

# Antimicrobials - Handle with Care

## Fluoroquinolones – Health Canada Warning

Health Canada has conducted a review of fluoroquinolones due to a safety review performed by the FDA which concluded that some of the known side effects (rare) associated with fluoroquinolone use may be persistent and cause prolonged disability (30 days or longer after stopping a fluoroquinolone). Out of 115 reports of persistent side effects with fluoroquinolones, the most reported include: tendonitis/tendinopathy, peripheral neuropathy and CNS disorders. Given the high use of fluoroquinolones in Canada and the information reviewed, these side effects are still considered rare.

### Bottom line for NH Prescribers:

1. Be mindful of this persistent side effect potential
2. Use quinolones judiciously and only when other antimicrobials are not appropriate
3. Ensure you report any patient reports of persistent side effects with this class of antibiotics via [MedEffect Canada](#).

## Azithromycin – short duration antimicrobial

Azithromycin (a macrolide antibiotic) has a prolonged half-life of approximately 65 hours; there has been research done (mainly in-vitro studies) to support the use of the 3 day oral 'European' regimen compared to the 'American' 5 day oral regimen (500 mg x 1 dose then 250 mg daily on days 2 to 5). Azithromycin's bibasic structure results in pharmacokinetics which are characterized by low concentrations in serum secondary to rapid and significant uptake by fibroblasts and acute reactant cells like polymorphonuclear leukocytes and lymphocytes which then deliver drug to bacteria when it is phagocytized; this is why the bioavailability of azithromycin appears low at 40%, because it doesn't stay in the serum long enough for accurate levels to be tracked. It has been shown that a total 1.5 g oral dose of azithromycin provides similar serum, granulocyte and monocyte/lymphocyte exposures when it is given either over 3 or 5 days.

### Bottom line for NH Prescribers:

1. Long half-life of azithromycin allows using short course treatment; typically not necessary to extend beyond 5 day duration a. Few exceptions e.g. in treatment of legionella
2. Antimicrobial Stewardship Subcommittee supports the use of 500 mg po daily x 3 days, when appropriate for the condition being treated
3. Due to rapid rate of uptake into cells/tissues with oral dosing, azithromycin should be given orally preferential to intravenous when able

For more information regarding the information listed above or about Northern Health's Antimicrobial Stewardship program, contact Alicia Rahier the program coordinator/lead pharmacist at 250-565-5956 or via email [alicia.rahier@northernhealth.ca](mailto:alicia.rahier@northernhealth.ca)



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10-110-6097 (IND Rev. 01/18)

Created: March 29, 2017