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ST VINCENT'S PATHOLOGY

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CEFAZOLIN DRUG MEASUREMENT INFORMATION SHEET

Cefazolin	First generation cephalosporin. Time-dependent killing. **Active against**: some Gram-negative organisms including *E. coli*, *Klebsiella spp., Moraxella catarrhalis*, *Proteus mirabilis*; Gram-positive organisms including most Streptococci, MSSA and *Staphylococcus saprophyticus*; anaerobes including *Fusobacterium spp., Prevotella melaninogenica*, *Propionibacterium spp.* **Inactive against**: *Pseudomonas, Enterococcus spp.* or MRSA.
When to consider TDM	Consider for patients with **infective endocarditis** to optimise the dose, and **critically ill** patients, especially those with **sepsis**, **trauma**, **burns**, **impaired renal function** or **undergoing dialysis**. In addition, TDM for dose optimisation should be undertaken in any patient expected to undergo >2 weeks therapy.
Pharmacokinetics (may be altered in critical illness and organ dysfunction)	Absorption: N/A – IV only Protein binding: 73-86% Clearance: Unchanged in urine > 96% Elimination t½: 1-2 hours
Sample Collection Time	**Trough sample (<1 hour prior to the next dose), minimum 24 hours** after initiation or dose change.
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	**TARGET FOR EMPIRICAL THERAPY**: A trough concentration above 4 mg/L is an appropriate target, and represents 4 times the EUCAST PK-PD non-species related sensitivity breakpoint for cefazolin (1 mg/L).[1] **TARGET FOR DIRECTED THERAPY:** Trough concentration > 4 times the pathogen's MIC. Contact the Microbiology registrar for assistance with MICs: (02) 8382 9194. **TOXIC RANGE:** The lowest serum cefazolin concentration associated with seizure in published case reports is 360 mg/L.[2,3]
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, December 9th 2022. Signed Ric Day, director CPT Dept
References	1. EUCAST Clinical Breakpoint Tables v. 12.0 (link) 2. Bechtel et al. 1980 DOI: 10.1007/BF03320076 3. Yost et al. 1977: PMID: 869336