



Fluoroquinolone antibiotics (-oxacins): what you need to know about tendons, muscles, joints, nervous system, and psychological side effects

January 2024

Key Information

- Fluoroquinolone medicines (ciprofloxacin, delafloxacin, levofloxacin, moxifloxacin, and ofloxacin) are effective **antibiotics** that treat serious and life-threatening infections
- Your doctor will advise you when and how to take antibiotics. Speak to your doctor if you think you are having a side effect
- Fluoroquinolones have been reported to cause serious side effects involving tendons, muscles, joints, and the nerves, and mental health effects which may include, but are not necessarily limited to, anxiety, panic attacks, and memory impairment – in a small proportion of patients, these side effects caused long-lasting or permanent disability
- From the currently available data it is not possible to calculate exactly how frequent these side effects occur. It appears that these side effects occur at least as often as between 1 and 10 people in every 10,000 who take a fluoroquinolone.
- There are no medicines that have been established to be effective for treating these side effects when associated with fluoroquinolones
- Fluoroquinolones have also been reported to cause psychiatric side effects including confusion, disorientation, anxiety, depression and suicidal thoughts or suicide attempts

- You may not notice some changes in your mood and behaviour so it is very important to tell your friends and family that you are taking these medicines, and that they have rare psychiatric side effects associated with them – others may notice changes and help you quickly identify any symptoms and that you need to talk to your doctor about
- If you develop thoughts of suicide or have attempted suicide, do not take any further doses of your fluoroquinolone, and talk to your doctor or another healthcare professional immediately

Stop taking your fluoroquinolone antibiotic and contact your doctor immediately if you have the following signs of a side effect:

- Tendon pain or swelling, often beginning in the ankle or calf - if this happens, rest the painful area until you can see your doctor
- Pain in your joints or swelling in your shoulder, arms, or legs
- Abnormal pain or sensations (such as persistent pins and needles, tingling, pricking, numbness, or burning), weakness in your body, especially in the legs or arms, or difficulty walking
- Severe tiredness, depressed mood, anxiety, panic attacks, confusion, problems with your memory, or severe problems sleeping
- Changes in your vision, taste, smell, or hearing

Questions you may have about your medicine

What are fluoroquinolone antibiotics?

Fluoroquinolone antibiotics are a group of medicines that kill bacteria and have an important role in treating certain life-threatening infections.

In the UK, the fluoroquinolones used are ciprofloxacin, delafloxacin, levofloxacin, moxifloxacin, and ofloxacin. This advice only applies to medicines that are swallowed, inhaled, or injected into the body.

Why has the advice about these medicines changed?

Restrictions to the use of fluoroquinolones were introduced in 2019 to minimise the risk of these reactions. In 2023 the MHRA reviewed the effectiveness of these measures in the UK and has taken additional action to further minimise the risk. It was previously recommended that fluoroquinolones should not be used in conditions that are not serious or that get better on their own, because the expected benefits of using fluoroquinolones in these situations do not outweigh the risk of side effects. The additional advice goes beyond this, stating that, in all their uses fluoroquinolones must now only be prescribed when other commonly recommended antibiotics are not appropriate.

What can I do if I think I'm having a side effect?

Tendon or muscle problems or feeling particularly unwell may be caused by events other than your medicines. It is important for symptoms to be investigated. The best person to talk to is your doctor. If you're unable to see your doctor, you can call 111 for advice. Don't delay in talking to your doctor if you think something is wrong.

Who can I tell about my side effects?

Please report any side effects to the MHRA via the [Yellow Card scheme](#). Reports are confidential and help to improve the safety of medicines.

Report side effects on the website (visit <https://yellowcard.mhra.gov.uk/> or search for Yellow Card scheme) and on the Yellow Card App on the [Apple App Store](#) or [Google Play Store](#).

This sheet has been produced by the Medicine and Healthcare products Regulatory Agency (MHRA), an executive agency of the Department of Health and Social Care, to help healthcare professionals discuss important safety information for fluoroquinolone antibiotics. Always read the leaflet that accompanies your medicines, which contains information about taking the medicines and a full list of known possible side effects.