

ANTIMICROBIAL SUSCEPTIBILITY PATTERNS 2018

Produced by the Microbiology Department

Canterbury Health Laboratories, Canterbury DHB

General notes

- The antimicrobial agents selected for routine or first-line testing are chosen because they have the narrowest spectrum that will treat and contain an infection.
- The data presented are from tests performed between January and December 2018.
- Results are for antimicrobial/organism combinations where more than 30 isolates were tested, with a 95% confidence interval of $\pm 15\%$.
- Test methods are predominantly those recommended by EUCAST (www.eucast.org).
- Antimicrobial susceptibility test results for Gram-positive isolates recovered from all sites (Table 1) are on page 1, whereas Gram-negative isolates from all sites (Table 2) and from urinary tract infections (Table 2) are on page 2.

Table 1: Antimicrobial susceptibility test results for Gram-positive isolates recovered from all sites (2018)

Organism Name	Number tested	Antibiotics in common use (1st line reporting)									Reserved (2nd line reporting)				Topical	
		Ampicillin/ amoxicillin	Penicillin	Meth/Flucloxacillin	Erythromycin	Clindamycin #	Gentamicin	Nitrofurantoin ^d	Trimethoprim ^d	Trimethoprim+sulfamethoxazole	Fusidic Acid #	Tetra/Doxycycline	Ciprofloxacin #	Vancomycin #	Chloramphenicol	Mupirocin (High-Level)
<i>S. aureus</i> (not MRSA)	3988		20	100 ^a	86	92	98		85	97	92	97	97	100	93	99
MRSA	356		0	0	70	83	89		69	87	80	96	78	100	93	99
<i>S. epidermidis</i>	451		0	32	46	70			42	48	56	72	71	100		
<i>Enterococcus faecalis</i>	622	100 ^b					99						100	100		
<i>Enterococcus faecium</i>	90	19											98			
<i>Streptococcus pneumoniae</i>	298	96 ^c	96 ^c		75	88 ^c				72		80		100		
Streptococcus Grp A		100	100		97	98				97		82		100		

Notes:

* Tested on 10-30 isolates

^a *S. aureus* susceptible to methicillin/flucloxacillin denotes susceptibility to cefazolin and amoxicillin-clavulanate

^b Enterococcus species are intrinsically resistant to cephalosporins

^c Includes Intermediate (Susceptible, Increased Exposure) results

^d Treatment of uncomplicated urinary tract infections only

Use requires patient-specific Infectious Diseases/Clinical Microbiology approval (document this in the clinical notes) unless following a CDHB antimicrobial guideline e.g. 'The Pink Book'.

\$ Use requires patient-specific Infectious Diseases/Clinical Microbiology/Respiratory Specialist approval (document this in the clinical notes) unless following a CDHB antimicrobial guideline e.g. 'The Pink Book'.

Colour interpretation:

No data or not tested

≥ 90% Susceptible

70 - 89% Susceptible

< 70% Susceptible

Table 2: Antimicrobial susceptibility test results for Gram-negative isolates recovered from all sites (2018)

Organism Name	Antibiotics in common use (1st line reporting)									Reserved (2nd line reporting)						
	Number tested	Ampicillin/ amoxicillin	Amoxicillin-Clavulanate	Cefuroxime IV	Cefalexin	Gentamicin	Nitrofurantoin ^d	Trimethoprim ^d	Trimethoprim+Sulfamethoxazole	Tetracycline	Ceftriaxone	Piperacillin-Tazobactam [§]	Cefepime [#]	Meropenem [#]	Fosfomycin [#]	Ciprofloxacin [#]
<i>Citrobacter freundii</i> complex	90	0	8	0	15	100	0	97	97		80	89	93	100	96	100
<i>Enterobacter cloacae</i> complex	241	0	5	0	10	93	0	85	89		67	70	79	100	82	94
<i>Escherichia coli</i>	4968	52	83	87	92	93	99	74	77		93	97	94	100	99	88
<i>Klebsiella oxytoca</i>	211	0	89	81	91	100	0	97	98		91	90	94	100	93	99
<i>Klebsiella pneumoniae</i>	537	0	89	81	86	92	0	78	84		89	91	89	99	90	88
<i>Morganella morganii</i>	90	0	0	0	0	87	0	72	77		95	96	99	99	17	75
<i>Proteus mirabilis</i>	288	81	96	86	94	52	0	79	84		97	100	98	99	90	92
<i>Serratia marcescens</i>	110	0	0	0	0	98	0	87	100		81	89	92	99	93	89
<i>Pseudomonas aeruginosa</i>	727	0	0	0	0	96	0	0	0		0	97	95	90	0	90
<i>Acinetobacter baumannii</i> complex	57	0	0	0	0	72	0	0	95		0		95	0	0	97
<i>Haemophilus influenzae</i>	788	69	91	51					71	99						91
<i>Moraxella catarrhalis</i>	257	3	100	99					97	100						100*

Table 3: Antimicrobial susceptibility test results for Gram-negative isolates recovered from urinary tract infections (2018)

Organism Name	Antibiotics in common use (1st line reporting)									Reserved (2nd line reporting)					
	Number tested	Ampicillin/Amoxicillin	Amoxicillin-Clavulanate	Cefalexin	Gentamicin	Nitrofurantoin ^d	Trimethoprim ^d	Trimethoprim-Sulfamethoxazole	Tetracycline	Ceftriaxone	Piperacillin-Tazobactam [§]	Cefepime [#]	Meropenem [#]	Fosfomycin [#]	Ciprofloxacin [#]
<i>Citrobacter freundii</i> complex	61	0	0	0	100	0	97	97		84	89	94	100	97	100
<i>Citrobacter koseri</i>	71	0	98	97	100	0	96	99		99	99	100	100	100	100
<i>Enterobacter cloacae</i> complex	124	0	0	0	96	0	88	89		76	78	84	100	77	96
<i>Enterobacter aerogenes</i>	46	0	0	2	100	0	89	98		67	72	91	100	98	96
<i>Escherichia coli</i>	4608	54	81	93	94	99	76	78		96	97	96	100	99	91
<i>Klebsiella oxytoca</i>	147	0	93	93	100	0	96	98		95	95	97	100	95	100
<i>Klebsiella pneumoniae</i>	399	0	92	89	97	0	82	89		95	93	96	99	91	93
<i>Proteus mirabilis</i>	246	86	96	95	52	0	83	90		99	100	99	100	91	96
<i>Serratia marcescens</i>	72	0	0	0	96	0	83	100		79	89	89	100	93	85

Notes:

* Tested on 10-30 isolates

^a *S. aureus* susceptible to methicillin/flucloxacillin denotes susceptibility to cefazolin and amoxicillin-clavulanate

^b Enterococcus species are intrinsically resistant to cephalosporins

^c Includes Intermediate (Susceptible, Increased Exposure) results

^d Treatment of uncomplicated urinary tract infections only

[#] Use requires patient-specific Infectious Diseases/Clinical Microbiology approval (document this in the clinical notes) unless following a CDHB antimicrobial guideline e.g. 'The Pink Book'.

[§] Use requires patient-specific Infectious Diseases/Clinical Microbiology/Respiratory Specialist approval (document this in the clinical notes) unless following a CDHB antimicrobial guideline e.g. 'The Pink Book'.

Colour interpretation:

No data or not tested
≥ 90% Susceptible
70 - 89% Susceptible
< 70% Susceptible