

Urinary Tract Infections

Urinary tract infections are a major cause of morbidity in the United States. They are the second most common infection after respiratory infections, and largely affect women. Approximately 11% of women suffer from a UTI, 60% of women will have at least one UTI during their lifetime, 25% of UTIs will recur within six months of the initial infection. Although UTIs are not sexually transmitted, they frequently occur in young, sexually active women, although they are by no means confined to this population. Medical Diagnostic Laboratories (MDL) has developed sensitive and specific Real-Time PCR tests to detect these pathogens in **UroSwab®** specimens to assist the physician in the diagnosis of UTI. We offer two urinary tract infection panels:

Urinary Pathogens Antibiotic Resistance

E. coli

Enterococcus faecium

Klebsiella pneumoniae

- amoxicillin-clavulanic acid
- cephalothin (cephalexin)
- trimethoprim-sulfamethoxazole
- nitrofurantoin
- ciprofloxacin
- fosfomicin

Enterococcus faecalis

Klebsiella oxytoca

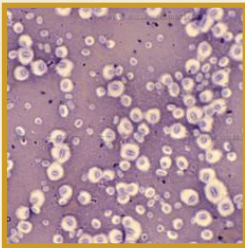
Proteus mirabilis

- ampicillin
- nitrofurantoin
- ciprofloxacin
- fosfomicin
- doxycycline
- linezolid

With colony counts at no additional cost



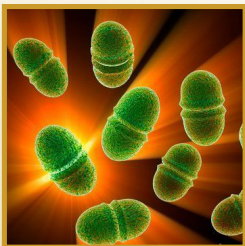
Escherichia coli



Klebsiella species



Proteus mirabilis



Enterococcus species

Urinary Tract Infection Tests Available (male and female specimens)

Test No. 6286 Urinary Pathogens Panel

- 153 *Enterococcus faecalis* by Real-Time PCR
- 154 *Enterococcus faecium* by Real-Time PCR
- 141 *Escherichia coli* by Real-Time PCR
- 127 Group B Streptococcus (GBS) by Real-Time PCR
- 137 Group B Streptococcus (GBS) Antibiotic Resistance
- 727 *Klebsiella oxytoca*
- 728 *Klebsiella pneumoniae*
- 146 *Proteus mirabilis* by Real-Time PCR
- 174 *Pseudomonas aeruginosa* by Real-Time PCR
- 151 *Staphylococcus saprophyticus* by Real-Time PCR
- 176 **Urinary Pathogens Antibiotic Resistance Testing** (*E. coli*, *Enterococcus faecalis*, *Enterococcus faecium*, *K. oxytoca*, *K. pneumoniae*, *Proteus mirabilis*)

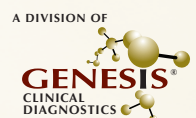
Test No. 6815 Complex Urinary Tract Infection Panel

- 551 *Candida albicans* by Real-Time PCR
- 576 *Candida dubliniensis* by Real-Time PCR
- 559 *Candida glabrata* by Real-Time PCR
- 578 *Candida kefyr* by Real-Time PCR
- 566 *Candida krusei* by Real-Time PCR
- 577 *Candida lusitanae* by Real-Time PCR
- 558 *Candida parapsilosis* by Real-Time PCR
- 557 *Candida tropicalis* by Real-Time PCR
- 129 *Mycoplasma genitalium* by Real-Time PCR (Reflex to antibiotic resistance by Molecular Analysis)
- 130 *Mycoplasma hominis* by Real-Time PCR
- 178 *Ureaplasma parvum* by Real-Time PCR (Reflex to antibiotic resistance by Molecular Analysis)
- 320 *Ureaplasma urealyticum* by Real-Time PCR (Reflex to antibiotic resistance by Molecular Analysis)



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Medical Diagnostic Laboratories
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IH0036 Upd: 4.2025

Available on the UroSwab®...



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SPECIMEN

Type	Source	Collected	Received	Reported
UroSwab	Urine	04/15/2024	04/16/2024	04/19/2024



PATIENT

MDL # 13364148

DOE, JANE

555 MAIN ROAD
ANYTOWN, NJ 12345-6789
DOB: 11/30/1998 (Age 25)
Gender: Female
Ethnicity: Not provided
Patient ID: 82100
Home #: 123-456-7890

FINAL



CLIENT

DOE FAMILY PRACTICE
JOHN DOE, MD
1234 FIRST AVENUE
ANYTOWN, NJ 12345-6789

NPI: 0987654321
Tel: (555) 555-1234
Fax: 555-555-1235



- Real-Time PCR
- Simple, Convenient & Non-invasive sample collection
- No refrigeration required before or after collection
- Specimen viability up to five (5) days after collection
- Test additions available up to 30 days after collection



Pathogens Detected

141 *Escherichia coli* *
Uropathogen. Colony Count: $\geq 10^5$
CFU/ml. AST performed: SENSITIVE TO
Amoxicillin/Clavulanic Acid, Cefepime,
Cephalothin, Fosfomycin, Gentamicin,
Imipenem, Nitrofurantoin. INTERMEDIATE
TO Piperacillin-tazobactam. RESISTANT TO
Ciprofloxacin, Doxycycline, Trimethoprim-
sulfamethoxazole.

POSITIVE



Pathogens Not Detected

Other Pathogens	153 <i>Enterococcus faecalis</i> *	727 <i>Klebsiella oxytoca</i> *	174 <i>Pseudomonas aeruginosa</i> *
	154 <i>Enterococcus faecium</i> *	728 <i>Klebsiella pneumoniae</i> *	151 <i>Staphylococcus saprophyticus</i> *
	127 Group B Streptococcus (GBS) *	146 <i>Proteus mirabilis</i> *	176 Urinary Pathogens *

*This test was developed and its performance characteristics determined by the laboratory. It has not been Drug Administration. The FDA has determined that such clearance or approval is not necessary.

UroSwab-1;176:Urinary Pathogens (*E. coli*, *Klebsiella* spp., *P. mirabilis*, *E. faecalis*, *E. faecium*, GBS Testing
Clinical AND Laboratory Standards Institute (CLSI) recommendations AND antibiotic abbreviations. AM - Aztreonam; CF - Cephalothin IS used TO predict the activity of oral cephalosporins: cephalixin, cefazolin, ciprofloxacin, CIP can also be used TO predict the activity of levofloxacin; GM - Clindamycin; DOX - Doxy; FOS - Fosfomycin; GM - Gentamicin; IPM - Imipenem; LZD - Linezolid; TZP - Piperacillin-Tazobactam; SXT uniformly SENSITIVE TO Beta-lactam antibiotics, which includes penicillin, ampicillin, amoxicillin, amoxicillin GBS resistance TO nitrofurantoin IS very rare.

A positive result is provided for bacteria, virus, parasites, and/or fungal species when PCR amplification (re Pyrosequencing), and/or sequencing analysis occurs above cut-off levels established by the laboratory. Pe reported above are available from the laboratory upon request.

Medical Director, Jing-Jing Yang, M.D.

MEDICAL DIAGNOSTIC LABORATORIES

Recommendations for Treatment

MDLNO:13364148

Patient: DOE, JANE

Date of Service: 04/16/2024

Date Created: 04/19/2024

Summary:

This specimen is composed of abnormal *Escherichia coli*. The presented recommendations are limited by the testing that was actually performed for this date of service.

ACOG Recommendation:

Uncomplicated Urinary Tract Infections in Adults

- Nitrofurantoin monohydrate/macrocrystals, 100 mg orally 2x daily for 5 days OR
- Trimethoprim-sulfamethoxazole, 160/800 mg orally 2x daily for 3 days OR
- Fosfomycin trometamol, 3 g orally once-off, may be repeated after 2 days OR
- Ciprofloxacin, 250 mg orally 2x daily for 3 days OR
- Levofloxacin, 250 or 500 mg orally once daily for 3 days

Uncomplicated Urinary Tract Infections in pregnant

- Nitrofurantoin monohydrate/macrocrystals, 100 mg orally 2x daily for 5 days (Avoid in first trimester) OR
- Amoxicillin or Amoxicillin-clavulanate, 500 or 875 mg orally every 8 or 12 h for 3-7 days OR
- Cephalixin, 500 mg orally every 6 h for 3-7 days OR
- Cefpodoxime, 100 mg orally 2x daily for 3-7 days OR
- Fosfomycin trometamol, 3 g orally once-off, may be repeated after 2 days OR
- Trimethoprim-sulfamethoxazole, 160/800 mg orally 2x daily for 3 days (Avoid in first trimester)

Reference

- Infectious Diseases Society of America and the European Society for Microbiology and Infectious Diseases. Chu, C.M. and Lowder, J.L., 2018. Diagnosis and treatment of urinary tract infections across age groups. American journal of obstetrics and gynecology, 219(1), pp 40-51. <https://doi.org/10.1016/j.ajog.2017.12.231>
- British National Formulary (BNF) BNF 82 September 2021 - March 2022

Dr. Faro's Alternative Recommendation:

Physician recommendation is not available



Dr. Sebastian Faro is one of the world's leading OB/GYNs. A board-certified obstetrician and gynecologist who has practiced general obstetrics and gynecology for over 40 years, Dr. Faro has welcomed tens of thousands of healthy babies into the world while continuing to mentor fellow doctors. Dr. Faro received his Ph.D. from the University of Iowa and his medical degree from Creighton University School of Medicine in Omaha, Nebraska. He has written and edited several medical textbooks pertaining to diseases in obstetrics and gynecology. He is a member of the American Gynecological and Obstetrical Society and a Fellow of the Infectious Disease Society of America. Dr. Faro is currently Clinical Professor of OB/GYN, Department of OB/GYN, School of Medicine, at the University of Houston in Houston, Texas. Physician's may schedule a call with Dr. Faro by sending a text to 713.705.1709 or may email him at sebfaro6272@yahoo.com