



**PARTICIPANT STATISTICS**

Specimen 1 - Urine, 69 year old Male - Incontinent

Organisms	Extent 1	2	3	4	5
291 <i>Enterococcus faecalis</i>		1	92	69	6
290 <i>Enterococcus</i> sp., NOS		2	96	7	2
690 Aerobe found, but referred for ID	47	4	3		
992 Growth of gram-positive organisms	24	3	7		
572 <i>Streptococcus</i> sp., Group D, <i>enterococcus</i>		1	18	1	2
892 Organism is gram-positive	3	4	11	4	
546 <i>Staphylococcus epidermidis</i>			9	1	
542 <i>Staphylococcus</i> sp., coagulase-negative, NOS			14	1	1
540 <i>Staphylococcus</i> sp., NOS			6	1	
554 <i>Streptococcus</i> sp., NOS			5		
570 <i>Streptococcus</i> sp., Group D		1	4		
663 Neg for Grp A strep screen by culture	3				
697 No pathogens isolated	3				
549 <i>Staphylococcus saprophyticus</i>				2	
556 <i>Streptococcus</i> sp., non-hemolytic			1	1	
891 Organism is gram-negative	1				
543 <i>Staphylococcus</i> sp., coagulase-positive, NOS			1		
574 <i>Streptococcus</i> sp., Group D, not <i>enterococcus</i>				1	
544 <i>Staphylococcus aureus</i>			1		
991 Growth of gram-negative organisms			1		
912 <i>Klebsiella</i> , <i>Staphylococcus</i> or <i>Streptococcus</i>			1		
576 <i>Streptococcus agalactiae</i>					1
250 <i>Corynebacterium</i> sp., NOS				1	
698 No aerobic growth	1				
TOTAL PARTICIPANTS	82	16	270	101	12

Extent 1, 2 and 3 flagging appears for failure to report 290, 291, 554, 570, 572, 690, 892, 912 or 992.  
 Extent 4 and 5 flagging appears for failure to report 290, 291 or 572.  
 In addition to the required organism, participants in all extents may report 540, 542, 546 and any of the codes listed in Extent 1, 2 and 3.

This specimen contained *Streptococcus faecalis*, group D, (*enterococcus*), and *Staphylococcus epidermidis*. The *enterococcus* is the cause of subacute bacterial endocarditis, (SBE), while growing within the heart. The presence of a murmur indicates that this pathogen requires multiple blood cultures, because it is only detectable when incrustations break off the valves sporadically. This is a PANIC VALUE organism in urine, and should be reported as Stat, by phone to the doctor, and request blood cultures for SBE.

Do and report antibacterial sensitivities testing (AST) as quickly as these slow-growing organisms will permit. Multiple agents are commonly required for treatment. Penicillin plus Gentamicin are usually used.

Specimen 2 - Throat, 4 day old Female - Fever

Organisms	Extent 1	2	3	4	5
66 <i>Streptococcus</i> sp., Group B		4	44	3	4
576 <i>Streptococcus agalactiae</i>			38	33	5
666 Pos for Grp B strep screen by culture	1	6	41	9	
663 Neg for Grp A strep screen by culture		9	27	5	
563 <i>Streptococcus</i> sp., beta-hemolytic, not Gp A		1	22		
892 Organism is gram-positive	4	2	5	4	
690 Aerobe found, but referred for ID	2	3	1		
771 Neg for strep Group A antigen		3	1		
562 <i>Streptococcus</i> sp., beta-hemolytic Gp A ( <i>S. pyogenes</i> )		3	1		
664 Pos for Grp A strep screen by culture		2	1		
662 Pos for beta-hemolytic strep screen	1	1	1		
564 <i>Streptococcus</i> sp., beta-hemolytic, not Gp A, B or D			1	1	
430 <i>Neisseria</i> sp., NOS		1			
558 <i>Streptococcus</i> sp., alpha-hemolytic		1			
476 <i>Proteus vulgaris</i>		1			
436 <i>Neisseria meningitidis</i>				1	
554 <i>Streptococcus</i> sp., NOS				1	
891 Organism is gram-negative			1		
TOTAL PARTICIPANTS	39	84	195	86	12

Extent 1, 2 and 3 flagging appears for failure to report me 554, 563, 566, 576, 663, 666, 690, 771, 782, 892 or 992.  
 Extent 4 and 5 flagging appears for failure to report 563, 566, 576, 663 or 666.  
 In addition to the required organism, participants in all extents may report 430, 891 or 991 and any of the codes listed in Extent 1, 2 and 3.3.

This throat had Group B. *Streptococcus agalactiae* and *Neisseria* sp. Note: in a new-born there is no normal flora, only the pathogen.

A gram stain reveals a streptococcus; typing with A, B, C, and D antisera shows B pos. Group B streptococci are sexually transmitted, are found in the birth canal and infect the neonate. Fever indicates infection, usually respiratory, but which may become septicemic or meningitic within a few days. The shorter the time after birth, the greater the mortality rate is the rule. *S. agalactiae* thus has the highest mortality rate of all of the streptococci, making this a PANIC VALUE and Stat reporting infection Report penicillin as the drug of choice, but do AST back-up in case of resistance, for alternatives on the Gram Positive Panel.

Specimen 3 - Blood, 70 year old Male - Fever

Organisms	Extent 1	2	3	4	5
493 <i>Pseudomonas aeruginosa</i>		4	74	86	11
490 <i>Pseudomonas</i> sp., NOS	1	3	32	1	1
891 Organism is gram-negative	1	4	5	3	
497 <i>Pseudomonas fluorescens</i> group			4	3	

**BACTERIOLOGY**

Organisms	Extent 1	2	3	4	5
690 Aerobe found, but referred for ID			3		
692 No anaerobes isolated					1
492 <i>Pseudomonas</i> sp., not <i>aeruginosa</i>					1
350 <i>Haemophilus</i> sp., NOS				1	
TOTAL PARTICIPANTS	5	11	116	95	12

Extent 1, 2 and 3 flagging appears for failure to report 490, 493, 497, 690, 692, 891 or 991.  
 Extent 4 and 5 flagging appears for failure to report 439 or 497.  
 In addition to the required organism, participants in all extents may report any of the codes listed in Extent 1, 2 and 3.

This blood culture produced only *Pseudomonas aeruginosa*.  
 Debilitated, long-term patients in elder-care institutions have usually had multiple infections and multiple antibiotic treatments, as have their companions, yielding many drug-resistant organisms as resident flora. *P. aeruginosa*, if green pigmented, is IDed. Many are only chartreuse and may be distinguished by growth on DNase agar.  
 Polymyxin or aminoglycosides should reveal the drug of choice with AST.

Specimen 4 - Vaginal, 14 year old Female - Pelvic pain

Organisms	Extent 1	2	3	4	5
544 <i>Staphylococcus aureus</i>	1	3	112	88	9
892 Organism is gram-positive	11	1	8	4	
543 <i>Staphylococcus</i> sp., coagulase-positive, NOS			15		
631 Neg for <i>N. gonorrhoeae</i> by culture			7	2	
540 <i>Staphylococcus</i> sp., NOS		2	5	1	
690 Aerobe found, but referred for ID	4	1			
542 <i>Staphylococcus</i> sp., coagulase-negative, NOS		1	3	1	
430 <i>Neisseria</i> sp., NOS		1			
634 No growth on Thayer Martin				1	
768 Pos for <i>Staph aureus</i> antigen				1	
TOTAL PARTICIPANTS	16	8	153	96	9

Extent 1, 2 and 3 flagging appears for failure to report 540, 543, 544, 631, 634, 690, 768, 892 or 992.  
 Extent 4 and 5 flagging appears for failure to report 543 or 544.  
 In addition to the required organism, participants in all extents may report and any of the codes listed in Extent 1, 2 and 3.

This vaginal swab detected only *Staphylococcus aureus*.  
*S. aureus* is a primary pathogen wherever it is found, when it causes pathologic symptoms. Toxic Shock Syndrome must be the first consideration for the symptoms here. Immediately do AST test to determine (1) if it is methicillin-resistant (MRSA), using an oxycillin disc, and (2), if another antibiotic shows susceptibility. Unfortunately, vancomycin, a "drug of last resort," may no longer be effective.

In Europe, actually World-wide, autogenous vaccines are being used right now, to confer immunity to the patient against his own pathogens, including MRSA. (See Google for 657 references to date.) Yellow to orange, beta hemolytic colonies on blood agar plates are instantly recognizable as *S. aureus*; trainees must confirm with a gram stain for "grape-like clusters of small cocci, gram positive," - or variable, in older colonies. Lastly, of many species, only aureus is pigmented, hemolytic and coagulase and DNase positive. This is Panic Value and STAT reportable, whether MRSA or not.

Specimen 5 - Stool, 34 year old Male - Stomach cramps, diarrhea

Organisms	Extent 1	2	3	4	5
312 <i>Escherichia coli</i>	2	2	63	43	7
612 <i>Yersinia enterocolitica</i>	1	1	43	46	5
610 <i>Yersinia</i> sp., NOS	3	35	2	3	
689 Neg for <i>Sal</i> & <i>Shig</i> (ref for <i>Vib</i> , <i>Yers</i> & <i>Campy</i> culture)	1	1	24	2	
891 Organism is gram-negative	16		6	3	
686 Neg for <i>Sal</i> , <i>Shig</i> & <i>Campy</i> (ref for <i>Vib</i> & <i>Yers</i> culture)	1	12	2		
680 Stool cult not performed, would refer	6			1	
690 Aerobe found, but referred for ID	3	2			
681 Normal Enteric flora no pathogens isolated			3		
310 <i>Escherichia</i> sp., NOS			3		
682 Neg for <i>Sal</i> , <i>Shig</i> , <i>Vib</i> , <i>Yers</i> & <i>Campy</i>				1	
685 Neg for <i>Sal</i> , <i>Shig</i> & <i>Vib</i> (ref for <i>Yers</i> & <i>Campy</i> culture)			1		
697 No pathogens isolated			1		
230 <i>Citrobacter</i> sp., NOS				1	
687 Neg for <i>Sal</i> , <i>Shig</i> & <i>Yers</i> (ref for <i>Vib</i> , <i>Campy</i> culture)	1				
683 Neg for <i>Sal</i> , <i>Shig</i> , <i>Yers</i> & <i>Campy</i> (ref for <i>Vibrio</i> culture)			1		
892 Organism is gram-positive	1				
TOTAL PARTICIPANTS	29	11	192	101	15

Extent 1, 2 and 3 flagging appears for failure to report 610, 612, 680, 685, 686, 689, 690 or 891.  
 Extent 4 and 5 flagging appears for failure to report 610, 612, 686 or 689.  
 In addition to the required organism, participants in all extents may report 310, 312, 892 and any of the codes listed in Extent 1, 2 and 3.

This stool had *Yersinia enterocolitica* and *Escherichia coli*.  
 Severe gastroenteritis may occur from food and water outbreaks for both of these agents and both could occur in the same specimen and will grow on MacConkey agar. The *E. coli* must be typed for O157:H7 serotype, which causes Hemolytic Uremic Syndrome (HUS) or hemorrhagic colitis. The *Yersinia* invades intestinal lymph nodes and causes severe appendicitis-like symptoms. *Yersinia* are small, slow growing colonies and type out between *E. coli* and *Proteus mirabilis*. Only *Yersinia* are nonmotile, only *Proteus* is phenylalanine positive and only *E. coli* ferments lactose. Lastly, *Yersinia* colonies much smaller than coliforms and not spreading like *P. mirabilis*.  
 Do AST and report. Aminoglycosides are most frequently effective.