Adult draws:

Blood culture orders require two (2) sets of cultures to facilitate differentiation between positive blood cultures and bacterial contamination. Two (2) separate venipunctures/sites are required.

Both sets require:

- **BACTEC™ Plus Aerobic/F** Aerobic bottle denoted with a blue ring and grey label.
- **BACTEC™ Lytic/10 Anaerobic/F** bottle denoted with purple ring and purple label.

PEDIATRIC draws:

Blood culture orders on pediatric patients **weighing <9 kg (<20 lbs)** are only drawn as one venipuncture into a pediatric blood culture bottle.

This requires:

- **BACTEC™ Peds Plus™/F Culture Vials** bottle denoted with a silver/grey ring and pink label.

Blood cultures for children weighing 9 to 27 kg (20 to 60 lbs) should be draw into a single aerobic adult bottle. **Children weighing more than >27 kg (>60 lbs) require a FULL SET (four bottles) blood culture collection like adults.**

Refer to end of procedure for complete Pediatric draw information.

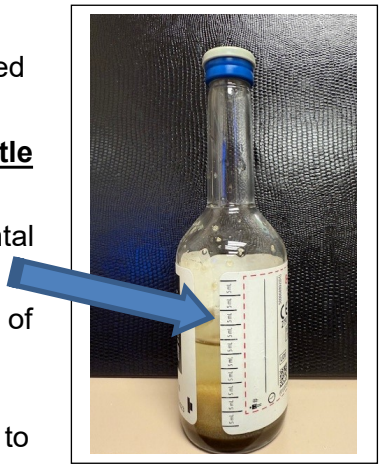
Blood Culture Process:

Always refer to nursing organizational specific procedures or policies when performing a task. Following correct specimen collection procedure is extremely important when obtaining blood culture specimens.

For optimal blood culture collection and processing:

- Bottles should be protected from direct light.
- Bottles should be stored in a cool dry place (at between 2 to 25° C).
- Ensure bottle has not expired as per date printed on the label as noted below.

- Bottles exhibiting evidence of damage, leakage or deterioration should be discarded. Return such bottles to your supplier for follow up.
- Check bottle for turbidity:
  - The fluid in the bottle should be a uniform pale yellow (straw) color and clear. If bottles do not appear as stated, return such bottles to your supplier for follow up.
- Check bottle for excessive gas pressure:
  - Septum of the bottle may bulge.
  - Syringe hub will push back or stay still instead of pulling the blood into the bottle. Return bottles to your supplier for follow up if excessive gas pressure is noted.
- If using a central venous access device (CVAD), also submit a peripheral draw with CVAD draw at the same time. This is required to interpret positive blood culture results.
- **<u>10 ml is the optimal amount of blood to be added to each bottle</u>**
  - Use the graduations on the side of the bottle for volume guide if not using a syringe. Ensure the bottle is upright on a horizontal surface when blood is added to it.
  - Bottles have more vacuum than that required to draw in 10 ml of blood; therefore, it is easy to add more blood volume than necessary (10 ml). **DO NOT do this.**
  - Pre-mark the 10 ml spot prior to drawing and only allow blood to that line.

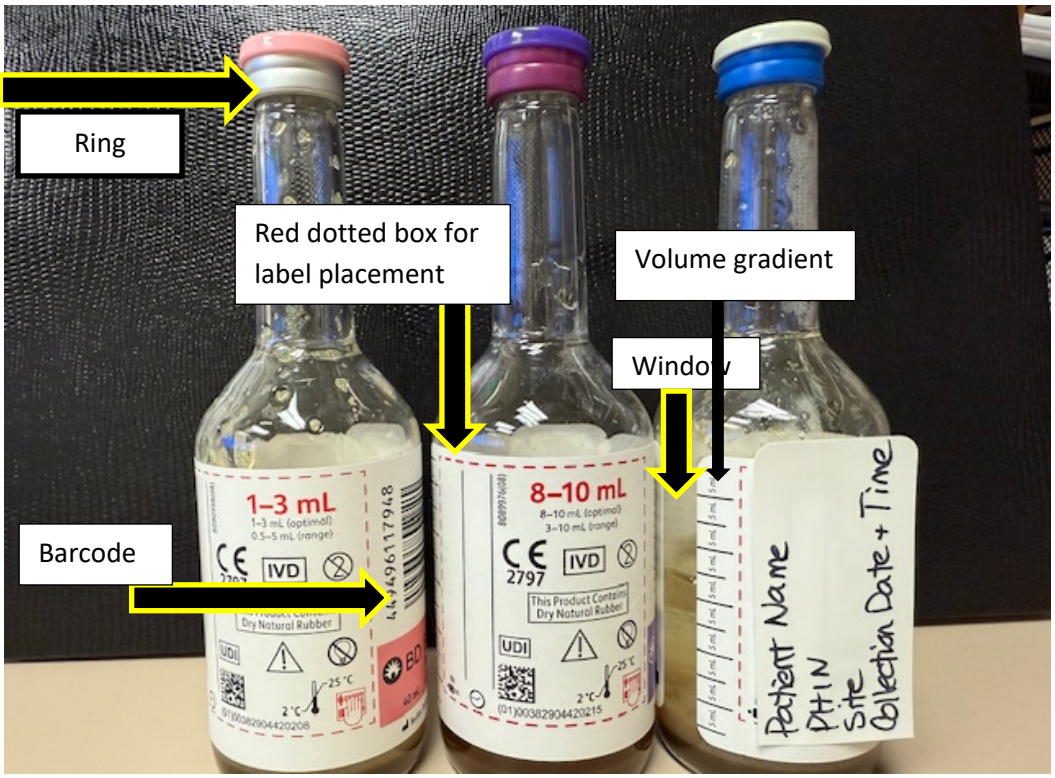


- <8 ml will delay detection or miss cultivation of the microbe as there is not enough blood volume.
- >12 ml will quench the anticoagulant, used in the broth, and dilute the nutrients in the broth hence the microbe may not be detected.
- Blood **MUST** be drawn **aseptically:**
  - Take care to prevent contamination during both bottle preparation and inoculation of the patient sample.
  - Prior to inoculation, remove the plastic flip-top cap from the bottle. Disinfect the bottle top (septum) with an ethanol alcohol prep pad or equivalent. Allow septum to air dry.
- Anaerobic (purple ring/purple label) – blood **MUST** be introduced into the anaerobic bottle **without any air:**
  - If using collection tubing that has air in it, place blood in aerobic bottle(blue ring/grey label) before filling anaerobic bottle(purple ring/purple label).
  - If using a syringe:
    - turn syringe upright so air flows to top
    - eject air from the syringe if present
    - place blood in anaerobic bottle (purple ring/ purple label) before filling the aerobic bottle (blue ring/grey label) with blood
- Short draws/insufficient volume:
  - DO NOT use the Pediatric bottle (silver/grey ring/pink label)
  - Put as much blood as possible, up to 10 ml, into the aerobic bottle (blue ring/grey label)
    - Any excess from the draw can then be placed into the anaerobic bottle (purple ring/purple label)
- DO NOT shake bottles before or after collection.
- DO NOT draw blood from a vein into which IV solution is running into. Follow Nurse Guidelines.
- **DO NOT use an established peripheral IV line to draw blood cultures as they are often contaminated. A new peripheral IV line can be used if it was inserted using the same aseptic technique used for blood culture draws.**
- Both venipunctures must be completed within 1 hour of each other for the cultures to be considered part of the same set.
- If blood cultures are being drawn to rule out line sepsis; a peripheral blood culture **must** also be drawn in addition to the culture drawn through the line.
- When both a line draw and a peripheral draw are done on the same patient, they must be **drawn within one hour of each other** or it will not be considered a set.
  - The set (CVAD and peripheral) must be sent to the lab together.
- DO NOT place collected blood cultures in a fridge prior to transporting to the lab, always maintain room temperature environment.

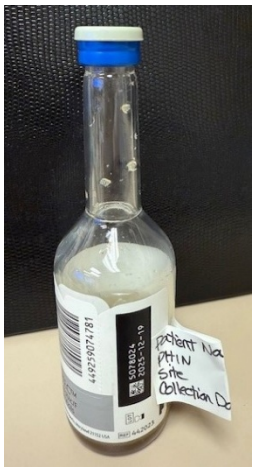
Labelling a Blood Culture:

After the blood has been collected and placed in the blood culture bottle:

- Label the bottle(s) immediately at the patient's bedside
- Labels require:
  - Name of patient, Last and First name
  - PHIN (or unique identifier)
  - Site where blood was collected from (eg. Left arm)
- This can be handwritten, legibly or with an ADT label or other such sticker
- There is a section on the Blood Culture bottle for the labels. Ensure label is placed in this area.
  - The patient label, if using one:
    - Labels cannot be flagged
    - Labels cannot be wrapped around the lid
    - Labels cannot obscure the bottle's barcode label
    - Labels should not obscure the window of fluid/blood
    - Labels should not cover up pertinent bottle information like expiry date
    - Label should not interfere with the measurement grid on the side of the bottle

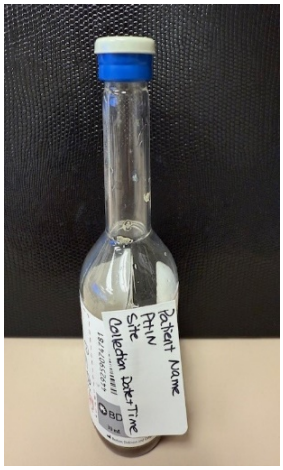


Label is nice and straight and in the appropriate box (red dotted line) as noted on the last bottle

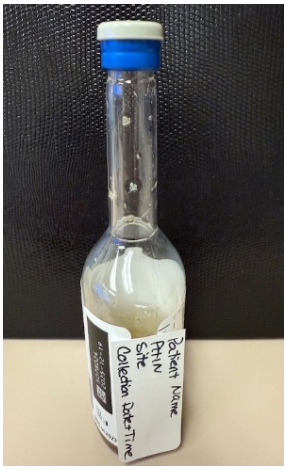


No flagging

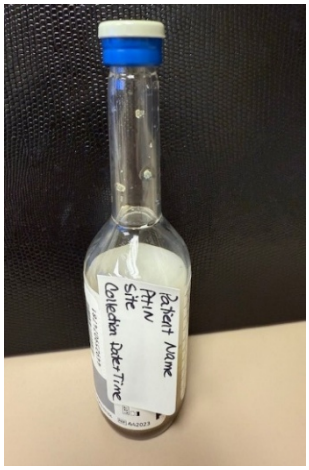
No wrapping



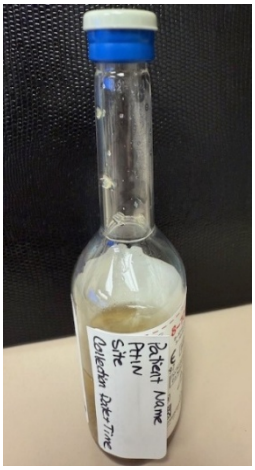
Do not cover up the bottle's unique barcode



Do not cover up window.



Do not cover up the bottle's pertinent information like lot# and expiry date



Do not cover up the measurement gradients

PEDIATRIC draws:

Blood culture orders on pediatric patients weighing <27 kg (<20 lbs) are only drawn as single venipuncture into one bottle.

This requires:

- **BACTEC™ Peds Plus™/F Culture Vials** bottle denoted with a silver/grey ring and pink label **for children weighing <9 kg (<20 lbs)**

  OR

- **BACTEC™ Plus Aerobic/F** Aerobic bottle denoted with a blue ring and grey label cap **for children weighing from 9 to 27 kg (20 to 60 lbs)**

OR

- Use above guidelines for pediatric bottles EXCEPT for the blood volume
- Volume is based on **WEIGHT and NOT AGE** of child
- Chart for volume of blood based on weight of child

WEIGHT	REQUIRED BLOOD VOLUME	NUMBER OF BOTTLES
<4 kg	0.5-1 ml	1 Pediatric (Pink label)
4 – <9 kg (<20 lbs)	2-4 ml	1 Pediatric (Pink label)
9 – 27 kg (20 – 60 lbs)	10 ml	1 Adult aerobic bottle (Grey label)
>27 kg (>60 lbs)	40 ml	2 sets of Adult bottles (2 Adult aerobic (Grey label) and 2 Adult anaerobic (Purple label)

- For the Pediatric bottle, 4 ml is the optimal amount
  - **Use the graduations on the side of the bottle for volume guide if not using a syringe**
    - **Bottles have more evacuation than required amount; therefore, it is easy to add more blood volume than necessitated.**
    - **Pre-mark the 4 ml spot prior to drawing and only allow blood to that line.**
- Less than a 4 ml blood volume will delay detection or miss cultivation of the microbe but blood culture MUST be drawn based upon patient weight as per policy.
- More than 4 ml blood volume will quench the anticoagulant used in the broth and over dilute the nutrients in the broth potentially resulting in false negative results.
- The pediatric bottle does **NOT** support the growth of anaerobic microorganisms.
- DO NOT draw blood from a vein into which IV solution is running. Follow Nurse Guidelines
- Do NOT use these bottles on adult patients or any person greater than 9 kg (20 lbs).