

Suspected Corona Virus Patient Case Study

TRIAGE

Date: Today Time: Now					
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 ₂ Sat: 90%	FiO ₂ : 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?

- Have you experienced loss of taste or smell? (According to the CDC, smell and taste are the very first symptoms an infected person will lose).
- Have you traveled outside of the United States in the past months? If yes, where in particular?
- Have you been exposed to anyone with COVID or symptoms of COVID?
- Have you been sick since you returned from that trip? If yes, how long did you have the symptoms?
- Did you take anything for your symptoms?
- Did the symptoms get worse or better?
- Do you live alone or with anyone? If you live with somebody, do they have the same 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?

- **The most concerning symptoms are pt having trouble breathing.**
- **Pale, gray, or blue-colored skin, lips, or nail beds depending on skin tone.**
- **fever**
- **confusion**

Explain the significance of these signs and symptoms.

- **A fever could mean infection**
- **Pale, gray, or blue colored skin, lips, or nail beds depending on the skin tone could mean the pt is cyanotic.**
- **Some confusion could the virus is entering the brain, having signs of delirium.**
- **Trouble breathing could indicate there being some respiratory issues.**

What type of isolation precautions should this patient have?

Avoid those in your household who have not tested positive: sleep and stay in a separate room from them. Use separate bathrooms if possible.

The CDC protocol dictates to put the client in a negative pressure airborne isolation for suspected COVID with healthcare workers to put on full PPE (N95, gloves, gown, and face shields) when encountering the client.

Emergency Room: Part 2 Time: 2 hours later

You notice the following rhythm:



What rhythm is this patient experiencing?

The client is experiencing Sinus Tachycardia with 130 bpm.

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

The PPE to be used are fitted N95 respirator mask, gloves, gown, and face shield.

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

Patient is experiencing worsening shortness of breath with RR: 28 and O₂SAT: 84%. You work with the healthcare team to complete the following orders:

Apply O₂ 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

WBC: 15,000/mm³

RBC: 5.9 units

Hct: 48%

Hgb: 17%

Neutrophils: 80%

Lymphocytes: 50%

Monocytes: 1.3%

Eosinophils: 4%

Basophils: 0.5%

CRP: >3.0 mg/L
Blood Culture
& Sensitivity Positive

BMP (Chem7)
Potassium: 5.5 mEq/L
Chloride: 110 mEq/L
Calcium: 9.5 mg/dL
CO₂: 18 mEq/L
BUN: 15 mg/dL
Creatinine: 0.7 mg/dL
Glucose: 125 mg/dL

ABG
pH: 7.2
CO₂ : 50
HCO₃ : 25
SaO₂ : 84%

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

The non-rebreather mask is working if the client's SaO₂ improves from 84% to the normal range of >90%. The client will show no change in level of consciousness, like lethargy or confusion.

Emergency Room: Part 3 Time: 15 minutes later

O₂Sat increases to 90% with supplemental O₂
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):

Hi, I'm Shanique, an ER nurse. I'm phoning regarding the patient Grace Yi. Ms. Yi, a female 35-year-old weighing 60 kg, arrived to the emergency room three hours ago with fever, coryza, SOB with productive cough, and rhinorrhea.

B (Background):

Ms. Yi recently returned after visiting China. The client has been swabbed for influenza and COVID-19; results are awaited. While awaiting the findings of swabs, the patient is under airborne isolation. Due to bilateral pneumonia and developing SOB symptoms, including hypoxia, tachycardia, and fever, the patient is being brought to the intensive care unit (ICU). BMP, CBC, ABG, and blood culture tests were requested. The charts for the client show the results. The patient's non-rebreather mask is currently 90% saturated. The latest recorded vital signs for Ms. Yi are: temperature 39.2 oC, blood pressure 100/60, heart rate 130, GCS 15, respiration rate 28, blood sugar 130, and respiratory acidosis in the ABG. For pain, the client indicated taking 500mg of acetaminophen and 600mg of ibuprofen orally.

A (Assessment):

Ms. Yi needs to be transferred to critical care for close monitoring and to avoid further deterioration.

R (Recommendations):

I advise a lung consult, an infectious disease consult, daily hematological tests, blood chemistry checks, and more blood cultures after 24 hours. Until the swab results are in, keep the client in airborne isolation. Follow the doctor's instructions until critical care experts take over.

Check to see if the provider has any questions before parting ways.

ICU Room: Part 4 Time: 1 hour later

You complete an assessment

Vitals: T: 38.6 BP: 88/50 Pulse: 130 RR: 30 O ₂ SAT: 86% NRB	Focused Assessment: 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">• <u>Activate rapid response team!</u>• <u>Activate the sepsis protocol!</u>
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Task Alert:

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

What are your findings?

The qSOFA score for the client is 3, which puts her at a High Risk for evidence of organ dysfunction with blood testing, including serum lactate and calculation of the full SOFA Score.

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

The members of the rapid response team include the house officer, critical care specialists, a STAT nurse (a Carle Registered Nurse whose sole responsibility is to respond to rapid responses in the hospital), respiratory therapists, radiology technicians with portable x-ray machines, phlebotomists, a floor nurse with the code cart, another floor nurse using the computer, and several hospitalists and interns. For the airborne isolation protocol, everyone should be wearing the correct PPE. As part of the sepsis procedure, phlebotomists will draw the necessary lab tests and a VBG (venous blood gas) for RT to measure the patient's serum lactic acid levels. Expect doctors to order IV hydration bolus and medicines. All additional diagnostic procedures that they require from other members of the multidisciplinary team.

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.

As the nurse in charge of the patient, I shall introduce myself and ask for the sister's name when I see her. This is done in order to build confidence with the client's sister. I will kindly ask the sister to talk about the problem in a private space as a form of therapy. I'll clarify the problem once we're in the room. I'll begin with the situation chronologically and speak in a composed manner. "Your sister visited the

emergency room a few hours earlier due to illness. To safeguard her and the caregivers, we placed her in airborne isolation. In order to figure out how we can make her feel better, we are giving her medications and doing tests. She is being intensively watched in the critical care unit. As you entered the room, you saw the rapid response team making sure she got the finest care possible. Since arriving at our facility, she has become more ill. Once we decide what to do, we'll keep you informed. As soon as they are finished in there, I will have the provider speak with you. can I get you anything while you wait?

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"> • Start Levophed drip • Administer a Normal saline fluid bolus • Assist with intubation • Call the laboratory to draw blood cultures 	3. Give vasopressors if BP does not improve after IV fluid bolus.
	2. The client needs an IV fluid bolus to restore fluid volume and help cardiac output.
	4. Maintain airway when the client's condition does not improve.
	1. The client is in septic shock and needs blood cultures before administering IV antibiotics.

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.

$ml/hr = 250ml/4mg \times 4mcg/1 \text{ min} \times 1mg/1000mcg \times 60 \text{ min}/ 1hr = 15 \text{ ml/hr}.$
Set the pump to infuse at 15 ml/hr.

ICU Room: Part 6 Time: 2 hours later

You complete an assessment

Vitals: T: 37.4 BP: 110/70 Pulse: 90 RR: 14 O ₂ SAT: 92% (Vented 100% FiO ₂)	Focused Assessment: 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"> • pH- 7.34 • CO₂- 35 • HCO₃-18 • pO₂- 200
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What's the significance of the assessment?

The previous interventions of IV fluid bolus and Levophed administration restored the client's BP and helped lower the PR and RR. The ABG result signifies an Uncompensated Metabolic Acidosis.

Any recommendations for treatments not currently being given?

In the client's situation, the IV fluid bolus should be continued, and sodium bicarbonate should be administered intravenously to help balance the acid in her blood and restore the acid-base balance. Continue administering IV antibiotics for the bilateral pneumonia as well.

Follow up considerations:

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

According to CDC protocol, the people the client exposed herself to will be tracked down through contact information. The client's family members will be required to undergo a COVID-19 swab, and they will be recommended to quarantine themselves until the swabs' results are known.

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

The exposed individuals will be watched after and tested for COVID-19 symptoms. Some patients, however, won't even have the minor symptoms, and they should still remain in isolation to prevent spreading the illness to others. Swabs taken from patients who test positive should be treated for their symptoms until the virus has run its complete course. Those who test negative will be encouraged to obtain a series of COVID-19 vaccination shots to protect themselves. The COVID-19 vaccine provides some protection against contracting the disease, not immunity.

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

Risk factors for the client include worsening of bilateral pneumonia or possibly death. For healthcare professionals, the risk factors of contracting COVID-19 infection are also high, even when strict protocols are followed.

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

It is a nurse's moral and legal duty to tend to ill patients. Despite the high risk of catching COVID-19 and becoming infected, it is our duty as nurses to respect ethical standards. Nurses have to make difficult choices about whether to risk their lives providing care on the front lines or give up their careers when the pandemic broke out and there were no medicines available. To uphold their oath of duty and professionalism, millions of nurses across the globe accepted the challenge, stayed with their clients, and sacrificed themselves and their families despite the difficulties.

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

- Have a COVID-19 Plan to help stop the spread of the virus.
- How to isolate and take precautions if you are suspected of contracting COVID-19.
- How to manage COVID-19 symptoms if infected.

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

1. Have a COVID-19 Plan to help stop the spread of the virus.

- How to start planning for COVID-19
- How to take precautions
- How to recognize COVID-19 symptoms
- How to check for emergency warning signs for COVID-19
- What, where, when, who, and how to look for resources

2. How to isolate and take precautions if you are suspected of contracting COVID-19.

- Isolation
- Ending Isolation
- After Isolation

3. How to manage COVID-19 symptoms if infected.

- 10 Things to do to manage COVID-19 symptoms

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

The following websites are the official COVID-19 resources approved and certified by the US government. These are also being used as dependable resources globally.

- [COVID.gov](https://www.covid.gov) - Find COVID-19 guidance for your community
- [About COVID-19 | CDC](https://www.cdc.gov/about-covid-19/)
- [Vaccines for COVID-19 | CDC](https://www.cdc.gov/vaccines/imz/ad/covid19/)

Here are some of the visuals available for free to print and share with everyone from the CDC website.

1. Have a COVID-19 Plan to help stop the spread of the virus.

COVID-19 Plan

Tools, information, and action steps to share with your family, friends, and healthcare provider

Start your personal COVID-19 plan

Talk with your healthcare provider about whether you are at high risk of getting very sick from COVID-19.

- People who are more likely to get very sick include older adults (ages 50 years or more, with risk increasing with age), people who are immunocompromised, and people with certain medical conditions, such as chronic lung disease, heart disease, or a weakened immune system.

Understanding risk
<https://www.cdc.gov/coronavirus/2019-ncov/your-health/understanding-risk.html>

- People with risk factors for severe disease may benefit from treatment if they get COVID-19. A healthcare provider will help decide which treatment, if any, is right for you.

Tests
 Have a supply of COVID-19 self-test kits at home and know when and how to use them.
<https://www.cdc.gov/coronavirus/2019-ncov/testing/self-testing.html>

- If you have symptoms of COVID-19, test immediately.
- If you test positive, treatments are available that can reduce your chances of hospitalization and death.

Treatment
 Have a plan to contact a healthcare provider right away if you test positive.

- Don't delay. Treatment must be started within days after you first develop symptoms to be effective.

Healthcare provider
 If you don't have a healthcare provider, consider telehealth options or contact a local health department to get tested, evaluated, and treated in one location.

- Test to Treat locations: <https://covid-19-test-to-treat locator.dhs.hub.arcgis.com/>

Recognize COVID-19 symptoms

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Conjunctivitis or runny nose
- Nausea or vomiting
- Diarrhea

Emergency warning signs for COVID-19

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Difficulty waking or staying awake
- Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone

This list is not a full list of all possible symptoms.
 Call your healthcare provider if I have any other symptoms that are severe or concerning to me.

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If I have symptoms

Get tested right away (within 24 hours or as soon as possible).

If I test positive

- Call my healthcare provider and see if I am eligible for treatment.
- Wash for symptoms for 14 days.
- Tell people I had recent contact with that they may have been exposed.
- Wear a high-quality mask for 10 full days anytime I am around others inside my home or in public.
- Monitor my symptoms.

If I am exposed to COVID-19 Date of exposure: _____

- Get tested at least 5 days after I was exposed.
- Wash for symptoms for 14 days.
- Wear a high-quality mask for 10 full days anytime I am around others inside my home or in public.

Things to consider if I get sick

- Transportation
- Room to isolate
- Help at home
- Children
- Pet care
- Food
- Cleaning supplies
- Hand sanitizer
- Fill all prescriptions
- Masks
- Over the counter medications

COVID-19 testing near me

Community testing sites: <https://www.hhs.gov/coronavirus/communities-based-testing-sites/index.html>

Address: _____
 Phone #: _____

Test to Treat locations: <https://covid-19-test-to-treat locator.dhs.hub.arcgis.com/>

Address: _____
 Phone #: _____

My medical information

Medical conditions: _____
 Allergies: _____
 Medications: _____
 Supplements: _____
 Disabilities: _____

My healthcare providers

Name: _____
 Phone #: _____
 Name: _____
 Phone #: _____
 Name: _____
 Phone #: _____

Talk with your healthcare provider about telehealth options and what medications to have on hand at home.

How to contact my provider after hours:
 If you don't currently have a healthcare provider, reach out to your community health center to find one:
<https://cshhs.health.ny.gov/>

My pharmacy

Pharmacy: _____
 Phone #: _____

My COVID-19 vaccinations

Name of vaccine: _____
 When I get my COVID-19 vaccination: _____
 Date of pharmacy visit: _____
 Status of appointment: _____
 Type of insurance: _____

Contact information for family/friends

Name: _____
 Phone #: _____
 Name: _____
 Phone #: _____
 Name: _____
 Phone #: _____

2. How to isolate and take precautions if you are suspected of contracting COVID-19.

Isolate and take precautions if you have or suspect you have COVID-19

ISOLATION

Stay home and away from others

Wear a high-quality mask if you must be around others

Start counting days

Day 0 is the day your symptoms started

If you never had symptoms, day 0 is the day you took a COVID-19 test

911 Watch for emergency warning signs, like trouble breathing. Seek help if they develop.

AFTER ISOLATION

Until at least day 11, avoid being around people who are more likely to get very sick

Wear a high-quality mask when around others indoors

Removing your mask

After ending isolation, wear your mask through day 10

OR

Take 2 antigen tests, 48 hours apart

If both tests are negative, you may remove your mask sooner than day 10

ENDING ISOLATION

Isolate to day 6 or later, if you

- never had symptoms or symptoms are improving, and
- are fever-free for 24 hours without the use of fever-reducing medication

Continue to isolate if your fever persists or other symptoms have not improved

Isolate through day 10, if you experienced moderate illness, like shortness of breath or difficulty breathing

Isolate through day 10 and talk with a healthcare provider before you end isolation, if you

- were hospitalized, or
- have a weakened immune system

[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

3. How to manage COVID-19 symptoms if infected. (One in Chinese)

10 THINGS YOU CAN DO TO MANAGE YOUR COVID-19 SYMPTOMS AT HOME | COVID-19 |

If you have possible or confirmed COVID-19

- Stay home** except to get medical care.
- Monitor your symptoms** carefully. If your symptoms get worse, call your healthcare provider immediately.
- Get rest and stay hydrated.**
- If you have a medical appointment, **call the healthcare provider** ahead of time and tell them that you have or may have COVID-19.
- For medical emergencies, **call 911 and notify the dispatch personnel** that you have or may have COVID-19.
- Cover your cough and sneeze** with your elbow.
- Wash your hands often** with soap and water for at least 20 seconds or clean your hands with an alcohol-based hand sanitizer that contains at least 60% alcohol.
- As much as possible, **stay in a specific room and away from other people** in your home. Also, you should use a separate bathroom, if available. If you need to be around other people in or outside of the home, wear a mask.
- Avoid sharing personal items** with other people in your household, like dishes, towels, and bedding.
- Clean all surfaces** that are touched often, like counters, tabletops, and doorknobs. Use household cleaning sprays or wipes according to the label instructions.

居家管理COVID-19症状要做的10件事 | COVID-19 |

如果您可能感染或确诊COVID-19

- 留在家中。** 仅在需要寻求医疗护理时外出。
- 密切监控个人症状。** 如果您的症状恶化，请立即联系您的医疗护理提供者。
- 保证足够的休息和饮水。**
- 如有预约，请提前**打电话给您的医疗护理提供者**，告知您可能已感染COVID-19。
- 如有紧急情况，请拨打**911并告知调度人员**您已感染或可能已感染COVID-19。
- 打喷嚏和咳嗽时掩住口鼻。** 用纸巾遮住或用肘部内侧遮挡。
- 勤洗手。** 用肥皂和清水洗手至少20秒，或使用含酒精不低于60%的含酒精的免洗洗手液或消毒湿巾。
- 尽可能**待在室内单独的房间**，**避免与家人或访客**。如果可行的话，请使用单独的浴室。如需与他人接触时，请佩戴口罩。
- 避免与家人或访客共用私人物品。** 例如餐具、毛巾和床上用品。
- 清洁所有经常接触的表面。** 例如柜台、桌面和门把手。根据标签说明使用家用清洁剂或消毒剂。

[cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

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

The client might ask the question, “Are there any long-term effects on my health since I got infected with COVID-19?”

5) How will you answer these questions?

The CDC says that autoimmune disorders or multiorgan impacts can have symptoms that appear weeks, months, or even years after a COVID-19 infection. Many different physiological systems, including the heart, lung, kidney, skin, and brain, can be affected by multi-organ impacts. Due to these side effects, those who have received covid-19 may be more prone than those who have not to develop new medical illnesses such diabetes, heart disease, blood clots, or neurological disorders.