

Antibiogram

LHSC and St. Joseph's Healthcare Facilities

A Guide to Interpreting the Antibiogram

- The antibiogram is an annual cumulative report of the antimicrobial susceptibility rates of common pathogens recovered from patients receiving care at London Health Sciences Centre and St. Joseph's Healthcare facilities and is to be used as a resource to inform empirical antimicrobial therapy.
- Susceptibility rates are calculated from the compilation of susceptibility results from all 'first' clinical isolates of a specific pathogen recovered from an individual patient per 30-day period. The rationale for this referral period is based on the need to represent 'wild-type' susceptibility profiles and avoid over-representing antimicrobial resistance that may develop de novo during a patient's prolonged hospital stay.
- Susceptibility rates for pathogens or clinical scenarios represented by less than 30 isolates are not calculated due to their limited statistical significance and interpretive value.
- The appropriateness of empiric therapy is highlighted using a colour range that corresponds to susceptibility rates. Green, 80-100%; Yellow, 70-79%; Red, <70%.

2021 Antibiogram

LHSC and St. Joseph's Healthcare Facilities

	Number of Isolates	Ampicillin	Amoxicillin-Clavulanate	Piperacillin-Tazobactam	Cephalexin (urinary tract)	Cefazolin	Ceftriaxone	Ceftazidime	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Gentamicin	Tobramycin	TMP-SMX
Gram Negative Organisms															
<i>Escherichia coli</i>	3430	61	87	88	74	89	99	99	78	93	93	79			
<i>Klebsiella pneumoniae</i> complex	872		94	91	86	92	99	89	98	96	86				
<i>Proteus mirabilis</i>	377	83	97			97		100	84	90	92	85			
<i>Enterobacter cloacae</i> complex	369					67	95	94	98	96	90	92	85		
<i>Klebsiella oxytoca</i>	250		88			91	98	96	96	96	94				
<i>Citrobacter freundii</i> complex	130					64	95	83	94	92	83				
<i>Serratia marcescens</i>	156					93	97	100	92	98	88	100			
<i>Klebsiella aerogenes</i>	117					74	98	100	99	99	100				
<i>Morganella morganii</i>	80					83	10	99	64	84	80	65			
<i>Citrobacter koseri</i>	68		99			99	99	99	100	100	99				
<i>Pseudomonas aeruginosa</i>	1047			86			84	70	85	79	85	89			
<i>Stenotrophomonas maltophilia</i>	118										97				97

Enterobacter, *Citrobacter*, *Klebsiella aerogenes* and *Serratia* species are intrinsically resistant to ampicillin, cefazolin, and cefuroxime and may develop resistance to broader-spectrum beta-lactams during prolonged beta-lactam therapy.

Stenotrophomonas maltophilia results do not include isolates from cystic fibrosis patients.

2021 Antibiogram

LHSC and St. Joseph's Healthcare Facilities

	Number of Isolates	Ampicillin	Penicillin	Penicillin (Meningeal)	Penicillin (Non-meningeal)	Cloxacillin	Ceftriaxone	Ceftriaxone (Meningeal)	Ceftriaxone (Non-meningeal)	Clindamycin	Doxycycline	Gentamicin	TMP-SMX	Vancomycin
Gram Positive Organisms														
<i>Staphylococcus aureus</i> (incl. MRSA)	2418					69				82	100		99	100
MRSA	730					0				90	100		97	100
<i>Staphylococcus epidermidis</i>	320					38				65			62	100
<i>Staphylococcus lugdunensis</i>	37					97				92			100	100
<i>Enterococcus faecalis</i>	212	100										94		100
<i>Enterococcus faecium</i>	149	5										58		91
<i>Streptococcus agalactiae</i> (GBS)	65									38				
<i>Streptococcus pneumoniae</i>	41			77	98			93	95				88	100
<i>Streptococcus anginosus</i> group	92		98				95							100
<i>Streptococcus mitis</i> group	40		83				88							100

Enterococcus susceptibility to gentamicin refers to synergy with cell wall active agents, including penicillin, ampicillin, or vancomycin.

Streptococcus pyogenes (group A streptococcus) and *Streptococcus agalactiae* (group B streptococcus) are considered susceptible to penicillin and routine testing is not performed.

Susceptibility of *S. pneumoniae* to certain β -lactams is pharmacodynamically interpreted to guide therapy for meningeal (M) and non-meningeal (NM) infections, and infections treated with oral penicillin V (PO).