

# Challenge of Difficult Blood Draw During Covid-19 Pandemic Era

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## ***PHLEBOTOMY TODAY***

### ***COVID-19 EDITION***

A FREE monthly newsletter for those who perform, teach and supervise blood collection procedures.

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***April, 2020***

### **Phlebotomists and Covid-19**



Nobody is untouched by the Covid-19 pandemic. A virus 40 times smaller than a red blood cell has swept all that is normal and routine aside, replacing them with the unfamiliar and, at times, chaotic. For those who draw blood samples from patients, the risk of acquiring coronavirus must be taken seriously. Because the simple and necessary practice of drawing blood samples requires close contact for 4-6 minutes per patient, longer for difficult draws, phlebotomists and their managers must work closely with infection control professionals to minimize the potential for exposure. It's not as simple as applying standard precautions, a concept familiar to all healthcare professionals. Assuming all patients are potentially infectious coronavirus carriers requires all phlebotomists to wear N95 masks when drawing blood samples, but the demand exceeds the supply, at least for now. So how *do* we minimize the risk?

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## Overview

- **Indications of phlebotomy**
- **Difficult blood draws**
- **Overcoming difficult blood draws**
- **Additional challenges during Covid-19 pandemic**
- **Quality indicators of phlebotomy**
- **Monitoring and evaluation**

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## Phlebotomy

- **the drawing of blood**
- **Indications**
  - **blood sampling for purposes of laboratory tests**
  - **blood collection for donation**



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## Difficult blood draw

- **Physical factors**

- **Blood vessel condition**

- Pediatric/neonates: small
    - Elderly: loss elasticity, fragile, narrowing of the lumen
    - Chemotherapy: sclerotic
    - Hypovolemia: collapse

- **Anatomical condition**

- Obesity
    - Oedema
    - Injuries

- **Treatment**

- Multiple blood draws
    - IV lines

<https://aimvein.com/venipuncture-tips/>



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## Difficult blood draw

- **Psychological factors**

- Fear
  - Panic
  - Cognitive problems
  - Rude behavior
  - Emotional changes

<https://aimvein.com/venipuncture-tips/>



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## Overcoming difficult blood draws

### Preparation

- Get the proper training
- Get rested
- Be confident
- Explain the procedure
- Check patient's health
- Build your own approach

### Start of phlebotomy

- Patient's position
- Your position
- Take the necessary precautions
- Find the proper cannula size
- Always target the non-dominant arm

<https://aimvein.com/venipuncture-tips/>

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## Overcoming difficult blood draws

### Picking the right vein

- Take your time
- Use your hands
- Start from distal veins
- Avoid certain areas
- Ask the patient

### Make the vein more visible

- Do not slap the vein
- Put a warm towel
- Avoid fist pumping
- Stroking the veins
- Bending the arm upward
- Use vein finder

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## Overcoming difficult blood draws

- **Psychological approach**

- **Distractions**
- **Reassurance**
- **Be Friendly**
- **Validation**
- **Compassion**

<https://www.elitecme.com/resource-center/laboratory/5-phlebotomy-tips/>

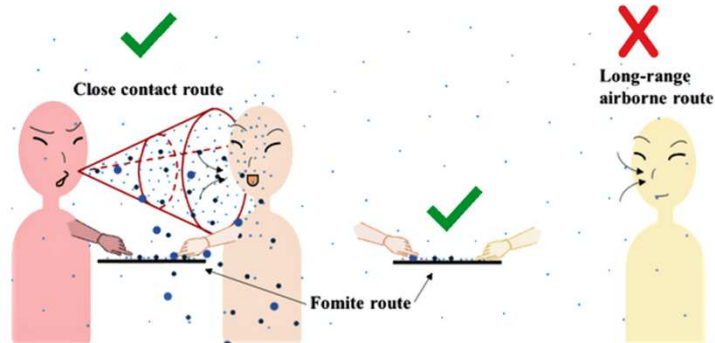
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## Challenges during Covid-19 Pandemic

- **Transmission**  
**droplet and contact**



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## Challenges during Covid-19 Pandemic

- **Pre-Covid-19 Pandemic**
- **During Covid-19 Pandemic**



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## Additional challenges during Covid-19 Pandemic

- **Additional Personal Protective Equipment (PPE)**
  - **Mask: N95**
  - **Goggles and face-shield**
  - **Double gloving?**
- **Triage of patients**

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## PPE for phlebotomist

**Preferred PPE – Use N95 or Higher Respirator**

Face shield or goggles

N95 or higher respirator  
When respirators are not available, use the best available alternative, like a facemask.

One pair of clean, non-sterile gloves

Isolation gown


**Acceptable Alternative PPE – Use Facemask**


Face shield or goggles

Facemask  
N95 or higher respirators are preferred but facemasks are an acceptable alternative.

One pair of clean, non-sterile gloves

Isolation gown





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## Donning of PPE



### Donning (putting on the gear):

More than one donning method may be acceptable. Training and practice using your healthcare facility's procedure is critical. Below is one example of donning.

1. **Identify and gather the proper PPE to don.** Ensure choice of gown size is correct (based on training).
2. **Perform hand hygiene using hand sanitizer.**
3. **Put on isolation gown.** Tie all of the ties on the gown. Assistance may be needed by another HCP.
4. **Put on NIOSH-approved N95 filtering facepiece respirator or higher (use a facemask if a respirator is not available).**  
If the respirator has a nosepiece, it should be fitted to the nose with both hands, not bent or tented. Do not pinch the nosepiece with one hand. Respirator/facemask should be extended under chin. Both your mouth and nose should be protected. Do not wear respirator/facemask under your chin or store in scrubs pocket between patients.\*
  - » **Respirator:** Respirator straps should be placed on crown of head (top strap) and base of neck (bottom strap). Perform a user seal check each time you put on the respirator.
  - » **Facemask:** Mask ties should be secured on crown of head (top tie) and base of neck (bottom tie). If mask has loops, hook them appropriately around your ears.
5. **Put on face shield or goggles.** When wearing an N95 respirator or half facepiece elastomeric respirator, select the proper eye protection to ensure that the respirator does not interfere with the correct positioning of the eye protection, and the eye protection does not affect the fit or seal of the respirator. Face shields provide full face coverage. Goggles also provide excellent protection for eyes, but fogging is common.
6. **Put on gloves.** Gloves should cover the cuff (wrist) of gown.
7. **HCP may now enter patient room.**



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## Putting on N95 respirator

### When you put on a disposable respirator

Position your respirator correctly and check the seal to protect yourself from COVID-19.



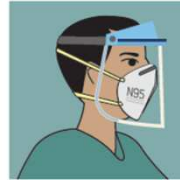
Cup the respirator in your hand. Hold the respirator under your chin with the nose piece up. The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears.



Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.



Place both hands over the respirator, take a quick breath in to check the seal. Breathe out. If you feel a leak when breathing in or breathing out, there is not a proper seal.



Select other PPE items that do not interfere with the fit or performance of your respirator.



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## Putting on facemask

### When putting on a facemask

Clean your hands and put on your facemask so it fully covers your mouth and nose.



DO secure the elastic bands around your ears.



DO secure the ties at the middle of your head and the base of your head.




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**When putting on a facemask**  
Clean your hands and put on your facemask so it fully covers your mouth and nose.




DO secure the elastic bands around your ears.




DO secure the ties at the middle of your head and the base of your head.

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**When wearing a facemask, don't do the following:**




DON'T wear your facemask under your nose or mouth.




DON'T allow a strap to hang down. DON'T cross the straps.




DON'T touch or adjust your facemask without cleaning your hands before and after.




DON'T wear your facemask on your head.



DON'T wear your facemask around your neck.




DON'T wear your facemask around your arm.




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## Doffing of PPE




**Doffing (taking off the gear):**  
*More than one doffing method may be acceptable. Training and practice using your healthcare facility's procedure is critical. Below is one example of doffing.*

1. **Remove gloves.** Ensure glove removal does not cause additional contamination of hands. Gloves can be removed using more than one technique (e.g., glove-in-glove or bird beak).
2. **Remove gown.** Untie all ties (or unsnap all buttons). Some gown ties can be broken rather than untied. Do so in gentle manner, avoiding a forceful movement. Reach up to the shoulders and carefully pull gown down and away from the body. Rolling the gown down is an acceptable approach. Dispose in trash receptacle.\*
3. **HCP may now exit patient room.**
4. **Perform hand hygiene.**
5. **Remove face shield or goggles.** Carefully remove face shield or goggles by grabbing the strap and pulling upwards and away from head. Do not touch the front of face shield or goggles.
6. **Remove and discard respirator (or facemask if used instead of respirator).**\* Do not touch the front of the respirator or facemask.
  - » **Respirator:** Remove the bottom strap by touching only the strap and bring it carefully over the head. Grasp the top strap and bring it carefully over the head, and then pull the respirator away from the face without touching the front of the respirator.
  - » **Facemask:** Carefully untie (or unhook from the ears) and pull away from face without touching the front.
7. **Perform hand hygiene after removing the respirator/facemask** and before putting it on again if your workplace is practicing reuse.

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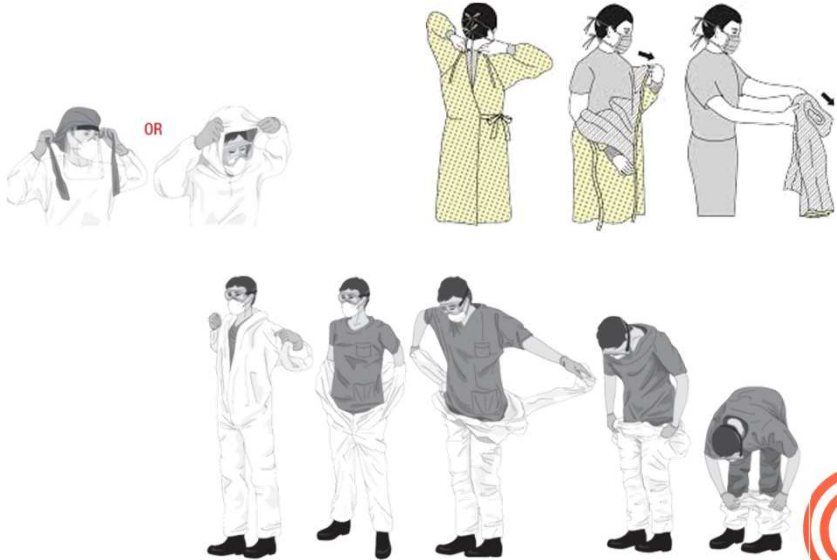
## How to Properly Remove Gloves


**To protect yourself, use the following steps to take off gloves:**

 <p>1 Grasp the outside of one glove at the wrist. Do not touch your bare skin.</p>	 <p>2 Peel the glove away from your body, pulling it inside out.</p>	 <p>3 Hold the glove you just removed in your gloved hand.</p>
 <p>4 Peel off the second glove by putting your fingers inside the glove at the top of your wrist.</p>	 <p>5 Turn the second glove inside out while pulling it away from your body, leaving the first glove inside the second.</p>	 <p>6 Dispose of the gloves safely. Do not reuse the gloves.</p>
 <p>7 Clean your hands immediately after removing gloves.</p>		

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## Doffing gown or coverall



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# Handwashing



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# Taking off N95 respirator

## When you take off a disposable respirator



Remove by pulling the bottom strap over back of head, followed by the top strap, without touching the respirator.



Discard in a waste container.



Clean your hands with alcohol-based hand sanitizer or soap and water.



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## Removing facemask

### When removing a facemask

Clean your hands and remove your facemask touching only the straps or ties.



DO leave the patient care area, then clean your hands with alcohol-based hand sanitizer or soap and water.



DO remove your facemask touching ONLY the straps or ties, throw it away\*, and clean your hands again.

\*If implementing limited-reuse: Facemasks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. Folded facemasks can be stored between uses in a clean, sealable paper bag or breathable container.



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## Quality indicators of phlebotomy

- number and rate per 100 full-time workers of sharps exposures and other occupational injuries occurring among health workers in the past 12 months
- number and rate of patients with adverse events in response to phlebotomy such as haematoma, syncope, infection or nerve damage
- number of reported cases of bloodborne pathogens transmitted during phlebotomy (disease surveillance for hepatitis B and C, and HIV)
- number (and percentage) of phlebotomy sessions where essential equipment was not available and phlebotomy sessions were cancelled

WHO guidelines on drawing blood: best practices in phlebotomy

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## Quality indicators of phlebotomy

- **number (and percentage) of laboratory test results lost due to errors or poor quality; for example**
  - blood culture contamination rate
  - blood transfusion adverse events
  - haemolysis
  - number of specimens with illegible or missing paperwork or labels
  - number of specimens that could not be processed due to inadequate sample volumes
- **number (and percentage) of trained staff in the health-care facility working in phlebotomy**
- **number (and proportion) of juniors who are supervised by trained staff**

WHO guidelines on drawing blood: best practices in phlebotomy

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## Monitoring and evaluation of phlebotomists

- **Use the quality indicators**
- **Incident reports**
- **Periodic re-training**

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## Closing messages

- **Compassion and communication play important role in overcoming difficult blood draws**
- **Continuous improvement of knowledge and skill is necessary**



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A word cloud of Indonesian expressions for 'Thank You' is centered on the slide. The words are arranged in various orientations and colors. The most prominent word is 'Terima Kasih' in large, pink, outlined letters. Other words include 'hatur nuhun', 'mauliate', 'nerima kasih', 'matur nuwun', 'amanai', 'tampiaseh', 'sakalakang', 'sauweghele', 'bujur', 'epanggawang', 'tarimokasih', 'teurimong gaseh beh', 'makaseh', 'kurusumanga', and 'suksema'. The IACC logo is visible in the bottom right corner of the word cloud area.

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