Antibiotic Susceptibility and Stewardship Report 2017

March 1, 2018

Colleagues,

Please find attached the 2017 Antibiotic Susceptibility Report. This is provided annually to evaluate for progression of bacterial resistance at UW Valley Medical Center. Overall, 2017 is similar to 2016 showing minimal increase in resistance. This year we have added red/yellow and green highlights to assist in interpretation and selection of best antibiotic therapy for certain suspected infections. Green is generally effective, yellow effective in certain circumstances and red, generally not encouraged for use. We encourage culture directed therapy once full susceptibilities are available. As in the past, we will share comments about the report in particular and antibiotic treatment in general:

- Avoid clindamycin in Group B streptococcal infections without susceptibility data showing that it is active against the particular strain
- Cefepime is preferable to Piperacillin/tazobactam for HAP/VAP due to higher anti-Pseudomonal activity
- Ampicillin/sulbactam is NOT recommended for empiric therapy for intra-abdominal infections due to high rates of E coli resistance
- Viridans streptococci have had a striking loss of susceptibility to penicillin. The reason for this is not clear although it tends to be more of an issue with immune compromised patients. Consider using ceftriaxone or vancomycin for these infections until penicillin susceptibility is available.
- All beta hemolytic streptococci are universally susceptible to penicillin and cefazolin, specific susceptibilities for these drugs are not required
- PCR identification of Gram positive bacteria in blood cultures is highly accurate and can be used for drug therapy decisions. For example, if the bacteria is listed as MSSA or Staphylococcus aureus alone, not MRSA, the patient can and should be changed to beta lactam antibiotics such as cefazolin if possible
- Nitrofurantoin should not be used for MSSA or MRSA urinary tract infections as these may represent more widespread infections
- Staphylococcus lugdunensis is a coagulase negative Staphylococcus similar to Staphylococcus epidermidis but has more invasive potential. It should not be treated as a contaminant until proven otherwise in clinical specimens. Most are treatable with oxacillin or cefazolin.
- A pharmacy tab is available for the Access Bar in EPIC. The 2017 antibiogram can be found in this tab under the Antimicrobial Stewardship Link on the right side of the page

As always, maintaining sustained activities of our antibiotics is up to your thoughtful use of them. We appreciate your efforts in this area

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Antibiotic Susceptibility Report
2017

Gram Positive Isolates

Percent susceptible

Organism	No. of Isolates	Ampicillin	Cefazolin	Ceftriaxone	Clindamycin	Erythromycin	Levofloxacin	Nitrofurantoin	Oxacillin	Penicillin	Tetracycline	Trimeth/Sulfa	Vancomycin	Linezolid	Daptomycin
MSSA	1263		100		85		87	100	100	0	96	96	100		
MRSA	817				66			94			88	88	100		
Staphylococcus, not aureus	719		53		67		61	93	53	0	78	67	100		
Staphylococcus lugdunensis	172		88		87		99	94	88	0	90	99	100		
Beta-hemolytic Strep Grp B	654		100		66	57				100					
Enterococcus species	1259	98					62*	97							
VRE	24	4						44						100	100
Streptococcus pneumoniae	97			94		71	98			82					
Streptococcus Viridans Group	91			98	92	63				78					

*Urine Isolates only (565 total)

Shading indicates not tested

Gram Negative Isolates

Percent susceptible

Organism	No. of Isolates	Ampicillin	Ampicillin/Sulbactam	Aztreonam	Cefazolin	Ceftriaxone	Gentamicin	Levofloxacin	Nitrofurantoin	Piperacillin/tazo	Trimethoprim/Sulfa	Cefepime	Ertapenem	Meropenem	Minocycline
Acinetobacter species	68						97	91		82	91	93		94	
Citrobacter freundii	118			81		77	97	90	97	82	86		100		
Citrobacter koseri	79			100		100	100	99	97	100	100		100		
Enterobacter aerogenes	144			80		76	100	97	24	77	99		99		
Enterobacter cloacae complex	226			79		76	97	96	61	80	87		93		
Escherichia coli	7032	56	63	95	89*	92	93	81	97	97	78		100		
Klebsiella oxytoca	137		55	89	49*	89	96	93	86	87	95		99		
Klebsiella pneumoniae	1005		87	98	94*	96	97	96	44	96	90		100		
Morganella morganii	126			90		84	85	79		98	71		100		
Proteus mirabilis	801	80	91	98	96*	97	82	74		100	70		100		
Providencia rettgeri	35			97		100	100	97		100	83		100		
Providencia stuartii	18			100		100	0	6		100	91		100		
Pseudomonas aeruginosa	706			84			94	74		86		94		92	
Raoultella planticola	19		89	89		89	95	100	100	100	74		100		
Serratia marcescens	119			100		100	100	97		99	100		100		
Stenotrophomonas maltophilia	42							86			81				100

* Urine isolates only

Shading indicates not tested

Beta-Lactamase

Organism	No. of Isolates	Percent Positive	Percent Negative
H. parainfluenzae	56	21	79
Haemophilus influenzae	113	19	81