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**Lab Dept:** Microbiology

**Test Name:** FUNGAL CULTURE (NON-BLOOD)

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***General Information***

**Lab Order Codes:** FUNG

**Synonyms:** Culture, Fungus

**CPT Codes:** 87102 – Culture, fungi isolation, with presumptive identification of isolates; other source, except blood

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.

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

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

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

87181 – Susceptibility studies, E Test, per drug (if appropriate)

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

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

**Test Includes:** Culture for yeast and filamentous fungi, identification and antifungal susceptibility testing as required.

Physician or nursing unit will be notified of systemic fungal isolates from significant body sites.

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***Logistics***

**Lab Testing Sections:** Microbiology

**Referred to:** Fairview University Diagnostic Laboratories

**Phone Numbers:** MIN Lab: 612-813-5866

STP Lab: 651-220-6555

**Test Availability:** Daily, 24 hours

<b>Turnaround Time:</b>	Preliminary reports are updated Monday-Friday; negative results are reported between 4 days and 4 weeks, based on specimen type.
<b>Special Instructions:</b>	<ul style="list-style-type: none"> <li>• <b>Specimen site</b> and <b>date/time of collection</b> are required for processing.</li> <li>• <b>Indicate organism suspected or relevant clinical history on requisition.</b></li> <li>• For genital sources and urine, <b>order <a href="#">Yeast Only Culture</a></b>. Fungal orders from these sources will be canceled and reordered as Yeast Only Cultures.</li> <li>• For hair, skin, nails, <b>order <a href="#">Dermatophyte Culture</a></b>. Fungal orders from these sources will be canceled and reordered as Dermatophyte Cultures.</li> <li>• This procedure <b>does not</b> include blood or bone marrow specimens. Refer to separate listings <a href="#">Blood Culture, Fungus</a> and <a href="#">Bone Marrow Culture, Fungus</a>.</li> </ul>

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## ***Specimen***

<b>Specimen Type:</b>	<p>Abscess, aspirate, body fluid, bone, CSF, cyst, respiratory sources, tissue, stool and wound.</p> <p>For genital sources, urine, <b>order <a href="#">Yeast Only Culture</a></b>.</p> <p>For blood or bone marrow specimens, <b>order <a href="#">Blood Culture, Fungus</a> or <a href="#">Bone Marrow Culture, Fungus</a></b>.</p> <p>For hair, skin, nails, <b>order <a href="#">Dermatophyte Culture</a></b></p>
<b>Container:</b>	Sterile container or swab transport system. ESwabs are recommended if swabs are used.
<b>Volume:</b>	Visible material, 1-5 mL of body fluid
<b>Collection:</b>	<p>Swabs are not encouraged; however certain body sites, such as the ear canal, nasopharynx and throat are not readily collected by other means.</p> <p><b>Body fluids:</b></p> <ol style="list-style-type: none"> <li>1. Collect aseptically and place in sterile container.</li> </ol> <p><b>Bronchoscopy:</b></p> <ol style="list-style-type: none"> <li>1. Specimen obtained by physician through the biopsy channel of the bronchoscope.</li> <li>2. Transfer specimen into a sterile container.</li> </ol> <p><b>Bronchial brush:</b></p> <ol style="list-style-type: none"> <li>1. Place brush into a sterile container with 1.0 mL of saline.</li> </ol>

**Abscess, aspirate, exudate or drainage:**

1. Using a sterile needle and syringe, aspirate material from undrained abscesses.
2. Place in a sterile container.

**Sputum (expectorate):**

1. Collect early morning specimen under the direct supervision of a nurse or a physician.
2. Have patient rinse or gargle with water to remove superficial flora.
3. Instruct patient to cough deeply to produce a lower respiratory specimen.
4. Place in a sterile container.
5. Exam specimen to make sure it contains thick mucus. Do not submit saliva. Specimens with >10 epithelial cells per low power field will be rejected.

**Sputum (induced):**

1. Have patient rinse mouth with water after brushing gums and tongue.
2. With the aid of a nebulizer, have patients inhale ~25 mL of 3 to 10% sterile saline.
3. Collect the induced sputum in a sterile container.
4. Do not submit saliva. Specimens with >10 epithelial cells per low power field will be rejected.

**Tissue:**

1. Submit in sterile container.
2. For small samples, add a few drops of sterile saline to keep moist.
3. **Do not** allow tissue to dry out.
4. The portion of the biopsy specimen submitted for culture should be separated from the portion submitted for histopathology by the surgeon or pathologist.

**Transport/Storage:**

**Onsite collections:** Transport to the Microbiology Laboratory immediately.

**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.

**Special Processing:**

Store specimens at room temperature. Samples are stable at room temperature of refrigerated.

Process specimens as soon as possible after collection. Viability can be significantly decreased for *Histoplasma capsulatum*, *Coccidioides immitis*, *Blastomyces dermatitidis*, *Rhizopus* sp., and *Aspergillus fumigatus* when stored at RT or 4°C, especially if the specimens harbor relatively few fungal cells.

**Sample Rejection:**

Improperly labeled specimen; specimens with prolonged transit time (see [Transport/Storage](#) for requirements); specimen not submitted in appropriate transport container; 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.

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## ***Interpretive***

**Reference Range:** No fungus isolated

**Critical Values:** Isolation of *Cryptococcus neoformans*, *Coccidioides immitis*, *Histoplasma capsulatum*, *Blastomyces dermatitidis*, *Sporothrix schenckii*, and other fungi in significant body sites and clinical situations. The physician or patient's nurse will be notified if a systemic fungus is isolated.

**Limitations:** A negative culture does not rule out the presence of a fungal infection.

**Methodology:** Culture

**References:** University of Minnesota Physicians, Outreach Laboratories 2002 – 2003 Guide, p 125

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, 7<sup>th</sup> edition, American Society for Microbiology, Washington DC, pp 33-104

**Updates:** 3/24/2010: CPT updates  
11/18/2013: Genital and Urine specimens are no longer tested by this method.  
11/12/2014: Offsite collection information added.  
11/3/2015: CPT updates  
7/24/2017: Specimen update for hair, skin, nails  
10/15/2019: Updated specimen storage info