

# ANTIBIOTIC SUSCEPTIBILITY PROFILES

(Compiled January 2018, based on 2017 annual data)



Bay of Plenty +  
Waikato

	<i>Staphylococcus aureus</i>	<i>Streptococcus pyogenes</i> (Gp A Haemolytic Strep.)	<i>Streptococcus pneumoniae</i>	<i>Moraxella catarrhalis</i>	<i>Haemophilus influenzae</i>	<i>Pseudomonas aeruginosa</i>	URINE					
							<i>E.coli</i>	<i>Klebsiella</i> species	<i>Proteus mirabilis</i>	<i>Enterobacter / Serratia</i> spp.	<i>Enterococcus</i> species	<i>Staphylococcus saprophyticus</i>
<b>Number of Isolates</b>	12388		410		1716	1235	8456	1082	535	348		774
<b>PENICILLIN</b>		S	97 <sub>d</sub>	R	R	R						
<b>FLUCLOXACILLIN</b>	88	S		R	R	R						
<b>AMOXYCILLIN</b>		S	97 <sub>e</sub>	R	76	R	53	R	92	R	S	V <sub>g</sub>
<b>AMOX / CLAV</b>	88 <sub>a</sub>	S	97 <sub>e</sub>	S	94	R	89	92	99	R	S	S <sub>g</sub>
<b>CEPHALEXIN</b>	88 <sub>a</sub>	S		S		R	95	95	99	R	R	S <sub>g</sub>
<b>COTRIMOXAZOLE</b>	99		74	S	79	R	76 <sub>h</sub>	86 <sub>h</sub>	87 <sub>h</sub>	91 <sub>h</sub>	R	89 <sub>h</sub>
<b>ERYTHROMYCIN</b>	88	S <sub>c</sub>	80		R <sub>f</sub>	R						
<b>CLINDAMYCIN</b>	88 <sub>b</sub>	S <sub>c</sub>	80 <sub>b</sub>			R						
<b>TETRACYCLINE</b>			81	S	98	R						
<b>GENTAMICIN</b>						96	S	S	S	S		
<b>CIPROFLOXACIN</b>						94	94	96	99	96		
<b>NITROFURANTOIN</b>						R	99	86	R	* <sub>i</sub>	S	100
<b>TRIMETHOPRIM</b>						R	76	86	87	91	R	89

The percentage of organisms susceptible to an antibiotic is recorded (with the sample size in the first row of the table).  
(e.g. *Staphylococcus aureus* vs. flucloxacillin 88% susceptible, n= 12388)

S = Not specifically tested, but known to be ordinarily susceptible.

R = Organism resistant or antibiotic inappropriate V = Variable susceptibility.

- S. aureus* susceptible to flucloxacillin can be considered susceptible to amoxicillin-clavulanate and cefaclor. Methicillin resistant *Staphylococcus aureus* (i.e. MRSA) are resistant to all beta-lactam antibiotics (penicillins, cephalosporins, carbapenems).
- Clindamycin susceptibility is extrapolated from the erythromycin result.
- Streptococcus pyogenes* are universally susceptible to penicillin but resistance to erythromycin/clindamycin is seen, (in an estimated 5% of isolates).
- S. pneumoniae* susceptible to penicillin can be considered susceptible to amoxicillin, amoxicillin-clavulanate, cefaclor, cefuroxime, cefotaxime, ceftriaxone, cefpodoxime, imipenem and meropenem. Confirmation of penicillin resistance (reduced susceptibility) in *S. pneumoniae* requires MIC testing. (Please note this figure includes both penicillin susceptible and intermediately susceptible isolates). *S. pneumoniae* isolates intermediately susceptible to penicillin are resistant to cefaclor. In 2017 our *S. pneumoniae* isolates demonstrated the following pattern of susceptibility to penicillin: 69% = Susceptible, 28% = Intermediate, 3% = Resistant. However, of the resistant strains only a few had a penicillin MIC > 4mg/L, and penicillins (amoxicillin) are effective against strains with MIC ≤ 4mg/L, unless they are causing meningitis.
- Amoxicillin and amoxicillin-clavulanate susceptibility is extrapolated from the penicillin result.
- Erythromycin is not recommended for treatment of infections thought to be due to *H. influenzae*.
- S. saprophyticus* causing urinary tract infections will usually respond to amoxicillin-clavulanate and cephalosporins. (Up to 50% of isolates are resistant to amoxicillin).
- Cotrimoxazole susceptibility is extrapolated from the trimethoprim result.
- Please note: *Serratia* spp. are intrinsically resistant. *Enterobacter* spp. was 80% susceptible in 2017.

## MOST LIKELY BACTERIAL PATHOGENS IN COMMON CONDITIONS

### 1. RESPIRATORY INFECTIONS

- Pharyngitis - *Streptococcus pyogenes* (Gp A Haemolytic Strep.)
- Otitis Media/Sinusitis  
*Streptococcus pneumoniae*  
*Haemophilus influenzae*  
*Moraxella catarrhalis*
- Acute exacerbation of Chronic Bronchitis  
*Streptococcus pneumoniae*  
*Haemophilus influenzae*  
*Moraxella catarrhalis*
- Community Acquired Pneumonia  
*Streptococcus pneumoniae*  
*Haemophilus influenzae*  
*Mycoplasma pneumoniae*  
*Chlamydia pneumoniae*  
*Staphylococcus aureus*  
(*Legionella* sp)

### 2. URINARY TRACT INFECTION

- E.coli*
- Proteus mirabilis*
- Other Coliforms (e.g. *Klebsiella*, *Enterobacter*).
- Enterococcus* sp.
- Staphylococcus saprophyticus*

### 3. IMPETIGO / CELLULITIS

- Staphylococcus aureus*
- Streptococcus pyogenes*