

Q3 2018 Urine Culture

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Specimen 1 - 65 year old Female, Dysuria

Organisms	Extent	1	2	3	4	5	Total
943 - Aerobe found; but referred for ID		9	0	1	0	1	11
994 - Growth of gram-positive organisms		3	1	1	0	0	5
791 - Enterococcus sp.; NOS		0	0	5	0	0	5
948 - No pathogens isolated		2	0	0	0	0	2
792 - Enterococcus faecalis		0	0	1	0	0	1
942 - Primary culture only, refer for ID		0	0	0	0	1	1
881 - Streptococcus sp.; NOS		0	0	1	0	0	1

TOTAL PARTICIPANTS 26

Flagging appears for failure to report 787, 791, 792, 793, 881, 894, 895, 942, 943, 985, 989 or 994.

In addition to the required organism, participants in all extents may report (No additional codes)

This sample contained *Enterococcus faecalis*.

The urine culture (obtained from indwelling Foley catheter) for this hospitalized patient grew $>10^5$ colony forming units per milliliter (CFU/mL) of pure, nonhemolytic colonies on blood agar, positive for L-pyrrolidonyl- β -naphthylamide (PYR). The uropathogen was identified as *Enterococcus faecalis*. The urinary tract is the most common site from which clinical strains of enterococci are recovered. Although a common cause of community acquired urinary tract infections (UTIs), enterococci are most often associated with nosocomial UTI, particularly in patients with urinary catheterization. The presence of $>10^5$ CFU/mL of a pure uropathogen from an inpatient's urine culture warrants a full identification and susceptibility. Management should include removal of urinary catheters if possible; this intervention alone has been observed to resolve enterococcal urinary catheter-associated infections/colonization in some cases. Although enterococci are intrinsically resistant to low concentrations of β -lactam antibiotics, these agents (e.g., ampicillin) are still the first choice for uncomplicated UTIs (i.e., alternatives: nitrofurantoin or fosfomycin (*E. faecalis*)). For urinary tract infections due to ampicillin- and vancomycin-resistant strains, linezolid or daptomycin may be used.

Specimen 2 Urine - 18 year old Male, Flank pain

Organisms	Extent	1	2	3	4	5	Total
943 - Aerobe found; but referred for ID		11	0	1	0	1	13
994 - Growth of gram-positive organisms		4	0	1	0	0	5
873 - Staphylococcus sp.; NOS		0	0	2	0	0	2
989 - Klebsiella; Staphylococcus or Streptococcus		0	0	2	0	0	2
942 - Primary culture only, refer for ID		0	0	0	0	1	1
878 - Staphylococcus epidermidis		0	0	1	0	0	1
877 - Staphylococcus aureus		0	0	1	0	0	1
874 - Staphylococcus sp.; coagulase-negative; NOS		0	0	1	0	0	1

TOTAL PARTICIPANTS 26

Flagging appears for failure to report (No Codes).

In addition to the required organism, participants in all extents may report 873, 874, 878, 942, 943, 949, 989, and 994.

This sample contained *Staphylococcus epidermidis*.

Q3 2018 Urine Culture

In this case, a voided midstream urine specimen was obtained from an outpatient with flank pain and from which $<10^3$ CFU/mL of *Staphylococcus epidermidis* grew on blood and colistin-nalidixic agar plates (BAP, CNA). Such culture results are typically reported as “No growth of $\geq 10^3$ CFU/mL”. While infectious syndromes such as cystitis or, more commonly, acute pyelonephritis can be associated with flank pain, other noninfectious causes are possible, as well (e.g., kidney stones, muscle spasm, Crohn’s disease).

Specimen 3 Urine - 23 year old Male, Incontinency

Organisms	Extent	1	2	3	4	5	Total
943 - Aerobe found; but referred for ID		10	0	1	0	1	12
987 - E.coli; Citrobacter or Enterobacter		1	0	4	0	0	5
799 - Escherichia coli		0	0	4	0	0	4
993 - Growth of gram-negative organisms		2	0	0	0	0	2
942 - Primary culture only, refer for ID		0	0	0	0	1	1
798 - Escherichia sp.; NOS		0	0	1	0	0	1
949 - No aerobic growth		1	0	0	0	0	1

TOTAL PARTICIPANTS 26

Flagging appears for failure to report 798, 799, 933, 942, 943, 983, 987 or 993.

Extent 5 flagging for failure to report 798, 799, 933, 943, 983, 987 or 993.

In addition to the required organism, participants in all extents may report (No additional codes).

This sample contained *Escherichia coli*.

Strong urges to urinate, and sometimes urinary incontinence can be symptoms of a urinary tract infection, as seen in this case. Quantitative urine culture of a clean-catch urine specimen obtained from this patient grew $\geq 10^5$ CFU/mL *Escherichia coli*. *E. coli* is an organism that, in contrast to the vast majority of organisms encountered in the clinical bacteriology laboratory, can be tested and reported with minimal work-up. That is, oxidase-negative and gram-negative organisms that are spot indole-positive and β -hemolytic on blood agar can be identified as *E. coli*. Alternatively, indole-positive colonies that are nonhemolytic and lactose positive (e.g., MAC, EMB) can be identified as *E. coli* with a negative PYR test.

Specimen 4 - 45 year old Male, Fever, pain

Organisms	Extent	1	2	3	4	5	Total
943 - Aerobe found; but referred for ID		11	0	1	0	1	13
987 - E.coli; Citrobacter or Enterobacter		1	0	3	0	0	4
799 - Escherichia coli		0	0	3	1	0	4
993 - Growth of gram-negative organisms		2	0	0	0	0	2
942 - Primary culture only, refer for ID		0	0	0	0	1	1
991 - Klebsiella or Enterobacter		0	0	1	0	0	1
798 - Escherichia sp.; NOS		0	0	1	0	0	1

TOTAL PARTICIPANTS 26

Flagging appears for failure to report 798, 799, 942, 943, 987 or 993.

Extent 5 flagging for failure to report 798, 799, 943, 987 or 993.

In addition to the required organism, participants in all extents may report (No additional codes)

This sample contained *Escherichia coli* and *Staphylococcus epidermidis*.

A voided clean-catch urine specimen was obtained from the 45 year-old male outpatient with symptoms of pyelonephritis (fever and flank pain) for urine culture and urinalysis (UA). The UA was positive for nitrites and leukocyte esterase, suggestive of true infection. The reflex urine culture for this patient grew a clinically significant ($\geq 10^5$ CFU/mL) quantity of a gram-negative rod (GNR) and a small quantity of gram-positive cocci in clusters. The GNR organism was presumptively identified as *Escherichia coli* with its characteristic pink colonies on MAC and oxidase^{neg}, spot indole^{pos}, and

Q3 2018 Urine Culture

PYR^{neg} biochemical reactions. *Staphylococcus epidermidis* (<10⁴ CFU/mL) was also associated with the patient's culture and, given its low predominance (>10-fold less numerous than predominant organism), reported as "Urogenital Microbiota".

Specimen 5 - 66 year old Male, Dysuria

Organisms	Extent	1	2	3	4	5	Total
943 - Aerobe found; but referred for ID		11	0	1	0	1	13
994 - Growth of gram-positive organisms		4	0	0	0	0	4
989 - Klebsiella; Staphylococcus or Streptococcus		0	0	3	0	0	3
877 - Staphylococcus aureus		0	0	3	0	0	3
942 - Primary culture only, refer for ID		0	0	0	0	1	1
718 - Normal flora found, not normally reported		0	0	1	0	0	1
819 - Micrococcus sp.; NOS		0	0	1	0	0	1
873 - Staphylococcus sp.; NOS		0	0	1	0	0	1
948 - No pathogens isolated		0	0	1	0	0	1
874 - Staphylococcus sp.; coagulase-negative; NOS		0	0	1	0	0	1
	TOTAL PARTICIPANTS						29

Flagging appears for failure to report 873, 877, 942, 943, 989 or 994.

Extent 5 flagging for failure to report 873, 877, 943, 989 or 994.

In addition to the required organism, participants in all extents may report 718, and 819.

This sample contained *Staphylococcus aureus* and *Corynebacterium sp.*

This patient's voided midstream urine specimen grew $\geq 10^5$ CFU/mL gram-positive cocci in clusters (catalase- and coagulase-positive) and <10⁴ CFU/mL catalase-positive gram-positive rods (GPR). Work-up recommendations vary with respect to patient demographics and can be institution-specific, but in general, the guidelines would suggest a full work-up (i.e., full identification and susceptibility) for the potential pathogen (*Staphylococcus aureus*) and a minimal morphologic identification (MMI) for the GPR (i.e., based on colony/Gram stain morphology, hemolysis, and rapid same-day biochemical testing), as the threshold for full workup for this patient demographic is $\geq 10^5$ CFU/mL. However, the presence of the uropathogen, *Corynebacterium urealyticum*, should be ruled-out with a rapid urease test. (i.e., *C. urealyticum* tests urease-positive; whereas, other *Corynebacterium spp.* test negative for urease).