

Gram negative bacteria antibiotic susceptibility, Dunedin Hospital 2017

For empiric treatment guidelines, see the Southern DHB empiric treatment guidelines on the MicroGuide App (available from the App Store and Google Play) or on the SDHB Intranet, Applications -> District -> Adult Antibiotic Guidelines

Shaded antibiotics are **restricted** in the Pharmac Hospital Medicines List (HML). These restrictions may be either:

(a) **Indication restrictions** – can only be used for the indication specified in the HML,
AND/OR

(b) **Prescriber restrictions** – must be recommended by the specialist designated in the HML, OR be prescribed according to an approved hospital protocol e.g. MicroGuide (SDHB)

For further details on restrictions search the online HML: <https://www.pharmac.govt.nz/tools-resources/pharmaceutical-schedule/section-h/>

Gram negative bacteria (% sensitive)	Number tested	Amoxicillin	Amoxicillin/Clavulanate	Amoxicillin/Clavulanate Cystitis only	Piperacillin/Tazobactam	Cefalexin (cystitis only)	Cefuroxime parenteral	Ceftriaxone	Ceftazidime	Cefepime	Meropenem	Gentamicin	Tobramycin	Nitrofurantoin (urine cystitis only)	Ciprofloxacin	Cotrimoxazole	Trimethoprim (urine cystitis only)	Tetracycline
<i>E. coli (all)</i>	2098	57%	75%	89%	95%	93%	93%	96%		93%	100%	95%		99%	89%	78%	77%	
<i>E. coli ESBL* (all sites)</i>	254	0%	42%	73%		1%	R	2%			97%	65%			26%	37%		
<i>E. coli ESBL* (urine)</i>	219	0%	48%	73%	71%	1%	R	1%			99%	66%		99%	26%	35%	33%	
<i>Enterobacter spp.</i>	111	R	R	R	63%	R	R	60%			99%	96%			95%	91%	79%	
<i>Klebsiella spp.</i>	326	R	87%	91%	92%	88%		90%			100%	98%			90%	90%	81%	
<i>Citrobacter spp.</i>	80	R	44%	55%	88%	56%		79%			100%	99%			94%	96%	93%	
<i>Proteus mirabilis</i>	173	92%	100%	100%	100%	100%		100%			100%	98%		R	99%	91%	81%	
<i>Morganella morganii*</i>	71	R	R	R	100%	R		93%			100%	100%		R	93%	90%	77%	
<i>P.aeruginosa</i>	380				94%				92%	86%	86%		91%		80%			
<i>Serratia spp.*</i>	107	R	10%	11%	94%			81%		100%	100%	100%		R	82%	91%	80%	
<i>Salmonella spp.*</i>	74	96%						99%							92%	100%		
<i>Acinetobacter spp.*</i>	104										94%	96%	97%		96%	96%		
<i>Haemophilus influenzae</i>	260	64%	84%					89%							99%	70%		99%

Notes: R = intrinsic resistance. Many *Enterobacteriaceae* (other than *E.coli*) become resistant to cephalosporins if monotherapy with cephalosporins is used.

* Community isolates included because of small numbers of hospital isolates. Testing performed using EUCAST interpretive standards.

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Gram positive bacteria (% sensitive)	Number tested	Amoxicillin	Penicillin G (sensitive)	Penicillin G (Intermediate)	Flucloxacillin	Ceftriaxone	Erythromycin	Clindamycin	Gentamicin	Nitrofurantoin (urine cystitis only)	Trimethoprim (urine cystitis only)	Cotrimoxazole	Ciprofloxacin	Norfloxacin (urine cystitis)	Fusidic acid	Linezolid**	Rifampicin	Tetracycline/ Doxycycline	Vancomycin
<i>Staphylococcus aureus</i>	1339		3%		90%		90%	91%	97%			97%	95%		85%	100%	100%	97%	100%
<i>S. aureus</i> (MRSA)*	337		0%		0%		80%	86%	90%			97%	82%		66%	100%	99%	95%	100%
<i>S. lugdunensis</i> *	190		54%		99%		97%	98%	98%			100%	97%		97%	100%	100%	98%	100%
<i>S. saprophyticus</i> *	407	94%**								100%**	96%								
<i>S. pneumoniae</i> *	279		79%	15%		93%**	78%	86%				76%				100%	100%	79%	100%
<i>Enterococcus</i> (all)	527	84%								94%				80%		100%			98%
<i>E. faecalis</i> *	391	98%								99%				89%		100%			100%
<i>E. faecium</i> *	89	14%								33%				11%		100%			89%

Notes:

Ciprofloxacin or rifampicin should never be used as monotherapy for staphylococcal infections as resistance readily emerges.

Most erythromycin R Staphylococci will have inducible clindamycin R.

Note that 6% of *S. pneumoniae* are R to penicillin. High doses of a penicillin or cephalosporin may still be useful for infections other than meningitis (see MIC on laboratory report). For meningitis, consult the SDHB MicroGuide.

Flucloxacillin S Staphylococci are also S to 1st generation cephalosporins (eg cefazolin) and amoxicillin/clavulanate.

* Includes community isolates because of small numbers of hospital isolates.

** Small numbers tested (usually <50)