

Anaerobic Culture Submission Guidelines

In an effort to avoid workup on inappropriate samples (which are quite costly), Diagnostic Services recommends calling the laboratory for suggestions on the best specimen to submit. A sample from an inappropriate site, or an improperly collected specimen, may produce misleading lab results and may lead to the patient being treated with unnecessary antimicrobials or to false negative results.

General Guidelines:

Anaerobes are usually collected from a warm, moist environment that is low in oxygen. It is important to avoid “shocking” the anaerobes by exposing them to oxygen or allowing them to dry.

Anaerobic organisms are cold sensitive. Samples for anaerobic culture should not be refrigerated. They must be stored at room temperature.

Collection Using Needle & Syringe

Specimens collected by needle and syringe are better for anaerobic bacteriology than those collected by swabs (Swab fibres contain ambient air and introduce oxygen to the sample). After collecting the aspirated specimen, any air present in the needle and syringe should be expelled. Carefully place an alcohol-soaked gauze pad over the needle and cautiously expel the air.

Aspirated material may then be injected into one of the following for transportation to the lab:

- a) An ANAEROBIC swab (see below for suggested specimens)
- b) Thioglycollate enrichment broth
- c) An oxygen-free transport tube/vial (see below for suggested specimens)

Transportation using Anaerobic Swabs (Submit ASAP)

Suggested specimens: Surgical sites, thick pus, and other specimens as listed above (only if the oxygen-free transport tube/vial is not available).

The specimen (that has been either expelled from a syringe onto the swab, or collected directly from the site by the swab) should be placed immediately into an anaerobic transport system. It is important to ensure that the system is for isolation of fastidious anaerobes. Manufacturer’s instructions must be carefully followed.

Transportation using an Oxygen-Free Transport Tube/Vial (Submit ASAP)

Suggested specimens: aspirate, biopsy, bone, fluid and tissue

The sample should be placed into an oxygen-free transport system – preferably a PRAS transport system. This system contains oxygen-free gas and Cary-Blair transport media containing resazurin, an anaerobic indicator. This system consists of an anaerobic transport tube with a stopper that has a rubber diaphragm and a plastic screw cap. Aspirates are injected into the transport system through the rubber diaphragm after it has been decontaminated (with alcohol or other disinfectant). Swabs or small tissue samples can be inserted into the transport media by removing the cap. The tube is then tightly recapped and sent ASAP to the laboratory.

Acceptable & Unacceptable Clinical Specimens for Anaerobic Culture

Category of Specimen	Specimen Type	Comments
Acceptable	Transtracheal aspirates	
	Centesis samples from surgically prepared sites and usually sterile body sites (urinary bladder, blood, thoracic/ pleural cavity, peritoneal cavity, pericardial cavity, cerebrospinal fluid, joints)	
	Fistulous tracts	Clean skin first; use syringe to obtain specimen.
	Abscesses	
	Deep wound and aspirates from other soft tissues	Use a guarded swab
	Endometrial swabs	
Unacceptable	Surgical specimens obtained from usually sterile sites	The deeper the better; debride wounds before swabbing
	Saliva or nasopharyngeal swabs	Except for tooth root abscesses
	Gingival swabs	
	Bronchoscopy cultures	
	Vaginal or cervical swabs	
	Skin or superficial wounds	
	Gastric washes	
	Urine (free catch or catheter)	
	Feces, intestinal tract	Except for clostridial cultures.