Outpatient Antibiogram
January 1 – December 31, 2017

TRICORE REFERENCE LABORATORIES

Urinary Tract Infections

Gram Negative Urine Isolates

	# of Isolates	Nitrofurantoin (Macrobid®)	Trimethoprim-Sulfamethoxazole (Bactrim DS)	Ciprofloxacin	Cefazolin (D)
Citrobacter freundii	109	89.0%	88.1%	96.3%	
Citrobacter koseri	73	26.0%	98.6%	100.0%	
Enterobacter aerogenes	103	19.4%	100.0%	100.0%	
Enterobacter cloacae	134	28.4%	94.8%	97.8%	
Escherichia coli (F)	4998	98.1%	79.1%	83.6%	91.1%
Klebsiella oxytoca (F)	123	76.4%	94.3%	96.7%	60.2%
Klebsiella pneumoniae (F)	940	38.8%	93.5%	97.0%	95.8%
Proteus mirabilis	221		91.0%	90.5%	75.7%
Pseudomonas aeruginosa	161			85.0%	
Morganella morganii	27*		88.9%	96.3%	

Gram Positive Urine Isolates

	f# of Isolates	Nitrofurantoin (Macrobid®)	Trimethoprim-Sulfamethoxazole (Bactrim DS)	Cefazolin (D)	Ampicillin
Enterococcus faecalis	430	100.0%			99.8%
Enterococcus faecium	20*	Not Tested			45.0%
Staphylococcus aureus	71	100.0%	100.0%	77.5%	

Definition[B]

Uncomplicated UTIs include acute cystitis or pyelonephritis in healthy non-pregnant, premenopausal women without history of structural/functional abnormalities in the urinary tract. Other cases are generally considered complicated UTIs.

IDSA Guidelines: Empiric Treatment Recommendations[B]

Uncomplicated Cystitis	
First-line agents	
Nitrofurantoin[A] ; 100 mg twice daily, oral	5 days
Trimethoprim/sulfamethoxazole; 160/800 mg DS twice daily, oral	3 days
Fosfomycin; 3 g single dose, oral	1 dose
Second-line agents	
Ciprofloxacin; 500 mg twice daily, oral	3 days
Uncomplicated Pyelonephritis (Perform culture and susceptibilities)	
First-line agents	
Ciprofloxacin; 500 mg twice daily, oral	7 days
Second-line agents	
Trimethoprim/sulfamethoxazole 160/800 mg DS twice daily, oral	14 days

Common Pathogens[B]

- *Escherichia coli* (75%-95% prevalence)[B]
- *Staphylococcus saprophyticus*
- *Klebsiella spp.*
- *Proteus mirabilis*
- *Enterococcus spp.*
- Group B streptococcus
- *Pseudomonas aeruginosa*

Urinalysis Reflex to Culture Criteria

- Positive nitrite
- Positive leukocyte esterase
- Moderate to many bacteria
- >5 WBC/hpf

Other Organisms (# of Isolates)

Staphylococcus saprophyticus (15)	Aerococcus spp. (33)
Routinely susceptible to nitrofurantoin, Bactrim and fluoroquinolones[E]	Routinely susceptible to nitrofurantoin and β-lactams[E]

Isolates included in this antibiogram are from non-specialty outpatient clinics throughout New Mexico. Black shaded antibiotics have no coverage. Gray shaded antibiotics are <50% susceptible or Not Tested. Antibiotics included represent oral formulations available. Susceptibilities in green for oral treatment options are greater than or equal to 80%.

*Organisms with <30 isolates have limited statistical significance of the result.

(A) 2015 Beers Criteria recommendations state the use of nitrofurantoin is considered inappropriate for treatment of UTI in patients 65 years of age or older with a creatinine clearance less than 30 mL/min.

(B) Gupta K, et al. Clin Infect Dis. 2011;52:e103-e120 (IDSA Guidelines); Gupta K, Boucher HW. Infectious Disease Clinics of North America. Vol 28. No. 1. Elsevier Inc;2014.

(C) Oral cephalexin, cefdinir, cefaclor and cefpodoxime susceptibility is predicted by cefazolin susceptibility testing. (CLSI Document M39-A4, 4th ed. Copyright 2014.

(D) ESBL positive rate for *E. coli* is about 3%, *K. oxytoca* is about 4% and *K. pneumoniae* is about 2%.

(E) CLSI Document M100, 27th ed. Copyright 2017. Higgins A, et al. Urol Case Rep. 2017;13:24-25. CLSI Document M45, 3rd ed. Copyright 2016. Rasmussen M. Clin Microbiol Infect. 2016;22:22-7.