

COLLECTION OF CLINICAL SPECIMENS FOR MYCOBACTERIAL TESTING

For diagnostic purposes, wherever possible, all clinical specimens should be collected before the initiation of chemotherapy. All clinical specimens should be collected, transported to the laboratory and processed in a single container. The recommended container is a sterile 50 ml, leak-proof, disposable, graduated screw top plastic tube.

Specimen containers sent out of the laboratory for the purpose of collecting specimens should be sterile with caps tightened.

An appropriate requisition, F40-B Specimen Submission Form should accompany all clinical specimens.

SPUTUM

The specimen should be collected only in an appropriate container clearly labeled with the patient's name, case number, site of specimen, and date of collection.

A series of single specimens (minimum of three), each not to exceed 10 ml in volume, should be collected from productive patients on successive days.

Preferably collect an early morning sample of sputum. Refrigerate the specimens between collection and processing to suppress contaminants and reduce odors.

For patients who have difficulty in raising sputum, several other methods may be used to obtain secretions from the lung for the culturing of mycobacteria.

1. NEBULIZED - Saline solutions have proved to be excellent means of inducing sputum.
2. LARYNGEAL SWAB - Should only be employed with small children.
3. BRONCHOSCOPY - Aspiration of secretions obtained at time of examination.
4. POST-BRONCHOSCOPY SPUTUM - Patients may be self-productive for several days due to bronch procedure
5. TRANSTRACHEAL ASPIRATION - Especially productive in small children
6. GASTRIC CONTENTS - Aspiration that contains swallowed sputum.

GASTRIC WASHINGS

The specimen should be collected early in the morning on a fasting stomach, preferably while the patient is still in bed.

Since mycobacteria may die rapidly in gastric washings, these specimens should be processed as soon as possible after collection.

If prompt processing (within 4 hours) is not possible, neutralization should be attempted with buffer solution made in the laboratory, and/or the addition of 10% sodium carbonate until a pH of 7 or 8 is achieved using phenol red as an indicator.

A minimum of three specimens should be submitted.

URINE

The specimen should consist of the entire first-passed early morning voided ("clean catch") or catheterized urine.

The entire volume of voided urine is collected in a sterile container. The specimen is centrifuged @ 3000 for 15 minutes and a 10 ml aliquot of sediment is processed.

A minimum of three individual urine specimens should be submitted.

The specimens should be refrigerated prior to processing and processed as soon as possible.

A 24-hour pooled urine specimen is not recommended and should be discouraged because it is likely to be contaminated and to contain fewer viable tubercle bacilli.

OTHER MATERIAL

Specimens of CSF, Pleural and Pericardial Fluid, Pus, Joint Fluid, Bronchial Secretions, Feces, Resected Lung Tissue, and Autopsy Material may be submitted for study.

Specimens may be refrigerated prior to processing and processed as soon as possible.

Tissue specimens may be frozen when a delay in processing is necessary. All tissue specimens must be thoroughly ground in the grinder or with sterile scissors before being processed.

Where necessary, sterile anticoagulants, such as heparin or ammonium oxalate, may be used to keep the specimen fluid.

Blood should be collected in a heparinized tube (green) or SPS tube and kept at room temperature until it is processed.

UNACCEPTABLE SPECIMENS

- Swabs are not recommended for the isolation of mycobacteria, since they provide limited material. They are acceptable only if a specimen cannot be collected by other means. State in report that negative results obtained from specimens submitted on swabs are not reliable.

- 24-Hour pooled Sputum specimens. A large percentage of these specimens consist of saliva and contain fewer viable tubercle bacilli.
- Blood collected in EDTA, which greatly inhibits mycobacterial growth even in trace amounts.
- Specimens submitted in Formalin, which is a tuberculocidal agent.

TRANSPORTATION & STORAGE OF SPECIMENS

Specimens collected at Regional Health Departments must be refrigerated upon collection and transported by courier, on ice packs/ice, within 24 hours of collection.

PROCEDURE FOR REJECTION OF SPECIMENS

1. Notify the physician by phone as soon as possible that the specimen is unacceptable, and explain the reason. Also, explain what specimen(s) would be acceptable for the given clinical situation.
2. Specimens not processed should be held for a minimum of 3 days at 2 - 8°C.