



MICROBIOLOGY INSTRUCTIONS

BACTERIOLOGY THROAT/URINE CULTURE URINE CULTURE
GC CULTURE THROAT CULTURE

Five specimens per testing event

Inspect the fiberboard container carefully for all inclusions. Five specimens are provided for each culture program. After inventorying the contents of the container, store them in a refrigerator.

Special Safety Precautions - These specimens contain pathogens or potential pathogens and should be considered infectious and handled as though they are capable of transmitting disease. They should be handled and disposed of only by personnel trained to work with pathogenic bacteria. All laboratory precautions and safety measures appropriate to handling live cultures should be practiced when working with these specimens.

In addition to the Precautions section on page 4 of the program guide, one should be especially careful to avoid aerosol creation, inhalation, ingestion or injection of bacteria. These specimens should be autoclaved and disposed of as hazardous waste.

Rehydration Instructions for Swab Handling - These specimens are ready to use, stabilized viable microorganisms lyophilized directly to an inoculation swab. A Rehydration Fluid tube is provided for each swab.

The Microbiology Rehydration Fluid is located with the rest of your Non-Chemistry samples and is not found inside the tube with the samples swabs. The Diluent is placed in a small plastic pouch labeled REHYDRATION FLUID. There are 5 equivalent vials, each containing approximately 0.5 mL of TSB. The vials are not specific for any sample or any Microbiology program.

1. Open each foil pouch at the tear slit and remove the swab from the foil pouch.
2. Submerge the swab portion only into the provided rehydration broth tube for a few seconds to wet the swab. *Note: Perform all diluent activities at room temperature. No pre-incubation required.*
3. Remove the moistened swab and inoculate media as appropriate. *For isolated colonies, streak the swab over the first quadrant only. Utilize a sterile loop to streak the remaining quadrants to obtain isolated colonies. Multiple plates may be inoculated, re-wet the swab as needed.*
4. Incubate inoculated media at appropriate temperatures and atmospheric conditions.

For Uricult users or users of other tests that require a liquid sample.

- a. Open each foil pouch at the tear slit and remove the swab from the foil pouch.
- b. Submerge the swab portion only into the provided rehydration broth tube for 30 seconds to wet the swab.
- c. Express as much material from the swab as possible by firmly pressing the head of the swab against the side of the rehydration broth tube.
- d. Swirl the rehydration broth tube gently to ensure even mixing and then use the broth as you would a liquid sample.

Determining Type (Extent) of Laboratory Service - All participants, regardless of the extent of their laboratory practice, evaluate the same specimens. In order to be graded appropriately, you must report the extent of laboratory practice (Extent 0, 1, 2, 3, 4 or 5) for each specimen. Determine your extent as follows:

1. Subject each specimen to your protocol for each source as described at each specimen number on your reporting form.
2. Based on what you would report in the context of your specific laboratory practice, determine your extent for each specimen independently of each other, according to the definitions on the reporting form and clarified in the following table:

Results Reported	Extent of Laboratory Service					
	0	1	2	3	4	5
Gram Stain	must not rept	must report	may report	may report	may report	may report
Antigen Screen	must not rept	may report	must report	may report	may report	may report
Susceptibility Testing (ASTs)*	may report	may report	may report	may report	may report	may report
Identification of Genus Only	must not rept	may report	may report	must report	must not rept	must not rept
Speciation of Aerobes	must not rept	may report	may report	may report	must report	must report
Detection of Anaerobes	must not rept	may report	may report	may report	must report	must report
Identification of Anaerobes	must not rept	may report	may report	may report	may report	must report

*Reporting ASTs applies only to Specimen 1 and assumes the use of pure isolates. Participants performing ASTs without identifications, even presumptive ones, must use Extent 0 to avoid being given a score of zero for missing culture results

Regardless of the extent reported, we are required to grade the most definitive identification reported. This means, for example, that a species result takes precedence in grading over a genus, antigen or Gram stain result.

If unable to decide between extents for a given specimen, report the lowest extent, which applies, except Extent 0. In order to preserve the opportunity to get a zero on one specimen and still receive 80 percent overall, it is advisable to avoid using Extent 0 when Gram stain (Extent 1) or antigen screening (Extent 2) results are available for reporting. It is acceptable to challenge your Gram stain or antigen screening procedure(s) with our bacteriology specimens (without regard to specimen source information) in order to receive five specimen scores upon which to generate an overall procedure score for bacterial identifications. We are required to categorize participants who fail to report their extent(s) as Extent 5 and to grade accordingly.

Coding for Presumptive Culture Identification (or other screening methods) - Participants reporting presumptive identifications by culture must not use result codes 750 to 911. If performing isolations only with selective media, these participants might need to report code 948 (No pathogen found), but should not report either code 949 (No aerobic growth) or 951 (No aerobic or anaerobic growth).

When using a presumptive culture or other screening methods for identification, be certain to respond using result codes appropriate for the origin of the sample being tested; result codes >911. CMS is particularly concerned that laboratories performing limited testing report their results in such a way as to reflect knowledge of the limitations of their method. Therefore, do not use codes such as 948 (no pathogens found) if your laboratory does not screen for GC on throat cultures, *Campylobacter* on stool cultures and so on. You MUST select a code that accurately reflects the limitations of your testing or you will be scored as incorrect.

Coding Extent 3, 4 and 5 Results - For Specimens 1, 2, 3 and 4, participants using Extent 3, 4 or 5 must report only the organism(s), which they consider to be the significant pathogen(s) that is/are clearly responsible for the illness described, excluding immuno-compromised patients. Opportunistic pathogens occurring in immuno-compromised patients, when included, will always appear in Specimen 5. For Extents 4 and 5, all organisms, non-pathogens as well as pathogens, must be identified in Specimen 5. *The significant pathogen must be reported as organism #1 when multiple organisms are detected.*

Code your answers using the Result Code list at the bottom of reporting forms. Anti-microbial susceptibility tests (ASTs) are to be performed on the most significant pathogen in Specimen 1 only, using the AST codes listed on the reverse side of reporting forms. Per CMS requirements participants will be flagged for inappropriate selection of Antimicrobial Agents as listed in CLSI (NCCLS) guidelines M07-A8 and M100-S21. Selection of an incorrect Antimicrobial will be scored incorrect.

Caution: If you code extent 0 or 1 (culture ID referred) for Specimen 1 and want to be exempt from reporting ASTs on this specimen, you must also code your AST method as 0 ("susceptibilities not routinely performed on this organism") and leave the AST results blank.

Refer to your reporting form for specimen sources and other reporting requirements.

If you do not see a particular Anti-microbial Agent listed, please attach a note indicating that you would like for us to add a code for that agent. Note: We will not add any new Anti-microbials until they are listed in the CLSI guidelines.

ORGANISM RESULT CODES

Note: NOS - not otherwise specified

<p>750 <i>Bacillus</i> sp., NOS 752 <i>Bacillus anthracis</i> 753 <i>Bacillus cereus</i> 755 <i>Bacillus sphaericus</i> 756 <i>Bacillus subtilis</i> 757 <i>Bacteroides</i> sp., NOS 759 <i>Bacteroides</i> sp., not <i>B. fragilis</i> group 760 <i>Bacteroides</i> sp., <i>B. fragilis</i> group 761 <i>Bacteroides fragilis</i> 763 <i>Campylobacter</i> sp., NOS 764 <i>Campylobacter fetus</i> subsp. <i>fetus</i> 765 <i>Campylobacter jejuni</i> 767 <i>Citrobacter</i> sp., NOS 768 <i>Citrobacter diversus</i> 769 <i>Citrobacter freundii</i> 771 <i>Clostridium</i> sp., NOS 772 <i>Clostridium difficile</i> 773 <i>Clostridium perfringens</i> 775 <i>Clostridium septicum</i> 776 <i>Clostridium tetani</i> 777 <i>Corynebacterium</i> sp., NOS 779 <i>Corynebacterium</i> sp., CDC Group JK 780 <i>Corynebacterium</i> sp., not <i>diphtheriae</i> 781 <i>Corynebacterium diphtheriae</i> (non-toxicogenic) 783 <i>Corynebacterium diphtheriae</i> (toxicogenic) 784 <i>Corynebacterium ulcerans</i> 785 <i>Corynebacterium xerosis</i> 787 <i>Enterobacter</i> sp., NOS 788 <i>Enterobacter aerogenes</i> 789 <i>Enterobacter cloacae</i> 791 <i>Enterococcus</i> sp., NOS 792 <i>Enterococcus faecalis</i> 793 <i>Streptococcus faecalis</i> 795 <i>Enterococcus faecium</i> 797 <i>Streptococcus faecium</i> 798 <i>Escherichia</i> sp., NOS 799 <i>Escherichia coli</i> 801 <i>E. coli</i> O157:H7 802 <i>Gardnerella</i> sp., NOS 803 <i>Gardnerella vaginalis</i> 805 <i>Haemophilus</i> sp., NOS 806 <i>Haemophilus haemolyticus</i> 807 <i>Haemophilus influenzae</i> 809 <i>Haemophilus influenzae</i>, type b 810 <i>Haemophilus parainfluenzae</i> 811 <i>Klebsiella</i> sp., NOS 813 <i>Klebsiella oxytoca</i> 814 <i>Klebsiella pneumoniae</i> 815 <i>Lactobacillus</i> sp., NOS 817 <i>Listeria</i> sp., NOS 818 <i>Listeria monocytogenes</i> 819 <i>Micrococcus</i> sp., NOS 821 <i>Micrococcus luteus</i> 822 <i>Moraxella</i> sp., NOS 823 <i>Moraxella catarrhalis</i> 825 <i>Neisseria</i> sp., NOS 826 <i>Neisseria gonorrhoeae</i></p>	<p>827 <i>Neisseria gonorrhoeae</i>, beta-lactamase pos. 829 <i>Neisseria meningitidis</i> 830 <i>Peptostreptococcus</i> sp., NOS 831 <i>Peptostreptococcus anaerobius</i> 833 <i>Peptostreptococcus magnus</i> 834 <i>Proteus</i> sp., NOS 835 <i>Proteus mirabilis</i> 837 <i>Proteus vulgaris</i> 838 <i>Pseudomonas</i> sp., NOS 839 <i>Pseudomonas</i> sp., not <i>aeruginosa</i> 841 <i>Pseudomonas aeruginosa</i> 842 <i>Pseudomonas fluorescens</i> group 843 <i>Pseudomonas maltophilia</i> 845 <i>Pseudomonas stutzeri</i> 846 <i>Salmonella</i> sp., NOS 847 <i>Salmonella</i> sp., not <i>typhi</i> 849 <i>Salmonella arizonae</i> 850 <i>Salmonella choleraesuis</i> 851 <i>Salmonella typhi</i> 853 <i>Salmonella</i> sp., Group A 854 <i>Salmonella</i> sp., Group B 855 <i>Salmonella</i> sp., Group C1 857 <i>Salmonella</i> sp., Group C2 858 <i>Salmonella</i> sp., Group D, not <i>typhi</i> 859 <i>Salmonella</i> sp., Group E 861 <i>Salmonella</i> sp., not Grp A, B, C1, C2, D or E 862 <i>Serratia</i> sp., NOS 863 <i>Serratia liquefaciens</i> 865 <i>Serratia marcescens</i> 866 <i>Shigella</i> sp., NOS 867 <i>Shigella dysenteriae</i> (Serotype A) 869 <i>Shigella flexneri</i> (Serotype B) 870 <i>Shigella boydii</i> (Serotype C) 871 <i>Shigella sonnei</i> (Serotype D) 873 <i>Staphylococcus</i> sp., NOS 874 <i>Staphylococcus</i> sp., coagulase-neg, NOS 875 <i>Staphylococcus</i> sp., coagulase-pos, NOS 877 <i>Staphylococcus aureus</i> 878 <i>Staphylococcus epidermidis</i> 879 <i>Staphylococcus saprophyticus</i> 881 <i>Streptococcus</i> sp., NOS 882 <i>Streptococcus</i> sp., non-hemolytic 883 <i>Streptococcus</i> sp., alpha-hemolytic 885 <i>Streptococcus</i> sp., alpha-hemolytic, not Gp D 886 <i>Streptococcus</i> sp., beta-hemolytic Gp A (<i>S. pyogenes</i>) 887 <i>Streptococcus pyogenes</i> 889 <i>Streptococcus</i> sp., beta-hemolytic, not Gp 890 <i>Streptococcus</i> sp., beta-hemolytic, not Gp A, B or D 891 <i>Streptococcus</i> sp., Group B 893 <i>Streptococcus</i> sp., Group C 894 <i>Streptococcus</i> sp., Group D 895 <i>Streptococcus</i> sp., Group D, <i>enterococcus</i> 897 <i>Streptococcus</i> sp., Gp D, not <i>enterococcus</i> 898 <i>Streptococcus agalactiae</i> 899 <i>Streptococcus bovis</i></p>	<p>901 <i>Streptococcus pneumoniae</i> 902 <i>Streptococcus sanguis</i> type I 903 <i>Streptococcus sanguis</i> type II 905 <i>Vibrio</i> sp., NOS 906 <i>Vibrio cholerae</i> 907 <i>Vibrio parahaemolyticus</i> 909 <i>Yersinia</i> sp., NOS 910 <i>Yersinia enterocolitica</i> 911 <i>Yersinia pseudotuberculosis</i></p> <p>ANTIGEN SCREENING RESULT CODES 952 Neg for <i>C. difficile</i> toxin A antigen 953 Pos for <i>C. difficile</i> toxin A antigen 955 Neg for <i>E. coli</i> type O157:H7 antigen 956 Pos for <i>E. coli</i> type O157:H7 antigen 957 Neg for <i>H. influenzae</i> type b antigen 959 Pos for <i>H. influenzae</i> type b antigen 961 Neg for <i>N. gonorrhoeae</i> antigen 962 Pos for <i>N. gonorrhoeae</i> antigen 963 Neg for <i>N. meningitidis</i> Grps A/Y 965 Pos for <i>N. meningitidis</i> Grps A/Y 966 Neg for <i>Neisseria meningitidis</i> Grp B/E, <i>coli</i> K1 antigen 967 Pos for <i>Neisseria meningitidis</i> Grp B/E, <i>coli</i> K1 antigen 969 Neg for <i>N. meningitidis</i> Grps C/W135 971 Pos for <i>N. meningitidis</i> Grps C/W135 972 Neg for <i>Staph aureus</i> antigen 973 Pos for <i>Staph aureus</i> antigen 975 Neg for strep Group A antigen 976 Pos for strep Group A antigen 977 Neg for strep Group B antigen 979 Pos for strep Group B antigen 981 Neg for <i>S. pneumoniae</i> antigen 982 Pos for <i>S. pneumoniae</i> antigen</p> <p>GC CULTURE RESULT CODES 913 Neg for <i>N. gonorrhoeae</i> by culture 914 Pos for <i>N. gonorrhoeae</i> by culture 915 Presumptive for <i>N. gonorrhoeae</i>, would refer 917 No growth on Thayer Martin 918 Growth on Thayer Martin, would refer 943 Aerobe found, but referred for ID 949 No aerobic growth</p> <p>GRAM STAIN RESULT CODES 983 Organism is gram-negative 985 Organism is gram-positive 986 No organisms found on Gram stain</p> <p>MISC CULTURE CODES 943 Aerobe found, but referred for ID 944 Anaerobe found, but referred for ID 945 No anaerobes isolated 947 No aerobic growth on blood agar 948 No pathogens isolated 949 No aerobic growth</p>	<p>951 No aerobic or anaerobic growth 950 Non-pathogenic aerobe found, no anaerobic work up performed</p> <p>STOOL CULTURE CODES 929 Stool cult not performed, would refer 930 Normal Enteric flora no pathogens isolated 931 Neg for <i>Sal, Shig, Vib, Yers & Campy</i> 933 Neg for <i>Sal, Shig, Yers & Campy</i> (referred for <i>Vibrio</i> culture) 934 Neg for <i>Sal, Shig, Yers & Vib</i> (ref for <i>Campy</i>) 935 Neg for <i>Sal, Shig & Vib</i> (referred for <i>Yers & Campy</i> culture) 937 Neg for <i>Sal, Shig & Campy</i> (referred for <i>Vib & Yers</i> culture) 939 Neg for <i>Sal, Shig & Yers</i> (referred for <i>Vib, Campy</i> culture) 940 Neg for <i>Sal, Shig, Vibrio & Campy</i> (ref for <i>Yersenia</i> culture) 941 Neg for <i>Sal & Shig</i> (referred for <i>Vib, Yers & Campy</i> culture) 943 Aerobe found, but referred for ID 944 Anaerobe found, but referred for ID 945 No anaerobes isolated 948 No pathogens isolated 949 No aerobic growth 951 No aerobic or anaerobic growth 950 Non-pathogenic aerobe found, no anaerobic work up performed</p> <p>THROAT CULTURE RESULT CODES 919 Neg for beta-hemolytic strep screen 921 Pos for beta-hemolytic strep screen 922 Neg for Grp A strep screen by culture 923 Pos for Grp A strep screen by culture 925 Neg for Grp B strep screen by culture 926 Pos for Grp B strep screen by culture 927 Neg for strep, <i>not screened for GC</i> 943 Aerobe found, but referred for ID 947 No aerobic growth on blood agar 948 No pathogens isolated 949 No aerobic growth</p> <p>URINE CULT RESULT CODES 987 <i>E. coli, Citrobacter</i> or <i>Enterobacter</i> 989 <i>Klebsiella, Staphylococcus</i> or <i>Streptococcus</i> 990 <i>Proteus</i> or <i>Pseudomonas</i> 991 <i>Klebsiella</i> or <i>Enterobacter</i> 993 Growth of gram-negative organisms 994 Growth of gram-positive organisms 943 Aerobe found, but referred for ID 948 No pathogens isolated 949 No aerobic growth</p>
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Antimicrobial Susceptibility Codes

R = Resistant

I = Intermediate

S = Susceptible

R	I	S		R	I	S		R	I	S	
100	100	100	Suceptibility testing not indicated	137	237	337	Cephalothin	165	265	365	Moxifloxacin
101	201	301	Unlisted - specify	138	238	338	Chloramphenicol	166	266	366	Naftillin
102	202	302	Amikacin	140	240	340	Cinoxacin	167	267	367	Nalidixic acid
104	204	304	Amoxicillin/clavulanate	141	241	341	Ciprofloxacin	168	268	368	Neomycin
105	205	305	Ampicillin	142	242	342	Clarithromycin	170	270	370	Netilmicin
107	207	307	Ampicillin/sulbactam	143	243	343	Clindamycin	171	271	371	Nitrofurantoin
106	206	306	Azithromycin	144	244	344	Cloxacillin	173	273	373	Norfloxacin
108	208	308	Azlocillin	146	246	346	Colistin	174	274	374	Ofloxacin
110	210	310	Aztreonam	139	239	339	Daptomycin	176	276	376	Oxacillin
111	211	311	Carbenicillin	147	247	347	Dicloxacillin sodium	177	277	377	Penicillin G
113	213	313	Cefaclor	149	249	349	Doxycycline	179	279	379	Piperacillin
114	214	314	Cefamandole	150	250	350	Enoxacin	181	281	381	Piperacillin/Tazobactam
116	216	316	Cefazolin	112	212	312	Ertapenem	180	280	380	Polymyxin-B
109	209	309	Cefepime	152	252	352	Erythromycin	178	278	378	Quinupristin/Dalfopristin
117	217	317	Cefixime	151	251	351	Floxacin	182	282	382	Rifampin
119	219	319	Cefmetazole	148	248	348	Fosfomycin	183	283	383	Spectinomycin
120	220	320	Cefonicid	145	245	345	Galifloxacin	185	285	385	Streptomycin
122	222	322	Cefoperazone	153	253	353	Gentamicin	186	286	386	Sulfisoxazole
121	221	321	Cefoperazone/Sulbactam	155	255	355	Imipenem	184	284	384	Sulfonamide
123	223	323	Ceforanide	156	256	356	Kanamycin	188	288	388	Teicoplanin
125	225	325	Cefotaxime	154	254	354	Levofloxacin	190	290	390	Temafoxacin
126	226	326	Cefotetan	169	269	369	Linezolid	189	289	389	Tetracycline
128	228	328	Cefoxitin	157	257	357	Lomefloxacin	191	291	391	Ticarcillin
124	224	324	Cefpodoxime	160	260	360	Loracarbef	192	292	392	Ticarcillin/clavulanate
129	229	329	Ceftazidime	163	263	363	Meropenem	193	293	393	Tigecycline
130	230	330	Ceftibuten	158	258	358	Methicillin	194	294	394	Tobramycin
131	231	331	Ceftizoxime	159	259	359	Metronidazole	195	295	395	Trimethoprim
132	232	332	Ceftriaxone	161	261	361	Mezlocillin	197	297	397	Trimethoprim/sulfamethoxazole
134	234	334	Cefuroxime/Cef Axetil	162	262	362	Minocycline	198	298	398	Vancomycin
135	235	335	Cephalexin	164	264	364	Moxalactam				