

COVID-19 Simulation Case – Diagnosis and Management

<p>SIMULATION CASE TITLE: A Stable Patient with Suspected COVID-19</p> <p>Adapted from: EMSimCases Updated: March 17, 2020</p>	
<p>PATIENT NAME: [****] PATIENT AGE: 32 years</p> <p>CHIEF COMPLAINT: Fever, myalgias, cough</p>	
<p>Brief Description of Case</p>	<p>A 32-year-old healthy patient returned from a business trip in [**international location**] last week. Over the last 3 days, she/he has developed fever, myalgias as well as cough and congestion. She/he has now presented to your ambulatory care clinic.</p> <p>The goal of the case will be to recognize the need to isolate/separate a stable, ambulatory patient and use appropriate PPE, while assessing and managing the patient’s illness. The case is in an outpatient/ambulatory setting such as a general practice clinic or urgent care. The case also reviews provider decision-making regarding home care and isolation for potential COVID-19 patients.</p>
<p>Educational Goal</p>	<p>Examine the processes around identification of infectious presentations requiring isolation and advanced infection control procedures, as well as use of personal protective equipment (PPE), and understand indications for home management of COVID-19.</p>
<p>Learning Objectives</p>	<ol style="list-style-type: none"> 1) Early recognition of infectious symptoms suspicious for COVID-19 in a returning traveler and the need for infection control procedures. 2) Appropriate use of PPE and donning and doffing procedures, in accordance with local guidelines. 3) Use of an isolation or separate room when available, in accordance with local resources/guidelines. 4) Correct procedure for testing/swabbing suspected COVID-19 patient and laboratory testing for COVID-19. 5) Indications for home management / self-isolation for stable patients with potential COVID-19.

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In the case of COVID-19 and other novel infectious diseases, guidelines are distributed that often present a challenge for frontline staff because they are both different from usual procedures and rapidly evolving.

This case should be run with local guidelines in mind and may include a diverse group of stakeholders (front-line workers such as nurses, physicians, laboratory staff, infection prevention and control, general practitioners, emergency care and infectious disease specialists and administrators).

Simulation Materials and Set-Up
A. Patient
Standardized patient
B. Staff
Physician Nurse <i>Observer for PPE donning/doffing (optional), following local practices</i>
C. Special Equipment Required
Isolation room or separate designated area for suspected COVID-19 patients, according to your local resources/guidelines
PPE for all involved, following local guidelines and resource availability: surgical face mask, goggles or face shield, gown (disposable or reusable), gloves
Donning/doffing area (or place tape on the floor to designate donning/doffing area)
D. Other Supplies
Nasopharyngeal Swabs and Test Kits for COVID-19 testing, following local resources and guidelines

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INITIAL PRESENTATION			
Initial vital signs	HR: 100, RR: 16, BP:130/75, O2 96%, Temp: 38.6		
Overall Appearance	Alert, coughing intermittently, speaking in full sentences		
Actors and roles in the room at case start	<p>Roles: Standardized patient Nurse <i>Observer (optional)</i></p> <p>Standardized patient (SP) is to arrive at triage/reception area coughing and febrile, however without any respiratory distress. SP is to describe travel history: She/he was in [**international location**] last week for a business trip. She/he returned two days ago and became ill 24 hours after arrival home.</p>		
HPI	<p>32-year-old patient has returned from a business trip in [**international location**] last week. Over the last 48h, she/he has developed fever, cough, myalgias as well as nausea, diarrhea and sore throat. Hasn't taken any antipyretics today. No diarrhea. No shortness of breath.</p>		
Past Medical/Surgical History	Medications	Allergies	Family/social History
None.	None.	Penicillin.	Non-smoker. No alcohol/substance use.
Physical Examination			
<p>General - Fatigued, but in no acute distress, coughing intermittently Eyes - Normal ENT/Neck – Nasal congestion. Handling secretions without problem. No tonsillar exudates Cardiovascular – heart rate Regular, no m/r/g Lungs – Clear lungs bilaterally Skin – Warm Abdomen – Soft, non-tender Extremities - No edema Musculo Skeletal – Normal Neurological – Alert and oriented x 3, CN 2-12 grossly intact.</p>			

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SCENARIO TRIGGERS AND PROGRESSION		
Patient State	Trigger/Learner Action	Progression
<p>State 1: Initial Presentation Rhythm: Sinus rhythm HR: 100/min BP: 130/75 RR: 16/min O₂SAT: 96 % T: 38.6°C</p>	<p><u>Expected Learner Actions</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Nurse triages patient (brief Hx&Px) <input type="checkbox"/> Respiratory illness and travel screening <input type="checkbox"/> Perform vitals <input type="checkbox"/> Have patient wear a mask <input type="checkbox"/> Move patient to isolation room or separate/designated room 	<p><u>Modifiers</u> <i>Changes to patient condition based on learner action</i></p> <p><u>Triggers</u> <i>For progression to next state</i> Patient moved to room → 2. Isolation or separate/designated room, following local guidelines</p>
<p>State 2: Unchanged</p>	<p><u>Expected Learner Actions</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Nurse dons appropriate PPE <input type="checkbox"/> Brief History & Physical <input type="checkbox"/> Notify MD <input type="checkbox"/> Doff PPE on exit of room 	<p><u>Modifiers</u></p> <p><u>Triggers</u> Don and doff PPE appropriately</p> <p>MD arrival → 3. MD Assessment</p>
<p>State 3: Unchanged</p>	<p><u>Expected Learner Actions</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> MD dons appropriate PPE <input type="checkbox"/> History and Physical <input type="checkbox"/> CXR (Portable) if available <input type="checkbox"/> Bloodwork (incl Cultures) if available <input type="checkbox"/> Provide anti-pyretic (paracetamol, ibuprofen, etc.) <input type="checkbox"/> Contact Infection Prevention and Control (IPC) or local authority re: swabs/work up following local protocols 	<p><u>Modifiers</u></p> <p>If patient given anti-pyretic, fever resolves and patient reports feeling improved</p> <p><u>Triggers</u> Don PPE appropriately</p> <p>Obtain lab tests or diagnostic testing in accordance with local resources/guidelines</p> <p>ID/Infection control contacted → 4. Specimen Collection</p>
<p>State 4: Rhythm: Sinus rhythm HR: 90/min BP: 130/75 RR: 18/min O₂SAT: 96 % T: 37.4°C</p>	<p><u>Expected Learner Actions</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Collect nasal swab for testing for COVID-19 <input type="checkbox"/> Complete any required paperwork and send specimens to appropriate location 	<p><u>Triggers</u> COVID-19 testing specimens collected and sent to laboratory following local guidelines → 5. Evaluation for home management</p>

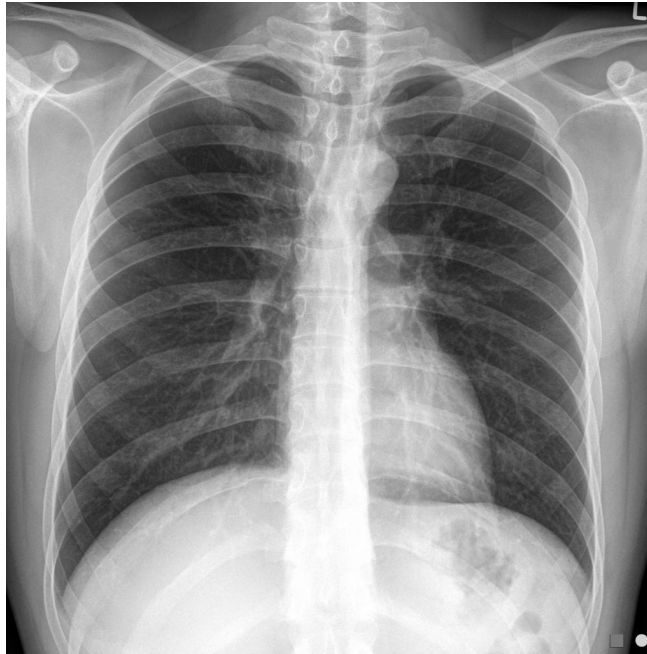
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<p>State 5: Unchanged</p>	<p><input type="checkbox"/> Assess patient for ability for home care using local IPC recommendations for home management of patient versus transfer to other healthcare facility</p> <p><input type="checkbox"/> Doff (remove) all PPE</p> <p><input type="checkbox"/> Dispose of PPE or follow local guidelines for safe reuse of PPE</p>	<p><u>Triggers</u> Proper doffing of PPE performed</p> <p>Evaluate patient’s ability to self-isolate, obtaining contact information for follow-up → 6. Patient Education</p>
<p>State 6: Unchanged</p>	<p><input type="checkbox"/> Educate patient on home isolation and home care</p> <p><input type="checkbox"/> Ensure patient understands home care and isolation precautions</p>	<p><u>Triggers</u> Provide education to patient on home care, return precautions, need for isolation → END CASE</p>

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SUPPORTING DOCUMENTS AND MEDIA	
Labs	Pending (if asked, report “the laboratory reports they are having delays and do not have the results yet)
Imaging	CXR (if typically available at your facility) *** If your facility does not have access to chest x-ray, you can simply leave out any references regarding ordering/interpreting radiographs ***

CXR

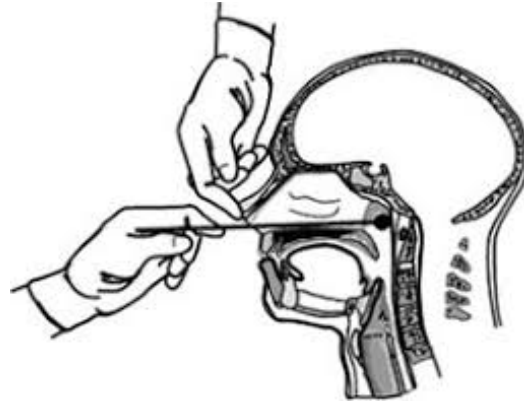


<https://radiopaedia.org/cases/normal-cxr>

Nasopharyngeal Specimen Collection Technique

- Label tube of collection containing legibly with the patient’s name and date of birth, or medical record number
- Use the flexible shaft NP swab provided to collect the specimen.
- Have the patient blow their nose and then check for obstructions.
- Tilt the patient’s head back 70 degrees & insert the swab into nostril parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from nostrils to outer opening of patient’s ear indicating contact with nasopharynx. Leave swab in place for several seconds to absorb secretions. Slowly remove the swab while rotating it.

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SOURCE: RHODE ISLAND DEPARTMENT OF HEALTH 1



SOURCE: NEJM PROCEDURES 1

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Debriefing Guide	
Debriefing Phase	Suggested questions/phrases
Transition into the debriefing:	We moved through that scenario very quickly. Let's talk about how things went.
Gather: Review facts of the case that just occurred.	<ul style="list-style-type: none"> • This was a patient with probable COVID-19 infection, can you describe your screening assessment for COVID-19? • What happened when the patient screened-in for potential COVID-19? • Were there any avoidable instances where the patient may have transmitted COVID-19 to the healthcare staff? • What was the procedure regarding ordering laboratory testing for COVID-19?
Analyze: Ask questions to understand learner thought process.	<ul style="list-style-type: none"> • What went well in this scenario? What could be improved? • Let's review the options for patient care from the ambulatory setting (home care, transfer to higher-level of care). How would you make these decisions in your facility? • What were the key messages you want to deliver to your patients when recommending home management of COVID-19? • What unanswered questions do you have about this type of patient presentation?
Summarize: What are the takehome points?	<ul style="list-style-type: none"> • What are the take home points? • If you did this simulation again, is there anything you would do differently?

Some Additional Questions to Explore during the Debrief

- How do we use PPE to keep providers safe? How do we effectively use the PPE?
- How do we keep other patients safe?
- What space will we use to care for the patient? How is this cleaned?
- What are some high-risk activities to be aware of?
- What are the policies on bringing equipment in and out of the room?
- Who needs to be notified/consulted in this case?
- How do we find the most up-to-date policies and procedures?