

MICAFUNGIN

Indication	<ul style="list-style-type: none"> • Treatment of invasive fungal infections including candidiasis and aspergillosis¹ • Has been used prophylactically in the context of an outbreak. Seek expert advice 	
INTRAVENOUS	Presentation	<ul style="list-style-type: none"> • Vial powder for injection: 50 mg 100 mg
	Dosage	<ul style="list-style-type: none"> • Treatment <u>without</u> CNS involvement² <ul style="list-style-type: none"> ○ 4 mg/kg once every 24 hours • Treatment <u>with</u> CNS involvement² <ul style="list-style-type: none"> ○ 10 mg/kg once every 24 hours
	Preparation	<ul style="list-style-type: none"> • 50 mg vial <ul style="list-style-type: none"> ○ Add 5 mL 0.9% sodium chloride slowly down the wall of the 50 mg vial and rotate gently until completely dissolved (reduces risk of foaming)². Do not shake³ ○ <i>Concentration now equal to 10 mg/mL</i> ○ Draw up 1 mL from the 10 mg/mL solution and make up to 10 mL total volume with 0.9% sodium chloride ○ <i>Concentration now equal to 1 mg/mL</i> • 100 mg vial <ul style="list-style-type: none"> ○ Add 5 mL 0.9% sodium chloride slowly down the wall of the 100 mg vial and rotate gently until completely dissolved (reduces risk of foaming)². Do not shake³ ○ <i>Concentration now equal to 20 mg/mL</i> ○ Draw up 0.5 mL from the 20 mg/mL solution and make up to 10 mL total volume with 0.9% sodium chloride ○ <i>Concentration now equal to 1 mg/mL</i>
	Administration	<ul style="list-style-type: none"> • IV infusion (cover syringe with opaque bag to protect from light)⁴ <ul style="list-style-type: none"> ○ Flush with 0.9% sodium chloride prior to administration² ○ Prime the infusion line and reduce total syringe volume to the prescribed dose ○ IV infusion via medication safety pump over 60 minutes⁴ ○ On completion, disconnect syringe and infusion line ○ Flush access port at same rate as infusion
	Special considerations	<ul style="list-style-type: none"> • Consult infectious diseases physician for antimicrobial stewardship restrictions prior to prescribing <ul style="list-style-type: none"> ○ Prophylactic dose (consult infectious diseases physician): 2 mg/kg once daily² • If fluid restricted, concentration 1.5–4 mg/mL can be infused via CVL⁴ • UAC route only if IV access is limited/difficult. Consult with neonatologist/paediatrician prior to use and refer to Queensland Clinical Guideline: <i>Neonatal medicines</i>⁵
Monitoring	<ul style="list-style-type: none"> • LFT, FBC, renal function³ baseline and weekly during treatment • Electrolytes at SMO discretion • Extravasation³ 	
Compatibility	<ul style="list-style-type: none"> • Fluids <ul style="list-style-type: none"> ○ 5% glucose⁴, 0.9% sodium chloride⁴ • Drugs <ul style="list-style-type: none"> ○ Calcium chloride⁴, calcium gluconate⁴, ceftolozane-tazobactam⁴, esmolol⁴, furosemide⁴, glyceryl trinitrate⁴, heparin sodium⁴, hydromorphone⁴, lidocaine⁴, magnesium sulfate⁴, milrinone⁴, noradrenaline (norepinephrine)⁴, phenylephrine⁴, posaconazole⁴, potassium chloride⁴, sodium nitroprusside⁴ 	
Incompatibility	<ul style="list-style-type: none"> • Adrenaline (epinephrine)⁴, albumin⁴, amiodarone⁴, cisatracurium⁴, dobutamine⁴, insulin (Actrapid)⁴, midazolam⁴, morphine sulfate⁴, mycophenolate mofetil⁴, octreotide⁴, rocuronium⁴, vecuronium⁴ 	
Interactions	<ul style="list-style-type: none"> • Low potential for interactions with medicines 	



Stability	<ul style="list-style-type: none"> • Vial <ul style="list-style-type: none"> ◦ Store below 25 °C. Protect from light²
Side effects	<ul style="list-style-type: none"> • Anaphylaxis/anaphylactoid reactions (rare)³ • Blood pathology: hyperbilirubinaemia⁶, raised liver enzymes³, hypokalaemia³, hypomagnesaemia³, hypocalcaemia¹, coagulopathy¹, anaemia³, leucopenia¹, neutropenia³, pancytopenia¹, thrombocytopenia³, eosinophilia⁶ • Circulatory: flushing⁶, arrhythmia¹, hypotension¹, peripheral oedema¹ • Digestive: vomiting³, diarrhoea³, constipation⁶ • Integumentary: severe cutaneous adverse reactions¹ • Nervous: fever¹
Actions	<ul style="list-style-type: none"> • A member of the echinocandin lipopeptide family that noncompetitively inhibits the synthesis of 1,3-β-D-glucan, an essential component of fungal cell walls³ not present in mammalian cells¹ • Exhibits fungicidal activity against most candida species and inhibits actively growing hyphae of aspergillus species¹ • Limited safety profile in premature and non-premature infants⁷ • Poor oral absorption⁸
Abbreviations	CNS: central nervous system, CVL: central venous line, FBC: full blood count, IV: intravenous, LFT: liver function test, SMO: most senior medical officer, UAC, umbilical artery catheter
Keywords	Antifungal, micafungin, mycamine, candida, candidiasis, aspergillosis, antimycotic, fungicide, fungistatic, thrush

The Queensland Clinical Guideline *Neonatal Medicines* is integral to and should be read in conjunction with this monograph. Refer to the disclaimer. Destroy all printed copies of this monograph after use.

References

1. MIMS Online. Mycamine. [Internet]: MIMS Australia; September 2021 [cited 2021 October 18]. Available from: <https://www.mimsonline.com.au>.
2. Therapeutic Goods Administration (TGA). Mycamine (Micafungin) powder for injection. [Internet]. Canberra: Australian Government; April 2021 [cited 2021 October 18]. Available from: <https://www.tga.gov.au>.
3. IBM Micromedex®Neofax®. Micafungin. In: IBM Micromedex® NeoFax®/Pediatrics (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. 2021 [cited 2021 October 18]. Available from: <http://neofax.micromedexsolutions.com/neofax>.
4. Australian Injectable Drugs Handbook. Nicolette Burrridge, Keli Symons, editors. Micafungin. 8th ed. [Internet]. New South Wales: Society of Hospital Pharmacists of Australia (SHPA); October 2021 [cited 2021 October 18]. Available from: <https://aidh.hcn.com.au>.
5. Queensland Clinical Guidelines. Neonatal medicines. Guideline No. MN19.54-V1-R24. [Internet]. Queensland Health. 2019. [cited 2021 January 15]. Available from: <https://www.health.qld.gov.au/gcg>.
6. British National Formulary for Children (BNFC) online. Micafungin. [Internet]: Royal Pharmaceutical Society; April 2021 [cited 2021 October 18]. Available from: <https://www.medicinescomplete.com>.
7. Manzoni P, Wu C, Tweddle L, Roilides E. Micafungin in premature and non-premature infants: a systematic review of 9 clinical trials. The Pediatric Infectious Disease Journal 2014;33(11):e291-e8.
8. Enoch DA, Idris SF, Aliyu SH, Micallef C, Sule O, Karas JA. Micafungin for the treatment of invasive aspergillosis. Journal of Infection 2014;68(6):507-26.

Document history

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