

2017 Antibiotic Susceptibility Profiles Otago Community isolates

Gram negative bacteria 2017 (% sensitive)	Number tested	Amoxicillin	Amoxicillin/Clavulanate	Amoxicillin/Clavulanate (cystitis only)	Cefalexin (cystitis only)	Tetracycline/doxycycline	Nitrofurantoin (cystitis only)	Ciprofloxacin*	Trimethoprim (cystitis only)	Cotrimoxazole*	Fosfomycin
<i>E. coli</i> (all)	6170	58%	77%	91%	95%		99%		75%		
<i>E. coli</i> (urine)	6091	58%	77%	91%	95%		99%		75%		
<i>E. coli</i> ESBL urines*	162	R		69%	R		98%	28%	35%	26%	98%
<i>Proteus mirabilis</i>	237	90%	100%	100%	96%		R	98%	79%	92%	
<i>Salmonella</i> spp	79	96%						92%		100%	
<i>Pseudomonas aeruginosa</i>	516							80%			
<i>Haemophilus influenzae</i>	419	72%	89%			98%		98%		71%	

Gram positive bacteria 2017 (% sensitive)	Number tested	Amoxicillin	Penicillin G (sensitive and intermediate)	Flucloxacillin	Erythromycin	Clindamycin	Nitrofurantoin (cystitis only)	Trimethoprim (cystitis only)	Cotrimoxazole	Fusidic acid	Tetracycline/doxycycline
<i>Staphylococcus aureus</i>	3802		3%	94%	88%	89%			98%	74%	97%
<i>Staphylococcus aureus</i> MRSA	237		R	R	82%	89%			98%	66%	96%
<i>Staphylococcus lugdunensis</i>	131		53%	99%	96%	97%			100%		97%
<i>Staphylococcus saprophyticus</i>	348						100%	96%		R	
<i>Streptococcus pneumoniae</i>	206		91%**		79%	100%			79%		80%
<i>Enterococcus</i> species	552	89%					98%			R	

Notes *:

- Extended-spectrum β -lactamases (ESBL) are plasmid-encoded enzymes which hydrolyze most of the beta-lactam antibiotics, ie the penicillins and cephalosporins. The organism usually remains susceptible to meropenem and ertapenem. In addition, these isolates are usually resistant to multiple other classes of antibiotics, including to cotrimoxazole, fluoroquinolones, and aminoglycosides
- The most common infection produced by ESBL-producing organisms is cystitis, but antibiotic treatment options are very limited. Nitrofurantoin or Fosfomycin may be options for treatment. Serious infection and invasive disease require treatment with a carbapenem (meropenem or ertapenem)
- **Ciprofloxacin** and **cotrimoxazole** susceptibility results are not available for community *Escherichia coli* from urines, as these are only tested on multi-resistant isolates or when pyelonephritis is suspected. However, for *hospital* urinary isolates (which are all tested), 90% are susceptible to ciprofloxacin, and 78% to cotrimoxazole

Note **:

- 81% of *Streptococcus pneumoniae* are fully susceptible to penicillin (MIC \leq 0.06 mg/L), while 10% have reduced susceptibility to penicillin (MIC 0.12 – 2.0 mg/L)
- Uncomplicated pneumonia due to *Streptococcus pneumoniae* may usually be treated with high-dose oral amoxicillin (adult dose 1g tds). More severe pneumonia (CURB-65 score \geq 2) may require IV antibiotics. Please refer to the comments on the laboratory report for dosage indications, or contact Infectious Diseases or a Clinical Microbiologist