

Letterkenny University Hospital - LUH Antimicrobial Prescribing Policy/Guidelines: Appendix 5: Drug Interactions and Warnings with Antimicrobials

Appendix 5: Drug Interactions and Warnings with Antimicrobials

As with all medication, there is potential for **interactions** and **side effects** when prescribing antimicrobials. Please review the [Prescribing Principles](#) prior to prescribing antimicrobials. The [HSE Antibiotic Prescribing website](#) contains useful information on the safe prescribing of antibiotics.

Including the following:

- **Fluoroquinolone** (e.g. ciprofloxacin & levofloxacin) warning: [See below](#) for more information.
- **Macrolide** (e.g. clarithromycin) warning: [Click here for information](#)

All antimicrobials should be reviewed for **interactions** with prescribed medicines at the point of prescribing and discuss with Microbiology if necessary. The most important drug-drug interactions occur within the following drug or classes or drugs:

- Macrolides e.g. *Clarithromycin and Erythromycin*
- Fluoroquinolones e.g. *Ciprofloxacin*
- Rifamycins e.g. *Rifampicin*
- Azole antifungals e.g. *Fluconazole*
- Antiretrovirals (ARVs)
- Hepatitis C direct acting agents (DAAs)
- Linezolid
- Paxlovid (Nirmatrelvir/ritonavir)

A list of the patients current medication along with any antimicrobials prescribed can be inputted into the following interactions checker:

- **Lexicomp® Drug Interactions** - Available on up-to-date website through any hospital network computer:
www.uptodate.com/drug-interactions/?source=responsive_home#di-druglist

or

- You can access **Stockleys interaction checker** on any hospital desktop computer via the *Linkopolis icon -> Pharmacy Medicine Information -> Prescribing -> Drug Interaction Checkers -> All Medicines- Stockleys*



The following interaction checkers can be used for more specific drug-drug interactions and are available online. Please use the linked sources below to cross check prescribed antimicrobials with prescribed medication.

HIV drug interactions

- See the interaction checker at the University of Liverpool: [Liverpool HIV Interactions \(hiv-druginteractions.org\)](http://liverpool-hiv-interactions.org)

Paxlovid (Nirmatrelvir/ritonavir) drug interactions

- See the covid-19 specific interaction checker at the University of Liverpool [Liverpool COVID-19 Interactions \(covid19-druginteractions.org\)](http://liverpool-covid-19-interactions.org)

HEP drug interactions

- See the interactions checker at the University of Liverpool: [Liverpool HEP Interactions \(hep-druginteractions.org\)](http://liverpool-hep-interactions.org)

If any queries regarding interactions between drugs not available in the above resources please contact the ward pharmacist or LUH dispensary on extension 8961 or 3551.

Fluoroquinolone Warning

Systemic **fluoroquinolones** (by mouth, injection, or inhalation) e.g. ciprofloxacin and levofloxacin can very rarely cause long-lasting (up to months or years), disabling, and potentially irreversible **adverse effects**, sometimes affecting multiple systems and organs e.g. tendons, muscles, joints, nerves and aorta.

- The risk of **tendinopathy** is increased in elderly patients or those with concomitant steroid use, renal disease, or post-transplant (heart/lung/kidney). Tendon damage can occur within 48hours of commencing treatment or effects can be delayed for several months after stopping.
- Fluoroquinolone use is also associated with **QTc prolongation** (which can lead to torsades de pointes and ventricular fibrillation), **C. difficile** colitis, **aortic aneurysm** rupture/dissections and **heart valve regurgitation** /incompetence.
- Fluoroquinolones can **lower the seizure threshold** and are not recommended in patients with a history of seizures/epilepsy.
- Fluoroquinolones can cause an **exacerbation of Myasthenia Gravis**.
- See the Summary of Product Characteristics via the [HPRA website](#) for full product information.

Patients should be informed to stop treatment with a fluoroquinolone antibiotic at the first sign of a side effect involving muscles, tendons or bones (such as inflamed or torn tendon, muscle pain or weakness, and joint pain or swelling) or the nervous system (such as feeling pins and needles, tiredness, depression, confusion, suicidal thoughts, sleep disorders, vision and hearing problems, and altered taste and smell).

References:

European Medicines Agency 5 October 2021: [Fluoroquinolone and quinolone antibiotics: PRAC recommends new restrictions on use following review of disabling and potentially long-lasting side effect](#) [Accessed June 2024]

Summary of Product Characteristics Ciprofloxacin (Ciproxin) 500mg film coated tablets [Accessed 05/06/24]

[Fluoroquinolone Warnings - HSE.ie](#)

Medicines and Healthcare products Regulatory Agency (MHRA) 21 March 2019: [Fluoroquinolone antibiotics: new restrictions and precautions for use due to very rare reports of disabling and potentially long-lasting or irreversible side effects](#) [Accessed June 2024]