

COV-19 Case

Section 1: Case Summary

Scenario Title:	COV-19 Case
Keywords:	Pneumonia, sepsis, ventilation, Infectious Disease
Brief Description of Case:	A patient from the community with fever and possible exposure to Coronavirus

Goals and Objectives	
Educational Goal:	Identify and isolate a patient with a novel, highly infectious disease.
Objectives: (Medical and CRM)	<ol style="list-style-type: none"> 1. Review an approach to febrile patients who present during a pandemic. 2. Prioritize the initial approach of infection control. 3. Review the initial management of the patient with sepsis/respiratory failure.
EPAs Assessed:	

Learners, Setting and Personnel			
Target Learners:	Junior Learners	<input type="checkbox"/> Senior Learners	<input checked="" type="checkbox"/> staff
	<input type="checkbox"/> Physicians	<input type="checkbox"/> Nurses	<input type="checkbox"/> RTs
	<input type="checkbox"/> Inter-professional		
	<input type="checkbox"/> Other Learners:		
Location:	Sim Lab	<input checked="" type="checkbox"/> In Situ	<input type="checkbox"/> Other:
Recommended Number of Facilitators:	Instructors: 1		
	Confederates: 1		
	Sim Techs: 1		

Scenario Development	
Date of Development:	March 31, 2020
Scenario Developer(s):	Dr. Jeanne Macleod
Affiliations/Institutions(s):	St Paul's Hospital



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Section 5: Scenario Progression

Scenario States, Modifiers and Triggers

Patient State/Vitals	Patient Status	Learner Actions, Modifiers & Triggers to Move to Next State		Facilitator Notes
1. Baseline State Rhythm: sinus tach HR: 123 BP: 100/50 RR: 30 O ₂ SAT: 85% (1L NP) T: 38.5°C GCS: 14	PT is mildly confused. He is speaking in two word sentences and show signs of respiratory distress	<u>Expected Actions</u> <u>MOVE DIRECT TO NEGATIVE PRESSURE ROOM- DON ALL NECESSARY PPE- INITIALLY CONTACT DROPLET PRECAUTIONS</u> Perform focused history & PE Initiate resuscitative measures (IV, O ₂ , monitors) Ask for appropriate lab work Ask for ECG/PERFORM POCUS Check cap glucose Recognize respiratory failure. PORTABLE CXR Trial of just inhalers- NO NEBS Plan for ventilatory support	<u>Modifiers</u> <i>Changes to patient condition based on learner action</i> - If does give supplemental O ₂ , the patients O ₂ sats continue to decrease to 82% on 1 litre. <u>Triggers</u> <i>For progression to next state</i> - Actions complete or 6 min	<u>Can NOT use nebulizers.</u> <u>All Health care workers need to be in droplet precautions including lab, x-ray and ECG techs.</u> <u>Mask on patient with nasal prongs behind mask.</u> <u>ICU team will be notified- IMMEDIATELY</u>



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<p>2. Resp failure Rhythm: sinus tach HR: 130 BP: 100/50 RR: 28 O₂SAT: 90% NRB- WITH HEPA FILTER AT 10-15L/MIN IS NOT CONSIDERED AEROSLIZING T: 38.5°C GCS: 14</p>	<p>Sats improve but pt remains dyspneic and tachypneic</p>	<p><u>Expected Actions</u> Identify ARDS on CXR/POCUS Recognize that instability of patient and call Sr resident/staff Discuss NIPPV (only if able to isolate patient and negative pressure room) and call RT. If start NIPPV all health team members need to be in PPE appropriate for airborne precautions. Recognize shock, start broad spectrum abx (CEFTRIAX-ONE/AZITHROMYCIN) Resuscitate w 2L crystalloid MAX</p> <p>- Consider vasopressors EARLY-phenylephrine/norepinephrine drip</p>	<p><u>Modifiers</u> - BP will decline to 80/40 if no fluids given- consider inotropes early. - Sats drop to 85% if no NRB</p> <p><u>Triggers</u> - All actions complete or 10 minutes</p>	<p><u>NO NIPPV if no negative pressure room or</u> <u>NO HFNC- High Flow nasal Cannula if no negative pressure room available.</u></p>
<p>3. Respiratory Failure Rhythm: sinus tach HR: 140 BP: 80/50 RR: 30 O₂SAT: 84% T: 38.5°C GCS: 11</p>	<p>Patient increased respiratory failure with decreased LOC</p>	<p><u>Expected Actions</u> Prepare for intubation Intubate with RSI. KETAMINE 100MG/ROCURONIUM 100MG, WAIT 45SECS FOR ROCURONIUM TO TAKE EFFECT.</p> <p>Attempt at optimization of BP prior to intubation.</p>	<p><u>Modifiers</u></p> <p><u>Triggers</u> - Discuss with ICU on how to transfer</p>	<p><u>DURING INTUBATION minimize number of people in the room.- 3 MAX AND HAVE RN STEP AWAY.</u></p> <p><u>Switch to airborne precautions to all those in room during intubation.</u></p> <p><u>USE AIRWAY CHECKLIST TO MAKE SURE ALL NECESSARY EQUIPMENT</u></p>



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		<p>VL preferred Avoid Bagging- place Bag valve mask with 15L/Min with good seal to preoxygenate.</p> <p>POST SEDATION DRIP PREPARED IMMEDIATELY WITH PROPOFOL. 50mcg/kg/min.</p>		<p><u>IN ROOM. VERBALIZE ALL 3 PLANS INCLUDING 2 BACK UPS.</u></p> <p><u>ENSURE ALL CONTAMINATED EQUIPMENT IS PROPERLY SEALED IN BIOHAZARD BAGS.</u></p> <p><u>PROPER DOFFING IS CRUCIAL</u></p>
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Appendix C: Facilitator Cheat Sheet & Debriefing Tips

Include key errors to watch for and common challenges with the case. List issues expected to be part of the debriefing discussion. Supplemental information regarding any relevant pathophysiology, guidelines, or management information that may be reviewed during debriefing should be provided for facilitators to have as a reference.

Challenges:

- Identifying possible cases of COVID in the general public
- Early Infection Control Strategy of quick recognition/early isolation of patient with the immediate placement of mask on patient and appropriate PPE for health care workers.
- Isolation of family members
- Management of number of team members exposed to AGMP- aerosolized generating medical procedures.

Debrief Discussion:

- Differential diagnosis of respiratory distress still don't forget common causes of Respiratory failure- pneumonia/pneumothorax/acute MI/CHF
- Challenges of PPE/Donning/Doffing

References

1. Practical recommendations for critical care and anesthesiology teams caring for 2019-nCoV patients. Can J of Anesthesia. R Wax and M Christan. Online Feb 12, 2020 <https://doi.org/10.1007/s12630-020-1591-x>
2. Epidemiological and Clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. The Lancet Chen et al. Online Jan 30, 2020 [https://doi.org/10.1016/S0140-6736\(20\)30211-7](https://doi.org/10.1016/S0140-6736(20)30211-7)
3. Clinical Management of severe acute respiratory infection when 2019-nCoV infection is suspected: Interim Guidance Jan 28, 2020

