
Lab Dept: Microbiology/Virology

Test Name: WOUND CULTURE AND GRAM STAIN

General Information

Lab Order Codes: WDC

Synonyms: Culture, Wound

CPT Codes: 87070 – Culture, bacterial; any other source except urine, blood or stool, with isolation and presumptive identification of isolates
87205 – Smear, primary source with interpretation; Gram or Giemsa stain for bacteria, fungi or cell types

The following testing may be added if appropriate based on findings for organism identification (multiple additions are possible if more than one organism is identified) and to aid in patient treatment management.

87076 – Anaerobic isolate, additional methods required for definitive identification of isolates

87077 – Aerobic isolate, additional methods required for definitive identification, each isolate (if appropriate)

87106 – Culture, fungi, definitive identification, each organism, yeast (if appropriate)

87107 – Culture, mold, definitive identification, each organism, mold (if appropriate)

87147 – Culture, typing; immunologic method, other than immunofluorescence (e.g., agglutination grouping), per antiserum (if appropriate)

87184 – Susceptibility studies, disk method, per plate (if appropriate)

87185 – Enzyme detection (eg, beta lactamase), per enzyme (if appropriate)

87186 – Susceptibility studies, microdilution or agar dilution, each multi-antimicrobial, per plate (if appropriate)

87206 – Smear, primary source with interpretation, fluorescent and/or acid fast stain for bacteria, fungi or cell types (if appropriate)

Test Includes: Gram stain and culture for aerobes and less fastidious anaerobes if appropriate. All aerobic organisms will be identified. Anaerobic organisms will be characterized or identified depending on the nature of the culture.

Logistics

Lab Testing Sections: Microbiology

Phone Numbers: MIN Lab: 612-813-5866

STP Lab: 651-220-6555

Test Availability:	Daily, 24 hours
Turnaround Time:	Preliminary report available at 1 day, final report within 2 - 5 days.
Special Instructions:	<ul style="list-style-type: none">● Specimen site and date/time of collection are required for specimen processing.● Indicate organisms suspected and diagnosis. If a Mycobacterium species (AFB, TB) or fungus is suspected, request AFB Culture or Fungal Culture.

Specimen

Specimen Type:	Pus or other material properly obtained from a wound. Aspirated material is superior to a swab specimen. If a swab must be used, collect two, one for culture and one for Gram stain.
Container:	Swab transport medium or sterile container Anaerobic transport system (available from Materials Management, Storeroom item #14536): <ol style="list-style-type: none">a. Store in dark at room temperature.b. Discard if media turns pink/purple.c. Discard after expiration date.
Volume:	0.5 mL pus preferred or swab in appropriate medium

Collection:**Bite Wounds:**

Do not culture fresh bites, as infectious agents may not be recovered.

1. Remove surface exudate by wiping with 70% alcohol.
2. Aspirate pus from the wound, or obtain it at the time of incision, drainage or debridement of infected wound.
3. Transfer material into sterile container or anaerobic transport system.

Deep Wounds:

1. Disinfect the surface with 70% alcohol and then with 2% tincture of iodine.
2. Aspirate the deepest portion of the lesion or pass a swab deep into the lesion, firmly sampling the lesion's leading edge. Avoid contamination by the wound surface.
3. If collection is done at surgery, a portion of the abscess wall should also be sent for culture.
4. Transfer material into a sterile container or anaerobic transport system.
5. Remove tincture of iodine with 70% alcohol to prevent burn.

Soft Tissue Aspirate:

1. Disinfect the surface with 70% alcohol and then with 2% tincture of iodine.
2. Aspirate the deepest portion of the lesion or sinus tract or pass a swab into the lesion, firmly sampling the lesion's edge. Avoid contamination by the wound surface.
3. Transfer material into a sterile container or anaerobic transport system.

Transport/Storage:

Onsite collections: Transport to the Microbiology Laboratory immediately at room temperature. **Do not refrigerate.** Refrigeration may inhibit the viability of anaerobic organisms.

Offsite collections: Specimens must be promptly transported to the laboratory, with the next available courier, not to exceed 24 hours from the time of collection.

- Transport aerobic swab or aspirate refrigerated.
- Transport anaerobic swab at room temperature.

Sample Rejection:

Improperly labeled specimen; specimens with prolonged transit (see [Transport/Storage](#) for requirements); insufficient volume; external contamination. If an unacceptable specimen is received, the physician or nursing station will be notified and another specimen will be requested before the specimen is discarded.

Interpretive**Reference Range:**

No growth

Alert Value:

- Gram-negative rods identified as ESBL or Carbapenemase producers will be called to the physician or patient's nurse. Infection Prevention will be notified.
- If MRSA is isolated for the first time, and the patient location is not Emergency department, the result will be called to the physician or patient's nurse.
- Any culture positive for potential agents of Bioterrorism – *Bacillus anthracis*, *Brucella*, *Burkholderia mallei/pseudomallei*, *Francisella tularensis*, or *Yersinia pestis* will be called to Infectious Disease and/or Infection Prevention.
- If any acid-fast bacilli is isolated, the result will be called to the physician or patient's nurse.

Limitations:

Specimens are routinely screened for rapid growing anaerobes (e.g., *Bacteroides fragilis* group, *Clostridium perfringens*, *Fusobacterium*, and anaerobic gram-positive cocci). Fastidious anaerobes may not be recovered despite significant efforts to collect and properly submit a specimen. If fastidious anaerobes are suspected, specifically order [Anaerobic Culture](#).

Any specimen submitted for microbial culture can be contaminated with colonizing organisms that are not contributing to disease. Organisms most likely to contaminate specimens of this type include, but are not limited to, *Corynebacterium* sp. and coagulase-negative staphylococci. However, these organisms may be pathogenic in certain settings.

Slow-growing *Mycobacterium* sp. or *Nocardia* sp. will not be recovered in routine bacterial cultures even if present, since extended incubation periods or special media are necessary for their isolation. Cultures for these organisms should be specifically requested.

Methodology:

Culture

References:

Cook, JH, and M Pezzlo (1992). Specimen receipt and accessioning. Section 1. Aerobic bacteriology, 1.2.1-4. In HD Isenberg (ed) Clinical Microbiology Procedures Handbook. American Society for Microbiology, Washington DC

Miller, J Michael (1999) A Guide To Specimen Management in Clinical Microbiology, American Society for Microbiology, Washington DC

Miller, J Michael, and HT Holmes (1999) Specimen Collection, Transport, and Storage In PR Murray et al, (ed), Manual of Clinical Microbiology, 7th edition, American Society for Microbiology, Washington DC, pp 33-104

Updates:

3/23/2010: CPT Updates

3/7/2011: CPT Updates

6/20/2012: Addition of Alert Value

11/11/2014: Addition of Offsite collection information