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ST VINCENT'S PATHOLOGY

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CIPROFLOXACIN DRUG MEASUREMENT INFORMATION SHEET

Ciporfloxacin	Quinolone antibiotic: bactericidal, inhibits DNA gyrase. **Active against:** many Gram-negative bacteria. Also active against Chlamydia and *Chlamydophila spp*, *Legionella spp.* and *Mycoplasma spp.* **Inactive against:** *Burkholderia spp*, *Stenotrophomonas maltophilia*, resistant species (*Neisseria gonorrhoeae, Campylobacter*, *Salmonella, Shigella)* and urinary isolates of *Enterococcus faecalis*. *In vitro* activity against MSSA and some MRSA but risk developing resistance during treatment.
When to consider TDM	Consider in **critically ill** patients, especially those with **sepsis, trauma, or burns**. Consider for **prolonged courses** of therapy or **deep-seated infections**.
Pharmacokinetics (may be altered in critical illness and organ dysfunction)	Absorption: PO – 78% (range 53-99%) Protein binding: 20 - 40% Clearance: Unchanged in urine approx. 60% Elimination t½: Healthy volunteers: 3-4h | End stage renal failure: 8h
Sample Collection Time	A **PEAK** concentration is required **(note this differs from most other antimicrobial agents where a trough concentration is collected).** Sample after steady state is achieved (approximately after three doses from initiation of therapy or after the dose has been changed). • For **oral dosing:** take the sample one hour after administration. • For **intravenous dosing**: take the sample 10 minutes after administration.
Requesting and Collection	Collect 4 mL in a purple top (EDTA) tube (no gel separator). **Important information required on request form**: 1. Time of blood sample collection 2. Dosing regimen (dose and frequency) 3. Date and time of commencement 4. Date and time of last dose
Handling and Transport	Sample must be delivered to laboratory within 1 hour of collection. If not delivered to the lab within this time, centrifuge, separate plasma and freeze within 3 hours of collection.
Test Availability	Test performed Mondays to Fridays. Results available after 4 pm. For tests outside these hours, see handling & transport instructions above. Add-on tests are generally not available as sample integrity cannot be guaranteed.
Reference Intervals	**Call the Infectious Diseases or Clinical Pharmacology registrar through switch to assist with interpretation of concentrations and subsequent dosing.** **TARGET FOR EMPIRICAL THERAPY**: *Not well defined.* **TARGET FOR DIRECTED THERAPY:** Peak/MIC > 8 for *P. aeruginosa* bacteraemia.[1] For example, for an MIC of 0.25 mg/L, a peak concentration of 2 mg/L would be appropriate. Contact the Microbiology registrar for assistance with MICs: (02) 8382 9194. **TOXIC RANGE:** *Not defined.*
Contact	Clinical Pharmacology Laboratory: (02) 8382 9184. Patient Results: (02) 8382 9100 Further information: www.sydpath.com.au - Test Database
Instructions for Referring laboratories	Centrifuge, separate plasma within 3 hours of collection, store and transport plasma frozen.
Document Approval	TDM Matters committee, July 15th 2022. Signed Ric Day, director CPT Dept
References	1. Zelenitsky et. al, 2003 DOI: 10.1093/jac/dkg403

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