

### Suspected Corona Virus Patient Case Study

#### TRIAGE

<b>Date: Today    Time: Now</b>					
Patient Name: Ms. Grace Yi		Age: 35	Gender: F	Weight: 60kg	
Presenting complaint: Shortness of breath, cough, fever					
Temp: 39.2	HR: 140	BP: 100/60	RR: 22	O <sub>2</sub> Sat: 90%	FiO <sub>2</sub> : RA
Cap glucose: 130			GCS: 15		
Triage note:  35-year-old woman became febrile last night with coryza and woke up acutely short of breath with productive cough, rhinorrhea, and a subjective fever.					
Allergies: None					
Past Medical History: None			Current Medications: Ibuprofen 600mg q 6 hours PRN Acetaminophen 500 mg q 4 hours PRN		

**Task Alert:**

Review a COVID-19 screening tool: <https://www.chop.edu/clinical-pathway/2019-novel-coronavirus-emergency-clinical-pathway>

**What questions would be important to ask this patient?**

- When did the onset of symptoms begin?
- What is the duration of SOB? Consistent? Or inconsistent?
- Characteristics of cough?
- What aggravates cough or SOB?
- What relieves the symptoms?
- Have you taken medications OTC or prescribed?
- How severe is the sx?
- Recent travel outside the country within the last 14 days?
- Do you live alone or with Family?
- Have you been in close contact with family, friends, or coworkers?
- If, yes do they exhibit similar symptoms?

## Extra Patient Information

### A. Further History

*She has traveled from China a week ago because she was visiting family.*

She also has seasonal allergies.

### B. Physical Exam

*List any pertinent positive and negative findings*

Cardio: Tachycardia

Neuro: WNL

Resp: Crepitus and expiratory wheezes bilaterally,  
productive cough

Head & Neck: Coryza

Abdo: WNL

MSK/skin: Flushed

Other: She feels very weak and tired

**She screens positive for potential coronavirus exposure due to fever, respiratory symptoms and a high-risk travel history.**

**What signs and symptoms are most concerning?**

According to the initial physical assessment, the client has a low level of oxygen saturation level that potentially could go lower if not corrected. The client also has crepitus and bilateral expiratory wheezing that indicates narrowing of the airway that needs to be reported and corrected. Additionally, Tachycardia should be corrected to avoid overworking of the heart.

**Explain the significance of these signs and symptoms.**

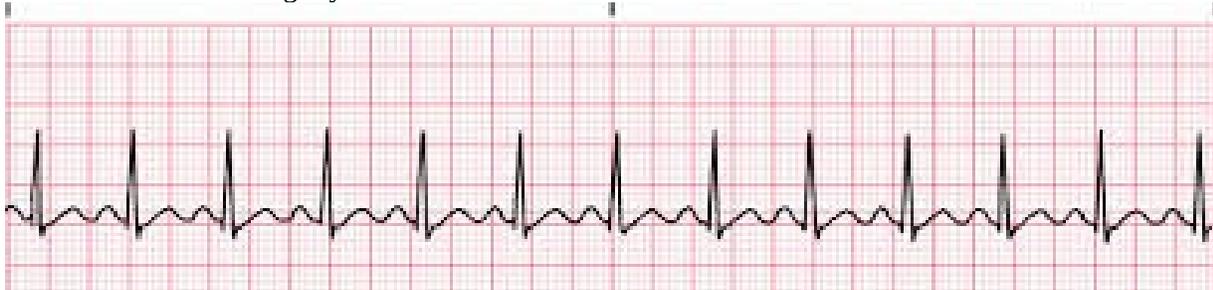
Identifying what needs to be prioritized by using ABC method is beneficial for this client. Wheezing that is caused by inflamed and narrowed airways and causes shortness of breath, can impair oxygen flow and could result in hypoxia and hypoxemia.

**What type of isolation precautions should this patient have?**

Confirm COVID-19 diagnosis should be in airborne isolation.

## Emergency Room: Part 2 Time: 2 hours later

You notice the following rhythm:



**What rhythm is this patient experiencing?**

The rhythm that the client is exhibiting is Sinus Tachycardia.

**Before you go into assess the patient describe what PPE you will use:**

Airborne isolation requires the healthcare provider to wear PPE such as respirator mask that are fitted for each worker, face shield or eye protectant, gloves, gown, and shoe cover.

Now you are in the patient's room and notice the following changes:

Patient is experiencing worsening shortness of breath with RR: 28 and O<sub>2</sub>SAT: 84%. You work with the healthcare team to complete the following orders:

Apply O<sub>2</sub> by NRB mask  
Portable chest Xray, BMP, CBC, ECG

### **Task Alert:**

**1) Review the chest x-ray results here: <https://emsimcases.com/2020/02/18/suspected-covid-19/>**

Results indicate bilateral pneumonia.

**2) Create a set of lab values based on what you might expect to see:**

CBC: WBCs, RBCs, H/H, etc.

BMP: Na, K<sup>+</sup>, Ca<sup>+</sup>, etc.

Other Labs?

CBC:

WBC: 13,000/mm<sup>3</sup>

RBC: 6.2 u

Platelet: 12%

Hemoglobin: 41%

Luekocytes: 24%  
Lyphocytes: 35%  
Neutrophils: 38%  
Platelets: 12%

**BMP:**

Na: 5.8  
K+: 130  
Ca+: 8.5  
LDH: 30%  
ALT: 12%  
AST: 18%  
Bili : 2.7%  
Albumin : 6%

**Coagulation :**

D-dimer: 36%  
PT: 5%  
aPTT: 6%  
Lymphopenia

**Inflammation:**

CRP: 86%  
ESR: 85%  
Procalcitonin 6%

**3) How would you know if the non-rebreather mask is working?**

The non-rebreather mask works if the client's LOC, oxygenation, and respiratory status is improving. Signs and symptoms of hypoxia will not show.

**Emergency Room: Part 3 Time: 15 minutes later**

O<sub>2</sub>Sat increases to 90% with supplemental O<sub>2</sub>  
Swabs for flu and coronavirus are sent

**The patient will transfer to ICU. Write Report in SBAR frame you would give to the ICU RN.**

**S (Situation):**

Patient came on 3/23 for possible COVID-19 diagnosis. She presented SOB fever with an initial temp of 39.2, HR and RR is elevated with O<sub>2</sub> sat of 92. B/P is WNL. She also complains of coryza, productive cough, and rhinorrhea. She takes Ibuprofen and Acetaminophen.

**B (Background):**

One week ago, she traveled and visited her family in China.

**A (Assessment):**

Patient has NKA to medication but has seasonal allergies. Findings upon physical exam is as follows: Alert and oriented, feels weak and tired, Tachycardic, bilateral expiratory wheezes noted, productive cough, skin flushed.

Lab: Glucose is 130 upon ED arrival. CXR indicates pneumonia bilateral.  
There are pending Lab results for flu and covid-19.

**R (Recommendations):**

Covid-19 Isolation, continuation of medication and oxygen therapy, HOB elevated at least 30 deg.

**ICU Room: Part 4 Time: 1 hour later**

**You complete an assessment**

<b>Vitals:</b> T: 38.6 BP: 88/50 Pulse: 130 RR: 30 O <sub>2</sub> SAT: 86% NRB	<b>Focused Assessment:</b> Patient becoming more hypoxic, agitated. Pale, cool clammy skin	<u>What actions should you take next? Make a check list below</u> <ul style="list-style-type: none"><li>• <u>Notify the provider about the assessment findings</u></li><li>• <u>Obtain orders</u></li><li>• <u>Establish IV access</u></li><li>• <u>Administer medication and IV fluids</u></li><li>• <u>Reassess the status of the client after 15 mins</u></li></ul>
---	--	--

**Task Alert:**

Complete the QSOFA Score found here <https://www.mdcalc.com/qsofa-quick-sofa-score-sepsis>

What are your findings?

The score finding suggests that there is a suspected infection. The client should be monitored frequently for organ dysfunction. Including serum lactate with blood testing is beneficial. The QSOFA Score can also indicate Sepsis.

**You call a code sepsis. What actions do you expect next?**

- Notify the provider about the assessment findings
- Obtain orders
- Establish IV access
- Administer medication and IV fluids
- Reassess the status of the client after 15 mins

While the team is providing care for the patient, the patient's sister comes into the room upset and wanting to know what happened. Describe how you would handle the situation.

Without violating HIPAA and assuming the sister is allowed to receive health information about the client, the nurse should offer support and explain what happened to the client including the diagnosis, the plan of care, intervention, and medications. Be present and available should questions arise. Provide a translator if needed.

**ICU Room: Part 5 Time: 15 minutes later**

You must complete the following actions. What order will you complete these interventions. Place them in order of priority highest to lowest.

Interventions:	Prioritized Interventions
<ul style="list-style-type: none"><li>• Start Levophed drip</li></ul>	Administer NS Fluid Bolus
<ul style="list-style-type: none"><li>• Administer a Normal saline fluid bolus</li></ul>	Start the Levophed drip
<ul style="list-style-type: none"><li>• Assist with intubation</li></ul>	Assist with intubation
<ul style="list-style-type: none"><li>• Call the laboratory to draw blood cultures</li></ul>	Call the lab to draw blood cultures

**Task Alert:**

Calculate the rate (ml/hr) for the Levophed drip. The order is to give 4mcg/min. The pharmacist prepares a bag of Levophed with 4 mg/250 ml.

$$\text{ml/hr} = 250\text{ml}/4\text{mg} \times 1\text{mg}/1000\text{mcg} \times 4\text{mcg}/1 \text{ min} \times 60 \text{ min}/1\text{hr} = 15 \text{ ml/hr.}$$

The Levophed drip is set to infuse at 15 mL/hr

**ICU Room: Part 6 Time: 2 hours later**

**You complete an assessment**

<b>Vitals:</b> T: 37.4 BP: 110/70 Pulse: 90 RR: 14 O <sub>2</sub> SAT: 92% (Vented 100% FiO <sub>2</sub> )	<b>Focused Assessment:</b> Patient is sedated, course lung sound present throughout, secretions thick with yellowish hue	<u>ABG's noted below.</u> <ul style="list-style-type: none"><li>• pH- 7.34</li><li>• CO<sub>2</sub>- 35</li><li>• HCO<sub>3</sub>-18</li><li>• pO<sub>2</sub>- 200</li></ul>
--	---	--

What's the significance of the assessment?

The medical intervention of Levophed at 15 mL/hr and IV fluid bolus helped increase the BP, Temp, PR and RR is back to normal. The O<sub>2</sub> level is slightly low at 92% but not critically low. ABG shows metabolic acidosis that has slightly acidic pH, hyperventilation is showing.

Any recommendations for treatments not currently being given?

Follow nursing intervention to thin secretions, cough and breathe.

Use incentive spirometer to facilitate lung expansion.

Treat metabolic acidosis.

Elevate the head of the bed at least 30 degrees.

IV bolus should be continued.

Treatment to balance acid and base.

Antibiotic treatment for pneumonia.

**Follow up considerations:**

- 1) Identify potential exposed persons, nature of exposure and discuss necessary actions

Ask the client if she lives alone or with family. If so, notify them and report any signs and symptoms of covid-19. Refrain from close contact with other individuals until covid 19 is ruled out.

- 2) What are next steps for individuals who may have been inadvertently exposed?

For the individuals who have been potentially exposed, monitor symptoms, if symptoms are showing, seek care immediately. Follow the treatment plan, rest, drink plenty of fluids, follow the CDC guideline for isolation, eat healthy, contact the public health department about the positive test for tracing.

- 3) Discuss potential risk factors involved with the care of this patient

There is a high risk for potential transmission of the disease if the proper isolation protocol is not followed. It is optimal that the client should have a designated care staff, but almost unachievable in a hospital setting.

- 4) Discuss legal ethical considerations that you might consider in caring for this patient

In the height of the pandemic in 2020, there was a shortage of PPE that was available this has discouraged the healthcare workers from coming to work. Eventually, healthcare workers experienced burnout from the surge of patients, short staffing, and taking care of high acuity patients.

**ICU Room: Part 7 Time: 5 days later**

**The patient is doing much better, so you the nurse are preparing for the patient for discharge.**

**Review the COVID-19 Fact Sheet for Nurses pdf document and prepare to educate the patient using the prompts below.**

Patient education

1) Choose 3 points under the patient teaching sections general and/or discharge planning

- \* Follow the CDC guidelines on washing hands properly
- \* Cover your nose when coughing or sneezing
- \* Follow a healthy diet, especially food that can boost the immune system.

2) What will you share with the patient regarding these 3 points?

Not washing hands properly is important because if hands are not washed correctly there still is a possibility of transmitting or receiving diseases. The same idea goes with covering the nose and mouth when sneezing-that it can be passed to someone who is close to you. A diet that can help the immune system are foods such as citrus foods, broccoli, spinach, etc.

3) Consider any visuals or other resources you might use to demonstrate and teach regarding these 3 points.

Why You Should Cover Your Cough (and Sneezes):

<https://www.verywellhealth.com/why-you-should-cover-your-cough-770726>

Keeping Hands Clean:

<https://www.cdc.gov/hygiene/personal-hygiene/hands.html#:~:text=Follow%20Five%20Steps%20to%20Wash%20Your%20Hands%20the%20Right%20Way&text=Wet%20your%20hands%20with%20clean,for%20at%20least%2020%20seconds.>

15 Foods That Boost the Immune System:

<https://www.healthline.com/health/food-nutrition/foods-that-boost-the-immune-system>

4) What questions do you anticipate the patient might have once you provide teaching?

Questions that may arise include:

#1 When should I wash my hands?

#2 What kind of diet can I try to boost my immune system?

5) How will you answer these questions?

Answer to #1:

Washing hands are recommended before, during, and after preparing or eating food, before and after caring for someone at home who is sick with vomiting or diarrhea, before and after treating a cut or wound, after using the toilet, after changing diapers or cleaning up a child who has used the toilet, after blowing your nose, coughing, or sneezing, after touching an animal, animal feed, or animal waste, after handling pet food or pet, and after touching garbage. These are all per CDC guidelines,

Answer to #2:

Mediterranean diet which is based on vegetables, fruits, lean proteins, and whole grains.