

79. From shawndowling : for all COVID related resources for Calgary

<https://cumming.ucalgary.ca/departments/emergency-medicine/resources/ed-covid-19-updates>

80. From jasonlord to All panelists : Correct - No humidification unless provided in a closed circuit e.g. ventilated patient

Disclaimer – The answers are based on the best available evidence or expert opinion. COVID related research and recommendations are very dynamic and may change at any time. Unless stated otherwise the answers provided are by Dr. Shawn Dowling. Please email him directly at skdowling@gmail.com for any corrections/omissions or points of clarification.

March 24, 2020: IPC Questions & Answers

AHS e-Sim Webinar: COVID 19 Simulation- Shared Learning and Resource Review (2020-Mar-24)

PPE Questions:

1. What type of precaution should I use when treating a patient with suspected or confirmed COVID-19?

Staff and physicians are advised to use [Contact and Droplet precautions](#) when caring for a patient with suspected or confirmed [COVID-19](#), including a procedure mask, gown, eye protection and gloves. Review the [PPE checklist](#) and the proper procedures for [donning and doffing of PPE](#). These guidelines are in alignment with both the Public Health Agency of Canada and the World Health Organization, and with other provinces and territories in Canada.

2. When should I use an N95 mask when treating a patient with suspected or confirmed COVID-19?

As recommended by WHO and PHAC, N95 respirators are **not** required unless performing [certain procedures](#) (AGMPs) that can generate aerosols/droplet nuclei. Staff should refer to and comply with the [AHS Infection Prevention and Control \(IPC\) standards](#) when treating patients. There is no settle time for [AGMPs \(see page 2\)](#).

Reference: <https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/routine-practices-precautions-healthcare-associated-infections/routine-practices-precautions-healthcare-associated-infections-2016-FINAL-eng.pdf>

3. What are key donning and doffing principals to be followed?

Donning

- [Hand hygiene](#) must be performed immediately before accessing PPE supplies
- Eye protection and Masks worn during patient care must remain in place for the duration of potential exposure.
- Do not move/manipulate PPE items once they are Donned (put-on)
- Do not touch your face or mucous membranes while wearing PPE or providing patient care
- In the event of a significant contamination or PPE breach, the personnel should immediately move to the doffing area to carefully remove PPE as directed below

Doffing

- Doffing (taking-off) PPE must be done in the appropriate order
- It is very important to use controlled and deliberate methods in removing and discarding used PPE
- Avoid touching the contaminated side of the PPE
- [Hand hygiene](#) is required after the completion of each removal step
- Single use PPE must be discarded immediately. Reusable PPE must be placed into a segregated location for proper decontamination and disinfection.

Improperly used PPE is wasted PPE. It is imperative that we provide constructive criticism and encourage each other in proper PPE use.

4. Where should donning and doffing occur?

PPE are considered clean supplies and should be in a designated clean area. Doffing of the gown and gloves should occur in the room. The key point is that gown and gloves are primarily used to protect you from gross soiling or BBFE and typically will be the most contaminated PPE. Remove the mask and eye protection outside the room (or in the anteroom). The purpose of masks and eye protection is to protect your mucous membrane from droplets and/or aerosols containing infectious microorganisms, so spatial separation is required.

5. Should my gloves cover the cuff of my gown?

It is recommended that there is no gap at the wrist when using PPE to prevent contamination or during isolation requiring CONTACT precautions. Ensure the sleeves of your gown cover your wrists. See the IPC best practice guideline for [glove use and selection](#).

6. Should I double glove?

[Double gloving](#) (wearing of inner and outer gloves) is not recommended for routine use. Double gloving may be indicated for:

- Some surgical procedures (e.g. orthopedics, maxillofacial surgery). Double gloving is recommended during surgery at high risk of glove perforations as it minimizes the risk of exposure to blood during surgery. If the outer glove becomes contaminated or tears, the inner glove offers protection until the gloves can be removed and replaced.

- chemotherapy and biotherapy administration, safe handling and disposal
- Protocols for specific diseases e.g. Viral Hemorrhagic Fever.
- Environments where gloves may be damaged or grossly contaminated during critical client care events (e.g. motor vehicle accident).

7. Do I need to wash or use ABHR prior to removing gloves?

Never reuse, wash, or apply ABHR to single-use disposable [gloves](#).

8. How long are masks good for (surgical and N95)?

Both the N95 and surgical masks should be changed when moist or soiled. As per PPE principals, items should be doffed as soon as risk is eliminated and you have exited the environment. Wear facial (mask and eye) protection to protect your mouth, nose and eyes. If you need a mask, you also need eye protection (e.g. goggles, face shields, visors attached to masks). Note: It is important to also teach patients and public regarding proper [mask use](#).

[Proper wearing of masks](#) includes:

- Perform [hand hygiene](#) before putting on and immediately after taking off facial protection.
- Ensuring a snug fit over the nose and under the chin;
- Molding the metal bar over the nose;
- Wearing the mask with the moisture-absorbing side closest to the face;
- Removing mask when outside patient room or bed space;
- Changing mask when it becomes moist;
- Careful removal after use, touching only the elastic or ties;
- Not wearing masks around the neck.

9. Are visors and safety glasses required?

The correct [eye protection](#) should be accessed based on anticipated droplet trajectory. Eye protection should inhibit access around the entire eye area. Double eye protection is not required, assuming they chosen equipment provides complete protection. Prescription glasses do not meet Workplace Health and Safety regulations for eye protection. Clean and disinfect re-useable eye protection after each use or discard single-use masks and eye protection in regular waste container.

10. Are booties required? Are head coverage required (bouffant, hairnet, surgical cap)? Is neck coverage required?

These items are not recommended by AHS. These areas have not be implicated in the transmission of pathogens that spread via contact and droplet.

11. Are Scrubs required? What should I do with my street clothes?

All clothing should be immediately removed if grossly soiled and changed and laundered at the end of every shift. See the IPC best practice guideline for direction on [Healthcare Attire](#).

12. Do auxiliary services (such as protective services, porters and environmental services) need to wear N95s?

According to the [Point of Care Risk Assessment](#) (PCRA), routine practices are to be used with all patients for all care and all interactions. This includes any auxiliary care personal interacting with the patient or the immediate patient environment.

Equipment & Environment Questions

1. Does COVID change how we need to clean the environment or our equipment?

COVID is an enveloped virus and easily killed with low-level disinfectants. The [cleaning principals and practices](#) currently employed by AHS are sufficient in decontaminant the environment. Likewise, the [cleaning and disinfection of shared patient equipment](#) has not changed. Immediately after use, each piece of equipment should be cleaned and disinfected as per manufactures instructions for use (MIFU).

2. How do we clean used shared equipment (i.e. Stethoscopes) when finished or leaving a room?

IPC recommends that any contaminated/to-be-cleaned items that come out of patient rooms should be cleaned as follows:

1. Upon leaving patient room, set equipment/item aside on top of wipe, paper towel or blue pad.
2. Doff all PPE accordingly and perform Hand hygiene
3. Don new gloves and clean & disinfect equipment/item with wipe (as per MIFU) and soiled area. If no visible soilage gloves are not required for Accell wipe use.
4. Perform hand hygiene.

Remember only take necessary equipment and items into the patient space.

3. How do we clean airway items and machinery (i.e. portable ultrasound) when finished?

Each piece of specialized equipment has a protocol (as per MIFU) for cleaning and disinfection after use. Some items have the cleaning protocol and appropriate wipes attached. These items are often cleaned by the end user or department health care air. If you are unsure about the cleaning and disinfection protocol with your department manager.

4. Contaminated curtains?

Yes curtains are contaminated and considered part of the patient environment. Hand hygiene should be performed after touching curtains. As per the standards and frequency cleaning table, curtains used for patients on isolation should be changed upon discharged. At RGH, Curtains are being eliminated in non-essential and single patient spaces.

5. Who cleans IT equipment (unit computers/keyboards)

[IT equipment](#) at nursing stations is to be cleaned by the end-user. As recommended, items should be cleaned and disinfected frequently and as per MIFU. See the guidance [poster](#) for more details. Be sure you are cleaning your own personal devices as well, when soiled, between patients and before going home.

6. What is the risk with contaminated paper and stationary supplies?

According to [WHO](#), it is not certain how long the virus that causes COVID-19 survives on surfaces, but it seems to behave like other coronaviruses. Studies suggest that the genetic material of coronaviruses (including preliminary information on the COVID-19 virus) may persist on surfaces for a few hours or up to several days. (This does not indicate viability). Survival may vary under different conditions (e.g. type of surface, temperature or humidity of the environment). As per typical virus behaviour – paper is not a sufficient environment for viruses to survive or multiply. Clean any shared items (like pens) with a low-level disinfectant wipe.

March 25, 2020, with Information on signing up with Slack

Antonia Stang
PEM ACH Slack Discussion Group
Yesterday at 3:26 PM
Details AS

To: Antonia Stang, Chakram Minneenake, Adam Chong, Adam Chong (Physician), Adam Oetar, Adam Oetar (Physician), 9, 106 more

Thank you to Roger and Katie for setting up a PEMACH Slack Discussion Group

Log in info and helpful pointers from Roger:

This provides different “channels” where we can discuss issues or share best links relevant to PEM in Calgary, including COVID-19, the potential for virtual care, CME, shift thoughts and some humour

You can access Slack via [Slack.com](http://slack.com)<<http://slack.com>>, or download the app on your desktop or phone by using this link: https://join.slack.com/t/pemach/shared_invite/zt-cwcna62p-kgbEIk4lpEczsLTB4T2M8A

Please do not share this link with anyone outside of the PEM ACH Physicians Group.

Slack Cheat Sheet

You can download the App on your desktop or phone. Or work via Slack.com<<http://Slack.com>> Works about the same either way.

View the this page for quick Intro:

<https://slack.com/intl/en-ca/help/articles/218080037-Getting-started-for-new-members>

- * See What's Next at bottom of this page to see a couple of key features.
- * Channels are viewed by anyone on that Channel. Add to the thread by typing in the box at bottom.
- * Messages go only to the person(s) you send it to. Click on the Compose icon at top L or Command-N to start a message.

Security

Note that although Slack has good security I would not consider it confidential so patient info & images should not be posted.

For the curious about Security:

<https://www.avanan.com/blog/is-slack-secure>

A few helpful pointers:

Replies to a post on a Channel are hidden until you hit the Replies button to view the thread that appears on R side.

Press Shift Return if I want to add a separate line in a message you are typing. Pressing Return automatically sends the message

Notifications are 'on' by default in the App. To change: click Slack at very top L —> Preferences —>

Notifications. Notifications are off on website: click Your Name on top L —> Preferences —> choose if you want Notifications

By default, Slack marks messages as read as soon as you view a channel or direct message, but you can change this in your preferences if you'd like.

30 more detailed tips here such as Advanced Search techniques and text-formatting commands (asterisks around text for bold, underscores for italics)

<https://www.fastcompany.com/40531903/30-incredibly-useful-things-you-didnt-know-slack-could-do>

Catch up on activity quickly by putting Slack's All Unreads feature to use. Open Preferences —> Sidebar —> click All Unreads. You'll see All Unreads in the L Sidebar

Bulleted Lists are on Formatting tab just below where you type a message. Hit Shift-Enter to move down to the next line. (Or can use Keyboard Shortcut: hit Option-8 from a Mac - Alt-7 using the number pad in Windows)

March 25, 2020

Jenn D'Mello
March 25 ACH ED Update

Yesterday at 10:14 PM
Details JD

Evening everyone- today's update is brought to you by me as Antonia is on shift. This one is a doozie so please have a close read and sorry I suck at formatting!

ACH ED Daily Update

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page <https://www.albertahealthservices.ca/topics/Page16944.aspx>

SCHEDULE UPDATES

As everyone who's been working is aware- we are seeing an unprecedented drop in the number of visits to the ED. Likely a combo of people appropriately staying away from the ED when they don't need to be there and a decrease in injuries and circulating "typical" viral infection due to social distancing and staying at home.

We don't know how long this drop in volumes will last so any changes to scheduling will be re-assessed regularly and we want to keep the schedule fully staffed in general so people are prepared to work if our volumes suddenly increase or we have sick calls.

SHC shifts

The current volume of peds patients at SHC don't justify having a dedicated peds shift there and they are already needing to use C-pod at times to keep adult patients isolated. Effective Friday March 27th until Thursday April 9th (for 2 weeks) we are pulling the peds shifts at SHC. We will re-evaluate on Monday April 4th (and every Monday thereafter) what the peds volumes have been and whether to continue the hold on those shifts for the following Fri-Thurs period. Keep those shifts in your calendar until you see that you've been removed from it on Medevision. Public messaging will go out shortly that Children in Calgary and surrounding area requiring emergency care are advised to preferentially seek care at the Alberta Children's Hospital rather than other emergency departments in the city and that the SHC will temporarily not have a dedicated Children's Doctor.

To be clear- this is absolutely temporary and we will return to the SHC and our beautiful C-pod as soon as it makes sense to do so.

ACH shifts

Our first goal should be to have a minimum of two physicians in the ED for as much of the day as reasonably possible. There should always be minimum 2 physicians from 8am-2am.

Beyond that allowing physicians some flexibility with whether they come in when patient volumes are low is desirable. Many will still want to come in to mitigate income loss and maintain skills/stay up to date with changes as much as possible. To minimize COVID exposure and PPE fatigue working shorter shifts is likely ideal.

Temporary plan:

The 6/8/12/15/18/22/23:59 shifts should always start on time/as scheduled. 6/12/18/23:59 are the primary resus/trauma MDs and 8/15/22 are the secondary resus/trauma MDs.

The 10/11/14/16/17/19 shifts can be more flexible. In general physicians should arrive as scheduled for their shift and potentially relieve physicians on earlier shifts who want to go home early (if the physician leaving early is primary or secondary resus/trauma then they must verbally hand over that role before leaving early and let the unit clerks know).

If physicians on these "flexible" shifts desire they can also call in to the primary resus/trauma MD prior to their shift start and ask if they are needed. If the primary resus/trauma MD feels they can manage the current volumes/acuity without that physician then they can advise them there is no need to come in for their shift. That primary resus/trauma MD will then be responsible for re-distributing any learner assigned to the shift that staff is no longer coming in for.

The 2200 shift shouldn't leave earlier than 0200 to provide as much double coverage as possible and should ensure the 23:59 physician is comfortable with them leaving early if departing prior to 0500. The 23:59 physician can leave after handover to the 0600 physician if there are very few patients to be seen, however handover should occur as usual at 0700 if the department is busy.

Please send any suggestions/feedback around how we adapt our schedule in this unusual situation to Jenn D. Always open to feedback. The challenge of being the 23:59 physician with potentially few patients to see but no option to leave early has been

raised. I'm not sure how many would be interested in breaking that shift up and potentially having a 4am start time but if there's a lot of interest we can look at that. For now if you're dreading an upcoming night you can always try posting it- some physicians who've been released from SHC shifts etc may be happy to pick it up.

DEPARTMENT of EMERGENCY MEDICINE PEDIATRIC COVID19 Page

Many thanks to Shawn and Katie for creating an up-to-date website for all the COVID-19 peds resources available
Please make use of this fantastic resource!

<http://cumming.ucalgary.ca/departments/emergency-medicine/resources/pediatric-covid-19>

IP&C

Please continue directing your IP & C questions towards Shirmee and Jennifer TF or posting them on the white board in the supplies room.

In follow up to some of the IP & C questions from the Q & A earlier today regarding the stethoscopes that remain in rooms- cleaning of the dedicated stethoscopes is currently under discussion and we advise that individuals clean them with a caviwipe before using. You will need to bring a caviwipe into the room. We are hoping housekeeping will be cleaning these as well but it's not a seamless process at present so the safest thing to do is clean it yourself before use.

STAFF SCREENING at ACH

Effective tomorrow, March 26 Staff screening will begin at ACH. Details below. Allow yourself a few extra minutes to get through screening before starting your shift. Since we're all smart people who've already been appropriately staying at home as per AHS guidelines and probably know if we have a fever, it's exceedingly unlikely that anyone will not "pass" the screening. However if for some reason you don't, please text Jenn (403-978-8175) and Antonia (403-966-1234) right away. If you're arriving between 23:30 and 05:30 you don't need to worry about this/screening will be on the honour system.

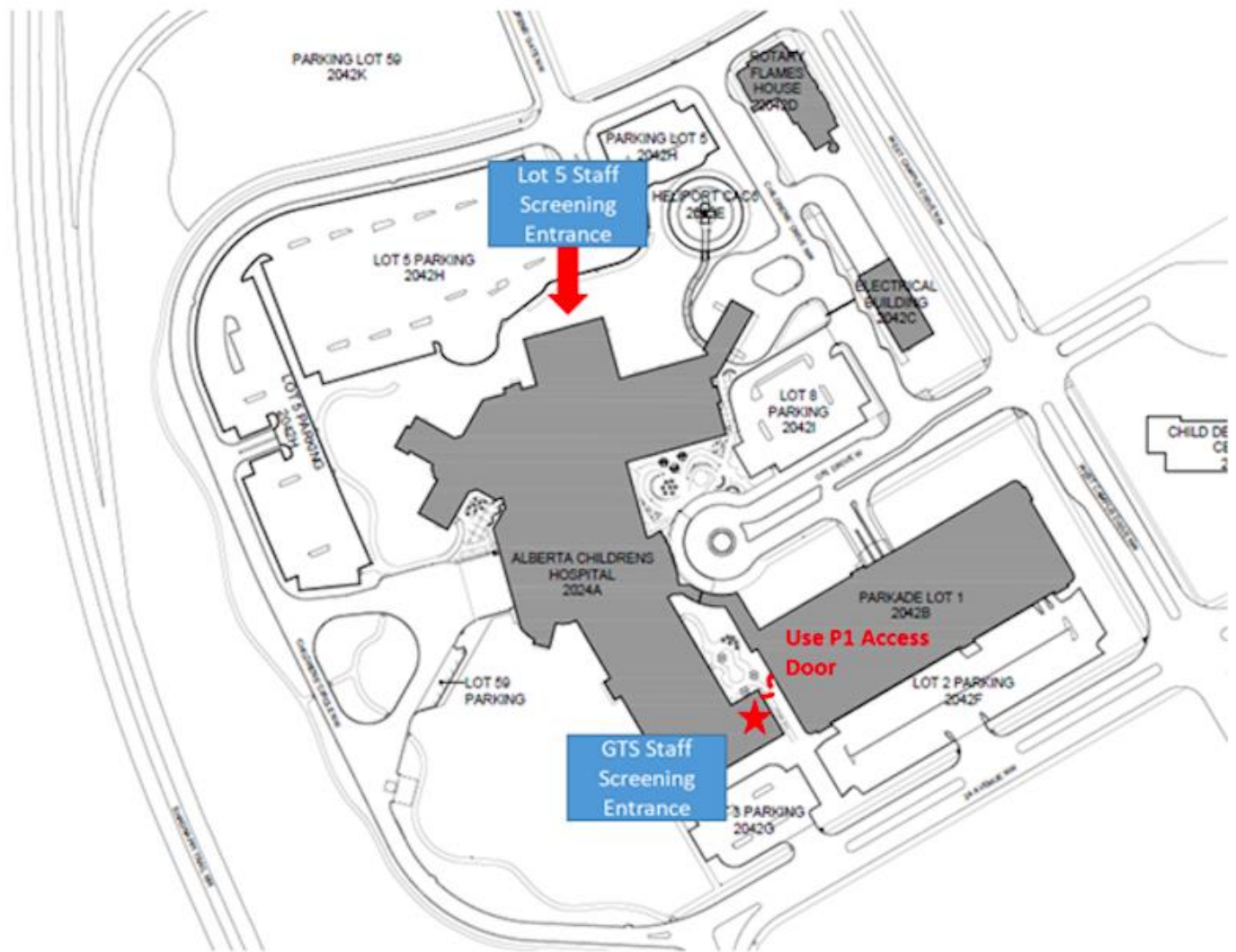
1. Staff and physicians, must enter the hospital through
 - Lot 5 door, or:
 - The Gordon Townsend Gym rear-entry door, accessible from the Lot 1 lower level stairwell, across from the courtyard. (please see map attached- this is NOT the rehab doors as previously rumored)
 - The main entrance will be reserved for visitor screening only.
2. Screening will include questions pertaining to symptoms such as sore throat, cough fever, as well as a temperature check each time the employee or physician enter the building.
 - There will be a process in the future for staff, physicians and contractors that enter and exit the building multiple times in a day.
3. For those staff and physicians that need to enter the ACH, arriving between 2330 – 0530, we ask that you self-assess for any symptoms of sore throat, fever, runny nose or cough, or other illness, or if you have travelled outside of Canada in the past 14 days. If possible, take your temperature.
 - If you are answering 'yes' to any of the symptoms, travel question and/or
 - If your temperature is > 38 Celsius, You need to stay home. NEXT:
 - Call contact your clinic/program and your section chief
 - Follow the instructions on the WHS COVID-19 algorithm. https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-2019-traveller-guidance.pdf?fbclid=IwAR3g5_ORNUfSj6YDS4xyNV6RKtqPm5MHR2XGavXkrwylxii6rKkzS5JzCEU

Please be patient and kind during this time, this process will evolve as we work through it together! Suggestions welcome at SCP.Calgary.ACH@ahs.ca.

Jenn D'Mello, MD, FRCPC-PEM

Pediatric Emergency and Child Maltreatment Physician

Alberta Children's Hospital Emergency Department Clinical Lead



March 26, 2020: Nebulized medication information, COVID-19 Primer and UPDATED ACH Pandemic Plan

Antonia Stang

COVID March 26, 2020 at 6:05 PM



FW: CIRCULATE: Restricted Nebule Use in Facilities

[Details](#)

To: Adam Cheng, Adam Cheng (Physician), Adam Oster & 110 more

ACH ED Update

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page

<https://www.albertahealthservices.ca/topics/Page16944.aspx>

The attached ACH ED Pandemic Plan Memo has been updated based on suggestions from the team, simulations and resuscitations over the past week. This version is also posted in the ED MD office.

Also see attached COVID-19 Primer prepared by Nick that is being shared at our simulations and huddles. Thanks for the fantastic summary Nick.

Nebulized Medications

See attached documents related to use of nebulized medications.

Use of nebulized respiratory medicines is further restricted in light of COVID; the attached outlines new criteria that are implemented immediately and will be permanent.

As discussed on Wednesday we should, whenever possible, avoid nebulized meds for asthma and croup. Use MDIs for asthma if at all possible- if you must use nebs for severe asthma then get PICU involved right early to move them out of ED. For croup- give dex and hold off on epi if at all possible. If nebs must be given- ideally should be in a negative pressure room (2,26, 33, 34, procedure room) with staff in room during the neb in full PPE/N95. RTs have been told to second guess us/intentionally push back if we order nebs to critically think about whether they're truly necessary.

HPTP: HPTP memo sent out by Neil Collins today is only for adult HPTP, no process change for Pediatric APTP

Billing Code 03.01AD update: With the release of the Virtual Care Codes, the telephone advice code 03.01AD has been updated and no longer requires you to discuss COVID19 with the family. You can use it to discuss any issue with the family. You still must speak with the family directly (so COVID testing centre RN calls are still ineligible). You can bill one unit per patient per physician per day.

Scheduled Outage to Alberta Netcare Portal: Thursday, April 2, 2020 from 9:00pm to 3:00am on Friday, April 3, 2020

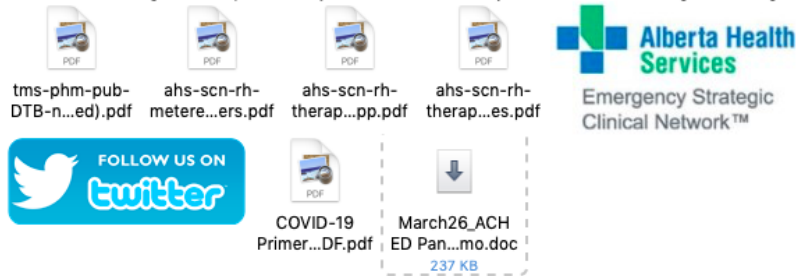
Alberta Netcare Portal will be unavailable during the above noted periods in order to accommodate system upgrades. Users who are logged in during this time will be disconnected and will need to re-authenticate following the outage period. If you anticipate urgent access to results, please refer to and complete the ANP Downtime Contingency Kit in advance of the maintenance. For any questions or concerns, AHS employees please contact 1-877-311-4300, while Community Alberta Netcare users (outside AHS) can contact the Provincial Helpdesk at 1-877-931-1638.

STAFF SCREENING at ACH

Modified Hours and Locations for the screening of Staff and Physicians

Effective 05:30 tomorrow (March 27) screening in the Gordon Townsend Gym will take place 0530 to 0900 hrs. After 0900 hrs, screening will be completed at the Front Entrance and the Lot 5 Entrance, along with the Visitor Screening.

received this message in error, please notify the sender immediately, and then delete the original message. Thank you.



Attachments:

- AHS PHM Nebule to Metered Dose Inhaler (MDI) with spacer Therapeutic Interchange: see page 28-29
- AHS MDI Therapeutic Interchange for Physicians and NPs: below, page 51
- AHS MDI Therapeutic Interchange Supplemental Information: below, page 52- 55
- AHS MDI slides: below, page 56-58
- COVID-19 Primary for PEM from Nick Monfries: below, page 59-60
- **AHS Pandemic Plan updated March 26, 2020**, below, page 61-62

Nebule to Metered Dose Inhaler Therapeutic Interchange – Respiratory Medications For Physicians and Nurse Practitioners – revision effective March 23, 2020

The Case for MDI with Spacer



The use of MDI with spacer **speeds up effective medication delivery**, which benefits patients and providers alike. **Side effects** such as increased heart rate, tremors, nausea, vomiting, and cough may be reduced^{2,3,4}. MDI with spacer **reduces risk of exposure** and supports safest practice at all times, including COVID-19 pandemic and the Precautionary Principle established during the SARS epidemic^{1, 5}.

Furthermore, rather than waiting until discharge, ordering MDI with spacer while in hospital enables patients to be well supported in proper device technique. This in turn may improve patients' **efficacy of self-management** - decreasing their future visits to hospital while improving their productivity and quality of life.



The Limitations of Nebulized Therapy

Nebulizers are an aerosol generating medical device (AGMP) which can carry bacteria and viruses due to the particle sizes averaging between 1- 5microns. As such, Personal Protective Equipment (PPE) should ideally be worn whenever using such devices. The larger particles stimulate the patient's cough mechanisms, which increase the **risk of disease spread**¹. All respiratory devices, including nebulizer masks and tubing, are considered semi-critical and require cleaning and high-level disinfection between each use.

Nebulization requires **more delivery time** and greater dosages of medication than metered dose inhaler (MDI) as the particles are larger and will impact the upper airway leaving medication in the throat, which is then systemically absorbed and may result in **greater side effects** than MDI. Nebulization for the treatment of acute asthma is, on average, 5 times the greater dosage than MDI (range 1 to 13 times); nebulizer standard salbutamol (Ventolin®) dosage for a patient weighing 20 kg or more is 5 mg while the equivalent of 10 puffs MDI is 1 mg. Using less medication to achieve positive results with minimal side effects provides the best patient care experience. MDIs have a smaller particle size for greater deposition further into the lower, smaller airways where the medication is required; the result is fewer side effects including systemic effects on heart rate^{2,3,4}.

Respiratory Interchange Details

- Any order for non-neonate/non-NICU **nebulized therapy is restricted to:**
 1. Severe asthma or status asthmaticus; **OR**
 2. Patients who cannot be treated with MDI and spacer; **AND**
 3. Orders adherent to one of these reasons **MUST** indicate 'Do Not Sub' and **MUST** indicate one of these above-listed reasons

For more details contact your site's pharmacist or email respiratoryhealth.scn@ahs.ca.
Respiratory Health Strategic Clinical Network™ and Health Professions Strategy & Practice

Therapeutic Interchange: Nebule to Metered Dose Inhaler (MDI) with Spacer

1. [Why are we implementing a province-wide therapeutic interchange for certain respiratory medication nebulers?](#)
2. [What are the details of this therapeutic interchange?](#)
3. [What are the exclusion criteria for this therapeutic interchange?](#)
4. [Do we need to purchase anything to comply with this therapeutic interchange?](#)
5. [Which spacers are recommended for different patient ages and for those who are ventilated?](#)
6. [Has the cost impact resulting from this practice change been assessed?](#)
7. [How do I learn and teach patients the appropriate medication delivery technique?](#)
8. [What has been the experience of others who have implemented similar therapeutic interchanges?](#)
9. [What routine Infection Prevention and Control practices are required for MDIs & spacers?](#)
10. [What routine Infection Prevention and Control practices are required for nebulizers?](#)
11. [What evidence supports this therapeutic interchange?](#)

Why are we implementing a province-wide therapeutic interchange for certain respiratory medication nebulers?

- ☐ **To reduce the risk** of spread of infection, drug exposure to staff, medical air/oxygen misconnect, and adverse effects to patients, any order for nebulized ipratropium (Atrovent®), salbutamol (Ventolin®), budesonide (Pulmicort®), or ipratropium/salbutamol (Combivent®) will automatically be interchanged to a metered dose inhaler (MDI) with spacer whenever possible (see rare exceptions listed below).
- ☐ MDI with spacer produces outcomes that are at least equivalent to administration by nebulizer in both adults and pediatrics in the emergency department and inpatient settings.^{1,2}
- ☐ Past experience within AHS and Covenant Health has been favorable.

What are the details of this therapeutic interchange?

- ☐ Upon receipt of an authorized prescriber's order for salbutamol (Ventolin®), ipratropium (Atrovent®), budesonide (Pulmicort®), or ipratropium/salbutamol (Combivent®) nebulers (other than the exceptions listed below), a pharmacist will apply the approved interchange dosage via MDI with spacer.
- ☐ This therapeutic interchange has the lowest complexity at level 1 (or low complexity), meaning that NO additional patient specific information is required and minimal pharmacist assessment is required.
- ☐ The dose conversions have been used successfully within AHS and Covenant Health (and are supported in the literature); prescribers can still order any dose they choose if they order an MDI first.
- ☐ As with any medication, it is important to do a patient assessment of dose response.
- ☐ For dose conversion details, contact your local pharmacist.

Therapeutic Interchange Supplemental Information

March 2020

What are the exclusion criteria for this therapeutic interchange?

- ☐ Treatment by wet nebulization is restricted to orders meeting these criteria:
 - Severe asthma or status asthmaticus; **OR**
 - Patients who cannot be treated with MDI and spacer; **AND**
 - Orders adherent to one of these reasons **MUST** indicate 'Do Not Sub' and **MUST** indicate one of these above-listed reasons
- ☐ **NICU and neonatal patients are excluded** from this therapeutic interchange.

Do we need to purchase anything to comply with this therapeutic interchange?

- ☐ Yes, spacers must be purchased and available on hand, ready to attach to the MDI.

Which spacers are recommended for different patient ages and for those who are ventilated?

- ☐ **Using an MDI without a spacer is not recommended.**
- ☐ Though other products exist in the warehouses, here are the recommended:
 - **Up to age 4:** Supplier item number T0110650300010 (small sized mask) or T0110650200010 (medium sized mask)
 - **Ages 4 and up:** Supplier item number T0110650500010 (mouthpiece**)
 - **Ventilated patients:** Supplier item number T0185851 (collapsible spacer) or RTC 22D (adapter)
- ☐ ****If the patient is over 4 yrs old and can hold their lips tightly around a mouthpiece and breathe through their mouth, they can generally use the preferred mouthpiece-type spacer (Supplier item number T0110650500010). In addition to other beneficial factors, this mouthpiece-type spacer costs ~\$20 less than the mask-type spacer.**
- ☐ Select the spacer with the best fit. Mask-type spacers should cover the nose and mouth snugly.
- ☐ Developmental or cognitive concerns may make use of a mouthpiece-type spacer difficult and may require a mask-type spacer.
- ☐ Some patients may have facial characteristics (e.g. small lower jaw, chubby cheeks) which mean that a size based on age alone may not fit.

Has the cost impact resulting from this therapeutic interchange been assessed?

- ☐ Yes. Pharmacy Services continues to gather nebule and MDI/spacer usage for the province, for all impacted medications. Combined with the experience of sites and zones that had previously made this practice change and including the cost of the various spacers, they're comfortable with costs of this practice. Cost analysis gives confidence that overall increase to direct costs will be negligible - with significant benefits gained.

How do I learn and teach patients the appropriate medication delivery technique?

- ☐ When used with a spacer, proper technique for MDIs becomes easier to achieve.

Therapeutic Interchange Supplemental Information

March 2020

-
- ☐ Find Alberta's translated standardized technique instruction handouts at:
<https://cumming.ucalgary.ca/research/icancontrolasthma/resources/devices> (Arabic, Chinese, English, Farsi, French, Hindi, Korean, Punjabi, Spanish, Tagalog, Urdu, Vietnamese)
 - ☐ View and/or refer patients to short demonstration videos at:
<https://www.lung.ca/lung-health/get-help/how-use-your-inhaler> (Canada)
<https://www.nationalasthma.org.au/health-professionals/how-to-videos> (Australia)

What has been the experience of others who have made this therapeutic interchange?

- ☐ Many different therapeutic interchanges that select for delivery of drugs by MDI with spacer are already implemented throughout AHS and Covenant Health.
- ☐ Alberta jurisdictions have successfully provided therapy through MDI with spacer for the past several years, including through the Alberta Childhood Asthma Pathway (ACAP).

*What routine Infection Prevention and Control practices are required for **MDIs & spacers**?*

- ☐ Spacers are almost always considered single patient use devices; MDIs are always single patient use.
- ☐ Single patient use devices are not shared between patients and should be cleaned according to manufacturer instructions between uses on the single patient.
- ☐ Some spacer types are sold by the manufacturer as re-processable and re-usable. **Despite the manufacturers' instructions, we recommend that all spacers are treated as single patient use devices.** This recommendation is based on a review that included costs, provincial experience, time, safety, and supplies.
- ☐ In discussion with the Medical Device Reprocessing Department (MDRD) & Infection Prevention and Control (IP&C), it becomes difficult and time-consuming to track the number of cleanings per spacer and the cost savings are negated when you consider the time spent by staff.

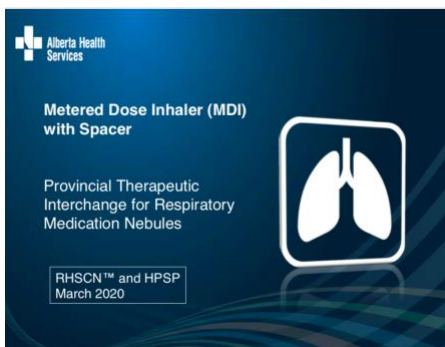
*What routine Infection Prevention and Control practices are required for **nebulizers**?*

- ☐ Use of nebulizers is considered an Aerosol Generating Medical Procedure (AGMP).
- ☐ It is important to ensure that, when an aerosol is necessary, it is delivered as safely as possible.
- ☐ A point of care risk assessment is always necessary for AGMPs.
- ☐ Point of care risk assessment includes determination of whether respiratory symptoms are present (cough, fever, TB). If yes, a risk assessment is performed and the decision to isolate the patient and don PPE is made accordingly.

What evidence supports this therapeutic interchange?

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If your question is not addressed here, please contact your local Pharmacy Department.



Background

- Nebulized therapy is an aerosol generating procedure.
- Aerosol generating procedures have been associated with spread of respiratory infection to healthcare workers and patients.
- Except in certain circumstances, nebulized therapy is inefficient; it can take up to 20 minutes to deliver, and less medicine is delivered to the small airways.
- Nebulized therapy can be poorly tolerated by patients.
- Medical air is often used to drive nebulized therapy; misconnects with oxygen (and vice-versa) are possible.

Rationale

To reduce the risk of:

- spread of infection
- adverse effects to patients
- medical air/oxygen misconnect
- drug exposure to staff

...any order for nebulized ipratropium (e.g. Atrovent®), salbutamol (e.g. Ventolin®), ipratropium/salbutamol (e.g. Combivent®), or budesonide (e.g. Pulmicort®) will **automatically** be interchanged to an MDI with spacer whenever possible.

Rationale – cont'd

- Use of MDI with spacer is best practice
 - Efficient
 - Effective
- Aligns with patients' ongoing home-based treatment; better preparation for discharge

What supports this practice?

- Evidence shows better and safer deposition achieved by MDI with spacer combined.
- Alberta's Childhood Asthma Pathway (ACAP) recommends MDI with spacer for mild and moderate presentations.
- Over the past several years, several regional Alberta sites have successfully used MDI with spacer in place of nebulizer.

Process

- **Orders:** Salbutamol (e.g. Ventolin®), budesonide (e.g. Pulmicort®), ipratropium (e.g. Atrovent®) and ipratropium/salbutamol (e.g. Combivent®) will automatically be dispensed as MDI with spacer.
- **Assessment:** Level 1 or low-level complexity, meaning that no patient-specific information is required and minimal pharmacist assessment is required.
- **Exceptions:** Nebules are restricted to these scenarios:
 - Severe asthma or status asthmaticus; **OR**
 - Patients who cannot be treated with MDI and spacer; **AND**
 - Orders adherent to one of these reasons MUST indicate 'Do Not Sub' and MUST indicate one of these above-listed reasons

NICU and neonate patients are excluded from this therapeutic interchange.

Process – cont'd

- **Preparation:** Health care professionals require an authorized prescriber's order and will access the appropriate new spacer* from their stores.
- **Administer:** Health care professionals will combine the MDI with the spacer and work with the patient to administer medication as directed.
- **Reassessment:** After the dose is administered, health care professionals will assess the patient's dose response.
- **Additional Doses:** To be administered based on patient's dose response and authorized prescriber's orders.

* For those over 4 years old, the mouthpiece spacer (T0110650500010; ~\$14) is preferred in most cases and costs ~\$20 less than mask-type spacers.

Process – cont'd

- **Storage:** Between doses, the **patient labeled** MDI & spacer can be stored in a patient labeled bag and kept in the patient's room or as per unit policy.
- **Discharge:** Spacers may be sent home with patients if continued therapy is prescribed. **NOTE:** Sending MDIs home is **not** encouraged. Spacers do **not** need a pharmacy-issued label.
- **Disposal:** If not required at discharge, both spacers and MDIs are disposed of (i.e. they are both single patient use).

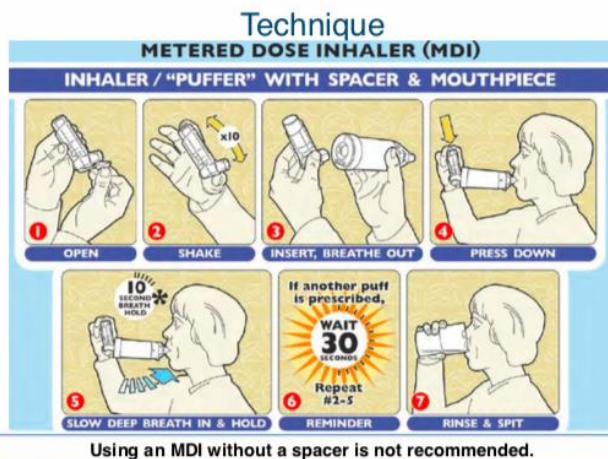
When patients are admitted to other acute care settings from Emergency Departments or other triage settings, staff should ensure all MDIs and spacers are transferred with the patient.

Level 1 Complexity

- Level 1 (or low-level) complexity is a pharmacy categorization; it helps facilitate therapy with MDI & spacer when appropriate
- Unless an order specifies 'Do Not Sub' and also indicates one of the 2 exceptions, the therapeutic interchange for MDI & spacer will take effect

Stat or Off-Hours Orders

- If the order is written for nebules, administer respiratory medication therapy as MDI & spacer unless:
 - Severe asthma or status asthmaticus; **OR**
 - Patient cannot be treated with MDI and spacer; **AND**
 - Orders indicate 'Do Not Sub' and also indicate one of these above-listed reasons
- Interchange dosages are available from your local pharmacist



Important - Disposable Spacers



Disposable spacers (ie. cardboard or paperboard) are best suited for temporary use, such as diagnostic testing or EMS transports and are always single patient use.

Technique Training

- Alberta's translated standardized technique instruction handouts:
<https://cumming.ucalgary.ca/research/icancontrolasthma/resources/devices> (Arabic, Chinese, English, Farsi, French, Hindi, Korean, Punjabi, Spanish, Tagalog, Urdu, Vietnamese)
- Short demonstration videos:
[https://www.lung.ca/lung-health/get-help/how-use-your-inhaler_\(Canada\)](https://www.lung.ca/lung-health/get-help/how-use-your-inhaler_(Canada))
<https://www.nationalasthma.org.au/health-professionals/how-to-videos> (Australia)

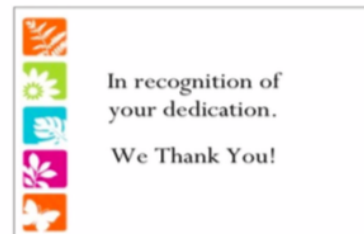


MDI Facts

- Patients with dementia, neuromuscular disease, acute COPD or asthma, decreased level of consciousness or cognitive impairment can use MDIs:
 - Spacers are available in a variety of sizes & formats
 - Even if the patient cannot follow directions or take a deep breath in, they can breathe normally (tidally) for 6 breaths to get their dosage
- MDIs don't delay medication delivery time:
 - Patients can be assisted and finish therapy in 2 minutes, compared with up to 20 minutes for nebulized therapy
- Though they cannot taste or feel the medication, patients prefer therapy with MDI & spacer:
 - There are fewer systemic side effects
 - There is improved deposition of the medication

Questions?

If your question is not addressed here, please contact your local Pharmacy Department.

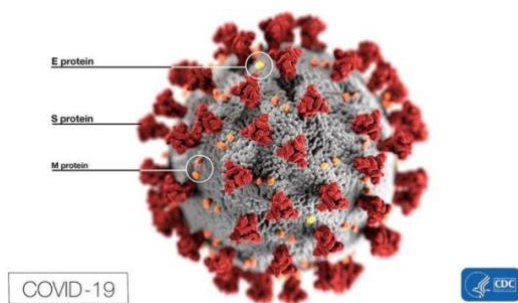


COVID-19 Primer for Pediatric EM Providers

Brief COVID-19 Literature Review | Last Update: March 24, 2020

Coronaviruses are a large group of viruses and one of the major causes of viral respiratory tract infections. There are **7 different coronaviruses**, including the novel coronavirus (SARS-CoV-2), which is the pathogen responsible for the **COVID-19 disease**.¹ Other types of coronaviruses include SARS-CoV (pathogen responsible for the Severe acute respiratory syndrome outbreak) and MERS-CoV (pathogen responsible for Middle East respiratory syndrome).²

It is suspected that coronaviruses initially evolved in bat populations and have been transferred to humans through intermediate mammalian hosts (such as Civets, Camels, and Pangolins).³



Studies performed on the other enveloped coronaviruses (SARS-CoV, MERS-CoV) found that they are **effectively inactivated with soap and water, or hand sanitizer** (>60% ethanol).⁴⁻⁶

Epidemiology

The COVID-19 pandemic was initially identified in December 2019 after a number of pneumonia cases were investigated in the city of Wuhan, in the Hubei province of China.⁷ Data on the epidemiology of COVID-19 changes frequently as the pandemic progresses. However, some trends have emerged, including:

- A mortality rate between **3-4%**, with higher mortality in older age groups.
- A R_0 value similar to pandemic influenza (R_0 represents the transmissibility of the virus). Current estimated value for COVID-19 is **2.2-3.9**. (Measles: 12-15, seasonal influenza: 0.9-2.1)⁶

With regards to pediatric patients, Dong et al. (2020) reviewed the epidemiology of COVID-19 in Pediatric patients in China.⁸ The authors identified 2143 pediatric patients with confirmed or suspected COVID-19. Of these cases, the median age was 7 years old. **112 pediatric patients (5.2%) were considered to have a severe presentation** (oxygen saturation <92%) and **13 patients (0.6%) were considered to have a critical presentation** (respiratory failure or multiorgan dysfunction).

Critical presentations were more common in younger patients, with children **under 1 year of age representing 53.8% of all critical pediatric presentations**. Amongst the study population, there was 1 pediatric death (14-year-old, clinical details not reported).

Current evidence suggests that pediatric patients are as likely to become infected with COVID-19 as adult patients, but **less likely to become symptomatic or develop severe symptoms**.⁹

Incubation Period

Lauer et al. (2020) performed a pooled analysis of 181 confirmed COVID-19 cases in China.¹⁰ For each of the 181 cases, the investigators recorded the time of possible exposure to SARS-CoV-2, any symptom onset, fever onset, and case detection. Based on this population, the authors found a **median incubation period of 5.1 days** (time to symptom onset). However, some patients did not become symptomatic until later from their exposure. Overall, **97.5% of patients became symptomatic within 11.5 days of exposure** (CI: 8.2 to 15.6 days).

Presentation

A recent systematic review was published on the clinical, laboratory and imaging features of COVID-19 that included all ages. Rodriguez-Morales et al. (2020) analyzed the data of 19 studies, which included a total of 2874 patients.¹¹ **Fever (88.7%), cough (57.6%), and dyspnea (45.6%) were the most common symptoms across all age groups**. Interestingly, fever was a less frequent symptom in children (43.9%). Less common symptoms included myalgias (11%), rhinorrhea (10%), and GI symptoms (3-10%). Of note, **only 44% of patients had fever at the time of presentation**.⁷

Laboratory findings include a decreased albumin (75.8%), elevated CRP (58.3%), lymphopenia (43.1%), and elevated LDH (57%). Chest x-ray findings were **predominantly bilateral consolidation (72.9%) and ground-glass opacification (68.5%)**.

A smaller review of 171 children with confirmed SARS-CoV-2 infection who were treated at Wuhan Children's Hospital resulted in similar conclusions to the study by Rodriguez-Morales et al. (2020). **Cough (48.5%), pharyngeal erythema (46.2%), and fever (41.5%) were the most common symptoms throughout the course of illness**.¹² Interestingly, **15.8% of patients in this study were asymptomatic**, and diarrhea (9.4%), vomiting (6.4%), and nasal congestion (5.3%) were infrequent symptoms. The study identified an additional pediatric death that involved a 10-month old child who tested

Prepared by: Nicholas Monfries, MD (PEM Fellow)
Reviewed by: Fiona Stewart, MD FRCP (PEM)

positive for SARS-CoV-2 who had a clinical course complicated by intussusception and multiorgan failure.

There has also been some early research into the effect of SARS-CoV-2 on the neonatal population, though the data is primarily from case series. Chen et al. (2020) performed a retrospective case review of 9 pregnant women who had COVID-19.¹³ All women in the study underwent a caesarean section and there was **no evidence of vertical transmission of the virus** (none of the newborn children tested positive for SARS-CoV-2). In addition, there was **no evidence of SARS-CoV-2 in the amniotic fluid, newborn throat swabs, cord blood, or breastmilk samples**. Additional case series have found a similar lack of evidence of vertical transmission.¹⁴⁻¹⁶

Testing for SARS-CoV-2

The gold standard test for COVID-19 is a viral RT-PCR performed on nasopharyngeal swabs or aspirates. As there is currently no treatment for COVID-19, the intent of testing for SARS-CoV-2 is to effectively contain the virus amongst the population through self-isolation measures and to provide diagnostic clarity for unwell/admitted patients. As the test for COVID-19 is not a standardized investigation, test characteristics vary between institutions, with some reporting **the sensitivity between 66-80%.**¹⁷ A false negative result can occur if the sample is improperly collected or collected too early in the course of illness. There is ongoing research into developing rapid, point-of-care testing for SARS-CoV-2, but many of these tests are still in early phases of study.¹⁸

Management of COVID-19

The management of COVID-19 is primarily supportive, but there is ongoing research investigating some potential therapies and vaccines.

Guidelines for the management of critically unwell patients vary depending on the institution and the age of the patient. While there are a number of guidelines for the management of critically ill adult COVID-19 patients,¹⁹ **a provincial guideline for the management of critically unwell pediatric COVID-19 patients** has been released by the Provincial Critical Care Pediatric Communicable Disease Working Group.²⁰

Pathogenic human coronaviruses (including SARS-CoV-2) bind to target cells through ACE-2 (angiotensin converting enzyme). A report by Fang et al. (2020) raised concerns about medications (including ibuprofen) that may upregulate the expression of ACE-2, potentially leading to worse outcomes in patients with COVID-19.²¹ However, there is no robust evidence to support this theory at this time and the current position by the World Health Organization is that **they do not recommend against the use of ibuprofen.**

A number of medications have been identified as having a potential therapeutic effect against SARS-CoV-2 and a number of clinical trials are currently underway. While some of these studies identified in-vitro effects, a small observational study

of **hydroxychloroquine (antimalarial) and azithromycin (antibiotic) demonstrated a higher rate of viral cure after 6 days of treatment in hospitalized patients with COVID-19.**²² However, this study did not report patient-outcomes (such as mortality, time in ICU, etc.), so it is unclear of the actual clinical impact of this therapy at this time.

Currently, there is **no vaccine for SARS-CoV-2**. However, there are a number of ongoing clinical trials to identify an effective vaccine.

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Prepared by: Nicholas Monfries, MD (PEM Fellow)
Reviewed by: Fiona Stewart, MD FRCP (PEM)

Date: March 26, 2020

To: ACH ED Emergency Staff and Physicians

From: Antonia Stang, ACH ED Chief of Pediatric Emergency Medicine

RE: ACH ED Pandemic Plan

See Insite for latest updates: <https://insite.albertahealthservices.ca/tools/Page24291.aspx>

General Considerations:

Screening Criteria: <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-case-def.pdf>

Diagnostic Imaging:

- If a patient meets ILI/COVID-19 screening criteria call for portable x-ray in room.
- Indicate isolation precautions/suspected COVID-19 in x-ray and all imaging orders.
- Ensure droplet/contact sign is on the door to room.
- For patients who will be returning to ACH for outpatient imaging (e.g. US, MRI, CT), provide appropriate discharge planning to the family at discharge. If imaging is negative, the radiologist will send patient home directly from DI.

Patient Care Considerations:

- As per usual practice at ACH respiratory swabs can be performed by RNs or MDs. Nurse to verify with MD that patient meets testing criteria before swabbing.
- Avoid taking charts, computers etc. into patient rooms.
- Limit number of individuals entering isolated patients rooms and consolidate tasks with each entry.
- Do not send learners into isolation rooms unless they are able to practice independently without direct supervision.
- Areas that cohort patients who meet COVID-19 criteria will have dedicated stethoscopes, BP, O2 sat monitors. Clean equipment between each patient use with Cavi-wipes or alcohol swabs.
- Avoid nebulized medications whenever possible. If required, place patient in negative pressure room (room 2, 26, 33, 34, procedure room).
- Ensure commode or access to dedicated restroom for isolated/cohorted patients.

Intubation/Resuscitation:

- If patient meets ILI/COVID-19 screening criteria, resuscitation (eg: CPR, bagging, intubation and suction and NIV) should take place in procedure room with doors shut (negative pressure) and full PPE including N95. Notify RT and PICU ASAP.
- Guidance for team composition:
 - INSIDE ROOM: 2 physicians, 3 nurses, 1 RT, inside runner (ie. nursing attendant, resident, ED MD)
 - OUTSIDE ROOM: charge nurse, ED nurse, 1 RT, outside runner (ie. nursing attendant, resident, ED MD)
- Nametags are on a clipboard outside the procedure room, please put on front and back when in PPE (and remove prior to placing gown in hamper).
- 'Inside' ED team in full PPE (MD, RT, RN) to take stretcher from procedure room and meet EMS in ambulance bay to transfer patient and receive EMS handover. RT should bring our bagger with HME filter, and O2 tank.
- Charting nurse to stay behind line of floor that is 2m from patient's head, and stay as "clean as possible" so that paperwork will be "clean" when passed to PICU (don't put paperwork on patient's bed).

- Caregiver (in mask) should initially stay outside room with social worker at window to procedure room (in hallway to family room). If parent required at bedside due to patient condition, parent and social worker may enter with full PPE.
- Designate a runner outside the room to gather any additional equipment (CMAC, Zoll monitor from ED code cart, etc.).
- Outside runner to ensure doors are shut and key is set to negative pressure isolation (in hallway to parent room).
- Medication Cart is outside procedure room next to the computers.
- ED Code Cart is in the alcove across from 24-27, if the Zoll defibrillator is required it can be grabbed by runner from this cart.
- If intubation is required prepare all equipment to optimize early intubation and notify PICU. When bagging, confirm with RT that bag has HME (heat moisture exchange filter).
- If a patient would benefit from NIV (Non-Invasive Ventilation) or High Flow O2 call PICU attending ASAP and transfer patient to PICU prior to initiation of NIV or High Flow.
- Use video laryngoscopy to avoid having to directly visualize the larynx.
- If a second patient meets COVID-19 screening criteria and requires intubation/resuscitation, and procedure room is occupied, place patient in trauma room.
- Transfer of the patient to PICU team can be done by ED team in the procedure room giving handover to the PICU either via the telephone in procedure room or through the open doors with the PICU team in the hallway (PICU team will be in PPE but “clean” standing outside of the procedure room).
- Clear the hallway when transporting intubated patients within department and to PICU.
- Any Code 77 patient, regardless of screening criteria, should initially be treated in the trauma room. If screen positive can consider movement to procedure room for intubation or full PPE including N95 required for everyone in trauma room during intubation.

Procedures:

- Procedural sedation on patients who do not meet ILI/COVID-19 screening criteria can take place in trauma D, fast track or Room 27.
- Procedural sedation on patients who meet ILI/COVID screening can take place in room 36.
- Lead aprons are stored in the trauma room and in fast track.
- The orthopedic cart/casting equipment and C-arm will be stored in fast track.
- Burn cart and spare LP cart will be stored in middle supply area.
- Patients who have a procedural sedation in the trauma room, should be moved to a monitored bed for recovery as soon as possible.

Code 50:

- Follow appropriate stage of COVID19 triage algorithm.

RAAPID calls

- In order to reduce staff disruptions when in rooms in PPE, we are temporarily moving all RAAPID to calls to an overhead call for “Available physician for RAAPID call”.
- All other processes (referral process, consultant use of RAAPID and EDMD) remain the same. MD to communicate with the Charge RN about any patients who are coming to ACH ED and if MD will see them on arrival.

Discharge:

- Provide patients and families who have been tested for COVID 19 in the Emergency Department and discharged home to self-isolate with the ‘Caring for yourself at Home’ letter.

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-pui-letter.pdf>

Asymptomatic Patients:

- As per the MOH on March 12, 2020, individuals without ILI symptoms should not be tested for COVID-19

<https://www.albertahealthservices.ca/assets/info/hp/phys/if-hp-phys-moh-novel-coronavirus-update-external.pdf>

March 27, 2020

Antonia Stang

Short ACH ED Update

COVID March 27, 2020 at 4:38 PM

[Details](#)

AS

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page <https://www.albertahealthservices.ca/topics/Page16944.aspx>

Just a few things.

Reminder about STAFF SCREENING at ACH

Modified Hours and Locations for the screening of Staff and Physicians

Effective March 27 screening in the Gordon Townsend Gym will take place 0530 to 0900 hrs. After 0900 hrs, screening will be completed at the Front Entrance and the Lot 5 Entrance, along with the Visitor Screening.

Tracheostomy

For patients with tracheostomies there is the chance for aerosolization, particularly with unexpected vent disconnection. As a result airborne precautions should be taken for patients with trachs (negative pressure room if possible, if not single room) and PPE including N95.

Guidance on Care of the Adult Suspected/Confirmed COVID-19/ILI Patient in the Emergency Department/Urgent Care Centre was posted on Insite today

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-care-adult-ed-ucc.pdf>

Most of the guidance aligns with what we are doing at ACH, let me know if you have questions or find inconsistencies that need to be resolved.

As much as possible enjoy some time with family and friends (at the appropriate social distance/ virtually) this weekend.

Contact me with any questions, ideas and suggestions.

Take care of yourselves.

Antonia

March 30, 2020: ACH Intubation Guidelines

Antonia Stang 

ACH ED Update

March 31, 2020 at 5:35 PM

[Details](#)



To: Antonia Stang, Adam Cheng, Adam Cheng (Physician), Adam Oster & 109 more

ACH ED Update March 30

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page <https://www.albertahealthservices.ca/topics/Page16944.aspx>

I apologize for the long update today. Most of this will be discussed on call at 9:30 tomorrow, and we wanted to share information in advance to stimulate questions, feedback and discussion.

PPE/IPC update (from Jennifer and Shirmee)

1. HAND HYGIENE - please remember the most important step is to clean your hands often and for at least 20 seconds with either soap+water or alcohol rub.
2. Physician office - please wipe down all surfaces with a cavi wipe at the start of your shift. Gloves and cavi-wipes have been placed in the office
3. IPC for goggles/stethoscopes - bring 2 cavi-wipes into the room on entry: use the first to open door/clean stethoscope. After seeing the patient, use the second cavi-wipe to clean stethoscope, open the door and doff in the doorway. Remove goggles last with a new pair of gloves and use a third cavi-wipe to clean and allow to dry
4. PPE Buddies - consider asking a colleague to watch you don/doff at the start of your shift to ensure all steps are done correctly
5. Social distancing in the ED - be considerate of your location relative to other staff. Work is being done to create more workstations for computers/charting.
6. Patient traffic - Patients must notify and wait for staff supervision before leaving their rooms. New signs are in rooms.

PPE for every patient encounter? (guidance as shared with Calgary Zone Adult ED sites, updates will be provided as further guidance is provided by AHS)

Robust symptom and COVID-19 risk criteria screening of all patients has resulted in the cohorting of patients with infectious risk into specific areas of the departments. We are all now in the habit of strict adherence to Contact/Droplet precautions in these patient care areas. However, there have been a few cases of patients who eventually were found to be COVID +, but who were initially triaged to the non-infectious side of the ED.

This can happen because of language barrier, atypical presentations, etc.

The question of what the individual HCW will do to protect themselves against the risk of transmission while working in the "safe side" of the ED is a difficult one. We will all have to use our own judgement on how best to protect ourselves while we work day to day. Key to this will be situational awareness and a heightened suspicion of possible infectious patients who initially screened negative (altered LOC, language barrier, etc).

Our colleagues in I, P and C do not endorse wearing PPE for every patient encounter. It is not as simple as putting a mask on and leaving it there all day. They would like to remind us that if we are going to wear PPE in a manner other than the recommended contact/droplet (properly donned and doffed) only for identified cases, then we need to keep several points in mind.

-It is NEVER safe to go from patient to patient without changing gloves and performing hand hygiene. Hand hygiene is by far the #1 practice to prevent spread of diseases.

-DO NOT touch or adjust your mask or eye protection if you choose to wear it continuously. This risks contaminating your own face and hands, and increases risk of transmission to yourself and others.

-If you need to remove your mask or eye protection (for example to have a drink of water, or when using the phone) DO perform hand hygiene, and doff the face and eye protection in a manner that avoids touching the front of the PPE and discard it immediately, then perform hand hygiene. DO NOT reuse it once it has been removed. You risk contaminating yourself, and other surfaces you place your used mask on.

-DO change your mask and eye protection when it is wet or soiled, to eat or drink, when you leave a clinical area, and at end of shift. Take it off when you use the phone

Scheduling Update (from Jenn)

Current ED volumes remain at record lows of about 80-90 patients/day. We remain heavily over-staffed for this patient volume and despite people often leaving early, there is a lot of "downtime" on shift with many physicians who don't have much to do other than congregate in the doc's office- something which we should be trying to avoid.

We will start a shift reduction plan, to be re-evaluated on a rolling basis approximately weekly. Goals are to provide double coverage as much of the day as possible, not force anyone who wants to be working out of shifts, but also minimize the number of physicians in the ED as volumes allow so that social distancing between each other is easier to maintain.

Aim for now is to drop 3 shifts/day (1100, 1400 and 1700). 06, 08, 12, 15, 18, 22 and 24 will remain as anchor shifts. 10, 16 and 19 will remain as "flexible" shifts (eg can come in and relieve others early if it's not busy, or can call ahead and ask if you're needed).

Plan to achieve this- voluntary recall on shifts. Anyone willing to drop a shift between April 2-12 should contact Jenn D with the shifts they're willing to drop. If more than 3 people want to drop on the same day, priority will be given to the adult/peds group to drop shifts so they can increase coverage at adult sites quickly if needed. Those not wanting to drop shifts may be moved to the closest in time "anchor" shift on the same day if they are the 11 or 14 or 17 shift. I will not move anyone to a night shift without checking with them first. If no one wants to drop shifts on a given day then the 11 and 14 and 17 shifts will remain scheduled for that day as "flexible" shifts with the same idea as the 10 and 16 and 19 shifts described above.

Trauma designated MD

If there is a call for trauma room or room 28 (isolation procedure room) both the trauma MD and 2nd trauma MD (results) should go (in case one of them is in a room in PPE and needs time to doff)

If no physician arrives and one is needed immediately, unit clerk will call for available MD.

For infectious/COVID-19 screen + patients requiring resuscitation, resuscitations team will be called "trauma team to room 28"

Community Pediatric Asthma Service

Still "seeing" patients via telephone consult, working with the families and their primary care physician –with the goal of keeping patients out of ED emergency and managed at home. Please continue to refer patients.

ACH Sitewide ILI/COVID-19 Intubation Guidelines (see attached)

This document was created by the ACH Site Airway working group and is to be used in addition to current intubation resources used in each care area (PICU, NICU, ED, inpatients). It is not intended to replace any current intubation related checklists used but to complement. A label to the top of the current "ACH ED Intubation Checklists" in Trauma and on the code cart in ED to cue the team to also review the ILI/Covid-19 Intubation guidelines if applicable with the team.

Fitness for Work Screening Questionnaire

The questionnaire has been updated today, with the intent to capture new symptoms or a worsening of long standing symptoms. In addition:

- People may have seasonal or environmental allergies, therefore, these related symptoms would not preclude them from work.
- Question #4 has been revised: Do you live with or have had close contact* (within 2 meters/6 feet) with a person with an influenza-like illness (ILI) who had close contact with a lab-confirmed COVID-19 case, while:
 - o 1) not wearing recommended PPE and/or
 - o 2) not practicing social distancing as appropriate to the setting?
- The definition of a close contact is an individual that provided care for the Covid patient, including healthcare workers, family members or other caregivers, or who had other similar close physical contact without consistent and appropriate use of personal protective equipment (PPE),
 - o Or lived with or otherwise had close prolonged contact (within two metres/six feet) with a person while the Covid patient was ill,
 - o Or had direct contact with infectious body fluids of a person (e.g. was coughed or sneezed on) while not wearing recommended PPE.
- PPE is not expected to apply in the home setting

The new questionnaire can be found here: <https://share.albertahealthservices.ca/Main/assets/tls/ep/tls-ep-covid-19-fitness-for-work-screening-questionnaire.pdf>

We will have another ACH ED Q & A on Wednesday at 9:30. Please email any IPC/PPE questions to Shirmee and any other questions/agenda items to Jenn and Antonia.

To call in: 403-232-0994 – CALGARY or 1-877-385-4099 (toll free)

PARTICIPANT ACCESS CODE: 1363077# Moderator Access Code: 5974942#

Agenda, PPE/IPC update, Scheduling Update, Trauma Designated MD, Simulation Update, Virtual Care update

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ACH Sitewide ILI
COVID...1.5.pdf

- ✓ Endotracheal intubation should be performed by most experienced intubator available
- ✓ Negative pressure room should be used if available. Turn negative pressure on and close the door during the intubation procedure
- ✓ Minimize the number of staff in room during procedure to intubator, 1 RN and 1 RRT. Modify at physician discretion. Additional staff shall be appropriately donned and immediately available outside room
- ✓ All staff shall don PPE for AGMP which includes N95 mask, gown, gloves and eye protection prior to entering room. If possible a PPE buddy should be assigned to assist with donning and doffing
- ✓ Minimum of 5 minutes of pre-oxygenation using a well-fitting non-rebreather oxygen mask with flows of at least 15 LPM oxygen if possible. Increase flow as needed to ensure the reservoir bag does not collapse on inspiration. Pre-oxygenation may also be provided by free-flow via the modified jackson rees bagging unit or neopuff and full face mask
- ✓ Manual ventilation is not recommended but may be required in some circumstances when unable to adequately achieve pre-oxygenation or patient has inadequate respiratory drive. Ensure a good seal and use low pressures and low volumes. 2- person technique is recommended
- ✓ All manual ventilation devices shall have filters in place
- ✓ Apneic oxygenation via nasal cannula is not recommended
- ✓ Use of high flow nasal cannula and non-invasive ventilation should be avoided
- ✓ Indirect videolaryngoscopy is recommended
- ✓ Muscle relaxants should be used to minimize cough
- ✓ Cuffed endotracheal tubes (ETT) should be used
- ✓ The cuff of the ETT should be inflated, EtCO₂ and in-line suction placed in line prior to the manual bagger being reconnected and manual ventilation being provided
- ✓ Clamp the ETT with any disconnections
- ✓ If intubation attempt is unsuccessful, manual ventilation with low pressures and low volumes via full face mask with good seal is recommended. 2-person technique recommended
- ✓ LMA should be readily available for use if unable to oxygenate the patient with manual ventilation. Cuff should be inflated prior to commencing manual ventilation. Low pressures and low volumes should be used
- ✓ If patient transport is required, use the minimum number of staff required to safely transport the patient. Staff involved in transport should be in newly donned PPE

April 6, 2020: PPE Update

Antonia Stang

April 6, 2020 at 4:31 PM



ACH ED Update

[Details](#)

To: Antonia Stang, Adam Cheng, Adam Cheng (Physician), Adam Oster & 109 more

For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page

<https://www.albertahealthservices.ca/topics/Page16944.aspx>

PPE

See attached summary of commonly asked PPE questions

The AHS PPE Taskforce recently released Guidance on Continuous Use of PPE

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-ppe-continuous-use-guidance.pdf>

Reminder PLC admissions

PLC appropriate admissions are now being admitted to ACH under PLC hospitalist group.

Pediatric patients seen at PLC ED who need admission will be sent to ACH ED via RAAPID (PLC ED MD to ACH ED MD) similar to other EDs in the zone who require Pediatric care.

Q and A Wednesday 9:30

In order to optimize the efficiency of our call on Wednesday I am sending out a draft agenda today.

If you have questions related to the items below please send to the individual indicated so we can look into the answer prior to the call.

If you have other agenda items or questions not listed below please email Antonia.

Q and A Agenda

Scheduling (Jenn)

Airway/Intubation (Jenn)

COVID-19 testing (Antonia)

Trauma (Jonathan)

ACHES Update (Russ)

Education (Kelly and Naminder)

PPE/IPC (Shirmee)

We will try Zoom for the meeting this week. Use info below.

Topic: ACHD ED Q and A

Time: Apr 8, 2020 09:30 AM Edmonton

Join Zoom Meeting

<https://ucalgary.zoom.us/j/199187721>

Meeting ID: 199 187 721

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+1 587 328 1099 Canada

+1 647 374 4685 Canada

+1 647 558 0588 Canada

+1 346 248 7799 US (Houston)

+1 646 558 8656 US (New York)

+1 669 900 6833 US (San Jose)

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Find your local number: <https://ucalgary.zoom.us/j/199187721>

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115.114.131.7 (India Mumbai)
115.114.115.7 (India Hyderabad)
213.19.144.110 (EMEA)
103.122.166.55 (Australia)
209.9.211.110 (Hong Kong)
64.211.144.160 (Brazil)
69.174.57.160 (Canada)
207.226.132.110 (Japan)
Meeting ID: 199 187 721

Join by Skype for Business
<https://ucalgary.zoom.us/skype/199187721>

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**PPE Update
ACH E...(1).pdf**

PPE Update – ACH ED, April 6, 2020

This document summarizes some of the more commonly asked questions. All responses are from documents available on Insite with links provided.

Question: What is the optimal strategy for healthcare worker (HCW) clothing and personal items across various health care settings to reduce the risk of HCW self-contamination and to reduce the risk of HCWs transmitting viruses outside the hospital?

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-hcw-clothing-personal-items-info.pdf>

The link below above those questions in detail, but here is a brief overview...

- At all times practice hand hygiene and point of care risk assessment prior to each patient contact. Hand hygiene is KEY to infection prevention and control.
- For suspected/confirmed COVID-19 patients, use contact and droplet precautions: procedure mask, gown, eye protection and gloves.
- N95 required for which includes: intubation, CPR, BiPAP, CPAP, High Flow O2, nebulized medication administration) See full list here: <https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-respiratory-additional-precautions-assessment.pdf>
- Ensure you are aware of proper donning and doffing procedures – follow steps on the posters. Consider using a PPE buddy.
- Hair coverings and shoe coverings are not required for contact and droplet precautions. Disposable bouffants and shoe coverings, if worn, should be discarded after use. Other hair coverings (e.g., worn for personal reasons), should be laundered as per the healthcare attire recommendations.
- Do not access items from your pockets while in PPE.
- Evidence suggests prevalence of virus transmission from attire to hands is low. Other transmission routes (e.g. from hard surfaces) are more viable and have a higher preponderance.
- Follow IPC Healthcare Attire guidelines – here is the link!
<https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-hlthcare-attire-scrubs-uniforms-info-sht-z0-bpr-pt-care.pdf>
- IPC measures are adequate to prevent contamination; however, if uniforms or clothing is soiled, staff should change out of them before leaving their place of work.
- If you change at work or outside your home, transport used uniforms in a disposable or washable bag.
- Clean and disinfect medical and personal accessories with ready-to-use disinfectant wipes.
- Staff showering and bathing practices are not considered important IPC measures for COVID-19; staff are advised to follow their usual personal hygiene practices.

Question: should we be using yellow gowns for aerosol generating procedures?

Here is the response from IP&C: *“Even though some other disciplines come up with their own specific protocols of using other gowns. As for now, per Contact and Droplet Isolation including AGMPs (e.g. intubation), the recommendation is to use the yellow Isolation gowns”*

April 9, 2020

Antonia Stang

ACH ED Update April 9

April 9, 2020 at 4:40 PM

[Details](#)



For the latest COVID-19 updates and accurate information please refer to CMO COVID-19 Daily Updates for AHS Medical Staff and AHS COVID-19 page <https://www.albertahealthservices.ca/topics/Page16944.aspx>

We have created a google document to house the key information from these updates (thank you Shirmee and the U of C Physician Learning Program!)

For the google doc

1. Open in present view for best viewing (top right of screen is the 'Present' button)
2. Please email Shirmee if any of the links are not working/errors on the slides

https://docs.google.com/presentation/d/19DrcF-pupGVeGid5MWgycvSDwOhDcToUZTgk_Jgz0Q4/edit#slide=id.g82f016f5eb_0_1

If you go to link you don't need to read further but I have included info below in email form as well as we get used to google doc.

PPE update

From Facility Medical Director

"There will be an official announcement from AHS later today but we wanted to get this message out before the long weekend. Going forward, for those working at AHS facilities, masks will need to be worn in the following situations:

1. By all individuals having face to face contact with patients and/or families
2. By all individuals who are unable to maintain a 2 meter separation from their co-workers

The goal of wearing the mask is to prevent you from infecting patients or co-workers but please remember that this does not change the need for frequent hand hygiene and other appropriate infection prevention measures. Proper technique is essential when donning and especially doffing your mask. To conserve hand sanitizer supplies, please use soap and water for hand hygiene whenever possible. Use the links below to remind yourselves of proper technique.

<https://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ipc-donning-ppe-poster.pdf>

<https://www.albertahealthservices.ca/assets/Infofor/hp/if-hp-ipc-doffing-ppe-poster.pdf>

Note that visitors to our site are also requested to wear masks when out of the patients' rooms.

Staff screening will continue to take place. You should continue to stay home if you have symptoms but this measure has been put into place to reduce the risk of transmission of COVID by asymptomatic individuals.

We recognize that the use of PPE is an ever evolving story and appreciate your support in taking up the new guideline. Please look for the official AHS announcement later today."

For us in the ED this essentially means wearing masks for most/all of our shift.

Some key points to remember about continuous PPE use (<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-ppe-continuous-use-guidance.pdf>)

- DO perform hand hygiene during the 4-moments of hand hygiene. It is NEVER safe to go patient-to-patient without changing gloves and performing hand hygiene. Hand hygiene is by far the number one practice to prevent spread of disease.
- DO NOT touch or adjust your mask or eye protection if you choose to wear it continuously. This risks contaminating your own face and hands, and increases risk of transmission to yourself and others.
- If you need to remove your mask or eye protection (for example, to have a drink of water) DO perform hand hygiene, and doff the face and eye protection in a manner that avoids touching the front of the PPE, discard it immediately, then perform hand hygiene.
- DO NOT reuse PPE once it has been removed. You risk contaminating yourself, and the other surfaces on which your mask was placed.
- DO change your mask and eye protection when it is wet or soiled, to eat or drink, when you leave a clinical area, and at end of your shift.

COVID-19 testing

Testing

As per most recent guidance from AHS <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-ncov-2019-staff-faq.pdf>

Given the high percent positive rate of COVID lab tests in the Calgary Zone, testing of ED patients has been expanded to include Calgary Zone residents who have a cough, fever, runny nose, sore throat or shortness of breath. Children seen in the ED with these symptoms, or other symptoms that may be attributable to COVID-19, should be tested.

All tests performed in the ED should be performed with a copan flocced NP swab (NOT the APTIMA swab kit) and all should be sent for COVID and RPP. Do NOT use the APTIMA test kits - they should be reserved for STD testing only.

AHA Guidance

AHA just released a document on Interim Guidance for Basic and Advanced Life Support in Adults, Children, and Neonates With

Suspected or Confirmed COVID-19 (attached to email and included under additional resources)

ACH Code Blue

The ACH code blue team created an ACH (Pediatric) Code blue team response during COVID-19. (attached to email and included under additional resources) ED is second call for pediatric code blue but please review this document. ACH ED is still responsible for adult code blue and code 50. If/when adult patients are admitted to ACH wards we will need an "admitted" adult code blue process. This process is currently under discussion with site code blue committee and will be shared when available.

Department of Peds Half days

The Department of Pediatrics is restarting their Thursday afternoon academic half days via ZOOM. There are gaps in the schedule for May and June. If you are available to present contact pamela.veale@ahs.ca or Irenke Payne (irenke.payne@ahs.ca). Also please forward suggestions to support residents in independent learning to be posted on www.paedsportal.ca.

Please forward questions/agenda items for weekly Q and A by the Tuesday before.

For PPE/IPC send to Shirmee

Scheduling/Airway to Jenn

anything else to Antonia