Fluconazole
Newborn use only

2021

Alert	The Antimicrobial Stewardship Team recommends this drug as: Restricted.
Indication	Treatment of systemic infection and meningitis caused by susceptible *Candida* species. Prophylaxis from *Candida* infection.
Action	Triazole antifungal which selectively inhibits fungal cytochrome P-450 sterol C-14 alpha demethylation.
Drug type	Antifungal.
Trade name	IV: Aspen Fluconazole, Diflucan, Fluconazole Alphapharm, Fluconazole Claris, Fluconazole Hexal, Fluconazole Sandoz, Fluconazole Solution (Baxter). ORAL: Diflucan
Presentation	IV: 2 mg/mL injection ORAL: 50 mg/ 5 mL powder for reconstitution
Dose	**TREATMENT** Loading dose: 25 mg/kg Maintenance dose: 12 mg/kg DAILY to start 24 hours after loading dose. The regimen without a loading dose may take up to 5 days to reach steady state. Steady state can be reached in 2 days if a loading dose is used. **PROPHYLAXIS*** 6 mg/kg TWICE per week *Fluconazole prophylaxis may be considered in high risk infants following completion of treatment for *Candida* sepsis but still carrying risk of recurrence – e.g., presence of indwelling catheters and ongoing skin thrush.
Dose adjustment	No information.
Maximum dose	
Total cumulative dose	
Route	IV, Oral
Preparation	IV: Administer 2 mg/mL injection −no dilution necessary. Oral: Powder normally reconstituted by Pharmacy. If supplied as dry powder, reconstitute using water for injection with the volume specified on the bottle.
Administration	IV: Infusion over 30 minutes. Oral: Can be given with feeds. Shake reconstituted bottle well before drawing up dose.
Monitoring	Serum creatinine prior to starting therapy. Lliver function, renal function and full blood count.
Contraindications	Cardiac rhythm problems as fluconazole may increase QT interval. Hypersensitivity to fluconazole or other constituents. Concurrent therapy with other drugs known to prolong the QT interval and those drugs which are metabolised via the enzyme CYP3A4 e.g., cisapride, erythromycin.
Precautions	Consider extending dose interval to 48 hourly if creatinine > 115 micromol/L. Use with caution in hepatic impairment. May precipitate or worsen hyperbilirubinaemia, use with caution. May increase QT interval.
Drug interactions	Erythromycin: Concurrent use increases the risk of cardiotoxicity (prolonged QT interval, torsades des pointes); therefore avoid combination. Barbiturates, caffeine, benzodiazepines and phenytoin: Serum concentrations increased by fluconazole, consider dose reduction and therapeutic drug monitoring where available. Hydrochlorothiazide: Increases fluconazole serum concentration, consider dose reduction of fluconazole. Zidovudine: Concentrations are increased by fluconazole; monitor for adverse reactions (anaemia, neutropenia) and extend dose interval. Cisapride: May precipitate arrhythmias, therefore contraindicated.
Adverse reactions	Rare: Rash, elevated LFTs, leucopaenia including neutropaenia, agranulocytosis and thrombocytopaenia.

Compatibility	Fluids: Glucose 5%, glucose 10%, sodium chloride 0.9% Y-Site: Amino acid solutions, aciclovir, amifostine, amikacin, aminophylline, amiodarone, anidulafungin, aztreonam, benztropine, bivalirudin, calcium folinate, cefoxitin, ceftaroline fosamil, cephazolin, chlorpromazine, cisatracurium, dexamethasone, dexmedetomidine, dobutamine, dopamine, droperidol, filgrastim, foscarnet, ganciclovir, gentamicin, glyceryl trinitrate, granisetron, heparin sodium, linezolid, metoclopramide, metronidazole, midazolam, morphine sulfate, pancuronium, pethidine, piperacillin-tazobactam (EDTA-free), promethazine, ranitidine, remifentanil, ticarcillin-clavulanate, tacrolimus, tigecycline, tobramycin, vancomycin, vecuronium, zidovudine.
Incompatibility	Y-site: Ampicillin, calcium gluconate, cefotaxime, ceftazidime, ceftriaxone, chloramphenicol, clindamycin, digoxin, frusemide, imipenem-cilastatin, pentamidine.
Stability	Vials: Discard remaining contents after use. Oral suspension: Discard 14 days after reconstitution.
Storage	Vial and powder for reconstitution: Store below 25°C Reconstituted suspension: Store between 5–30°C
Excipients	
Special comments	IV and oral doses are equivalent.
Evidence	Treatment dose: 12 mg/kg 24 hourly supported by pharmacokinetic data and Monte Carlo simulations (1,2; Grade B). Loading dose: 25 mg/kg loading dose is shown in Monte Carlo simulations to achieve target AUC by day 2 (2; Grade B). Post-treatment prophylaxis – expert opinion by Infectious Disease members of the ANMF consensus Group.
Practice points	
References	1. Wade KC. et al. (2008) Population Pharmacokinetics of Fluconazole in Young Infants, Antimicrobial Agents and Chemotherapy, vol.52; 11, p. 4043–4049. 2. Wade KC. et al. (2009) Fluconazole Dosing for the Prevention or Treatment of Invasive Candidiasis in Young Infants, The Paediatric Infectious Disease Journal, vol. 28; 8, 717–723. 3. Saxen H. et al.(1993) Pharmacokinetics of fluconazole in very low birth weight infants during the first two weeks of life, Clinical Pharmacology & Therapeutics, vol. 53; 3, 269–277. 4. Wenzl TG. et al. (1998) Pharmacokinetics of oral fluconazole in premature infants, Eur J Pediatr, 157:661–662. 5. Nahata MC, Tallian KB, Force RW. Pharmacokinetics of fluconazole in young infants. Eur J Drug Metab Pharmacokinet. 1999;24(2):155–157. 6. Takemoto CK et al. (2013) Pediatric & Neonatal Dosage Handbook 20th Edition, page 795–798 7. Trissel's IV Compatibility, accessed 04/08/2015 via Micromedex 2.0 8. Society of Hospital Pharmacists of Australia (2015) Australian Injectable Drugs Handbook 6th Edition, Fluconazole Monograph. 9. MIMs Product Information Fluconazole Sandoz Injection Product Information, Sandoz. MIMS online. Accessed on 13 January 2021 10. Micromedex solutions. Accessed on 29th July 2015.

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