

# COLLECTION AND HANDLING OF SPECIMENS FOR MICROBIOLOGY

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## GENERAL INFORMATION

- Whenever possible, specimens should be obtained before antibiotics or other antimicrobial agents have been administered.
- Material should be collected where the suspected organisms are most likely to be found and with as little external contamination as possible.
- Another factor contributing to the successful isolation of the causative agent is the stage of the disease at which the specimen is collected for culture.
- When the patient must contribute actively in the collection of a specimen, he or she should have full instructions, and his or her cooperation should be encouraged by the nurse.
- Specimens should be of a quantity sufficient to permit complete examination and should be placed in sterile containers that preclude subsequent contamination of patient, nurse, or ward attendant.
- Provision must be made for prompt delivery of specimens to the lab if the subsequent results of analysis are to have etiological validity.
- The laboratory should be given sufficient clinical information to guide the microbiologist in his selection of suitable media and appropriate techniques. Identify the specimen source and/or specific site correctly.
- Under no circumstances should a specimen arriving at the laboratory with any of the infectious material on the outside of the container be accepted. Place specimen container in biohazard, zip-lock bags with requisition on outside of bag.
- The specimen must be properly identified by patient's name and one other identifier as written on requisition form, or it cannot be accepted by lab.
- Follow universal precautions. Treat all specimens as potentially hazardous and use appropriate barrier protection when collecting and transporting specimens.

## SPECIFIC INFORMATION

- Use of culturettes—cultures are collected in a sterile disposable unit consisting of a plastic tube containing a sterile polyester-tipped swab and a small ampule of modified Stuart's holding medium. The unit is removed from its sterile envelope, and the swab is used to collect the specimen. It is then returned to the tube, the ampule is crushed and the swab is forced into the released holding medium. This will provide sufficient moisture for storage up to 72 hours at room temperature. This may be used for the collection of material from the throat, nose, eye, ear, wound and operative sites, and from urogenital orifices.
- Sputums are collected in sterile wide-mouthed containers with tight covers. It is important to distinguish sputum from saliva and post-nasal discharges, and care should be taken to insure that only sputum is collected. Early morning collections are best and immediate transport to the lab is recommended.
- Urine cultures are collected in sterile containers from midstream collection or catheterization. Bladder aspiration is occasionally used to avoid contamination. Urine samples should be cultured as soon as possible, however, if it cannot be plated immediately, it should be placed in the refrigerator and it will in all likelihood be viable for at least several hours.
- When cerebrospinal fluid is collected for bacteriologic examination, it must be transported to the lab immediately and examined at once. CSF is usually collected in three sterile tubes, one for cell count, one for chemistries, and one for culture.
- Sputums for Tuberculosis culture are collected in sterile containers. First morning specimens are preferable and should be collected over three days.
- Anaerobic cultures are collected using the anaerobic culturette and transported to the lab as soon as possible. Hand deliver all anaerobic cultures to laboratory personnel.
- Blood cultures are collected using two bottles, one aerobic and one anaerobic, and incubated as soon as possible. DO NOT REFRIGERATE. Pediatric blood cultures are collected using one pediatric aerobic bottle.
- Urine cultures are to be placed in the laboratory refrigerator along with requisition slip.
- All other specimens (culturette tube, sputum, nose and throat cultures) are to be placed in specimen container in Laboratory office.

## CRITERIA FOR REJECTION OF SPECIMENS

All specimens not processed will be refrigerated for 2 days before they are discarded to safeguard against discarding of an irretrievable specimen. Discuss with physician when possible. Specimen will be rejected under the following conditions:

1. Container not identified.
2. Container and requisition form have different ID's.
3. Specimen submitted in wrong container, or not properly preserved.
4. Excessive delay before arrival of specimen in laboratory.
5. Outside of specimen container contaminated.
6. Quantity of specimen not adequate.
7. Dry swab received for culture.