## **NYSTATIN**

# Treatment of candida infection of oral cavity<sup>1,2</sup> Prophylaxis against invasive candida infection<sup>3-6</sup> (in combination with a topical antifungal) in at risk infants (at SMO discretion) Refer to special considerations

Presentation	Oral solution: 100,000 units in 1 mL				
	Indication	Dose	Frequency		
Dosage	Prophylaxis <sup>5,7</sup>	1 mL	every 8 hours		
Preparation	Treatment <sup>7</sup>	1 mL	every 6 hours		
Preparation	<ul> <li>Shake bottle well and use undiluted<sup>7</sup></li> <li>Draw up prescribed dose into oral/enteral syringe</li> </ul>				
Administration	<ul> <li>Give after feeds¹ (or avoid feeding 5–10 minutes after administration²)</li> <li>Soak a swab stick and paint inside of mouth²</li> <li>If can suck/swallow, administer any remaining solution slowly into mouth</li> </ul>				
Special considerations	<ul> <li>Duration of course dependent on indication and response to treatment¹         <ul> <li>Prophylaxis: continue for 48 hours after line removal²</li> <li>Treatment: continue for 48 hours after resolution of infection/symptoms³</li> </ul> </li> <li>Symptomatic improvement usually occurs within 24–72 hours after starting treatmed. If signs and symptoms worsen or persist, re-evaluate and consider alternate therapy.</li> <li>Critically ill neonates are at significant risk for invasive <i>Candida</i> infections9-13</li> <li>Risk increased by use of indwelling devices, broad-spectrum antibiotics, PN, corticosteroids, GIT surgery, and/or history of fungal colonisation</li> <li>Infants 1500 g or less are at highest risk</li> <li>If breastfeeding, discuss symptoms and treatment of nipples with mother</li> </ul>				
Monitoring	• Nil				
Compatibility	Nil known				
Incompatibility	Nil known				
Interactions	Nil significant				
Stability	<ul> <li>Store at room temperature below 25 °C²</li> <li>Discard according to manufacturer expiry date or as per local policy</li> </ul>				
Side effects	<ul> <li>Generally well tolerated</li> <li>Integumentary: (very rare) rash<sup>8</sup>, including urticaria, Stevens-Johnson syndrome<sup>8</sup>, hypersensitivity<sup>8</sup> angioedema<sup>8</sup>, including facial oedema<sup>8</sup></li> </ul>				
Actions	<ul> <li>A polyene antifungal antibiotic active against yeast and yeast like fungi<sup>2</sup></li> <li>Binds to sterols in the fungal cell membrane, resulting in increased permeability which facilitates leakage of fungal cell contents<sup>7</sup></li> <li>Poorly absorbed from the gastrointestinal tract after oral administration<sup>7</sup></li> </ul>				
Abbreviations	GIT: gastrointestinal NGT: nasogastric, OGT: orogastric, PN: parenteral nutrition, SMO: most senior medical officer				
Keywords	populatel modicine, populatel monograph, pretatin, piletat, antifungal, veget, candida, thrus				

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. Australian Medicines Handbook Children's Dosing Companion. Nystatin. [Internet]. Adelaide: Australian Medicines Handbook Pty Ltd; July 2022 [cited 2022 December 15]. Available from: <a href="https://amhonline.amh.net.au">https://amhonline.amh.net.au</a>.
- 2. MIMS Online. Nilstat Oral Drops. [Internet]: MIMS Australia; December 2022 [cited 2022 December 15]. Available from: <a href="https://www.mimsonline.com.au">https://www.mimsonline.com.au</a>.
- 3. Howell A, Isaacs D, Halliday R, Australasian Study Group For Neonatal I. Oral nystatin prophylaxis and neonatal fungal infections. Arch Dis Child Fetal Neonatal Ed 2009;94(6):F429-33.
- 4. Rundjan L, Wahyuningsih R, Oeswadi CA, Marsogi M, Purnamasari A. Oral nystatin prophylaxis to prevent systemic fungal infection in very low birth weight preterm infants: a randomized controlled trial. BMC Pediatr 2020;20(1):170.
- 5. Aydemir Č, Óguz SS, Dizdar EA, Akar M, Sarikabadayi YU, Saygan S, et al. Randomised controlled trial of prophylactic fluconazole versus nystatin for the prevention of fungal colonisation and invasive fungal infection in very low birth weight infants. Arch Dis Child Fetal Neonatal Ed 2011;96(3):F164-8.
- 6. Ganesan K, Harigopal S, Neal T, Yoxall CW. Prophylactic oral nystatin for preterm babies under 33 weeks' gestation decreases fungal colonisation and invasive fungaemia. Arch Dis Child Fetal Neonatal Ed 2009;94(4):F275-8.
- 7. IBM Micromedex®Neofax®. Nystatin. In: IBM Micromedex® NeoFax®/Pediatrics (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. 2022 [cited 2022 December 09]. Available from: <a href="http://neofax.micromedexsolutions.com/neofax">http://neofax.micromedexsolutions.com/neofax</a>.
- 8. British National Formulary for Children (BNFC) online. Nystatin. [Internet]: Royal Pharmaceutical Society; November 2021 [cited 2022 December 15]. Available from: <a href="https://www.medicinescomplete.com">https://www.medicinescomplete.com</a>.
- 9. Patole SK, Rao SC, Keil AD, Nathan EA, Doherty DA, Simmer KN. Benefits of Bifidobacterium breve M-16V supplementation in preterm neonates: a retrospective cohort study. PLOS ONE 2016;11(3):e0150775.
- 10. Singhi S, Rao DS, Chakrabarti A. Candida colonization and candidemia in a pediatric intensive care unit. Pediatr Crit Care Med 2008;9(1):91-5.
- 11. Stoll BJ, Hansen N, Fanaroff AA, Wright LL, Carlo WA, Ehrenkranz RA, et al. Late-onset sepsis in very low birth weight neonates: the experience of the NICHD Neonatal Research Network. Pediatrics 2002;110(2 Pt 1):285-91.
- 12. Saiman L, Ludington E, Pfaller M, Rangel-Frausto S, Wiblin RT, Dawson J, et al. Risk factors for candidemia in neonatal intensive care unit patients. The National Epidemiology of Mycosis Survey study group. Pediatr Infect Dis J 2000;19(4):319-24.
- 13. Chicella MF, Woodruff ED, Desai MM. A review of Candida prophylaxis in the neonatal intensive care population. J Pediatr Pharmacol Ther 2011;16(4):237-45.

### **Document history**

ID number	Effective	Review	Summary of updates
NMedQ23.100-V1-R28	22/09/2023	22/09/2028	Endorsed by Queensland Neonatal Services Group (QNSAG)

#### QR code

