Medicine Hat Diagnostic Laboratory

January 1 - December 31, 2012 Community Cumulative Antimicrobial Susceptibility Report (% Susceptible)

Organism	n	Ampicillin Amoxicillin	Cefotaxime Ceftriaxone	Ceftazidime	Cephalothin Cephalexin	Ciprofloxacin	Clindamycin	Erythromycin	Gentamicin	Gentamicin Synergy Screen	Nitrofurantoin Urinary Isolates Only	Norfloxacin Urinary Isolates Only	Oxacillin Cloxacillin	Penicillin	Piperacillin	Sulfamethoxazole/ Trimethoprim	Tobramycin	Vancomycin	Penicillin - PO (Non-meningitis)	Penicillin - IM/IV (Non-meningitis)	Penicillin (Meningitis)
Citrobacter species*	33	R	-	-	-	91	-	-	94	-	64	94	-	-	-	91	-	-			
Enterobacter species*	65	R	-	-	R	100	-	-	100	-	9	100	-	-	-	100	-	-			
Escherichia coli	1291	46	96	-	55U	86	-	-	94	-	94	87	-	-	-	82	-	-			
Klebsiella oxytoca	34	R	97	-	88U	97	-	-	97	-	62	97	-	-	R	97	-	-			
Klebsiella pneumoniae	171	R	100	-	96U	97	-	-	100	-	27	97	-	-	R	94	-	-			
Proteus mirabilis	72	66	97	-	96U	93	-	-	97	-	R	97	-	-	-	69	-	-			
Pseudomonas aeruginosa	101	R	R	93	R	91	-	-	86	-	R	-	-	-	92	R	98	-			
Enterococccus faecalis	196	100	R	R	R	78U	R	-	R	75	99	-	-	-	-	R	R	100			
Group A Streptococcus[1]	44	-	-	-	-	-	61P	61P	-	-	-	-	-	100	-	R	-	-			
Group B Streptococcus	47	-	-	-	-	-	65P	65P	-	-	-	-	-	100	-	R	-	-			
Staphylococcus aureus	344	-	-	-	83	-	68	62	-	-	97	-	83	27	-	100	-	100			
MRSA Subset (17%)[3]	60	-	-	-	0	-	15	7	-	-	100	-	0	0	-	100	-	100			
MSSA Subset (83%)[3]	284	-	-	-	100	-	77	72	-	-	97	-	100	27	-	100	-	100			
Streptococcus pneumoniae[2]	43	-	-	-	-	-	93	67	-	-	-	-	-	<>	-	93	-	-	91	100	91

Extended Spectrum Beta-Lactamase (ESBL) Data	
Total number of ESBL producing isolates:	29
E. coli (29):	2.3% of *E. coli* isolates
K. pneumoniae (0):	0.0% of *K. pneumoniae* isolates
P. mirabilis (0):	0.0% of *P. mirabilis* isolates

AmpC (Broad Spectrum Cephalosporinase) Data	
Total number of AmpC producing isolates:	33
E. coli (32):	2.5% of *E. coli* isolates
K. pneumoniae (0):	0.0% of *K. pneumoniae* isolates
P. mirabilis (1):	1.4% of *P. mirabilis* isolates

ESBL producing organisms are resistant to all penicillins, cephalosporins and aztreonam. Beta-lactam/beta-lactamase inhibitor combinations have unpredictable activity against these enzymes and are generally not recommended.
AmpC producing organisms are resistant to all penicillins, cephalosporins, beta-lactam/beta-lactamase inhibitor combinations and aztreonam.

- Antimicrobial not tested or antimicrobial not indicated.

* These organisms usuallly produce inducible beta-lactamase which may cause failure of penicillin/cephalosporin therapy, despite an in-vitro susceptible result.

R Organism is intrinsically resistant to indicated antimicrobial.

1 Wound isolates only.

2 Due to small number of annual isolates, analysis was performed using data obtained during the 2 year period of January 1, 2011 - December 31, 2012.

3 MRSA - Methicillin Resistant *Staphylococcus aureus*; MSSA - Methicillin Susceptible *Staphylococcus aureus.*

U Data for this antimicrobial/organism combination is applicable for use towards treatment of urinary tract infections only. Please note that results of Cephalothin/Cephalexin testing for *E. coli*, *Klebsiella* species, and *Proteus mirabilis* do not reliably predict clinical outcome when Cephalexin is used to treat superficial skin and soft-tissue infections.

P Treatment using Macrolides (Erythromycin/Clarithromycin/Azithromycin) or Lincosamides (Clindamycin) is generally not recommended except when treatment using Penicillin is contraindicated.

<> Refer to Penicillin PO/IV/IM meningitis and non-meningitis columns.

Percent susceptible for each organism/antimicrobial combination was generated by including the first isolate only of that organism recovered from a given patient.