

# Microbiology

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**Hours:** 24 hr/day, 7 days/week

Specimens for microbiology must be collected properly and transported promptly in order to provide accurate, timely results. Appropriate transport media and transport conditions are listed on the following pages.

Transport containers may be obtained from Allina Reference Lab by calling 612-863-4678 or 1-800-281-4379.

On specimen label:      first and last name of the patient  
    date and time of collection  
    specimen source (throat, vaginal, etc.)

On request slip indicate:      specify source (urine- void\*, sputum, right leg wound, etc.)  
    date and time of collection  
    test requested

\* Specify void, cath, or foley cath on urine cultures, as culturing procedures differ based on method of collection.

Susceptibility testing is performed automatically on isolates considered by the Laboratory to be significant. If additional susceptibility testing is desired, contact the Microbiology Lab at 612-863-4337. Testing of an antimicrobial not on the routine panels may also be requested. Isolates are held for 7 days after the culture is finalized, for possible further identification or susceptibility testing.

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6617 AFC	<b>AFB CULTURE AND SMEAR (TB, MYCO- BACTERIUM)</b>	<p>AFB cultures include an acid-fast smear. No more than one specimen per day should be collected. (EXCEPTION: 3 <u>induced</u> sputums collected in one day are acceptable.)</p> <p><b>Specimen Type:</b> Tissues, Body Fluids, Stool, or Sputum.  <b>Container:</b> Sterile Container. Do not use waxed container  <b>Special Instructions:</b> 3 early morning deep cough specimens (or induced sputums) are recommended. Patients should rinse the mouth out vigorously with WATER, NOT mouthwash, before producing. Epithelial cell concentration indicates oropharyngeal contamination.  <b>Transport:</b> Refrigerated</p> <p><b>Specimen Type:</b> Urine  <b>Container:</b> Sterile urine container  Adults = &gt;40 ml  Child &lt;14 yrs = &gt;10 ml  <b>Special Instructions:</b> 3 clean catch early morning specimens are recommended. 24-hr pooled specimens are NOT acceptable.  <b>Transport:</b> Refrigerated</p> <p><b>Specimen Type:</b> Swab/Skin  <b>Special Instructions:</b> Swabs are the least desirable specimens for isolation of mycobacterium. Whenever possible, tissue biopsies or aspirated material is recommended from skin lesions.  <b>Transport:</b> Refrigerated</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6554 ANC	<b>ANAEROBIC CULTURE If aerobic culture not already performed at client lab, also order appropriate Aerobic Culture (Ex., 6555, Miscellaneous Bacterial Culture, 6558 Body Fluid Culture or 6532 Wound Culture).</b>	<p><b>Specimen Type:</b> Abscess Aspirate, Deep Aspirate of Wound, Body Fluid, Spinal Fluid, Joint Fluid, Tissue Biopsy, Closed Skin Lesion Aspirate, Suprapubic Aspirate of Urine, Semen Collected Surgically, Bronchoscopy Collected By Double-Lumen Catheter. <i>Specify source.</i></p> <p><b>UNACCEPTABLE:</b> Throat and Nasopharyngeal Swabs, Sputum, Fecal or Rectal Swabs, Vaginal or Cervical Swabs, Voided or Catheterized Urine, Skin Swabs, Specimens From Sites Contaminated with Fecal Flora, Superficial Wound Specimens.</p> <p><b>Container:</b> Anaerobic transport tube, anaerobic fluid vial or capped syringe with air expressed out.</p> <p><b>Transport:</b> Room Temperature. <i>DO NOT REFRIGERATE</i>  <i>Optimal:</i> Deliver to lab in less than 2 hrs.  <i>Acceptable:</i> Deliver to lab up to 24 hrs in anaerobic transport system.</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6558 BFL	<b>BODY FLUID CULTURE WITH GRAM STAIN</b>	<p><b>Specimen Type:</b> Thoracentesis, Ascitic, Pericardial, Knee Fluid, Etc. <i>Identify type of specimen.</i></p> <p><b>Container:</b> Capped syringe or well-capped container. If a syringe is used, express all air and then remove needle and cap.</p> <p><b>Transport:</b> Deliver to lab immediately or within 24 hrs of collection.</p>
6744 CHP	<b>CHLAMYDIA TRACHOMATIS PROBE</b>	<p><i>For detection of Chlamydia trachomatis</i></p> <p><b>Specimen Type:</b> Female Endocervical swab Male urethral swab Male or female urine in Aptima transport tube Other Sources: See Chlamydia trachomatis Culture</p> <p><b>Container:</b> Gen-Probe Aptima Unisex Swab Collection Kit – blue shafted swab Gen-Probe Aptima Urine Transport Tube</p> <p><b>Collection:</b> <u>Endocervical:</u> Remove excess mucus with white shafted swab. Discard the swab. Use blue shafted swab for 10-30 second sampling. Send swab in tube. <u>Male Urethral:</u> No urination 1 hour prior to collection. Use blue shafted swab for 2-3 second sampling. Send swab in tube. <u>Urine:</u> No urination 1 hour prior to collection. Female patients should not cleanse labial area prior to collection. First catch 20-30 ml. <u>Other Sources:</u> See Chlamydia trachomatis Culture * See further details in the Collection and Handling section GC and Chlamydia trachomatis Probe Collection.</p> <p><b>Processing:</b> Blue shafted swab in collection media or urine between fill lines in collection tube (above or below fill lines will be rejected).</p> <p><b>Transport:</b> Ambient or refrigerated within 30 days of collection (swab within 60 days of collection).</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
888 FUH	<b>FUNGUS CULTURE, SKIN, HAIR, NAILS</b>	<p><b>Specimen Type:</b> Skin Scrapings, Hair, Nails</p> <p><b>Container:</b> Sterile Container</p> <p><u>Skin Scrapings:</u> Cleanse area with 70% alcohol. Scrape active edge of the lesion or the top of a vesicle. Swab is undesirable.</p> <p><u>Hair:</u> Using a Wood's lamp (UV lamp emitting 366 nm) in a dark room, pluck fluorescent hairs with a forceps. If no fluorescence, use an ordinary tungsten light for examination for infected hairs.</p> <p><u>Nail Scrapings:</u> Cleanse with 70% alcohol. Use sterile scalpel to scrape surface. Discard surface scrapings. Send deep scrapings from areas that are easily broken or discolored or from under thick hyperkeratotic nails.</p> <p><b>Transport:</b> Room Temperature within 48 hrs of collection</p>
6579 FUN	<b>FUNGUS CULTURE, OTHER SOURCE</b>	<p><b>Specimen Type:</b> Sputum, Blood Fluids, Abscesses, Tissue, Wounds, and Urethral</p> <p><u>Vaginal mouth, stool, and specimens for yeast only:</u> See 6548 yeast culture.</p> <p><u>Skin, Hair, Nails:</u> See 888 Fungus Culture, Skin, Hair, Nails.</p> <p><i>***Fungus &amp; Routine Cultures: can be done on same specimen.</i></p> <p><b>Container:</b></p> <p><u>For sputum, fluids, tissue:</u> sterile container.</p> <p><u>For abscess, wound, etc:</u> double culture swab or aspirated material in a syringe.</p> <p><u>Sputum Specimens:</u> first morning specimen produce by a deep cough is optimal.</p> <p><b>Transport:</b> Refrigerated within 48 hrs of collection.</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
	<b>FUNGUS STAIN</b>	<p><u>Skin, Hair, and Nails:</u> Order 4348/KOS, KOH Prep – Skin, Hair, Nails</p> <p><u>Vaginal, Mouth, Stool:</u> Order 6524/KOH, KOH Prep – Other Source</p> <p><u>Tissue:</u> Write “Fungus Stain” on Histology requisition.</p> <p><u>Other specimens:</u> See Cytology test, 3996 Fungus/Pneumocystis Stain</p>
6746 GCC	<b>GC AND CHLAMYDIA TRACHOMATIS PROBE</b>	<p><i>For detection of <u>Neisseria gonorrhoeae and Chlamydia trachomatis</u></i></p> <p><b>Specimen Type:</b> Female endocervical swab Male urethral swab Male or female urine in Aptima transport tube Other Sources: See GC Culture and Chlamydia trachomatis Culture</p> <p><b>Container:</b> Gen-Probe Aptima Unisex Swab Collection Kit – blue shafted swab Gen-Probe Aptima Urine Transport Tube</p> <p><b>Collection:</b> <u>Endocervical:</u> Remove excess mucus with white shafted swab. Discard the swab. Use blue shafted swab for 10-30 second sampling. Send swab in tube. <u>Male Urethral:</u> No urination 1 hour prior to collection. Use blue shafted swab for 2-3 second sampling. Send swab in tube. <u>Urine:</u> No urination 1 hour prior to collection. Female patients should not cleanse labial area prior to collection. First catch 20-30 ml. <u>Other Sources:</u> See GC Culture and Chlamydia trachomatis Culture</p> <p>* See further details in the Collection and Handling section GC and Chlamydia trachomatis Probe Collection.</p> <p><b>Processing:</b> Blue shafted swab in collection media or urine between fill lines in collection tube (above or below fill lines will be rejected).</p> <p><b>Transport:</b> Ambient or refrigerated within 30 days of collection. (Swab within 60 days.)</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6582 GC	<b>GC CULTURE ONLY</b>	<p><i>Culture for <u>Neisseria gonorrhoeae</u></i></p> <p><b>Specimen:</b> Cervix, Vagina, Urethral, Throat, Rectum, Eye</p> <p><b>Container:</b> Charcoal culture swab or MTM Plate <u>MTM Plate with CO<sub>2</sub> Pill and Bag:</u></p> <p>a. Roll one swab over plate. Discard swab. Send other swab.</p> <p>b. Remove CO<sub>2</sub> pill from foil and place in plastic bag with MTM plate. Seal securely.</p> <p><b>Transport:</b> Room Temperature</p> <p>Charcoal Culture Swab: within 24 hrs of collection</p> <p>Non-Charcoal Culture Swab: within 12 hrs of collection</p> <p>MTM Plate in CO<sub>2</sub> Bag: within 5 hrs of collection/plating</p>
6745 GCP	<b>GC PROBE</b>	<p><i>For detection of <u>Neisseria gonorrhoeae</u></i></p> <p><b>Specimen:</b></p> <p>Female endocervical swab</p> <p>Male urethral swab</p> <p>Male or female urine in Aptima urine transport tube</p> <p>Other Sources: See GC Culture</p> <p><b>Container:</b></p> <p>Gen-Probe Aptima Unisex Swab Collection Kit – blue shafted swab</p> <p>Gen-Probe Aptima Urine Transport Tube</p> <p><b>Collection:</b></p> <p><u>Endocervical:</u> Remove excess mucus with white shafted swab. Discard the swab. Use blue shafted swab for 10-30 second sampling. Send swab in tube.</p> <p><u>Male Urethral:</u> No urination 1 hour prior to collection. Use blue shafted swab for 2-3 sec sampling. Send swab in tube.</p> <p><u>Urine:</u> No urination 1 hour prior to collection. Female patients should not cleanse labial area prior to collection. First catch 20-30 ml.</p> <p><u>Other Sources:</u> See GC Culture</p> <p>* See further details in the Collection and Handling section GC and Chlamydia trachomatis Probe Collection.</p> <p><b>Processing:</b></p> <p>Blue shafted swab in collection media or urine between fill lines in urine transport tube (above or below fill lines will be rejected).</p> <p><b>Transport:</b> Ambient or refrigerated within 30 days of collection (swab within 60 days).</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6584 GRM	<b>GRAM STAIN</b>	<p><b>Specimen Type:</b> Miscellaneous Sources</p> <p><b>Container:</b> 1 culture swab or specimen in sterile container. All routine cultures EXCEPT stool, nose, throat, semen, GC and urine have gram stains included. A urine gram stain will be done on request.</p>
6607 MAL	<b>MALARIA / PARASITE SMEAR</b>	<p><b>Specimen Type:</b> Whole Blood + Thin Blood Smear made within ½ hr of collection.</p> <p><b>Container:</b> 1 EDTA tube Although the optimum time is about midway between chills to ensure obtaining stages on which species identifications can be made, <i>BLOOD COLLECTION SHOULD BE PERFORMED IMMEDIATELY UPON FIRST SUGGESTION OF MALARIA.</i> Since single films may not reveal organisms, successive films at 6, 12, or 24 hrs are sometimes necessary. Blood samples must be taken before any antimalarial drugs are used to ensure demonstration of organisms if the patient does have malaria.</p> <p><b>Transport:</b> Refrigerated</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6555 MSC	<b>MISCELLANEOUS BACTERIAL CULTURE WITH GRAM STAIN</b>	<p><b>Specimen Type:</b> Ear, Eye, Sinus or other Miscellaneous specimens</p> <p><b>Container:</b> Sterile double culture swab, sterile container, or sterile syringe. Specify source.</p> <p><b>Transport:</b> Room Temperature within 24 hrs of collection</p>
4347 SCA	<b>SCABIES/MITE EXAM</b>	<p><b>Specimen Type:</b> Skin scrapings</p> <p><b>Container:</b> Tightly covered container</p> <ol style="list-style-type: none"> <li>Place a drop of mineral oil on the skin surface overlying a burrow.</li> <li>Scrape the skin several times with the edge of a scalpel blade, trying to tease the burrow contents from inside to the outer pore. Epidermal fragments and burrow contents will adhere to the oil on the blade edge.</li> <li>Place skin scrapings on a glass slide covered with a second glass slide or place the skin scrapings in a covered container. If two slides are used, secure them together with scotch tape and place them in a covered container.</li> </ol> <p><b>Transport:</b> Room Temperature</p>
6555 MSC	<b>SINUS CULTURE AND GRAM STAIN</b>	<p>See Miscellaneous Bacterial Culture with Gram Stain. Enter Source: "Sinus", Sinus Aspirate, etc.</p>
6561 SPU	<b>SPUTUM CULTURE AND GRAM STAIN</b>	<p><b>Specimen Type:</b> Sputum</p> <p><b>Container:</b> Sterile Plastic Container The first morning specimen produced by a deep cough is optimal. The patient should rinse only with water. <i>Fungus and routine cultures can be done on the same specimen.</i></p> <p><b>Transport:</b> Promptly at Room Temperature. DO NOT REFRIGERATE. Specimen should be received within 24 hrs of collection. (Optimum within 2 hrs)</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6565 VAG	<b>VAGINAL/ CERVICAL CULTURE WITH GRAM STAIN</b>	<p><b>Specimen Type:</b> Vagina or Cervix</p> <p><b>Container:</b>  <u>Routine Culture:</u> Double Swab Culturette  <u>Routine Culture &amp; GC:</u> Double Swab Culturette and 1 Modified Thayer-Martin plate.  <i>See instructions for GC CULTURE</i>  <u>Gardnerella:</u> Obtain culture material on double swab. Order a vaginal culture and specify "for Gardnerella".</p> <p><b>Transport:</b> Room Temperature within 24 hrs of collection - DO NOT REFRIGERATE</p>
6568 VRS	<b>VAGINAL / RECTAL OB STREP CULTURE</b>	<p><i>For group B beta <u>Streptococcus</u> screening of OB patients.</i></p> <p><b>Specimen Type:</b> Vaginal/Rectal swab optimal Swab vagina first, then rectum.. Remove one swab from the cap of a double culture swab and use it to obtain a specimen from the vaginal introitus. DO NOT use a speculum. <b>Note: Cervical Specimens are unacceptable.</b> Use the second culture swab to collect a specimen from the anorectum. Return both swabs together to the culture tube and label with "vaginal/rectal".</p> <p><b>Container:</b> Culture Swab</p> <p><b>Transport:</b> Room Temperature within 24 hrs of collection</p>
6550 VRE	<b>VRE CULTURE</b>	<p><i>For Vancomycin-resistant Enterococcus</i></p> <p><b>Specimen Type:</b> Rectal, perirectal, stool, or miscellaneous sources</p> <p><b>Container:</b> Culture swab, stool in sterile container</p> <p><b>Transport:</b>  <u>Culture Swab:</u> Room Temperature within 24 hours of collection.  <u>Stool:</u> Refrigerated within 24 hours of collection.</p>

<u>TEST#/ CODE</u>	<u>TEST</u>	<u>SPECIMEN REQUIREMENTS</u>
6532 WND	<b>WOUND/ ABSCESS CULTURE AND GRAM STAIN</b>	<p><b>Specimen Type:</b> Wound, Abscess, or Aspirate</p> <p><b>Container:</b> Double culture swab or aspirated specimen in sterile container</p> <p><u>Abscesses:</u></p> <ol style="list-style-type: none"> <li>1. Disinfect surface through which aspirate will be obtained.</li> <li>2. Aspirate as much purulent material as possible using a sterile syringe and needle.</li> <li>3. Express all the air from the syringe. Remove needle and cap the syringe or inject into a sterile tube.</li> <li>4. Transport specimen immediately to lab.</li> </ol> <p><u>Wound Site:</u></p> <ol style="list-style-type: none"> <li>1. Clean the sinus tract opening or the wound surface with sterile saline, water or soap. Do not use a germicidal agent.</li> <li>2. Skin adjacent to the wound is often colonized with "normal flora"; therefore, it is important to culture only the base of the wound without touching the edges.</li> <li>3. Needle aspiration is optimal for culture of wounds.</li> </ol> <p><b>Transport:</b> Room Temperature within 24 hrs of collection</p>
6548 YST	<b>YEAST CULTURE</b>	<p><b>Specimen Type:</b> Vaginal or oral swabs or scrapings, stool or any specimen for yeast only</p> <p><b>Container:</b> Culture swab or sterile screw cap container</p> <p><b>Transport:</b> Refrigerated within 48 hrs of collection</p>

### Urine Culture / Urine Culture, Additional Workup

**Container:** Urine culture preservative tube. Label with patient's name, date and time of collection, and "void", "cath", or "foley".

#### **6564/UC Urine Culture:**

Automatic identification and susceptibility testing based on collection method (void, cath, or foley), type of organism, colony count and number of different types of organisms present. This test is appropriate for the routine patient. See following tables 1 and 2.

#### **6680/UCA Urine Culture, Additional Workup:**

Automatic identification and susceptibility testing on lower colony counts than the routine Urine Culture. Order "Urine Culture, Additional Workup" instead of a "Urine Culture:" for patients in whom lower counts are significant. See following tables 1 and 2.

#### **General Information:**

1. Each identification and susceptibility has an additional charge.
2. Organisms are held for 7 days. Call Customer Service (612-863-4678) for additional identification and susceptibility testing. Complete and fax a Microbiology Susceptibilities Add-On Request to Allina Medical Laboratories at 612-863-4067. This form can be found at the AML website in the Forms section ([www.allina.com/medicallaboratories](http://www.allina.com/medicallaboratories)).  
Susceptibilities are performed on gram negative bacilli, *Enterococcus*, and *Staphylococcus*.  
Susceptibilities on gram positive bacilli and yeast must be sent to Fairview/University.
3. Lower limit of sensitivity on urine culture: 1,000 col/ml.

<b>Table 1. URINE CULTURE - COMMON ISOLATES</b>	
<b><u>Potential Pathogens</u></b>	<b><u>Probable Contaminants</u></b>
Gram negative bacilli	Gram positive bacilli
<i>Enterococcus</i>	Alpha and gamma streptococci
<i>Staphylococcus aureus</i>	Coag negative <i>Staphylococcus</i> , except <i>S. saprophyticus</i>
<i>Staphylococcus saprophyticus</i> *	Saprophytic <i>Neisseria</i>
Other coag neg <i>Staph</i> (immunocompromised)	Gram positive cocci, not Staph or Strep
Beta <i>Streptococcus</i> *	
<i>Gardnerella vaginalis</i> , $\geq 50,000$ *	
Yeast*	
*No routine susceptibility	

**Table 2. URINE CULTURE INTERPRETIVE GUIDELINES**

<b>Quantitation (col/ml)</b>	<b>Organism</b>	<b>Ident Level/Susceptibilities (ID/S) URINE CULTURE</b>	<b>Ident Level/Susceptibilities (ID/S) URINE CULTURE, ADDITIONAL WORKUP</b>
<10,000	Pathogens, except <i>Gardnerella</i>	<b>Void:</b> Multiple organisms <b>Cath:</b> Descriptive ID, except Staph in mixed culture	<b>Pure:</b> ID and S <b>Mixed:</b> Void - Multiple organisms Cath – Descriptive ID, except Staph in mixed culture.
	Contaminants	<b>Void:</b> Multiple organisms <b>Cath:</b> Multiple organisms; probable contaminants	<b>Void:</b> Multiple organisms <b>Cath:</b> Multiple organisms; probable contaminants.

<b>1-2 Organisms <math>\geq 10,000</math></b>			
10-50,000	Pathogens, except <i>Gardnerella</i>	If $\geq 50,000$ contaminant, descriptive ID of pathogen. <b>Void:</b> ID <b>Cath:</b> ID and S (see Staph below) <b>S.aureus:</b> ID and S (pure) or ID (mixed) <b>Coag neg Staph:</b> <b>Void:</b> <b>Pure</b> - "Staph" <b>Mixed</b> - Multiple organisms; probable contaminants <b>Cath:</b> <i>S.saprophyticus</i> : ID* Coag neg Staph: ID (S if pure)	If $\geq 50,000$ contaminant, descriptive ID of pathogen. <b>ID and S</b> <b>Coag neg Staph:</b> <b>Void:</b> <b>Pure</b> - <i>S.saprophyticus</i> : ID* Other coag neg Staph: ID/S <b>Mixed</b> - Multiple organisms; probable contaminants <b>Cath:</b> <i>S.saprophyticus</i> : ID* Coag neg Staph: ID/S
	Contaminants	Multiple organisms; probable contaminants	<b>Pure:</b> Descriptive ID <b>Mixed:</b> Multiple organisms; probable contaminants.
50 - 100,000 >100,000	Pathogens	ID and S <i>S. saprophyticus</i> : ID* Other coag neg Staph: ID (S if pure)	ID and S <i>S. saprophyticus</i> : ID* Other coag neg Staph: ID/ S
	Contaminants	Multiple organisms; probable contaminants	<b>Pure:</b> Descriptive ID. <b>Mixed:</b> Multiple organisms; probable contaminants.
<b>3 Organisms <math>\geq 10,000</math></b>			
	Pathogens	1. If one pathogen clearly predominates, ID and S. 2. <b>Void:</b> Descriptive ID. "Specimen appears contaminated; no further workup pending" 3. <b>Cath:</b> Descriptive ID. "May represent colonization; no further workup pending"	ID and S. ( <i>S.saprophyticus</i> : ID* Other coag neg Staph: ID) <b>If contaminants = or &gt; than pathogens, descriptive ID, with comment:</b> <b>Void:</b> "Specimen appears contaminated; no further workup pending" <b>Cath:</b> "May represent colonization; no further workup pending"
	Contaminants	Multiple organisms; probable contaminants	Multiple organisms; probable contaminants

\* *Staphylococcus saprophyticus* typically responds to urine concentrations of agents commonly used to treat acute uncomplicated UTIs (nitrofurantoin, trimeth plus or minus sulfa, or a fluoroquinolone. Routine susceptibility testing is not recommended.

## ANTIMICROBIAL PANELS FOR SUSCEPTIBILITY TESTING

<b>GRAM NEGATIVE BACILLI, FERMENTERS,</b> excluding Salmonella, Shigella	<b>PSEUDOMONAS AERUGINOSA</b>	<b>NONFERMENTERS</b> Acinetobacter Pseudomonas sp, not aeruginosa Nonfastidious nonfermenters	<b>AEROMONAS PLESIOMONAS</b>
Trimethoprim/sulfa Ampicillin Cefazolin Gentamicin Ceftriaxone Ceftizoxime Ceftazidime Ciprofloxacin Piperacillin/tazobactam Imipenem Tobramycin Ampicillin/sulbactam Cefepime  <u>Urine isolates, add:</u> Nitrofurantoin	Gentamicin Ceftazidime Ciprofloxacin Piperacillin/tazo Imipenem Tobramycin Cefepime	Trimethoprim/sulfa Gentamicin Ceftazidime Ciprofloxacin Piperacillin/tazobactam Imipenem Tobramycin	Trimethoprim/sulfa Gentamicin Ceftriaxone Ceftazidime Ciprofloxacin Piperacillin/tazobactam Imipenem Ampicillin/sulbactam
		<b>STENOTROPHOMONAS BURKHOLDERIA CEPACIA</b>	<b>SALMONELLA SHIGELLA</b>
		Trimethoprim/sulfa Levofloxacin Ceftazidime Ticardillin/clavulanate	Trimethoprim/sulfa Ampicillin Ciprofloxacin  <u>Non-Intestinal, add:</u> Ceftriaxone Ceftazidime

<b>STAPHYLOCOCCUS</b>	<b>ENTEROCOCCUS</b>	<b>STREPTOCOCCUS PNEUMONIAE</b>
<p>Penicillin Oxacillin Erythromycin (not on urine) Clindamycin (not on urine) Tetracycline Cefazolin Vancomycin Levofloxacin Moxifloxacin – (Methicillin-Susceptible <i>S.aureus</i> only) Trimethoprim/sulfa (<i>S. aureus</i> only)</p> <p><u>Urine isolates, also:</u> Nitrofurantoin</p> <p><u>MRSA, also:</u> Rifampin Linezolid (blood, CSF, pleural fluid, and joint fluid isolates)</p> <p><u>Eye isolates, also:</u> Gentamicin</p>	<p>Ampicillin Vancomycin Gentamicin Synergy Streptomycin Synergy</p> <p><u>Urine isolates, also:</u> Nitrofurantoin Levofloxacin</p> <p><u>VRE: blood, csf, pleural fluid, and joint fluid isolates, also:</u> Quinupristin/dalfopristin (Synercid) Linezolid</p>	<p><u>CSF isolates:</u> Penicillin Vancomycin Ceftriaxone</p> <p><u>Blood, Eye, Tissue, Sterile Body Fluid and other critical source isolates:</u> Penicillin Clarithromycin Trimethoprim/sulfa Vancomycin Moxifloxacin Ceftriaxone Azithromycin</p> <p><u>Sputum, Bronch, Sinus, Ear, and other Non-sterile site isolates:</u> Screened for Penicillin resistance.</p> <p>If Penicillin resistant by screen, same antimicrobial panel tested as critical source isolates.</p>
<b>STREPTOCOCCUS, Other species</b>	<b>HAEMOPHILUS all species</b>	<b>ANAEROBES (By Special Request Only)</b>
<p>Penicillin Erythromycin Clindamycin Vancomycin Ceftriaxone</p> <p><u>Eye isolates, also:</u> Clarithromycin</p>	<p><u>Blood and CSF isolates:</u> Ampicillin Ceftriaxone</p> <p><u>Other sources:</u> Ampicillin Ceftriaxone Trimethoprim/Sulfa Amoxicillin/clavulanic acid Cefuroxime Azithromycin Clarithromycin (eye only)</p>	<p>Penicillin Piperacillin/tazobactam Clindamycin Cefoxitin Imipenem Metronidazole</p> <p>The clinical utility of MICs performed on these isolates is controversial. Clinical judgment should be exercised.</p>

**REFERRAL CULTURE PLATES****Plate specimens at clinic and return ALL plates to AML**

Plates provided by AML at no charge.

Order:           6564   Urine Culture  
                  6680   Urine Culture, Additional Workup  
                  6566   Throat Strep A Culture  
                  6563   Throat Culture  
                  or other appropriate culture

If plates are incubated at the clinic, use a sticker on the plate to indicate the number of hours incubated at the clinic to enable faster turnaround times.

Microbiology will perform identification and susceptibility testing on the isolated organisms according to routine procedures. Nonpathogens will have limited or no workup.

**Plate specimens at clinic and send only positive plates to AML**

Clinic will provide the media.

Order:           If susceptibilities are desired if the organism is identified as a pathogen, order:  
                  6712   Referral ID/Susceptibility – Urine  
                  6714   Referral ID/Susceptibility – Nonurine

Note: A susceptibility charge will only be added to the above tests, if a susceptibility is performed.

If no susceptibilities are desired, order:  
                  6567   Referral ID only – Urine  
                  6713   Referral ID only - Nonurine

If plates are incubated at the clinic, use a sticker on the plate to indicate the number of hours incubated at the clinic to enable faster turnaround times.

Microbiology will perform identification and susceptibility testing on the isolated organisms according to routine procedures. Nonpathogens will have limited or no workup.