

**Northwestern Medicine West Region
Fluoroquinolone Restriction Criteria
September 2016**

Background

- Fluoroquinolones are the 2nd to 3rd most commonly prescribed anti-infective in the West Region
- Susceptibilities of gram-negatives such as E. coli to fluoroquinolones continue to decline
- The FDA issued an advisory regarding serious adverse effects
 - CNS toxicity
 - Musculoskeletal derangements (tendon rupture)
- FDA recommendations are to minimize unnecessary use
- NM Antimicrobial Stewardship Collaborative charged by system CMOs to develop system-wide initiative

Criteria for Fluoroquinolone Use

Acceptable Indications

- Community-acquired pneumonia (but ceftriaxone/azithromycin considered first-line in most cases)-levofloxacin
- SBP prophylaxis-ciprofloxacin
- Directed treatment for gram-negative infections with MIC \leq 0.25 and alternative agents are unacceptable (except for urine isolates where there are alternatives)
- Neutropenic fever prophylaxis

Indications for which Fluoroquinolone Use Considered Second Line

- Community-acquired diverticulitis in combination with metronidazole (when cefazolin unacceptable due to severe PCN or cephalosporin allergy)-ciprofloxacin
- PO de-escalation therapy in males with complicated UTI or all patients with pyelonephritis when PO Bactrim not an option and bug is susceptible to fluoroquinolone-ciprofloxacin
- Surgical prophylaxis (if severe PCN allergy)
- Double coverage for HCAP/VAP/HAP- Aminoglycosides are preferred and quinolone do not provide any additional coverage due to increasing resistance-ciprofloxacin usually (if Zosyn is also on)

Unacceptable Indications

- Uncomplicated cystitis (cipro susceptibility for E.coli is at about 75% currently in West Region; unacceptable for empiric use)
- Acute sinusitis or acute bronchitis (usually no antibiotics needed for these due to high incidence of viral infection)
- Asthma/COPD Exacerbations (azithromycin or doxycycline may be used if antibiotics needed, antibiotics usually not indicated)

Procedure

- Orders received for ciprofloxacin or levofloxacin will be reviewed for appropriateness based on the above criteria by pharmacy
- Appropriate orders will be processed as usual
- Orders for second line or unacceptable indications as listed above will be referred to clinical pharmacy specialists for review
 - Order will not be processed and clinical pharmacy will follow-up in the same day if ordered during day shift
 - Order will be processed for 24 hours' worth of doses if ordered on PM or night shift and clinical pharmacist will follow-up the following day
- Ordering physician will be contacted to discuss and pharmacist will recommend alternatives to the ordered agent if use deemed inappropriate

Alternative Recommendations for Antibiotics in Place of Fluoroquinolones

Indication	First-line alternative	Second-line alternative(s)
Community-acquired diverticulitis	Cefazolin IV + metronidazole IV	Cefuroxime PO + metronidazole PO TMP-SMX PO + metronidazole PO
Complicated UTI/Pyelonephritis	Gentamicin IV TMP-SMX PO (if susceptible)	Ceftriaxone IV
Surgical prophylaxis	Usually cefazolin (depends on procedure)	Clindamycin + gentamicin (depends on procedure)
Uncomplicated cystitis	Cefazolin IV Nitrofurantoin PO (if CrCl > 30mL/min)	TMP-SMX PO (if susceptible) Cephalexin PO (if susceptible)
Acute sinusitis	No antibiotics recommended for most cases (high incidence of viral infection)	Amoxicillin/clavulanate
Acute bronchitis	No antibiotics recommended for most cases (high incidence of viral infection)	Azithromycin Doxycycline
Asthma/COPD exacerbation	No antibiotics recommended for most cases (high incidence of viral infection or other causes)	Azithromycin Doxycycline