

BC Provincial Antimicrobial Clinical Expert Group (PACE)

AVOID FLUOROQUINOLONES AS FIRST-LINE TREATMENT

The Message

- Fluoroquinolones (FQs) – ciprofloxacin, levofloxacin, and moxifloxacin – should only be used in patients for whom no other viable antibiotic option is available.
- FQs should not be used empirically for the treatment of: uncomplicated urinary tract infections (UTIs), acute bronchitis, acute sinusitis and skin/soft tissue infections.¹

Quick Facts

- Ciprofloxacin, moxifloxacin, and levofloxacin are among the most inappropriately prescribed antibiotics in British Columbia.

Rationale

- FQs have a significant association with *Clostridioides difficile* infection (CDI).
- FQs are associated with the development of antibiotic resistance and subsequent failure of therapy:
 - In most of BC over 20% of *Escherichia coli* are resistant to FQs: however, the rate of resistance is much higher in the elderly (>50%).²
- Health Canada, the US Food and Drug Administration (FDA) and the European Medicines Agency have issued several warnings for FQs as a cause of disabling and persistent serious adverse events that affect multiple systems, including:
 - Musculoskeletal (tendon rupture most common);
 - Neurologic (seizures, delirium, neuropsychiatric disturbances, peripheral neuropathy);
 - Cardiovascular (QTc prolongation, aortic dissection, aortic regurgitation, arrhythmias); and,
 - Metabolic (hypoglycemia, hyperglycemia).^{3,4}

The Solution

- FQs should only be prescribed to patients for whom no other viable antibiotic option is available.
- If FQs are being considered, the risks and benefits should be weighed and discussed with the patient.
- For a summary of recommended antibiotic therapies for common infections, please refer to the [Alternatives to Fluoroquinolone Antibiotic Therapy in Adults](#) document.

References:

1. <https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-fda-updates-warnings-oral-and-injectable-fluoroquinolone-antibiotics>
2. <http://www.can-r.com/>
3. <https://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2017/61900a-eng.php>
4. <https://www.fda.gov/news-events/press-announcements/fda-updates-warnings-fluoroquinolone-antibiotics-risks-mental-health-and-low-blood-sugar-adverse>