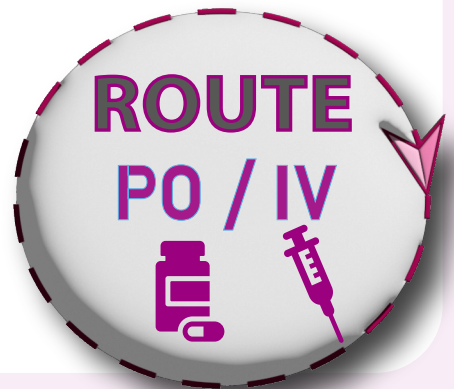


CIPROFLOXACIN

2nd generation fluoroquinolone that inhibits bacterial DNA synthesis.

ANTIMICROBIAL SPECTRUM

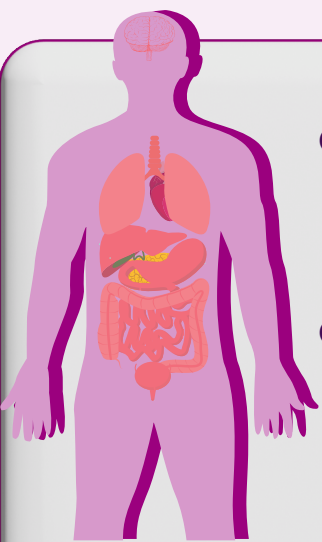
- ▣ **Gram-positive:** *Staphylococcus aureus*, *Bacillus anthracis*.
- ▣ **Gram-negative bacilli:** *Enterobacterales*, *Haemophilus influenzae*, *Pseudomonas aeruginosa*, *Acinetobacter* sp., *Campylobacter* sp., *Vibrio* sp., *Yersinia* sp.
- ▣ **Gram-negative cocci:** *Moraxella catarrhalis*, *Neisseria* sp. (high level of resistance in *Neisseria gonorrhoeae*)
- ▣ **Intra-cellular bacteria:**
 - *Legionella pneumophila* (alternative).
 - *Chlamydophila* sp., *Mycoplasma pneumoniae*, rickettsiosis, *Coxiella burnetti* (alternative).
- ▣ **Limited or no activity on:** enterococci, streptococci, strict anaerobes.



EXCRETION

Urine (40 to 50%), Faeces (20-35%)

MAIN INDICATIONS



- **Urinary tract infections**
 - Empirical treatment of pyelonephritis or prostatitis if no risk factor for resistance.
 - Targeted treatment for drug-susceptible pathogens.
- **Digestive tract infections**
 - Empirical treatment of traveller's diarrhoea with fever or abdominal pain.
 - Targeted treatment of drug-susceptible pathogens (*Salmonella*, *Campylobacter* sp.).
- **Osteo-articular infections**
 - Rifampicin-fluoroquinolone combination = 1st-line treatment for prosthetic joint infections due to susceptible staphylococci.
- **Anthrax**
- **Plague**

ADULT DOSE

- **Oral:** 500-750 mg twice daily
- **Intravenous:** 400 mg twice-thrice daily

One of the main assets of fluoroquinolones is good bio-availability (70% for ciprofloxacin), and high diffusion in most tissues, including central nervous system, bone and joints, prostate.

Dosing in patients with renal failure

- **Creatinine clearance 10-50 mL/mn:** expand interval between doses every 18h
- **Creatinine clearance <10 mL/mn:** expand interval between doses every 24h

SIDE EFFECTS

- ! **Neurotoxicity**, especially in elderly patients (delirium); seizures
- ! **Cardiovascular toxicity and phototoxicity:** see above
- ! **Rheumatologic toxicity:**
 - Avoid in children <15 years (cartilage toxicity during growth).
 - Inform patients about risk of tendinitis (especially elderly patients, or on corticosteroids).



CAUTIONS

- Most bacteria have low barrier for fluoroquinolone resistance emergence: **only use if no better alternative available**; not to be used as empirical treatment if the patient took fluoroquinolone within the last 6 months.
- **Do not take** ciprofloxacin pills together with treatments that increase gastric pH (anti-acid drugs), or calcium => absorption decreased by 30-40%.

Be cautious of use in patients at high risk of *Clostridioides difficile* infection.

MONITORING

Inform patients about the risks of:

- **Rheumatologic side effects:** Tendinitis, up to Achilles sheath ruptures => consultation in case of pain.
- **Cardiovascular side effects:** rare (< 30/100,000 prescription) but potentially lethal (aortic dissection) => emergency consultation in case of thoracic pain.
- **Photosensitivity** (avoid heavy sun exposure).



PREGNANCY

FDA Category **C**

It should be given only if the potential benefits outweigh the potential risk to the foetus.

Legal Disclaimer

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