McLaren CENTRAL MICHIGAN

Adult antimicrobial guidelines for Central Michigan CY2025

Pharmacy available to consult: 989-772-6730

Antibiogram based on CY2025 data.

Dosing is for adult patients, assuming normal renal function.

This data is a guide to empiric antibiotic therapy only. Streamlining post C&S results are necessary to prevent the emergence of resistant pathogens.

- *Staphylococcus Saprophyticus* susceptibility testing is not advised by CLSI. The drugs of choice are: nitrofurantoin, trimethoprim/sulfamethoxazole, or a fluoroquinolone.
- Group A and B Streptococcus (*pyogenes* and *agalactiae*) susceptibility testing is not advised by CLSI. The drug of choice is penicillin.

Gram positive organism	Number of isolates	Penicillin	Ampicillin	Oxacillin	Amoxicillin / Clavulanate	Ampicillin / Sulbactam	Piperacillin / Tazobactam	Cefazolin	Cefuroxime	Ceftriaxone	Cefepime	Cefaclor	Meropenem	Gentamicin	Rifampin	Ciprofloxacin	Levofloxacin	Trimethoprim / Sulfamethoxazole	Clindamycin	Daptomycin	Azithromycin	Erythromycin	Nitrofurantoin	Linezolid	Vancomycin	Chloramphenicol	Quinupristin / dalfopristin	Tetracycline
MS Staph. aureus	116	3	0	100	100	100	100	100	--	100	--	--	100	99	98	86	89	99	76	100	60	66	100	100	99	--	100	91
MR Staph. aureus	69	0	0	0	0	0	0	0	--	0	--	--	0	96	100	32	36	87	72	100	25	18	89	100	100	--	99	88
Staph. (coag. neg.)	116	6	0	44	44	44	100	44	--	55	--	--	56	91	98	83	83	78	66	100	44	37	98	100	100	--	96	86
Strep. pneumoniae	15	64	--	--	86	--	--	--	64	79	93	64	62	--	--	--	100	79	85	--	77	77	--	--	100	100	--	79
E. faecalis	116	99	99	--	--	--	--	--	--	--	--	--	--	--	50	75	79	--	--	99	--	22	100	98	89	--	--	27

Gram negative organism	Number of isolates	Amoxicillin / Clavulanate	Ampicillin / Sulbactam	Piperacillin / Tazobactam	Cefazolin	Cefuroxime	Ceftazidime	Ceftriaxone	Cefepime	Cefoxitin	Aztreonam	Ertapenem	Meropenem	Amikacin	Gentamicin	Tobramycin	Ciprofloxacin	Levofloxacin	Trimeth/sulfa	Nitrofurantoin	Tetracycline	Ceftazidime / Avibactam	Ceftolozane / Tazobactam	Minocycline
Escherichia coli	655	89	66	99	85	93	90	89	91	95	92	99	100	100	90	92	81	82	78	98	78	100	100	93
Klebsiella pneumoniae	110	90	87	96	90	40	91	91	91	88	82	97	99	100	92	93	97	97	83	49	82	100	80	90
Proteus mirabilis	81	100	95	100	95	100	99	97	99	100	88	100	100	94	97	97	65	67	79	0	0	100	100	0
E. cloacae	52	0	6	81	0	45	73	69	88	0	71	88	98	100	98	96	98	98	92	18	83	97	--	100
Serratia marcescens	15	0	7	87	0	0	80	73	100	25	75	93	100	100	100	87	93	100	93	0	0	100	100	100
P. aeruginosa	78	--	--	87	--	--	89	--	92	--	89	--	94	97	82	100	92	92	--	--	--	97	100	--
Klebsiella oxytoca	41	90	75	98	45	88	93	93	93	100	95	100	100	100	95	95	98	98	95	88	95	100	--	100

Infection	First choice	Alternative
Acute Sinusitis (Antibiotics not usually required until after day 10 of symptoms)	Amoxicillin/clavulanate 875 mg BID x 5 d	Doxycycline 100mg x 5 d
Chronic Sinusitis	Value of antibiotics uncertain. Consider ENT/Allergy consult.	
Acute Otitis Media (Abx not always required) Duration of 10 days for severe cases	Amoxicillin/clavulanate 875 mg BID x 5 d	• Cefdinir 600 mg daily x 5 d •Amoxicillin 500 mg TID x 5 d •(Severe Infection) Amox 1000mg TID x 10 d
Streptococcal Pharyngitis (based on strep screen or culture)	Penicillin VK 500mg BID x 10 d	• Cephalexin 500mg BID x 10 d • Clindamycin 300mg TID x 10 d
Acute Bronchitis	Usually viral, consider testing for Pertussis, Chlamydia, Mycoplasma.	
Acute Exacerbation of COPD	Azithromycin 500 mg PO daily x3 days while hospitalized then 250 mg twice weekly.	Smoking cessation; azithromycin has little to no benefit for current smokers.
Community-Acquired Pneumonia (CAP) (OP) – Uncomplicated	• Amoxicillin/clavulanate 875 mg BID x 5 d Duration of therapy is at least 5 days. Vitals must return to baseline, ability to eat and baseline mentation.	• Doxycycline 100mg BID x 5 d • Azithromycin not recommended as regional resistance level for S. pneumonia is greater than 25%.
CAP (OP) – Chronic heart, lung, liver, or renal disease; diabetes mellitus; alcoholism; malignancy; asplenia.	• Amoxicillin/clavulanate 875 mg/ 125 mg PO BID + Azithromycin 500mg PO x 1 then 250mg PO daily Duration of therapy is at least 5 days. Vitals must return to baseline, ability to eat and baseline mentation.	Cefpodoxime 200mg PO BID + Doxycycline 100mg PO BID x 5 d or Levofloxacin 750mg PO daily x 5 d
Hospital-acquired Pneumonia (HAP) & Ventilator-associated Pneumonia (VAP) • HAP: pneumonia not incubating at the time of hospital admission and occurring 48 hours or more after admission. • VAP: pneumonia occurring >48 hours after endotracheal intubation.	Pip/Tazo 4.5 gm Q8hr (extended infusion) + vancomycin pharmacy to dose, or linezolid 600mg Q12hr x 7 d **Add tobramycin, pharmacy to dose if:** • Prior IV antibiotics within 90 days • Patient is in ICU • Septic shock • Ventilator support due to pneumonia • Structural lung disease	Cefepime 2 gm Q8hr (extended infusion) + vancomycin pharmacy to dose, or linezolid 600mg Q12 hr x 7 d **Add tobramycin as noted with first choice antibiotic selection.**
Aspiration Pneumonia • Witnessed aspiration event does not require antibiotics. Consider monitoring for 48 hr prior to starting antibiotics.	• (CAP) Anaerobe coverage not recommended, follow CAP guide. • (HAP/VAP) Pip/Tazo 4.5 gm Q8hr (extended infusion) x 7d	• (CAP) Anaerobe coverage not recommended, follow CAP guide. • (HAP/VAP) Cefepime 2 gm Q8hr (extended infusion) + Clindamycin 600mg IV Q8hr x 7 d
Asymptomatic Bacteriuria	No antibiotics, unless pregnant or urologic procedure with mucosal bleeding **urine culture not indicated in the absence of urinary symptoms**	
Uncomplicated UTI (U-UTI) No systemic symptoms in male or female	• Nitrofurantoin 100mg BID x 5 d • Bactrim DS 1 tablet BID x 3 d • Ceftriaxone 1 gm daily x 5 d	• Fosfomycin 3gm x 1 dose • Cephalexin 1gm TID x 7 d
Catheter Associated UTI (CA-UTI) Without systemic symptoms	• Ceftriaxone 1 gm daily x 7 d • Nitrofurantoin 100mg BID x 7 d	• Bactrim DS 1 tablet BID x 7 d • Ceftriaxone with stepdown to cephalexin 1gm TID x 7 d
Complicated UTI (C-UTI) • Pyelonephritis • Bacteremia • Signs of systemic infection (e.g., Fever, Severe Sepsis) Duration: 7 days usually appropriate. 10-14 days if delayed response.	No sepsis or sepsis without shock and no MDRO or pseudomonas risk factors: • Ceftriaxone 2 gm daily Sepsis with shock, or risk factors for MDRO or pseudomonas: • Cefepime 2 gm Q8H	• Pip/Tazo 4.5 gm q8hr (extended infusion) •Meropenem 1 gm q8hr (extended infusion) •Ciprofloxacin 500 mg BID •Levofloxacin 750mg daily

Infection	First choice	Alternative
Peritonitis, intra-abdominal abscess, pelvic abscess, diverticulitis (IP) • Duration: 5 days after adequate source control. • If no/inadequate source control, duration depends on clinical picture.	• Ceftriaxone 2 gm daily + Metronidazole 500mg Q8hr (APACHE II < 15) or • Pip/tazo 4.5 Q8hr (extended infusion) (APACHE II > 15)	• Cefepime 2 gm Q8hr (extended infusion) + metronidazole 500mg Q8hr (APACHE II > 15)
Clostridioides difficile colitis Initial episode, non-severe & severe	• Vancomycin 125 mg PO QID x 10 d • Fidaxomicin 200mg BID x 10 d (if no prior oral vancomycin exposure)	Discontinue or reduce duration of other non-CDI antibiotics. Discontinue non-essential PPI's
Clostridioides difficile colitis Fulminant (hypotension or shock, ileus, megacolon)	Vancomycin 500mg PO QID +/- 500mg enema PR QID + Metronidazole 500mg IV Q8hr	ID and/or GI consult
Clostridioides difficile colitis recurrence	1st recurrence: Vancomycin pulse/taper, or fidaxomicin 200mg BID x 10 d (if no prior oral vancomycin exposure). 2nd or subsequent recurrence: ID and/or GI consult	
Diverticulitis – (OP) (ABX should be used selectively, not routinely)	Amox/Clav 875/125 BID (typical duration 7 – 10 days)	Ciprofloxacin 500mg BID + Metronidazole 500mg TID (typical duration 7 – 10 days)
Cellulitis – Non-purulent (mild – moderate) • Symmetrical, bilateral erythema more likely stasis dermatitis then cellulitis.	• (OP) Cephalexin 500mg QID x 7 d • (IP) Cefazolin 1gm Q8hr x 7 d	• (OP) Doxycycline 100mg PO BID x 7 d • (IP) Nafcillin 2 gm IV Q6hr x 7 d
Cellulitis/Cutaneous Abscess – Purulent (mild-moderate) I&D, culture when able	• (OP) TMP-SMX DS BID x 7 d or • (OP) Doxycycline 100mg PO BID x 7 d • (IP) Vancomycin pharmacy to dose x 7 d	• (OP) Vancomycin Pharmacy to Dose x 7 d • (IP)Linezolid 600mg BID PO or IV x 7 d
Decubitus Ulcer • Treat only with signs of systemic infection or advancing cellulitis	Pip/Tazo 4.5 gm Q8hr (extended infusion) + vancomycin pharmacy to dose	Cefepime 2 gm Q8hr (extended infusion) + metronidazole 500mg Q8hr + vancomycin pharmacy to dose
Osteomyelitis • In general, when patient has no systemic symptoms, no treatment is necessary until culture can be obtained. • Systemic symptoms, target MSSA unless known MRSA history	• MRSA: Vancomycin pharmacy to dose • MSSA: Cefazolin 2 gm Q8hr • GNB: Ceftriaxone 2 gm daily	• MRSA: Daptomycin 6-8mg/kg daily • MSSA: Nafcillin 2 gm Q6hr • GNB: Cefepime 2 gm Q8hr
Diabetic Foot Ulcer (OP): Duration: 1 to 3 weeks depending on severity	• Amox/clav 875 mg BID + (TMP-SMX DS BID or • Doxycycline 100mg BID if MRSA suspected)	• Cephalexin 500mg QID +/- metronidazole 500mg TID or • TMP-SMX DS BID +/- metronidazole 500mg TID
Diabetic Foot Ulcer (IP): If stable, consider holding Abx prior to deep bone specimen	• Pip/Tazo 4.5 gm Q8hr (extended infusion) • Add vancomycin pharmacy to dose if pyogenic or ischemic. *duration depends on clinical findings	Cefepime 2 gm Q8hr (extended infusion) + metronidazole 500mg Q8hr(replaced Zosyn), add vancomycin pharmacy to dose if pyogenic or ischemic.
Animal, Human Bite (use IV if bone/joint involved).	• Amox/Clav 875 mg BID x 7 d • Pip/Tazo 4.5 gm Q8hr (extended infusion)	Levofloxacin 750mg daily + metronidazole 500mg TID x 7 d
Animal, Cat Bite 80% get infected	Amox/clav 875 mg BID x 7 d **Do Not Use** cephalexin	Doxycycline 100mg PO BID x 7 d
Animal, Dog Bite 20% get infected	Amox/clav 875 mg BID x 7 d **Do Not Use** cephalexin	Clindamycin+TMP-SMX DS BID x 7 d
Tick bite (engorged *Ixodes scapularis*)	Doxycycline 200 mg for one dose within 72 hours of removal	

