

RIGHT SAMPLE COLLECTION

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Collection of **BLOOD** for Conventional/BACTEC CULTURE:

1. Wash hands thoroughly and wear sterile gloves.
2. After selecting the vessel site, disinfect 5 cm areas of skin with 70% alcohol and **allow to dry**.
3. Clean once again with 10% povidone iodine and **allow to dry**.
4. Again, wipe the area with 70% alcohol (with or without 2% chlorhexidine) and **allow to dry**.
5. Collect 7-10 ml blood for adults (green cap), 4ml in children and 1 ml in neonate (yellow cap)
6. Remove the cap from the bottle and wipe with 70% alcohol and inject the blood directly into bottle. Do not put label over Bar code.

#ALWAYS COLLECT 2 SAMPLES FROM 2 DIFFERENT SITES

Collection **Swabs/Pus** Samples for AEROBIC CULTURE

1. Clean the site thoroughly with **sterile normal saline**.
2. Collect from the healthy part of the wound/ulcer (necrosed areas are to be avoided).
3. One swab at a time (total two swabs) to collect sample in a 'Roll over method'.
4. Avoid skin or environmental contamination while handling of swabs during collection.
5. TISSUE is a preferable sample than swab in any deep-seated wound (burn/gas gangrene/diabetic ulcer) where colony count is required.
6. Tissue to be sent in STERILE NORMAL SALINE only (not in formalin)

Collecting Samples for **MYCOBACTERIAL CULTURE**

1. In case of sample collected from unsterile sites, collect and send the specimen to the lab within 4 hours (PREFERABLY IN THE MORNING) to avoid overgrowth of normal flora.
2. Fill the RNTCP form of the patients whose specimen are submitted for Tuberculosis workup.

Collecting **SPUTUM**

1. Collect **EARLY MORNING** sputum in a sterile container after thoroughly rinsing the mouth with plain water.
2. Instruct the patient to take a deep breath 2-3 times, and then to cough out the sputum (**NOT** to spit out saliva)
3. Salivary samples will be rejected.

OTHER GENERAL INSTRUCTIONS

1. Transport specimens immediately to the laboratory for processing within **2 HOURS** of collection with **SRF form**.
2. Urinary catheter tip is **not** a proper sample so will be rejected.
3. If there is delay in transport, refrigerate the specimen (**EXCEPT** CSF, blood for culture, blood and urine for *Leptospira* spp. and specimen for anaerobic culture)
4. **Do not** use formalin for any specimen intended for Microbiological work-up.

A SUMMARY OF GOOD PRACTICE

B) USING NEEDLE AND SYRINGE

Conventional needles and syringes should be replaced wherever possible with winged blood collection sets, which are safer.^{58,60}

They should only be used if prevention measures to Accidental Blood Exposure are strictly applied.⁶¹ Needles must not be recapped, purposely bent or broken by hand, removed from disposable syringes or otherwise manipulated by hand.

1 PREPARE BLOOD COLLECTION KIT

Confirm the patient's identity and gather all required materials before beginning the collection process.

Do not use blood culture bottles beyond their expiration date, or bottles which show signs of damage, deterioration or contamination.

It is recommended to identify the Fill-to Mark or mark the target fill level on the blood culture bottle label about 10 mL above the media level.



2 PREPARE BOTTLES FOR INOCULATION

Wash hands with soap and water then dry, or apply an alcohol hand rub or another recognized effective hand rub solution.

Remove the plastic "flip-cap" from the blood culture bottles and disinfect the septum using an appropriate and recognized effective disinfectant, including chlorhexidine in 70% isopropyl alcohol, tincture of iodine, povidone-iodine in swab or applicator form. Use a fresh swab/applicator for each bottle. Allow bottle tops to dry in order to fully disinfect.



3 PREPARE VENIPUNCTURE SITE

If skin is visibly soiled, clean with soap and water. Apply a disposable tourniquet and palpate for a vein. Apply clean examination gloves (sterile gloves are not necessary).

Cleanse the skin using an appropriate disinfectant, including chlorhexidine in 70% isopropyl alcohol, tincture of iodine, povidone-iodine in swab or applicator form.

The venipuncture site is not fully clean until the disinfectant has fully evaporated.



4 VENIPUNCTURE

Attach the needle to a syringe. To prevent contaminating the puncture site, do not re-palpate the prepared vein before inserting the needle.

Insert the needle into the prepared vein.



5 CULTURE BOTTLE INOCULATION

Collect the sample. Transfer the blood into the culture bottles. Hold the bottle upright, and add up to 10 mL of blood per adult bottle and up to 4 mL per pediatric bottle. Ensure the bottle is correctly filled to the Fill-to Mark or target fill level.



6 FINISH THE PROCEDURE

Discard the needle and syringe into a sharps container and cover the puncture site with an appropriate dressing. Remove gloves and wash hands before recording the procedure, including indication for culture, date, time, site of venipuncture, and any complications.

Ensure that additional labels are placed in the space provided on the bottle label and do not cover the bottle barcodes, and that the tear-off barcode labels are not removed. If additional labels contain a barcode, they should be positioned in the same manner as the bottle barcode. Inoculated bottles should be transported to the laboratory for testing as quickly as possible, preferably within 2 hours per CLSI.⁶² If delays are expected, it is important to refer to the manufacturer's instructions for Use for guidance.



* Refer to recognized guidelines such as those issued by the WHO or CDC: <https://www.who.int/infection-prevention/tools/injections/ToolC-revised.pdf?ua=1> <http://www.cdc.gov/nhsletters/2000-108/pdfs/2000-108.pdf>

These recommendations illustrate the best practices for blood culture collection based on the World Health Organization recommendations (WHO guidelines on drawing blood: best practices in phlebotomy, 2010. ISBN 978 92 4 159922 1). Best practices may vary between healthcare facilities; refer to guidelines applicable in your facility.

Midstream-Clean-Catch Urine Collection

1. Wash your hands well with soap and water



2. Unscrew the collection cup. Do not touch the inside of the cup of lid



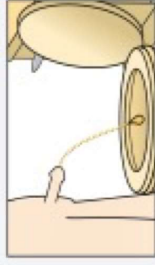
WOUND SWAB COLLECTION

- Site: deepest portion, and advancing edge or base
- Rolling swab with gentle pressure
- Superficial debris: thoroughly removed by irrigation or cleansing with saline
- Apply pressure on edge/base:
- For wounds visibly devoid of purulent materials

Male Instructions



4. Cleanse the end of the penis with the first catch swab. Invert the swab, beginning at the urethral opening and moving away from it. Use the handle of an unopened male toilet first for instruction. Repeat using a second clean towel.

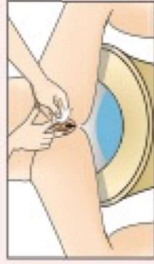


5. Void the first portion of urine into the toilet.

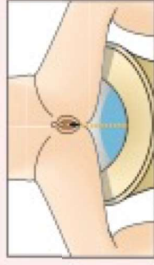


6. As you continue to void, bring the collection cup into the "midstream" to collect the urine specimen. DO NOT touch the inside or lip of the cup with the hands or any other part of the body. Void remainder of urine into the toilet.

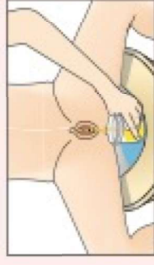
Female Instructions



4. Stand in a squatting position over the toilet. Separate the labia of the female and the urethral opening. Cleanse the area around the opening with the first catch swab. Repeat using a second clean towel.



5. Void the first portion of urine into the toilet.

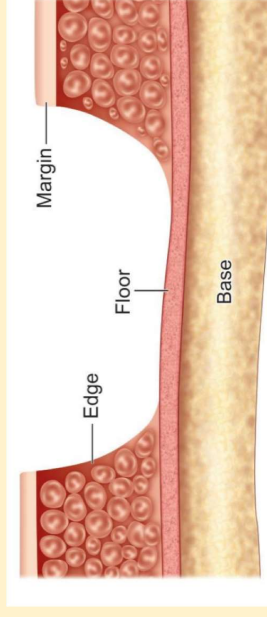


6. As you continue to void, bring the collection cup into the "midstream" to collect the urine specimen. DO NOT touch the inside or lip of the cup with the hands or any other part of the body. Void the remainder of urine into the toilet.

For draining sinuses and fistula:

- applying pressure
- rubbing swab at orifice of tract and collecting oozing material by intruding swab into tract

##Moistening: Useful for dry wound; Else, use dry swabs, as it absorbs more pus; Swabs not appropriate for Mycobacterial, fungal, and anaerobic culture





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Integrated Antimicrobial Stewardship (IAS) Practice Addendums

Diagnostic Stewardship: **Right Diagnosis**



Specimen	Collection Equipment	Transport	Instructions (comments)	DON'Ts
Anaerobe-special request	Gassed-out tubes Needle and syringe Anaerobic swab transport device	No refrigeration needed Use anaerobic transport method	1. Avoid all oxygen exposure 2. Expel air from syringe Anaerobic swab method 3. Label properly transport device 4. Hold a needed supply of media in anaerobic atmosphere for better initial growth. Not critical	1.No refrigeration 2.Avoid all oxygen exposure
Blood	Commercial kit Needle and syringe	Culture broth in bottles or automated culture bottles	❖ Decontaminate puncture site with alcohol (30 seconds) or iodine/chlorhexidine (2 minutes) ❖ Decontaminate bottle stopper with iodine-alcohol	✓ Do not palpate disinfected site ✓ Do not refrigerate ✓ Do not palpate disinfected site ✓ 3. Do not use the disinfectant for lesser time than instructed
CSF	Surgical prep and collection by physician Sterile screw-cap or snap-cap tubes	Transport in collection tube	1. Surgical prep of puncture site 2. Obtain as much as possible: 4-5 ml is optimal for adults; 0.5-1.0 ml in children 3. Handle as EMERGENCY specimen; hand carry to laboratory 4. One tube only, send to bacteriology; first, second and/or third, routinely to bacteriology	✓ Do not refrigerate
Ear	Aspirate from Tympanocentesis (otitis media). Swab of drainage	Transport medium	1. Clean external ear surface 2. Carefully take representative area 3. Label properly	✓ Do not collect from unclean ear
Eye	Swab (small) for each eye Corneal scraping (by physician)	Transport medium	1. Do not touch external skin 2. Obtain maximum material. Culture both eyes 3. Label properly 4. Prepare smears for Giemsa and/or Gram staining	✓ Do not touch external skin

Reference: Miller, JM. (1981). Handbook of Specimen Collection and Handling in Microbiology. Centers For Disease Control Atlanta, Georgia 30333; Global Antimicrobial Resistance Surveillance System: Manual for Early Implementation, Geneva: World Health Organization (2015). Accessed on 22 Nov 2021.

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Specimen	Collection Equipment	Transport	Instructions (comments)	DON'Ts
Feces	Clean or sterile collection cup Swab (only if necessary)	Refrigerate if not plated within 1 h Swab into transport medium Cary-Blair recommended for Campylobacter sp.	1. Best specimen is diarrheal stool 2. Swab is satisfactory in acute cases but not for routine specimens or surveys 3. Insert swab beyond anal sphincter. 4. Swab must show feces	Swab is satisfactory in acute cases but not for routine specimens or surveys
Genital	Swab	Do not refrigerate Immediate CO2 for GC Incubate at 35°C overnight before mailing	1. Collect cervicalS with a swab inserted through a speculum 2. Avoid touching swab to uninfected mucosal surfaces 3. Clean external urethra before taking urethral specimen 4. For GC, inoculate a modified ThayerMartin plate at bedside, if possible 5. Prepare slide for staining using a second swab 6. Label properly	✓ Do not refrigerate ✓ Avoid touching swab to uninfected mucosal surfaces
Nasopharynx	Cotton-tipped nichrome or stainless wire-28 ga	Do not refrigerate Transport medium	1. Nasal speculum helpful 2. Pass through nose into nasopharynx 3. Allow to remain for a few seconds 4. Carefully withdraw 5. Label properly	Do not refrigerate
Nose	Swab	Transport media	1. Swab anterior nares only 2. Culture quickly	Do not delay to put in up for culture
Sinus (tract)	Curet or surgical specimen Aspirate	Transport medium	1. Insert and remove carefully 2. Prepare slide for stain using second swab or after inoculating media	

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Specimen	Collection Equipment	Transport	Instructions (comments)	DON'Ts
Sputum	Sterile cup	Refrigerate if needed Transport in collection container	- Carefully instruct patient to cough deeply (not to spit) - First morning specimen is best (no 24-h collection) - Transport immediately; seal container tightly - Consider sputum potentially contaminated with M. tuberculosis	Donot use unsterilized container
Throat	Swab (tongue blade is necessary)	Transport medium if more than 2 h delay to laboratory	- USE TONGUE BLADE - Sample ONLY back of throat between & around the tonsillar area thoroughly - Avoid cheeks, teeth, etc. - Use silica gel packets to hold specimen more than 24 h	Avoid cheeks, teeth, etc.
Urine (midstream)	Sterile screw-cap cup	Transport in collection container Refrigerate quickly	- Give patient clear and detailed instructions - Clean with soap, not disinfectant - A 1-h delay before culturing is too long - Refrigerate no longer than 24 h prior to culture - Seal container tightly	✓ Avoid delay in culture ✓ Clean with soap, not disinfectant
Urine (catheter)	Sterile screw-cap tube Needle and syringe	Sterile tube	- Collect from catheter line - Do not culture Foley tips - Decontaminate line as with venipuncture or use port	Do not culture Foley tips
Wounds (surface)	Swab	Transport medium	- Decontaminate surrounding skin - Open lesion and express pus onto swab; sample advancing margin of lesion - Label properly	Do not take swab from unopened lesion and avoid contamination from surrounding.
Wound (deep)	Syringe Anaerobic swab kit	Anaerobic transport Transport aspirate in the collecting syringe or Place aspirate into anaerobic transport container or vial or Collect pus onto swab and place directly into anaerobic transport (not recommended)	- Maintain anaerobic conditions - Label properly	Maintain the anaerobic conditions

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