



PRONTOSM
INTERNATIONAL

SimPackTM 2

**COVID-19 POSITIVE PATIENT WITH
SPONTANEOUS VAGINAL BIRTH OF A NON-
VIGOROUS BABY**

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COVID-19 POSITIVE PATIENT WITH SPONTANEOUS VAGINAL BIRTH OF A NON-VIGOROUS BABY



SIMULATION OVERVIEW

1. Disinfect and clean simulation area for participant safety (15 minutes).
2. Review simulation, objectives, and materials (20 minutes).
3. Set-up the simulation area (30 minutes).
4. Recruit and prepare the patient actress and the labour companion (20 minutes).
5. Assign and orient the providers (5 minutes).
6. Facilitate the Rapid Review (15-30 minutes).
7. Perform the Pre-Brief with patient case review (10 minutes).
8. Conduct the Simulation (15 minutes).
9. Facilitate the Debrief (approximately 30 minutes).



LEARNING OBJECTIVES

Cognitive:

1. List appropriate Personal Protective Equipment (PPE) use for all providers who enter the room.
2. Discuss how COVID-19 is transmitted.
3. Describe management of a patient during labour and delivery with COVID-19.
4. Describe management of immediate postpartum care for a patient with COVID-19 infection.
5. Understand policies for labour companions during COVID-19.
6. Discuss the mother-baby postpartum protocols for COVID-19 positive patients.

Technical:

1. Perform appropriate PPE donning and doffing.
2. Apply appropriate infection prevention and control (IPC) precautions.
3. Perform correct and timely maternal assessment for both COVID-19 (vital signs, oxygenation status, etc.) and for labour (abdominal and cervical exams, foetal heart rate, etc.).
4. Call for help from team early enough to prepare for COVID-19 exposed baby.
5. Perform neonatal resuscitation with effective positive pressure ventilation.
6. Complete the steps of Active Management of the Third Stage of Labour (AMTSL).
7. Perform inspection of the placenta.
8. Conduct post-resuscitation and routine care of the baby, per COVID-19 guidelines.
9. Identify safe and warm place for baby after successful resuscitation.

Behavioural:

1. Kind and respectful communication with the mother and the labour companion (if companion allowed in the facility per COVID-19 protocols).
2. Kind and respectful care of the mother and baby.
3. Communication with the team, as relevant:
 - SBAR
 - Check-Back
 - Call-Out
 - Thinking-Out-Loud
 - Two-Challenge Rule
4. Complete and appropriate communication with additional personnel or referral facility, if required.

OVERVIEW AND SETUP FOR FACILITATOR TEAM



This page is for the facilitator(s) ONLY and should NOT be read to the participants.

CLINICAL CONTENT:

COVID-19 in a pregnant patient
baby care for spontaneous vaginal delivery
Neonatal resuscitation

Routine labour and

MINIMUM NUMBER OF PARTICIPANTS:

2 + patient actress

ANTICIPATED DURATION OF SIMULATION:

15 minutes



GENERAL OVERVIEW

Annette is a 28-year-old, Gravida 4, Para 3, at 38 weeks. She arrived at the facility yesterday with her mother, with complaints of a fever, cough, and shortness of breath for the past two days. She was admitted for monitoring and given oxygen. Upon admission, she was not in labour, and her cervix was 3 centimetres dilated. She tested positive for COVID-19. She was admitted into an isolation area in the facility for monitoring, and is wearing a mask. She has been stable for the last 24 hours.

Annette has been complaining of cramping and having contractions for the last 2 hours. 15 minutes ago, her membranes spontaneously ruptured, and she was 8 centimetres dilated. The foetal heart rate was 100, and she is now feeling pressure. At the start of the simulation, the provider previously caring for Annette has gone home, and the provider(s) in the simulation are just beginning their shift/duty. This will be their first interaction.

The patient should be instructed to cough throughout the simulation. Spray the simulated germ solution on her hands before the simulation, and then also give her a spray bottle to hold and spray every time she coughs. She should hold the spray bottle in her dominant hand, and cover her masked mouth with her non-dominant hand, while spraying the bottle behind her hand near her mask. Practice this with her. This is to simulate infectious droplet spread. **If no blacklight is available: Skip the simulated germ spray and all associated steps and preparation in the SimPack, but still instruct the patient to cough in the simulation.**

When the simulation begins, the provider(s) should first don all appropriate PPE with the help of the PPE Assistant in the PPE donning area before making contact with the patient. **THIS WILL LIKELY TAKE AT LEAST 5 MINUTES - DO NOT RUSH DELIVERY. To protect ALL participants in simulation, the role of the PPE Assistant is critical (see SIMULATION PARTICIPANT ROLES page for more information).**

Once the provider is in full PPE and approaches the bedside, the patient says that she has an urge to push. Allow time for the provider(s) to prepare for the delivery and for a COVID-19 exposed baby who may require resuscitation, before instructing the patient actress to push.

The baby is born with poor muscle tone, and is not breathing. After stimulating the baby, the first provider should carefully hand off the baby to the second provider to begin neonatal resuscitation. With effective positive pressure ventilation, the baby will cry. The first provider should begin Active Management of the Third Stage of Labour (AMTSL). After the placenta is delivered, the patient should briefly turn the blood on, and then off again, to simulate normal bleeding.

After resuscitation, the baby should be returned to the mother (who is still wearing a mask and has used alcohol-based hand sanitizer gel/rub and/or is wearing gloves), or placed in isolation (depending on facility protocol), and the patient should be updated on her and her baby's condition. When these steps have been completed, say STOP! After saying STOP, the provider(s) should enter the PPE doffing area and doff PPE with the help of the PPE Assistant, before proceeding to the debrief.

OVERVIEW OF PATIENT SETUP

- Select a patient actress who is willing to simulate a birth and who is NOT currently pregnant.
- Give the patient actress a medical or cloth mask to wear, if not already wearing one.
- Instruct her to remove her clothing, but to keep her undergarments on, and give her waterproof pants and a shirt to put on.
- When changed, help to dress her by putting two diapers around her waist (over the waterproof pants), secured with tape.
- Help her into PartoPants™ that have been **pre-loaded** with a bag of blood.
- Once she is wearing the PartoPants™, help her onto the bed. Attach the injection pad to the outside of the PartoPants™, so it is visible. Put the IV arm bands on both arms.
- Put an absorbent pad under her on the bed.
- Insert the baby and placenta into the PartoPants™, take care to not entangle them in the blood tubing.
- Review the patient history and simulation hand signals with the patient actress AND labour companion (see **INSTRUCTIONS FOR THE PATIENT ACTRESS page**).



Spray the simulated germ solution on the patient's hands, and then give her the bottle to hold. Try to avoid spraying the floor to prevent participants from slipping. If the patient declines the simulated germs, skip this step completely. After the simulation is over, turn the lights off and turn on the blacklight to show the spread of fluid droplets in the area (floor, bed, etc.) as a learning point.



Give the participants time to fully don PPE and to alert the team that a COVID-19 patient is about to deliver, before instructing the patient to push: APPROXIMATELY 5 MINUTES.

ROOM SETUP AND SUPPLIES: LABOUR WARD WITH NEONATAL RESUSCITATION AREA AND PPE DONNING AND DOFFING AREAS



Only supply the materials that are usually available in the labour ward at the facility. Participants should dress as they normally do for patient care. The PPE donning and doffing areas should include all PPE and other materials normally used for donning and doffing at the facility - this will vary by facility, follow local protocols.

Materials and Supplies:



| | |
|---|--|
| PartoPants™ and waterproof pants (with simulated blood bag with short tubing inside PartoPants™) | |
| Simulated germ solution*: Spray the solution patient's hands during patient preparation, and then give the patient the spray bottle to hold and to use when she coughs (*see simulated germ solution guide for details). NOTE: This will work best in a room that can be darkened (able to turn off the lights or close curtains after the simulation, etc.). | |
| 3 - Adult diapers/absorbent pads: Two worn by the patient under the PartoPants™ and one under the patient on the bed | |
| Baby and placenta | |
| PRONTOCry™ card | |
| Injection pad and IV arm bands | |
| Whiteboard and dry erase pen | |
| PPE in the donning and doffing areas: Masks, face shields, gloves, gowns, aprons, head cover, boots (whatever is appropriate for setting - but, conserve resources for actual care if PPE is limited). The donning and doffing areas should include all materials used in this facility to don and doff PPE (including alcohol-based hand sanitizer gel/rub, bins for consumables and, etc.). To note: Do NOT use n95 masks for simulation, they should be saved for patient care. Instead, write 'n95' on a sticker or piece of tape and place it on a medical or cloth mask to simulate n95 masks. Any other PPE in short supply can also be simulated (cloth gowns in place of disposable gowns, clean gloves in place of sterile gloves, etc.) | |
| Delivery bed and 2 sheets (one on the bed and one to cover the patient) | |
| Wall clock with second hand (visible to all participants) | |
| Sharps/safety box and trash bins | |
| Delivery set (cord tie, 2 clamps, ring forceps, placenta bowl, speculum, gauze, NO scissors, and whatever is locally included) | |
| Blood pressure cuff and 2 - Stethoscopes (maternal and neonatal) | |
| Pinard or foetoscope | |
| Pulse oximeter (if available in facility) | |
| Thermometer | |
| Alcohol swabs | |
| Sterile gloves and non-sterile gloves (in the PPE donning area AND the patient care area) | |
| Alcohol-based hand sanitizer gel/rub (in the PPE donning and doffing areas AND the patient care area) | |
| Syringes in assorted sizes (1 - 1 mL, 2 - 3 mL, 2 - 5 mL, 4 - 10 mL, 1 - 20 mL) | |
| IV solution/fluids (whatever is used in facility), IV tubing, and IV pole/drip stand | |
| 4 - Syntocinon/oxytocin ampoules/vials (10 IU/mL) | |
| Paracetamol/Acetaminophen tablets | |
| Oxygen concentrator or cylinder and cannula or mask (if available in this facility, maternal and neonatal) | |
| Facility's, institution's, or Ministry of Health's latest COVID-19 protocols or guidelines for reference | |
| Neonatal Resuscitation Area: Warmer with padded resuscitation surface and NeoNatalie™ (covered with a towel): | |
| DeLee or bulb syringe/sucker | |
| Resuscitation bag and masks (preterm and term sizes) | |
| Towels for baby | |
| Routine newborn medications (as appropriate for facility) | |

INSTRUCTIONS FOR THE PATIENT ACTRESS

 After dressing the patient, read the below to her, and then give her this page to read on her own. After she has read it, “quiz” her to assure that she understands the simulation. Then, practice the simulation hand signals.

PATIENT HISTORY

Name and Age: Annette, 28

Gestations: Gestation 4, Para 3

Gestational age: 38 weeks

Attitude: Ill, exhausted, short of breath, with an urge to push

Antenatal care: 6 antenatal care visits

Labour companion: Mother (**she should wear a mask**)

Background: This is a COVID-19 simulation. For your and your companion's, as well as the provider's protection, we will have you wear a mask for the entire simulation (**make sure the patient actress and companion are wearing masks NOW before proceeding**).

You are 28-years-old and this is your 4th pregnancy. You came to the facility yesterday because you have had a fever and a cough for 2 days. You were tested and diagnosed with COVID-19. You were not in labour when you arrived yesterday, but were 3 centimetres dilated, and were admitted to the facility for monitoring. You have been having pain and contractions for the last 2 hours. 15 minutes ago, your membranes ruptured spontaneously with clear fluid, you were 8 centimetres dilated, and you are now feel pressure.

When the simulation starts, there is a shift/duty change. Please give the providers time to completely don PPE, before saying you have a very strong urge to push. We do NOT want to rush the providers donning PPE. However, keep having contractions and keep coughing.

Cough occasionally throughout the scenario. We will spray a soap solution on your hands that are simulated germs, which will glow under blacklight for an activity after the simulation. Is that ok? I am also going to give you a small spray bottle for you to secretly hold in the simulation. Every time you see the cough hand signal, please hold the spray bottle in your dominant hand, and bring your non-dominant hand to your masked mouth to cover your cough. Keep your fingers spread out slightly so that the spray can pass through them. Press the spray bottle each time you cough. When it is time to push, you should tuck the spray bottle under your leg so your hands are free. We will practice this in a moment.

If the provider does not take a foetal heart rate, ask, “How is my baby?” Wait for the hand signal and until the provider is ready with PPE to start pushing. The baby will be born limp and not crying. Even with stimulation, he will not cry, and will need to be resuscitated. You become worried and ask, “Why is he not crying?” The second provider should begin resuscitation.

Watch for the hand signal to push the placenta out, it will come out easily. After the placenta is out, you will briefly turn the blood on, and then off, to show normal bleeding. Follow the hand signals to know what to do with bleeding and uterine tone.

While the providers are resuscitating your baby, they should reassure you and tell you what is happening. If not, you or your mother can ask about how the baby is doing. After successful resuscitation, if the provider does not return your baby to you, ask, “Can I hold my baby? Can I breastfeed?” The simulation ends when the providers have followed mother-baby postpartum protocol. The more you express your pains, worries, and emotions, the more it will help participants believe this is real. You control the reality of the simulation. Please avoid stepping out of your role, laughing, or giving medical suggestions.

SIMULATION HAND SIGNALS



Before the simulation, review and practice the simulation and the below hand signals with the patient



Turn on blood (Open the tube lock to turn on the blood)



Turn off blood (Close tube lock to turn off the blood)



Firm uterus (Place fist under blood pouch to simulate a contracted uterus)



Contraction



Hold the baby or placenta back, stop, or wait



Birth: Baby or placenta (move fingers and hand back and forth towards facilitator rapidly with palm up)



Cough + spray simulated germs (bring non-dominant hand to masked mouth to cover cough, with fingers slightly spread out. Spray the small spray bottle with dominant hand through fingers).

Note to facilitator: Hand signal does not require the facilitator to actually cough - just bring hand to mouth when giving this signal.



After practicing delivering the baby and turning the blood on and off with the patient, reposition the baby according to the instructions and make sure it is not tangled in tubing. Cover the patient with a sheet.



Patient will begin the simulation semi-reclined with the baby about to be born.



Spray the patient's hands with the simulated germ solution, and practice her coughing and spraying the small spray bottle at the same time.



If you feel uncomfortable at any time, say “STOP NOW!” and the simulation will stop.

SIMULATION PARTICIPANT ROLES

| SIMULATION PARTICIPANT ROLES | GIVE THE FOLLOWING INFORMATION ABOUT THE SIMULATION | LOCATION AT THE START OF THE SIMULATION |
|--|---|--|
| Labour companion (if allowed by facility protocols, if not, this role can be omitted) | Patient information | With patient |
| Labour care provider (midwife, nurse, doctor) | Participant information | Outside the patient area, wherever PPE is donned |
| Additional provider(s) | None, they should receive an SBAR from the provider if called | Outside the room |
| Personal Protective Equipment (PPE) Assistant* | Participant information | Outside the patient area, wherever PPE is donned |
| Consulting doctor in facility OR at referral facility (whatever is appropriate) | None, they should receive an SBAR from the provider if called | Outside of simulation area, they will be called if necessary |

Optional participants in gray boxes

***The Role of the PPE Assistant:** This role can be played by a PRONTO facilitator or a participant. The person in this role should stand in the PPE donning and doffing areas to help participants with donning and doffing. It is best practice to have a PPE assistant in simulation and in real life, due to the critical importance of reducing the risk of contamination by properly putting on (donning) and taking off (doffing) the PPE. If the facility usually has someone helping with this role as part of their job, they should play this role. The PPE donning and doffing areas should be separated from the simulation area and away from the patient area - as in real life. When the facilitator says START, the first action taken will be for the provider(s) to don PPE before entering the patient care area. To ensure safety of everyone, the assistant should do a final confirmation that the provider's PPE is correctly donned before giving them the go ahead to enter the simulation area.

All materials usually available in the facility's donning and doffing areas should be included: A hand washing station, (which can be simulated if necessary), alcohol-based hand sanitizer rub/gel, gowns (can use cloth gowns for simulation ONLY, which MUST be washed between participants if there are insufficient disposable gowns), gloves, eye and hair protection, a bin for used/soiled materials, masks, and etc. To note: Use medical or cloth masks for simulation. Cloth masks MUST be washed between participants, and medical masks should be reused or discarded per facility protocols. Do NOT use n95 masks for simulation, they should be saved for patient care. Instead, write 'n95' on a sticker or piece of tape and place it on a medical or cloth mask to simulate n95 masks. Set-up the donning and doffing area(s) so that there is a physical distance or divider (like a hanging tarp or plastic sheet) between the donning and doffing area(s) and the simulation area, but set it up in a way that the observers can see both spaces.

When the facilitator says STOP, the participant(s) should leave the simulation area and enter the PPE doffing area. The PPE Assistant should help the provider to correctly doff the PPE without contaminating themselves. Follow facility protocols for donning and doffing procedures. The doffing is the last activity performed in the simulation. Set the donning and doffing areas up in such a way that the observers can see the donning and doffing, as well as the simulation area.

 **Before assigning roles for the simulation, discuss with participants how the communication with additional personnel or consultation with the referral facility occurs in this facility.**

 **The number of participants in the simulation should reflect the usual number of staff at the facility during a birth. Any observers can be assigned to listen and watch for behaviours or concepts during the simulation.**

RAPID REVIEW



Before the simulation, facilitate the Rapid Review to ensure that participants are familiar with the simulation learning objectives. The goal is to review the basic clinical management required. Participant learning is improved when they feel successful.



Before we start the simulation, we will review some important management practices.

|  QUESTIONS (READ ALOUD TO GROUP) |  FACILITATOR NOTES AND APPROPRIATE ANSWERS |
|--|--|
| <p><i>What is the COVID-19 virus?</i></p> | <p>COVID-19 is the infectious disease caused by the most recently discovered coronavirus. COVID-19 was first declared a pandemic by WHO on March 11, 2020.</p> |
| <p><i>What are the signs and symptoms of COVID-19?</i></p> | <ul style="list-style-type: none"> • Symptoms include: Fever, tiredness, dry cough, shortness of breath, aches and pains, sore throat and diarrhoea, nausea, or a runny nose (WHO). • Other guidelines also include: Chills, headache, rashes on trunk or toes, and new loss of taste or smell (CDC). |
| <p><i>In this facility, where can you find the COVID-19 protocols and guidelines you are supposed to follow?</i></p> | <ul style="list-style-type: none"> • Discuss where COVID-19 protocols are stored and updated. Encourage participants to refer to current guidelines rather than word of mouth or prior experience as recommendations often change. • Facilitator Note: To set participants up for success, have the most recent protocols available for review. |
| <p><i>When should you call for assistance during the delivery of a COVID-19 positive patient, and who should be present?</i></p> | <ul style="list-style-type: none"> • Call for help early to provide time for donning PPE. • Minimize the number of staff in the room to those who are absolutely necessary, in order to decrease exposure to infection. |
| <p><i>In this facility, do patients in labour get to have a companion with them? Is that also allowed for COVID-19 positive mothers?</i></p> | <ul style="list-style-type: none"> • Discuss facility policy, how many (if any) are allowed, and how companions are screened for COVID-19 symptoms. <ul style="list-style-type: none"> • Must they leave if they have symptoms? • Encourage participants to put masks (medical or cloth) on ALL companions. |
| <p><i>What Personal Protective Equipment, commonly called PPE, should providers wear when caring for a suspected or confirmed case of COVID-19?</i></p> | <ul style="list-style-type: none"> • Discuss facility PPE protocols for COVID-19. • Common PPE includes: Eye protection, a gown, hair protection, a surgical mask, 1-2 pairs of gloves, and a face shield and an n95 mask if conducting an aerosolizing procedure (protocols vary by facility - follow facility protocols). |
| <p><i>It is easy to feel rushed, hot, or stressed and forget steps while donning and doffing PPE, but this is how healthcare providers can get infected.</i></p> <p><i>If you forget the steps of proper PPE donning and doffing, which means to put on and take off, is there a checklist or guide that can be referenced to remind you of the steps? If so, where is it located?</i></p> | <ul style="list-style-type: none"> • Participants should be able to review their donning and doffing checklists every time they don/doff to make sure they do it correctly, trying to memorize it is risky • It's important to stress use of a visible checklist and/or doffing assistant, and discourage trying to memorize the steps. |
| <p><i>Who can explain how to properly don, or put on, PPE when caring for a confirmed or suspected COVID-19 patient?</i></p> | <ul style="list-style-type: none"> • Talk through the steps briefly without actually performing them. • Encourage participants to refer to their latest donning protocol. Discuss how to post donning checklist near the area where they will don PPE, and/or utilize a donning assistant to minimize mistakes. |

Rapid Review continues on the next page 

RAPID REVIEW

|  QUESTIONS (READ ALOUD TO GROUP) |  FACILITATOR NOTES AND APPROPRIATE ANSWERS |
|--|---|
| <p><i>Who can explain how to doff, or remove, PPE after caring for a patient with confirmed or suspected COVID-19?</i></p> | <ul style="list-style-type: none"> • Talk through the steps briefly without actually performing them. • Reinforce that doffing is a high-risk time for healthcare worker contamination. Encourage them to take their time and be methodical. There should be no hurry. • Encourage participants to refer to their latest doffing protocol. Discuss how to post a doffing checklist where it is visible during doffing and/or use a doffing assistant to minimize mistakes. |
| <p><i>How does a COVID-19 infection change the management of the mother during delivery?</i></p> | <ul style="list-style-type: none"> • Management remains mostly unchanged; she should be treated like any other labouring mother. • Reinforce that COVID-19 is not an indication for caesarean section alone. • The major difference is PPE for providers, new rules for labour companions, and maintaining respectful maternity care during what is a scary time for this labouring mother (and providers). |
| <p><i>What vital signs should be routinely taken during labour? Are there any additions for COVID-19?</i></p> | <ul style="list-style-type: none"> • Foetal heart rate (every 5–30 minutes between contractions to detect distress, depending on the stage of labour). • Maternal: Blood pressure, pulse, respiration rate, and temperature (every 1-4 hours, depending on the stage of labour and if the membranes have ruptured). • Additions for COVID-19: Monitor oxygen saturation through the use of a pulse oximeter (if available). |
| <p><i>What are the steps of Active Management of the Third Stage of Labour (AMTSL)?</i></p> | <ul style="list-style-type: none"> • Uterotonic medication (Syntocinon/oxytocin 10 IU IM or Misoprostol 600 micrograms in facilities where Syntocinon/oxytocin is unavailable) within 1 minute of the birth of the baby, after a twin is ruled out. <ul style="list-style-type: none"> • Explain to the mother first. • Controlled but careful cord traction with suprapubic pressure to deliver the placenta. • Assess uterine tone immediately following delivery of the placenta and massage uterus, if necessary. |
| <p><i>How does neonatal resuscitation change for the baby of a COVID-19 positive mother?</i></p> | <ul style="list-style-type: none"> • Management remains unchanged. • Except to be aware of possibly generating aerosols during bag and mask ventilation and oxygen use (follow facility protocol and guidance for PPE during bag and mask ventilation and with oxygen use). |
| <p><i>What is the correct tempo for bag and mask ventilation?</i></p> | <ul style="list-style-type: none"> • Breathe-2-3, Breathe-2-3, Breathe-2-3. • 30-40 breaths per minute. |
| <p><i>Does a COVID-19 positive mother need to be separated from her baby, if her baby is healthy?</i></p> | <ul style="list-style-type: none"> • According to the WHO: No. Close contact and early, exclusive breastfeeding helps a baby to thrive. COVID-19 positive mothers can breastfeed, hold their baby skin-to-skin, and share a room with their baby. • Mothers should be educated about hygiene practices to prevent infecting their baby, like wearing a mask when they breastfeed, and washing their hands or using an alcohol-based hand sanitizer rub/gel before and after touching their baby. • However, protocols vary - follow local protocols. |

PRE-BRIEF FOR EVERYONE: SIMULATION PARTICIPANTS AND OBSERVERS



Allow the simulation participants time to look around the simulation and PPE donning and doffing areas to check their materials.

PRE-BRIEF - Read the following instructions aloud:



Welcome! Thank you for participating. Before beginning, I will identify the providers in this simulation and their roles (**identify providers**).

If you need to refer the patient, you must pretend to call the referring facility and someone will answer the phone (**point to the provider assigned to this role**).

For those participating in the simulation, please look around the simulation and PPE donning and doffing areas to see if all of the supplies normally available **when attending a delivery for a COVID-19 patient, and for donning and doffing**, are present. For the purposes of simulation, we will use simulated n95 masks - there are medical or cloth masks with 'n95' written on the sticker as part of the supplies. Please let me know if anything is missing (**allow time to look around at supplies**).

Now that you have reviewed your supplies, let's review the Ground Rules of Simulation:

- Performance in simulation does not impact your job or salary.
- Try to make this as real and believable as possible.
- Have an open mind.
- No laughing or side conversations during the simulation.
- Maintain confidentiality.
- Allow mistakes to be made in order to learn from them.
- Be open with and respectful of other participants.
- Work as a team without worrying about personal ego.
- **And remember, all observers should maintain social distancing, with at least 2 metres (6 feet) between everyone. All observers should also wear medical or fabric masks.**

For those observing, I am going to divide you into four groups (**divide them into groups based on where they are**) and assign each group something to watch out for. During the simulation, listen and watch for your assigned concept. You will be asked to discuss it in the debrief.

Group 1: Communication with the mother and respectful care

Group 2: Check-Back and Call-Out

Group 3: SBAR

Group 4: Donning and doffing of PPE

Today, we will be practicing COVID-19 management. The patient actress is simulating, or acting, to have COVID-19, she is healthy in real life. The goal is to practice and learn; this is a stressful time and you all may be feeling some anxiety - that is ok.

Part of the practice today is donning and doffing PPE. When the simulation starts, the first step will be for the providers to fully don PPE before approaching the patient.

This step is important to ensure safety for everyone - please do not rush this step.

This will be done in the PPE donning and doffing areas (**show participants the areas**), with the help of the PPE Assistant (**point to who is in this role**). The PPE Assistant should stay outside the patient area during the simulation, where they can safely assist with donning and doffing.

Unlike other simulations, after the facilitator says "STOP" at the end of the simulation, there will be one more step. The provider(s) should step into the PPE doffing area and doff PPE with the help of the PPE Assistant. Then, the simulation will be over.

As a reminder to the participants:

- The patient actress wears an injection pad on her leg and two IV bands on each arm (**show the locations, while keeping the patient covered**). To administer medications, draw up the medications and inject them into the injection pad **ONLY** and nowhere else. To fix an IV line, hang the IV and place the tubing under the armbands. Do not use a needle to inject medications into the IV bag.
- The patient actress may cough and spray simulated germs - those are not contagious and are safe for simulation. The patient will wear a mask at all times - please do not remove or lift it. If you would like to take a temperature, please hold the thermometer up to her mask or the side of her face - but please do not insert it into her mouth for safety.
- If vital signs are required, please actually take them. For example for blood pressure, use the blood pressure cuff as is normally done, and the finding will be shown on the whiteboard. **DO NOT** decide vital signs on your own, they are only shown after the clinical step has been taken.
- If a COVID-19 test is required, please simulate collecting the test with the simulated test kit; do not use a real test kit or perform any invasive procedures on the patient actress.
- If the baby requires resuscitation, the baby doll will be switched for the resuscitation baby (**show them the resuscitation doll under the towel**).
- Remember to treat this mother and baby like you would in real life: Talk to her like you would a real mother, and so forth.
- Any questions?

I am now going to ask the back-up or referral provider(s) to leave the room. You will be called if needed.

Pre-brief continues on the next page 

PRE-BRIEF FOR INITIAL SIMULATION PARTICIPANTS AND OBSERVERS ONLY

 **Participants on call should leave before hearing this history and after they have checked the simulation and PPE donning and doffing areas. They should be called for help without knowing anything about the case.**

 **Case:** Annette is a 28-year-old, Gravida 4, Para 3, gestational age: 38 weeks. She arrived at the facility one day ago, with complaints of a fever, cough, and shortness of breath for the previous two days. She was admitted into an isolation area in the facility for monitoring and was given oxygen due to her shortness of breath. Upon admission, she was not in labour, and her cervix was 3 centimetres dilated. She was tested for COVID-19 and was positive. She has been stable for the last 24 hours, is no longer on oxygen, and is now wearing a mask. She has been given Paracetamol (Acetaminophen) 1000 mg per oral every 8 hours for the fever since arriving. Annette is here with her mother, who is has no COVID-19 symptoms and is also wearing a mask (if permitted by facility protocol).

She has been complaining of pain and having contractions for the last 2 hours. 15 minutes ago, her membranes spontaneously ruptured. She was 8 centimetres dilated, the foetal heart rate was 100, and she is now feeling some pressure. The provider taking care of Annette previously has just gone home, and the provider(s) in this simulation have just arrived; this will be their first encounter with Annette.

Brief Medical History:

- 6 antenatal care visits
- 3 vaginal births (has a 6-year-old, 4-year-old, and a 2-year-old)
- Received folic acid and iron supplementation
- Positive for COVID-19 (diagnosed yesterday)

Does anyone have any questions about this patient?

 **First, ask participants if they have any clinical questions about the case. If they ask for vital signs, provide them the vital signs from the table below. After participants are done with their questions, or even if they do not have any questions, provide the information in the table below before beginning the simulation.**

Most Recent Set of Vital Signs (15 minutes ago):

| Blood Pressure | Pulse | Respiration Rate | Temperature | Foetal Heart Rate | Membranes | Hemoglobin | Oxygen Saturation |
|----------------|-------|------------------|--------------|-------------------|------------------|------------------|-------------------|
| 120/70 | 130 | 24 | 38.2 Celsius | 100 | Ruptured (clear) | 13 (at 28 weeks) | 94% |

After reviewing all of the most recent vital signs, say: The main provider(s) and the PPE Assistant, could you please enter the PPE donning area now (point them to the donning area). **START!**

 **During the simulation, the person debriefing should make note of the key learning moments that occur for the debriefing session. If the same person is both debriefing and running the simulation, make very small notes at the bottom of the whiteboard for use in the debrief.**

SIMULATION PROGRESSION

| TIME | WHITEBOARD INFORMATION | PATIENT SIMULATION HAND SIGNALS | APPROPRIATE & EXPECTED PROVIDER ACTIONS | REACTIONS TO INAPPROPRIATE ACTIONS FOR PATIENT |
|---------------|---|---|--|--|
| 0-5 minutes | | Coughs + sprays simulated germs  | Dons PPE | |
| 5-10 minutes | Cervix: 10 cm FHR: 90 BP: 120/60 Pulse: 110 Respiration Rate: 24 Temperature: 38°C Oxygen Saturation (if available): 95% | Contractions, but do NOT push baby  Coughs + sprays simulated germs  | Calls for help from team Gives SBAR Introduces self to patient & companion Assesses foetal heart rate Takes maternal vital signs Performs vaginal exam Prepares for birth Communicates with the patient | If the provider does not assess the foetal heart rate, the patient asks, "How is my baby doing?" |
| 10-12 minutes | Neonatal tone: Poor Breathing: No Neonatal HR: 90 AFTER RESUSCITATION: Neonatal HR: 140 | Birth of the baby - NO cry  Coughs + sprays simulated germs  AFTER effective resuscitation: Press Cry card  | Completion of delivery Notes time of delivery Performs drying/stimulating Clamps and cuts cords for resuscitation Continues resuscitation and communicates with the mother Stops resuscitation when baby improves Gives Syntocinon/oxytocin 10 IU | If the provider does not explain to the mother what is happening with the baby, the patient says, "Why is my baby not crying?" |
| 12-15 minutes | Uterus: Firm Placenta: Complete Maternal BP: 125/68 Maternal Pulse: 120 Respiration Rate: 24 Maternal Temperature: 38°C Oxygen Saturation (if available): 95% Neonatal Temperature: 36.5°C | Birth of the placenta  Turn blood on briefly & then off  Firm uterus  | Performs controlled cord traction with counter traction Inspects placenta Assesses uterine tone and massages uterus if necessary to achieve tone Assesses condition of baby Gives alcohol-based hand rub/gel to mother before returning baby to her Follows postpartum mother-baby COVID-19 protocols and communicates them with the mother AFTER SAYING STOP: Doffs PPE | After the baby cries, if the provider does not give the baby back to the mother, she asks, "Can I have my baby? Can I breastfeed my baby?" |

AFTER THE SIMULATION IS OVER, BUT WHILE PARTICIPANTS ARE STILL AROUND THE BED: Ask participants where they think the droplets are likely to be. Then, turn off the lights and use a blacklight to show where the droplets spread (bed, patient's hands, etc.). Participants may need to approach the bed to examine the droplets. When finished, proceed to the debrief.

DEBRIEFING GUIDE



THE DEBRIEF

Take a few moments before the debrief to determine which questions are the most important to discuss based on what happened in the simulation. Remember, some of the questions may be inapplicable depending on how the simulation progressed; it is the responsibility of the person debriefing to decide what to discuss based on what happened in the simulation BEFORE the debrief.

Gather the participants and observers. **Have everyone sit in a circle so they can see each other, but maintain social distancing. Everyone participating in the debrief, including the facilitator, should wear a mask.** The goal is for participants' shared knowledge to come up with the answers from within the group and not for the facilitator to "teach" participants. There are always errors during simulations that can be learning opportunities, even if they are not learning objectives for the simulation. Never let incorrect clinical actions go unaddressed.

In this simulation, there is usually a discussion about: When to call for help during a COVID-19 delivery, how to properly don and doff personal protective equipment (PPE), how to safely manage a delivery for a COVID-19 positive patient, managing a neonatal resuscitation of a baby for a COVID-19 positive mother, and maternal-neonatal postpartum protocols for COVID-19 positive patients.

CLINICAL SKILLS CHECKLIST:

- ✓ Provider called for help early enough
- ✓ Hand washing completed
- ✓ Infection Prevention and Control procedures followed (IPC)
- ✓ Provider(s) correctly donned and doffed personal protective equipment (PPE)
- ✓ Foetal heart rate assessed
- ✓ Maternal vital signs taken
- ✓ Baby dried, warmed, and stimulated immediately
- ✓ Neonatal resuscitation with effective positive pressure ventilation performed
- ✓ Syntocinon/oxytocin 10 IU administered
- ✓ Placenta delivered and inspected
- ✓ Uterine tone assessed and uterus massaged, if necessary
- ✓ Maternal postpartum vital signs assessed
- ✓ Assessed condition of the baby
- ✓ Mother-baby postpartum protocols for positive COVID-19 patient followed

DEBRIEFING QUESTIONS (20-30 MINUTES)



DEBRIEF QUESTIONS (READ ALOUD TO GROUP)



FACILITATOR NOTES AND APPROPRIATE ANSWERS

DESCRIPTION PHASE

For those who participated, how did that simulation feel?

Allow participants to reflect and answer. They may need to vent frustrations they might be feeling, or anxieties about managing these patients in real life; allow for this.

Can someone give a BRIEF overview of the simulation?

COVID-19 positive patient in labour, who had a spontaneous vaginal delivery of a non-vigorous baby.

ANALYSIS PHASE

When the simulation first began, what were the first actions taken by the provider?

- Donned PPE?
- Called for help?
- Assessed maternal vital signs (pulse, blood pressure, temperature, etc.)?
- Assessed foetal heart rate?
- Cervical exam performed?
- Prepared for delivery (including drawing up Syntocinon/ oxytocin 10 IU in advance)?

How was the donning and doffing of the PPE? The providers and the observers can answer this question.

- Rushed? Nervous? Unsure of the order to put items on and take them off?
- This is an opportunity to discuss posting a checklist and/or using a donning/doffing assistant.

What was it like working with the PPE Assistant? Is this a role normally available in this facility?

- Ask the provider(s) and the PPE Assistant.
- Also, direct the question to the larger group as well, about how they feel about instituting this in real life if they do not already do so.

How was the availability of PPE, did you have everything you needed?

- PPE may be in short supply or locked up. Allow participants to express their frustration.
- This is a good opportunity to discuss system changes and solutions for PPE in the facility.

When was help called and who arrived?

- If an additional provider responded, discuss the communication between the two providers.
- How were helpers notified of the patient's COVID-19 positive status before entering the room?
- Did the helpers have enough time to don their PPE before the baby was born?

How long does it take to get help in this facility?

- Discuss.
- How to call? Where is help located?

How were the introductions between the provider and the patient and her companion (if a companion was present)?

- Encourage participants to introduce themselves and ask the patient her name in every patient encounter. This is an opportunity to discuss kind and respectful care.
- Respectful maternity care CAN be practiced in the time of COVID-19; birth can be a very scary experience for women, especially now with the providers in full PPE.

Debrief continues on the next page →

DEBRIEFING QUESTIONS (20-30 MINUTES)



DEBRIEF QUESTIONS (READ ALOUD TO GROUP)



FACILITATOR NOTES AND APPROPRIATE ANSWERS

Was there an SBAR given? What was it?

- Give the participants a moment to repeat the SBAR given. If it was incomplete, or there was none given, ask a participant to give a complete SBAR.
- **If after a few moments no one can give a complete SBAR, use this example:**
 - **S:** *Annette is a Gravida 4, Para 3, positive for COVID-19, and about to deliver.*
 - **B:** *She was admitted yesterday with cough and fever. COVID-19 was positive. Temperature is 38.2 with paracetamol. Her waters ruptured 15 minutes ago, clear. She feels pressure to push, and foetal heart is 100.*
 - **A:** *She is ready to deliver and the baby may need resuscitation.*
 - **R:** *Please don PPE and a n95 mask and prepare to manage the baby.*

What was the foetal heart rate just before delivery? Did this concern you, why or why not?

90 beats per minute.

What happened when the baby was born?

- Baby was born non-vigorous.
- Initial steps taken in the first 30 seconds:
 - Drying?
 - Stimulation?
 - Suction?
 - Cord cut to take baby to resuscitation area?

How was the resuscitation?

- Discuss the positive pressure ventilation rate and technique.
- Was suctioning used?
- Discuss how baby was kept warm during resuscitation: Heater? Windows closed? Baby covered?

For the provider who resuscitated the baby, how did you feel knowing that the baby was just born to a mother who was positive for COVID-19?

Bag and mask ventilation is a possible aerosolizing procedure and may cause increased anxiety and fear for the provider tasked with the resuscitation. Allow them to express this anxiety or fear.

When did the patient receive Syntocinon/oxytocin for Active Management of the Third Stage of Labour (AMTSL)?

Discuss. This is a good opportunity to discuss drawing up Syntocinon/oxytocin in advance.

What was done with the baby after resuscitation was complete?

- Was the baby returned to the mother?
- What is the protocol for babies in this facility if the mother is positive for COVID-19?

Did you have all the supplies and materials you needed to manage this delivery and resuscitation?

- This is a way to discuss planning ahead to care for COVID-19 positive patients.
- How will they access supplies that are not in the room if they cannot leave without doffing?

How does it feel if or when you do not have supplies readily available to you when you need them?

Give participants some time to vent before encouraging them to come up with solutions.

What do you do? Who can you turn to?

Does this facility practice the idea of a “runner” or someone whose job it is to go and get supplies who is not in the room with the patient?

Debrief continues on the next page

DEBRIEFING QUESTIONS (20-30 MINUTES)



DEBRIEF QUESTIONS (READ ALOUD TO GROUP)



FACILITATOR NOTES AND APPROPRIATE ANSWERS

Did you feel like you had all the guidelines you needed to safely care for a COVID-19 positive patient?

- This is a good opportunity to discuss how to find facility COVID-19 policies and if there were any gaps.
- Guidelines are frequently changing – where can they find the most up-to-date information? You could also talk about methods to communicate policy changes so that everyone can be kept aware.

How was the communication between the providers?

- Was it more difficult with everyone wearing PPE?
- Was it hard to hear or understand people's meanings without facial expressions?

Observers, can you remember an example of one of the communication concepts?

- Thinking-Out-Loud? Check-Back? Two-Challenge Rule? Call-Out?
- Ask the observers to describe what they heard.

How was the communication between the provider and companion? Between the provider and the patient?

- Discuss without making the providers feel attacked.
- Review any positive communication seen.

*For the patient and companion, how did you feel cared for?
(Ask this question even if the companion had to be removed, so she can share how they handled her.)*

- Allow the patient and companion time to reflect and discuss their experiences during the simulation.
- Did they feel stigmatized or treated differently because of the mother's COVID-19 diagnosis?

What was it like to be cared for with the providers covered with PPE?

- Frightening?
- Confusing - maybe she could not hear them well?
- Made her feel like they were afraid of her, or thought she was a threat to them?
- Anything else?

How is everyone feeling about all that we have to think about and do to care for COVID-19 patients, in addition to all of our usual work?

Worried about themselves and their families? Frustrated with hospital administration? Proud to be part of the effort? Allow them the opportunity to vent.

How can you take care of each other and yourselves during this crisis?

- Talk to coworkers. Get enough sleep. Eat well. Take breaks. Pray or meditate if spiritual.
- You cannot help others effectively if you are sick or exhausted. Your patients are depending on you to take care of yourself, too!

APPLICATION PHASE

Is there anything that we discovered, learned, or saw in the simulation, or discussed in the debrief, that you feel the facility leadership, anyone in this organization, or the Ministry of Health should know about?

- This is an opportunity to feed anything learned in the simulation and debrief into a quality improvement loop.
- Things are changing rapidly with COVID-19; sharing any discovery about bottlenecks, system issues, a lack of protocol clarity, or supply shortages is incredibly important during this time.

For the providers in the simulation, please reflect on one thing that you learned during the simulation that you will change the next time you are presented with a similar clinical situation. Let's go around and share.

- Give the providers time to reflect and make sure everyone shares one thing they will do differently.
- Thank everyone for their participation and give a round of applause (clap).



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