

BACTERIOLOGY PROFICIENCY TESTING PROGRAM

General Category

May 3, 2005

This report summarizes the results of the proficiency test administered May 3, 2005 to laboratories in the General Bacteriology category.

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Bacteriology Proficiency Testing Program

GENERAL INFORMATION

The Bacteriology Proficiency Testing Program. Three proficiency testing events are given annually, each consisting of a minimum of five specimens. In order to successfully complete a test event, participating laboratories must achieve a score of 80% or greater. Failure of the testing program is defined as a score of less than 80% on two of three consecutive test events.

Authentication. The presence and identity of the organism(s) in each specimen must be confirmed by at least 80% of the referee or participating laboratories. Referee laboratories are selected from New York State participating laboratories (located throughout the State) with acceptable and reproducible levels of performance. Sample vials are subjected to extensive quality control testing in our laboratory during preparation and storage.

Grading System. Laboratories are to process proficiency test specimens in the same manner as patient specimens. Thus, laboratories are responsible for identifying test isolates to the same level as performed on patient isolates. If your laboratory speciates an organism on special request, then you must also speciate it in the proficiency test; consider speciation to have been requested on all reportable isolates. In addition, laboratories are not responsible for culturing any test samples from specimen sources which they do not process. Information regarding your laboratory's reporting protocol was provided to us in the questionnaire previously distributed to all laboratories. Any changes in reporting protocol must be received by our office prior to the mailout date for proficiency testing for that information to be considered in grading.

Our testing format is in compliance with HCFA guidelines as specified in the regulations of CLIA '88. One-half of our samples require identification of all organisms present. The other half requires that only the pathogenic organism(s) be reported. We recognize the potential for any organism to be pathogenic depending on the clinical condition of the patient. However, our samples are designed so that only well-established pathogens should be reported.

Tests are graded in strict adherence to HCFA guidelines, as specified in the regulations of CLIA '88. Each of the specimens receives a score as determined by the following formula:

$$(a + b)/(c + d + e) \times 100\%$$

a = # correct identifications

b = # correct antibiotic susceptibility results (if applicable)

c = # possible identifications

d = # possible antibiotic susceptibility results (if applicable)

e = # additional organisms reported

Grades for each sample are then averaged to determine the final grade for this testing event. The minimum passing grade for each test event is 80%.

Disclaimer

The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health.

Notes of Interest

Bacteriology Questionnaires – please make sure that the information on your laboratory’s Bacteriology Questionnaire is up to date. If you need a copy of your questionnaire for review, please contact our office at 518-474-4177 or email us at bacti@wadsworth.org.

Laboratory-acquired Brucellosis

An article regarding laboratory-acquired Brucellosis was published in Emerging Infectious Diseases in 2004. A reprint of this article is included in the hard copies of this critique.

Additionally, this article can be found online at:

<http://www.cdc.gov/ncidod/eid/vol10no10/04-0076.htm>

MAY 3, 2005 TEST EVENT

Number of Participating Laboratories:
Receiving specimens **244**
Returning results **243** **(99.6%)**

Grade Distribution		
Score	Number	Percent
100	152	62.6
90 - 99	22	9.1
80 - 89	46	18.9
70 - 79	15	6.2
60 - 69	3	1.2
< 60	5	2.1

BACTERIOLOGY - GENERAL
MAY 3, 2005
ANSWER KEY

Specimen No. 1 - Stool (Pathogens Only)

Vibrio parahaemolyticus

Specimen No. 2 – Sputum (All Organisms Reported)

Moraxella (Branhamella) catarrhalis

Specimen No. 3 – Blood - Aerobic / Anaerobic (All Organisms Reported)

Clostridium septicum

Staphylococcus epidermidis

Specimen No. 4 – Urine (All Organisms Reported) and Antibiotic Susceptibility

Stenotrophomonas maltophilia

Susceptibility of *S. maltophilia* to: Levofloxacin - Susceptible

TMP/SMX –Susceptible

Specimen No. 5 – Cervix (Pathogens Only)

No Pathogens or *Neisseria* species other than *N. gonorrhoeae*

***Chlamydia* Specimen**

Positive for *Chlamydia trachomatis*

Direct Antigen Detection

A (Throat)

Positive for Group A *Streptococcus*

C (Genital)

Positive for Group B *Streptococcus*

REFEREE LABORATORY RESULTS

Specimen Number	Referee Laboratory Responses	Percent*
1	<i>Vibrio parahaemolyticus</i>	100
2	<i>Moraxella (Branhamella catarrhalis)</i> No pathogens isolated	90 10
3	<i>Clostridium septicum</i> <i>Staphylococcus epidermidis</i> <i>Staphylococcus, coagulase negative</i> ¹	100 80 20
4	<i>Stenotrophomonas maltophilia</i>	100
5	No pathogens isolated <i>Neisseria meningitidis</i>	90 10

* Based on responses of 10 referee laboratories

¹ One of these laboratories does not identify coagulase-negative staphylococci to the species level

Specimen Number 1 - Stool (Pathogens Only)

This simulated stool specimen contained *Vibrio parahaemolyticus*. This organism was identified by all of the referee laboratories. Of the participating laboratories that process stool cultures, 87% identified *V. parahaemolyticus* while an additional 4% reported “*Vibrio* species”.

Morganella morganii and *Enterobacter cloacae* were included in this specimen as nonpathogenic flora.

Methods of identification used by laboratories reporting:

Vibrio parahaemolyticus

bioMerieux API 20E	47
bioMerieux Vitek GNI+	46
Two or more methods	39
Dade Behring MicroScan Gram Neg ID	28
bioMerieux Vitek ID-GNB	10
bioMerieux Vitek GNI	9
bioMerieux API 20NE	7
BBL Crystal Enteric/Nonfermenter	4
Conventional biochemicals	3
Remel RapID NF Plus	2
Dade Behring MicroScan Rapid Gram Neg ID	2
bioMerieux API Rapid 20E	2
BBL Oxi-Ferm II	1
No test method indicated	1
TOTAL	201

Do not process stool cultures 12

***Vibrio* species**

Dade Behring MicroScan Gram Neg ID	3
Two or more methods	3
bioMerieux API 20E	2
bioMerieux API 20NE	1
Remel RapID NF Plus	1
TOTAL	10

No enteric pathogens 8

**No *Salmonella*, *Shigella*, *Campylobacter*,
Yersinia or *E. coli* O157:H7** 4

No *Salmonella*, *Shigella*, or *Campylobacter* 2

Morganella morganii

Remel RapID ONE 1

No <i>Salmonella</i> or <i>Shigella</i>	1
No <i>Salmonella</i>, <i>Shigella</i>, <i>Campylobacter</i>, or <i>Yersinia</i>	1
No <i>Salmonella</i>, <i>Shigella</i>, <i>Campylobacter</i>, or <i>E. coli</i> O157:H7	1
No <i>Salmonella</i>, <i>Shigella</i>, <i>Campylobacter</i>, <i>Yersinia</i>, <i>E. coli</i> O157:H7 or <i>Vibrio</i>	1
<i>Providencia alcalifaciens</i> BBL Crystal Enteric/Nonfermenter	1
Additional organisms reported in Specimen No. 1: <i>E. coli</i> O157:H7	1

Specimen No. 2 – Sputum (Pathogens Only)

The pathogenic organism included in this simulated sputum specimen was *Moraxella* (*Branhamella*) *catarrhalis*. This organism was identified by 90% of the referee laboratories and by 99% of the participating laboratories that process sputum specimens.

Streptococcus salivarius was included in this sample as nonpathogenic flora.

Methods of identification used by laboratories reporting:

Moraxella / Branhamella catarrhalis

Remel RapID NH	69
bioMerieux API NH	35
bioMerieux Vitek NHI	30
Conventional biochemicals	29
Dade Behring MicroScan HNID	25
Two or more methods	25
Remel catarrhalis disk	11
Remel BactiCard <i>Neisseria</i>	3
bioMerieux API 20NE	2
bioMerieux API 20E	1
bioMerieux Vitek GNI+	1
TOTAL	231

Do not process sputum cultures 9

No pathogens isolated 3

Specimen No. 3 – Blood - Aerobic/Anaerobic (All Organisms)

This simulated blood culture contained *Clostridium septicum* and *Staphylococcus epidermidis*.

Clostridium septicum was reported by all referee laboratories and by 86% of participating laboratories that identify anaerobic organisms from blood cultures. An additional 4% of participants reported ‘*Clostridium* species’. Approximately 70 – 80% of cases of *C. septicum* bacteremia are associated with underlying malignancies, usually colon cancer or leukemia.¹

Staphylococcus epidermidis was identified by 80% of the referee laboratories. Two referee laboratories (20%) reported ‘*Staphylococcus*, coagulase-negative’; however, one of these does not further identify coagulase-negative staphylococci to the species level. Of the participating laboratories that processed this specimen source, 61% reported *S. epidermidis* while an additional 35% reported ‘*Staphylococcus*, coagulase-negative’. *Staphylococcus epidermidis* has been increasingly recognized as a significant nosocomial pathogen, especially in patients with indwelling catheters. This organism has the ability to form multilayered biofilms on polymer surfaces, complicating treatment. In immunocompetent adults without any type of indwelling device, the only infection that has been clearly associated with *S. epidermidis* is native valve endocarditis.²

¹ Lorber, B. 2000. Gas gangrene and other *Clostridium*-associated diseases. p. 2549-2561. In G.L. Mandell, J.E. Bennett, and R. Dolin (eds) Mandell, Douglas and Bennett’s Principles and Practice of Infectious Disease. 5th ed. Churchill Livingstone, Philadelphia.

² von Eiff C, Peters G, Heilmann C. 2002. Pathogenesis of infections due to coagulase-negative staphylococci. The Lancet. 2: 677-685.

Methods of identification used by laboratories reporting:

Clostridium septicum

Remel RapID ANA II	106
bioMerieux Vitek ANI	30
bioMerieux API 20A	27
Dade Behring MicroScan Rapid Anaerobe	12
Two or more methods	12
bioMerieux API Rapid 32A	5
Conventional biochemicals	3
16S rDNA sequencing	1
TOTAL	199

***Clostridium* species**

Remel RapID ANA II	5
bioMerieux Vitek API 20A	1
Conventional biochemicals	1
Dade Behring MicroScan Rapid Anaerobe	1
Two or more methods	1
bioMerieux API An-ident	1
TOTAL	10

Do not process blood cultures **9**

Not reported	6
<i>Clostridium</i> species, not <i>perfringens</i>	
bioMerieux Vitek ANI	1
Dade Behring MicroScan Rapid Anaerobe	1
Remel RapID ANA II	1
Two or more methods	1
TOTAL	4
Do not isolate anaerobes	4
Anaerobic gram positive bacilli	3
<i>Clostridium ramosum</i>	
Dade Behring MicroScan Rapid Anaerobe	2
Anaerobic gram variable bacillus	1
<i>Clostridium histolyticum</i>	
bioMerieux API 20A	1
<i>Clostridium paraputrificum</i>	
Remel RapID ANA II	1
<i>Clostridium perfringens</i>	
bioMerieux Vitek ANI	1
No <i>Bifidobacterium</i>	1
No <i>Bifidobacterium ballarium</i>	1
Methods of identification used by laboratories reporting:	
<i>Staphylococcus epidermidis</i>	
Dade Behring MicroScan Gram Pos ID	61
bioMerieux Vitek GPI	33
Two or more methods	16
bioMerieux API Staph	14
bioMerieux Vitek ID-GPC	9
Conventional biochemicals	7
No test method indicated	2
bioMerieux Vitek ID-GPC	1
bioMerieux API Rapid 32A	1
TOTAL	144

<i>Staphylococcus, coagulase negative</i>	
Conventional biochemicals	21
Murex Staphaurex	17
BD BBL Staphyloslide	14
Dade Behring MicroScan Gram Pos ID	7
Remel BactiStaph	6
Two or more methods	6
bioMerieux Vitek RAPIDEC Staph	1
Vitek ID-GPC	1
The Binding Site Staph latex	1
Sanofi Diagnostics Pasteur Pastorex Staph-Plus	1
Pro-Lab Diagnostics Prolex Staph latex	1
LifeSign Staph Latex	1
Fisher Healthcare Sure-View Color Staph	1
No test method indicated	1
bioMerieux Vitek Slidex Staph	1
bioMerieux Vitek GPI	1
BBL Staphlatex	1
Dade Behring MicroScan Rapid Gram Pos	1
TOTAL	83

Do not process blood cultures 9

<i>Staphylococcus auricularis</i>	
BioMerieux Vitek GPI	1
Two or more methods	1
TOTAL	2

<i>Staphylococcus species not aureus</i>	
Remel BactiStaph	1
Two or more methods	1
TOTAL	2

Not reported 1

<i>Staphylococcus capitis</i>	
bioMerieux Vitek GPI	1

<i>Staphylococcus species</i>	
Remel BactiStaph	1

Extra organisms reported in Specimen 3:	
<i>Enterobacter cloacae</i>	1
<i>Staphylococcus saccharolyticus</i>	1

Specimen No. 4 – Urine (All Organisms) and Antibiotic Susceptibility

This simulated urine specimen contained a pure culture of *Stenotrophomonas maltophilia*. All referee laboratories identified this organism as did 98% of participants that processed this specimen source.

Stenotrophomonas maltophilia is frequently associated with serious nosocomial infections including bacteremia, meningitis, and urinary tract infections, among many others. Risk factors for infection include serious underlying illness such as cancer, neutropenia, previous administration of broad-spectrum antibiotics, and use of invasive procedures. *S. maltophilia* is also known to colonize the respiratory tract of cystic fibrosis patients.^{1,2}

Antimicrobial susceptibility testing was indicated for this specimen with levofloxacin and trimethoprim/sulfamethoxazole. This isolate was reported as susceptible to levofloxacin by all referee and participating laboratories that tested this antibiotic. It was also reported as susceptible to trimethoprim/sulfamethoxazole by all referee laboratories and by 97% of participants performing testing with this antibiotic. *Stenotrophomonas maltophilia* is resistant to multiple classes of antibiotics, including β -lactams, aminoglycosides, and quinolones. Trimethoprim/sulfamethoxazole is the drug of choice and recent studies show that 95% of isolates are susceptible to this antibiotic. Levofloxacin appeared to be the next most effective antimicrobial tested, with 86% of the isolates susceptible.³ Prior to 2004, there were no NCCLS interpretive guidelines for antimicrobial susceptibility testing of *S. maltophilia* by disk diffusion. In January 2004, NCCLS published guidelines for disk diffusion testing of *S. maltophilia* but the only antibiotics that can be tested and reported by this method are trimethoprim-sulfamethoxazole, levofloxacin and minofloxacin.⁴

¹ Gilligan PH, Lum G, Vandamme P, and Whittier S. 2003. *Burkholderia, Stenotrophomonas, Ralstonia, Brevundimonas, Comamonas, Delftia, Pandorea, and Acidovorax*. p. 729-748. In P.R. Murray, E.J. Baron, J.H. Jorgensen, M.A. Tenover, R.H. Tenover (ed.) Manual of Clinical Microbiology, 8th edition. ASM Press, Washington, DC.

² Vartivarian SE, Konstantinos AP, and Anaissie EJ. 1996. *Stenotrophomonas (Xanthomonas) maltophilia* urinary tract infection. Archives of Internal Medicine. 56: 433-435.

³ Sader HS and Jones RN. 2005. Antimicrobial susceptibility of uncommonly isolated non-enteric gram-negative bacilli. International Journal of Antimicrobial Agents. 25: 95-109.

⁴ Clinical and Laboratory Standards Institute/NCCLS, 2004. Performance Standards for Antimicrobial Susceptibility Testing; Fifteenth Informational Supplement, M100-S14. Clinical and Laboratory Standards Institute, Wayne, PA.

Methods of identification used by laboratories reporting:

Stenotrophomonas maltophilia

bioMerieux Vitek GNI +	68
Dade Behring MicroScan Gram Neg ID	66
bioMerieux API 20E	26
Two or more test methods	21
bioMerieux Vitek ID-GNB	16
bioMerieux Vitek GNI	12
bioMerieux API 20NE	8
Conventional biochemicals	5
Remel RapID NF Plus	4
BD BBL Crystal Enteric/Nonfermenter	4
bioMerieux Vitek 2	2
Dade Behring MicroScan Rapid Gram Neg	2
Dade Behring MicroScan, not specified	2
BD BBL Oxi-Ferm II	1
Test method not indicated	1
TOTAL	238

Do not process urine cultures 1

Pseudomonas maltophilia

bioMerieux Vitek GNI 1

Stenotrophomonas

Dade Behring MicroScan Gram Neg ID 1

Stenotrophomonas species

Dade Behring MicroScan Gram Neg ID 1

Xanthomonas maltophilia

BD BBL Crystal Enteric/Nonfermenter 1

Additional organisms reported in Specimen 4:

Enterobacter cloacae 1

Staphylococcus, coagulase-negative 1

Results of Antimicrobial Susceptibility testing - *S. maltophilia* with Levofloxacin

Result	Method	MIC (µg/ml)	Zone (mm)	
Susceptible (154)	bioMerieux Vitek (2)	≤1 (1)		
		<0.25 (1)		
	Dade Behring MicroScan (80)	≤1 (4)		
		≤2 (53)		
		<2 (17)		
		0.5 (1)		
		Not given (5)		
	Disk diffusion (59)			20 (1)
				22 (3)
				25 (3)
				26 (2)
				27 (3)
				28 (5)
				29 (2)
				30 (8)
				31 (4)
				32 (8)
				33 (8)
				34 (5)
				35 (4)
				36 (1)
		38 (1)		
		40 (1)		
	Direct Colony Suspension (1)			30 (1)
	AB Biodisk E-test (9)	0.125 (2)		
		0.19 (2)		
		0.25 (2)		
0.5 (1)				
0.016 (1)				
0.38 (1)				
Agar dilution (1)	≤2 (1)			
Sensititre (1)	≤0.25 (1)			
Frozen panels (1)	≤0.25 (1)			
Levofloxacin not tested (88)				
Do not process urine cultures (1)				

Number of laboratories reporting each result indicated in ()

Results of Antimicrobial Susceptibility testing - *S. maltophilia* with TMP/SMX

Result	Method	MIC (µg/ml)	Zone (mm)	
Susceptible (205)	bioMerieux Vitek (14)	0.25 (1)		
		<1/19 (1)		
		≤20 (10)		
		20 (1)		
		40 (1)		
	Dade Behring MicroScan (87)	0.5/9.5 (5)		
		<2 (3)		
		<2/38 (53)		
		2/38 (1)		
		<0.5 (1)		
		<2 (7)		
		<2/38 (11)		
		Not given (6)		
	Disk diffusion (81)			17 (2)
				18 (3)
				19 (4)
				20 (5)
				21 (7)
				22 (10)
				23 (5)
				24 (10)
				25 (14)
				26 (7)
				27 (4)
				28 (6)
				28.5 (1)
				29 (1)
		30 (1)		
		31 (1)		
	Direct Colony Suspension (1)			23 (1)
	AB Biodisk E-test (15)	0.125 (2)		
0.19 (4)				
0.25 (2)				
0.75 (3)				
0.094 (1)				
0.38 (1)				
0.5 (1)				
1.5 (1)				
Agar dilution (1)		≤0.5/9.5 (1)		
Sensititre (1)		≤0.5/9.5 (1)		
Frozen panels (1)	0.25/4.8 (1)			
BD Pasco (2)	≤2 (2)			
TREK (2)	1 (1)			
	1/9 (1)			

Resistant (4)	Disk Diffusion (4)		0 (2)
			≤6 (1)
			10 (1)
Intermediate (1)	Disk Diffusion (1)		14 (1)
TMP/SMX not tested (32)			
Do not process urine cultures (1)			

Number of laboratories reporting each result indicated in ()

Antibiotic Susceptibility Results - Participating & Referee Labs <i>Stenotrophomonas maltophilia</i>				
	Levofloxacin		TMP/SMX	
	Referee ^a	Participant ^b	Referee ^a	Participant ^b
Susceptible	7	147	8	197
Intermediate	0	0	0	1
Resistant	0	0	0	4
Not Tested ^c	3	85	2	30
Do not process source ^d	0	1	0	1
No result reported	0	0	0	0
Not performed on organism ^e	0	0	0	0
Not performed on source ^f	0	0	0	0
No susceptibility testing done ^g	0	0	0	0

^aReferee Laboratories (10 labs total)

^bOther Participating Laboratories (233 labs total)

^cAntibiotic not tested / reported for this organism

^dDo not process specimen source

^eDo not perform antimicrobial susceptibility testing on this organism

^fDo not perform susceptibility testing on specimen source

^gNo antimicrobial susceptibility testing performed

Specimen No. 5 – Cervix (Pathogens Only)

This was a simulated cervical specimen with instructions to report any pathogenic organisms isolated. This sample contained *Neisseria sicca* as well as *Corynebacterium xerosis* and *Staphylococcus warneri*. The intended response was “No Pathogens Isolated”. This result was authenticated by 90% of the referee laboratories but reported by only 61% of participants.

Surprisingly, 41 laboratories reported that this specimen contained *Neisseria meningitidis* and 42 reported that it contained *Neisseria gonorrhoeae*. Due to this large number of incorrect identifications, we performed a detailed follow-up analysis of this organism. Upon extensive testing with multiple isolates using a variety of test methods, it was determined that this isolate of *N. sicca* exhibited sufficient phenotypic variability that it could be misidentified by some test methods as *N. meningitidis*. In contrast, we were unable to reproduce an identification of *N. gonorrhoeae*. We did find that deviation from the manufacturers directions, especially using an improper inoculum density, could potentially result in a major error in the identification of the organism as *N. gonorrhoeae*.

Key biochemical reactions obtained with multiple testing of this isolate are as follows:

Glucose	Maltose	Fructose	Sucrose
+	variable	+*	variable

* Positive Fructose reaction rules out pathogenic *Neisseria* sp. (unfortunately not all test kits contain the fructose test).

PCR analysis using the meningococcal *ctrA* gene was negative confirming that this isolate was not *N. meningitidis*. Analysis using DNA probes confirmed the isolate was not *N. gonorrhoeae*. We also performed 16S ribosomal DNA sequence analysis on this sample and it confirmed the identification as *N. sicca*.

Based on the results of our investigation, we decided that in addition to the intended response of “No Pathogens Isolated”, full credit would be given for a response of any *Neisseria* species, except for *N. gonorrhoeae*. No credit was given for a result of *N. gonorrhoeae* because the phenotypic variability of this isolate was not sufficiently extensive to warrant this identification. In addition, the consequences of reporting a false positive result of *N. gonorrhoeae* in a cervical sample are far greater than for other *Neisseria* species.

The decision as to whether to report finding *N. meningitidis* as a pathogen in a cervical specimen is debatable and this decision is at the discretion of the laboratory director. References to urogenital *N. meningitidis* can be found in various microbiological textbooks including: Koneman EW, Allen SD, Janda WM, Schreckenberger PC, Winn Jr. W. 1997. *Color Atlas and Textbook of Diagnostic Microbiology*, 5th Edition. Philadelphia: Lippincott.

If your laboratory reported a pathogenic *Neisseria* species in this sample, you should critically evaluate your testing procedure, especially standardization of inoculum turbidity. Another source of difficulty is the interpretation of positive and negative reactions on some test kits since many of the color changes are subtle. One suggestion is the inclusion of a positive and negative control run at the same time as the isolate to aid in differentiating these reactions. We also recommend that laboratories contact the manufacturer of their test method for further investigation into the reason for these misidentifications.

Results obtained by test kits must be interpreted in conjunction with other information. Clues that this organism was not a pathogenic *Neisseria* included poor growth on selective media, such as Thayer Martin, and the development of pigmentation after a few days incubation. In addition, the finding of *N. meningitidis* in a cervical sample would be relatively rare and should suggest further analysis of the isolate. Please call the Wadsworth Center New York State Bacteriology Laboratory (518-474-4177) if you have any questions about unusual *Neisseria* isolates obtained from clinical samples and we can assist with identification.

**Results reported by participating laboratories for Specimen 5:
No Pathogens isolated 144**

Neisseria gonorrhoeae

Remel RapID NH	18
Dade Behring MicroScan HNID	7
bioMerieux API NH	6
bioMerieux Vitek NHI	4
Two or more test methods	3
Conventional biochemicals	2
Phadebact GC	1
BBL Crystal <i>Neisseria/Haemophilus</i>	1
TOTAL	42

Neisseria meningitidis

Remel RapID NH	20
Conventional biochemicals	5
Dade Behring MicroScan HNID	5
Two or more test methods	5
bioMerieux API NH	3
bioMerieux Vitek NHI	2
Test method not indicated	1
TOTAL	41

Cervical specimens not processed 7

No *Neisseria gonorrhoeae* 4

Do not test for GC/Chlamydia 1

Neisseria sicca/subflava

Remel RapID NH 1

Neisseria subflava

bioMerieux Vitek NHI 1

No report 1

***Staphylococcus aureus* 1**

Chlamydia – cervical swab for direct testing

This simulated cervical swab was provided to laboratories that test for *Chlamydia* using direct detection methods. However, this sample is not suitable for *Chlamydia* culture.

This sample was positive for *Chlamydia* and was reported as such by 98% of the participating laboratories that tested this specimen.

Test kits used by laboratories reporting this specimen as:

Positive for *Chlamydia trachomatis*

Gen-Probe PACE 2 CT OR CT/GC	54
BD ProbeTec <i>C. trachomatis</i> assay	16
Gen-Probe Aptima Combo 2	10
Roche Diagnostics COBAS	9
bioMerieux Vitek VIDAS	6
Beckman Coulter Access Chlamydia EIA	3
Roche COBAS Amplicor CT/NG	3
Roche Amplicor CT/NG	3
BioRad Pathfinder Chlamydia EIA	2
Test method not indicated	2
Trinity MicroTrak II Chlamydia EIA	1
Roche Diagnostics COBAS Amplicor CT/NG	1
PCR	1
Digene Hybrid Capture hc2 CT/NG	1
Biostar Chlamydia OIA	1
BioRad Chlamydia Microplate EIA	1
TOTAL	144

Negative for *Chlamydia trachomatis*

Gen-Probe PACE 2 CT OR CT/GC	2
BioMerieux Vitek VIDAS	1
TOTAL	3

No report 1

Positive for *C. trachomatis*/ *N. gonorrhoeae*

Gen-Probe PACE 2 CT OR CT/GC	1
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Direct Antigen Detection

All participating laboratories which perform direct antigen testing received either a simulated throat swab to be tested for Group A *Streptococcus* or a genital swab to be tested for Group B *Streptococcus*. Information provided in the Bacteriology Questionnaire was used to determine which type of specimen to send to each laboratory.

Specimen A - Source: Throat for Group A *Streptococcus*

This specimen was positive for Group A *Streptococcus*. Of the participating laboratories that processed this specimen, all reported it as positive.

Test kits used by laboratories reporting Specimen A as:

Positive for Group A *Streptococcus*:

Abbott Signify Strep A	16
BD Q Test Strep	15
Thermo BioStar Aceava Strep A	10
Quidel QuickVue + Strep A	8
Thermo BioStar Strep A OIA Max	6
Fisher Healthcare Sure-Vue Strep A	5
Genzyme OSOM Ultra Strep A	5
Remel RIM A.R.C. Strep A	3
BD Link 2 Strep A	3
Quidel QuickVue Inline Strep A	3
BD Directigen Grp A Strep	2
Gen-Probe Group A Strep	2
LifeSign Status Accustrep A	2
Remel PathoDx Strep A	2
Polymedco Poly Stat Strep A	1
Applied Biotech SureStep Strep A	1
BBL Streptocard	1
Beckman Coulter Icon DS Strep A	1
Cardinal Health SP Brand Rapid Strep A	1
Beckman-Coulter Icon SC	1
Not given	1
Sacks Medical Corp RefuAH Strep A	1
Meridian Diagnostics ImmunoCard Stat Strep A	1
TOTAL	91

Specimen C – Source: Genital for Group B *Streptococcus*

This specimen was positive for Group B *Streptococcus*. All laboratories that tested this sample using the BioStar Strep B OIA kit reported it as positive. One other laboratory processed this sample utilizing another test method and obtained a negative result. However, the compatibility of the proficiency samples with this test method is currently under review.

Test kits used by laboratories reporting Specimen C as:

Positive for Group B *Streptococcus*

BioStar Strep B OIA

2

BACTERIAL IDENTIFICATION BY PARTICIPATING LABORATORIES

	<u>Number Reported</u>	<u>%</u>
SPECIMEN NUMBER 1		
<i>Vibrio parahaemolyticus</i>	201	82.7
Do not process stool cultures	12	4.9
<i>Vibrio</i> species	10	4.1
No enteric pathogens	8	3.3
No <i>Salmonella/Shigella/Campylobacter/Yersinia/E. coli</i> O157:H7	4	1.6
No <i>Salmonella/Shigella/Campylobacter</i>	2	0.8
<i>Morganella morgannii</i>	1	0.4
No <i>Salmonella</i> or <i>Shigella</i>	1	0.4
No <i>Salmonella/Shigella/Campylobacter/Yersinia</i>	1	0.4
No <i>Salmonella/Shigella/Campylobacter/E. coli</i> O157:H7	1	0.4
No <i>Salmonella/Shigella/Campylobacter/Yersinia/E. coli</i> O157:H7/ <i>Vibrio</i>	1	0.4
<i>Providencia alcalifaciens</i>	1	0.4

SPECIMEN NUMBER 2		
<i>Moraxella / Branhamella catarrhalis</i>	231	95.1
Do not process sputum cultures	9	3.7
No pathogens isolated	3	1.2

SPECIMEN NUMBER 3		
<i>Clostridium septicum</i>	199	81.9
<i>Clostridium</i> species	10	4.1
Do not process blood cultures	9	3.7
Not reported	6	2.5
<i>Clostridium</i> species, not <i>perfringens</i>	4	1.6
Do not isolate anaerobes	4	1.6
Anaerobic gram positive bacilli	3	1.2
<i>Clostridium ramosum</i>	2	0.8
Anaerobic gram variable bacillus	1	0.4
<i>Clostridium histolyticum</i>	1	0.4
<i>Clostridium paraputrificum</i>	1	0.4
<i>Clostridium perfringens</i>	1	0.4
No <i>Bifidobacterium</i>	1	0.4
No <i>Bifidobacterium ballarium</i>	1	0.4
<i>Staphylococcus epidermidis</i>	144	59.3
<i>Staphylococcus</i> , coagulase negative	83	34.2
Do not process blood cultures	9	3.7
<i>Staphylococcus auricularis</i>	2	0.8
<i>Staphylococcus</i> species not <i>aureus</i>	2	0.8
Not reported	1	0.4
<i>Staphylococcus capitis</i>	1	0.4
<i>Staphylococcus</i> species	1	0.4

SPECIMEN NUMBER 4

<i>Stenotrophomonas maltophilia</i>	238	97.9
Do not process urine cultures	1	0.4
<i>Pseudomonas maltophilia</i>	1	0.4
<i>Stenotrophomonas</i>	1	0.4
<i>Stenotrophomonas</i> species	1	0.4
<i>Xanthomonas maltophilia</i>	1	0.4

SPECIMEN NUMBER 5

No Pathogens isolated	144	59.3
<i>Neisseria gonorrhoeae</i>	42	17.3
<i>Neisseria meningitidis</i>	41	16.9
Cervical specimens not processed	7	2.9
No <i>Neisseria gonorrhoeae</i>	4	1.6
Do not test for GC/Chlamydia	1	0.4
<i>Neisseria sicca/subflava</i>	1	0.4
<i>Neisseria subflava</i>	1	0.4
No report	1	0.4
<i>Staphylococcus aureus</i>	1	0.4

CHLAMYDIA SPECIMEN

Positive for <i>Chlamydia trachomatis</i>	144	96.6
Negative for <i>Chlamydia trachomatis</i>	3	2.0
No report	1	0.7
Positive for <i>C. trachomatis/ N. gonorrhoeae</i>	1	0.7

DIRECT ANTIGEN SPECIMEN

A. Positive for Group A <i>Streptococcus</i>	91	100.0
C. Positive for Group B <i>Streptococcus</i>	2	100.0