

SUGGESTED FORMULARY

DRUG	USUAL DOSE	Cost/24H	ADJUSTMENTS BASED ON CrCl*		
			50-80	10-50	<10
Beta-Lactams					
Ampicillin	2gm q 4-6h	(\$24)	usual	q 6-12h	q 12-24h
Nafcillin	2gm q 4-6h	(\$60)	usual	usual	usual
Unasyn	3gm q 6h	(\$18)	q 8h	q 8h	q 12h
Zosyn	4.5gm q 6-8h	(\$25)	usual	2.25gm q 6h	2.25gm q 8h
Cefazolin	2gm q 8h	(\$15)	usual	q 12h	q 24
Ceftriaxone	1gm q 24h	(\$4)	usual	usual	usual
Cefepime	2gm q 12h	(\$20)	2gm q 24h	1gm q 24h	500mg q 24h
Aztreonam	2gm q 8h	(\$195)	usual	1-2gm q 12h	1-2gm q 24h
Ertapenem	1gm q 24h	(\$50)	usual	≤30=500mg q 24h	500mg q 24h
Meropenem	500mg q 6h	(\$61)	usual	q 8-12h	q 24h
Flouroquinolones					
Ciprofloxacin	750mg PO q 12h	(\$0.30)	usual	500mg q 12h	500mg q 18h
	400mg IV q 8-12h	(\$6)	usual	q 18h	q 24h
Moxifloxacin	400mg PO q 24h	(\$20)	usual	usual	usual
	400mg IV q 24h	(\$12)	usual	usual	usual
Miscellaneous					
Azithromycin	500mg IV q 24h	(\$33)	usual	usual	usual
Clindamycin	600mg q 8h	(\$2)	usual	usual	usual
Flagyl	500mg q 8-12h	(\$3)	usual	usual	usual
TMP/SMX	5mg/kg q 12h	(\$5)	usual	q 18h	q 24h
Vancomycin	18mg/kg load	(≤ \$10)	per Pharmacy	per Pharmacy	per Pharmacy
Fluconazole	400mg q 24h	(< \$8)	usual	50% of dose	25% of dose
Aminoglycosides					
Gentamicin	5-7mg/kg (ODA)	(\$7)	*CrCl = $\frac{[(140-\text{age})(\text{Wt in kg})]}{72}$ x serum Cr [0.85 if female]		
Tobramycin	5-7mg/kg (ODA)	(\$7)			

NOTES

- Before initiating empiric antibiotic therapy, make certain that all relevant cultures have been obtained.
- Due to the increasing prevalence of MRSA in the community, Vancomycin should be part of initial regimen in all cases of sepsis; however, it is imperative that Vancomycin be discontinued after 48hr if cultures remain negative for MRSA.
- Most proven MRSA and ESBL infections, especially bacteremias, warrant an ID consultation. Bacteremia due to MSSA also warrants an ID consultation.
- Nafcillin and Cefazolin are superior to Vancomycin for infections due to MSSA.
- Use of Cephalosporins in Patients With Penicillin Allergy: After taking a careful history, cephalosporins may be given safely to any patient without a history of an IgE-mediated (Type I) reaction to penicillin. (Pediatrics 2005;115:1048). Potential alternatives to penicillins and/or cephalosporins include combinations of Cipro or Aztreonam; PLUS, Clindamycin or [Vancomycin ± Flagyl].
- Streamlining: As noted throughout this Card, it is vital, in order to limit the emergence of resistant pathogens, to narrow the spectrum of antibiotic therapy based on culture data; i.e Ampicillin, not Cefepime or Zosyn, for Ampicillin-susceptible E. coli UTI.
- Bioavailability: Moxifloxacin, Cipro, Azithromycin, Fluconazole, and Flagyl are highly bioavailable (90-100% GI absorption). After the initial IV dose(s), they should generally be given po if the GI tract is functional.
- VRE cultured only from the stool (i.e. colonization) should NOT be treated.

SUGGESTED EMPIRIC ANTIMICROBIAL AGENTS OF CHOICE (8TH EDITION)

Aspirus Wausau Hospital

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Infectious Disease Section

&

Pharmacy and Therapeutics Committee

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I. “SEPSIS” OF UNKNOWN ETIOLOGY

- Community-Acquired/Normal Host: Tobramycin (ODA) or Cipro 400mg q 12h, PLUS Ceftriaxone 2gm q 24h, PLUS Vancomycin 18mg/kg load, then per Pharmacy protocol (D/C Vancomycin if cultures negative for MRSA/MRSE at 48 hr).
- Health Care-Associated/Compromised Host: Tobramycin (ODA) or Cipro 400mg q 8h, PLUS Zosyn 4.5gm q6h or Cefepime 2gm q 12h, PLUS Vancomycin 18mg/kg load, then per Pharmacy protocol (D/C as above).
- Streamlining: change to narrower spectrum agent(s) based on microbiology results.

II. COMMUNITY-ACQUIRED PNEUMONIA (CAP)

- Non-ICU: OPTION 1- Ceftriaxone 1gm q 24h, PLUS Azithromycin 500mg po/IV q 24h. OPTION 2- Moxifloxacin (Avelox) 400mg IV/po q 24h (as monotherapy).
- ICU: Ceftriaxone 1gm q 12h PLUS, Moxifloxacin 400mg IV q 24h.
- Possible *Pseudomonas* (bronchiectasis, recent antibiotics, recent hospitalization): Cefepime 2gm q 12h PLUS Cipro 400mg q 8hr.
- Streamlining: change to narrower-spectrum agent(s) based on microbiology results.

III. HEALTH CARE-ASSOCIATED PNEUMONIA (HAP)

- Cefepime 2gm q12h, PLUS Cipro 400mg IV q 8h, PLUS Vancomycin 18mg/kg load, then per Pharmacy protocol (D/C Vancomycin if cultures negative for MRSA/MRSE at 48 hrs).
- Aspiration: Cefepime 2gm q 12h, PLUS Flagyl 500mg IV q 8h, PLUS Vancomycin (as above). Alternative: Zosyn 4.5gm q 6h, PLUS Vancomycin (as above).

- Streamlining: change to narrower-spectrum monotherapy based on microbiology results.
- Duration of therapy for HAP = 8 days (14d if *Pseudomonas*).

IV. INTRA-ABDOMINAL OR PELVIC INFECTIONS/ PERITONITIS

- Community-Acquired/Normal Host: Ceftriaxone 2gm q 24h PLUS Flagyl 500mg IV q 8-12h; OR, Cipro 400mg q 12h PLUS Flagyl 500mg IV q 8-12h; OR, Moxifloxacin 400 IV Q 24; OR, Ertapenem 1g q 24h. Each option ± Tobramycin (ODA).
- Health Care Associated/Compromised Host: Zosyn 4.5gm q 8h PLUS Fluconazole 400mg q 24h; OR, Cipro 400mg q 12h PLUS Unasyn 3gm q 6h PLUS Fluconazole 400mg q 24h. Both options ± Tobramycin (ODA).
- Penicillin Allergy (Type I): Cipro 400mg q 12h or Aztreonam 2gm q 8h, PLUS Cleocin 600mg q 8h; ± Tobramycin (ODA).
- Streamlining: change to narrower-spectrum agent(s) based on microbiology results.
- Switch Therapy: Cipro 500mg po BID or Bactrim DS BID; PLUS, Flagyl 500mg po q 12h or Cleocin 300mg po QID or Augmentin 875mg BID; OR, Moxifloxacin 400mg po q24h.

V. PYLEONEPHRITIS, OR SEPSIS Due to UTI

- Community-Acquired/Normal Host: Cipro 400mg IV q 12h (or 500mg PO q 12h) or Ceftriaxone 1gm q 24h, PLUS Ampicillin 2gm q 6h; ± Tobramycin (ODA x 1-2 days).
- Health Care-Associated: Cefepime 2gm q 12h PLUS, Cipro 400mg IV q 12h (or, 500mg PO q 12h), PLUS Ampicillin 2gm q 6h.

- Streamlining and Switch (PO) Therapy: change to narrower-spectrum agent(s) based on microbiology results: Bactrim DS BID or Cipro 500mg BID or Amoxicillin 500mg TID.

VI. COMPLICATED SKIN AND SOFT TISSUE INFECTIONS (cSSTI)

- Cellulitis: Penicillin G 3 million units q 4-6h PLUS Cleocin 600mg IV q 8h (for Strep); OR, Nafcillin 2gm q 4-6h (for Staph).
- Wound Infection or Abscess: Nafcillin 2gm q 4-6h; OR, Cefazolin 2gm q 8h; OR, Cleocin 600mg q 8h. Add Vancomycin 18mg/kg x 1 dose pending culture results. (Use gram-stain of drainage to guide therapy)
- Diabetic or Ischemic Foot Infection (AFTER deep tissue or bone biopsy culture): Cipro 750mg po q 12h; PLUS Cleocin 600mg IV q8h; OR, Ceftriaxone 2gm q 24h PLUS Flagyl 500mg q 8-12h. Add Vancomycin 18mg/kg x 1 dose pending culture results.
- Streamlining: change to narrower-spectrum agent(s) based on microbiology results.

VII. OPTIONS FOR MRSA INFECTION

(xx% = %MRSA susceptible based on AWH antibiogram).

- Older/Effective/Inexpensive Agents:
 - 1) Bactrim DS 2 tabs po q 12h (98%).
 - 2) Minocycline 100mg po q 12h (95%).
 - 3) Clindamycin 450mg po/600 IV q 8h (50%).
 - 4) Vancomycin 18mg/kg IV, then per pharmacy protocol (100%).

- Newer/Expensive (ID Consultation suggested)
 - 1) Linezolid 600mg IV/po q 12h (93%).
 - 2) Tigecycline 100mg, then 50mg IV q 12h (100%).
 - 3) Daptomycin 4-6mg/kg IV q 24h (testing by micro lab available upon request).

VIII. TREATMENT OF INFECTIONS DUE TO EXTENDED - SPECTRUM B-LACTAMASE PRODUCING GNR'S (ESBL's).

- Resistant to all penicillins, cephalosporins, and aztreonam.
- Zosyn may be effective for UTI's (ONLY).
- UTI: Primary: TMP/SMX (Bactrim) or Cipro (based on susceptibilities). Alternative: Ertapenem 1 gm q 24h.
- **Serious Infections** (ID Consultation suggested): Ertapenem 1 gm IV q 24h or Meropenem 500mg IV q 6h.

IX. ONCE DAILY AMINOGLYCOSIDES (ODA)

- Dose: Tobramycin: 5mg/kg (age > 50); or, 7mg/kg (age < 50).
- Dosing Weight (kg) = Ideal body Weight + [0.4 x (Actual Body Wt. - Ideal Body Wt.)].
- Ideal Body Weight (IBW): Male: 50 kg + 2.3 kg for each inch > 5'0" Female: 45 kg + 2.3 kg for each inch > 5'0"
- Interval: based on 12h post dose level: <3 ug/mL = q24h; 3-5 ug/mL = q36h 5-7 ug/mL = q48h; > 7 ug/mL = "pm"