

# METRONIDAZOLE

<b>Indication</b>	<ul style="list-style-type: none"> <li>Treatment of anaerobic infections<sup>1</sup> (e.g. bacteraemia<sup>1</sup>) <ul style="list-style-type: none"> <li>Inactive against aerobic and facultative anaerobic bacteria<sup>2</sup></li> </ul> </li> </ul>									
<b>ORAL</b>	<b>Presentation</b>	<ul style="list-style-type: none"> <li>Oral solution 200 mg in 5 mL (40 mg in 1 mL)</li> </ul>								
	<b>Dosage<sup>3</sup></b>	<ul style="list-style-type: none"> <li>Loading dose: 15 mg/kg</li> <li>Maintenance dose: 7.5 mg/kg <ul style="list-style-type: none"> <li>Interval between loading dose and first maintenance dose is equal to the frequency for <i>*current</i> gestational age (e.g. if 35 weeks gestation, start maintenance 8 hours after loading dose)</li> </ul> </li> <li>Frequency according to <i>*current</i> gestational age</li> </ul> <table border="1"> <thead> <tr> <th><i>*Current</i> gestational age</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>25+6 weeks or less</td> <td>every 24 hours</td> </tr> <tr> <td>26–33+6 weeks</td> <td>every 12 hours</td> </tr> <tr> <td>34 weeks or more</td> <td>every 8 hours</td> </tr> </tbody> </table>	<i>*Current</i> gestational age	Frequency	25+6 weeks or less	every 24 hours	26–33+6 weeks	every 12 hours	34 weeks or more	every 8 hours
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<b>Preparation</b>	<ul style="list-style-type: none"> <li>Draw up prescribed dose into oral/enteral syringe</li> </ul>									
<b>Administration</b>	<ul style="list-style-type: none"> <li>Oral/OGT/NGT</li> </ul>									
<b>INTRAVENOUS</b>	<b>Presentation</b>	<ul style="list-style-type: none"> <li>IV fluid bag ready to use: 500 mg in 100 mL</li> </ul>								
	<b>Dosage<sup>3</sup></b>	<ul style="list-style-type: none"> <li>Loading dose: 15 mg/kg</li> <li>Maintenance dose: 7.5 mg/kg <ul style="list-style-type: none"> <li>Interval between loading dose and first maintenance dose is equal to the frequency for <i>*current</i> gestational age (e.g. if 35 weeks gestation, start maintenance 8 hours after loading dose)</li> </ul> </li> <li>Frequency according to <i>*current</i> gestational age</li> </ul> <table border="1"> <thead> <tr> <th><i>*Current</i> gestational age</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>25+6 weeks or less</td> <td>every 24 hours</td> </tr> <tr> <td>26–33+6 weeks</td> <td>every 12 hours</td> </tr> <tr> <td>34 weeks or more</td> <td>every 8 hours</td> </tr> </tbody> </table>	<i>*Current</i> gestational age	Frequency	25+6 weeks or less	every 24 hours	26–33+6 weeks	every 12 hours	34 weeks or more	every 8 hours
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<b>Preparation</b>	<ul style="list-style-type: none"> <li>Not required</li> </ul>									
<b>Administration</b>	<ul style="list-style-type: none"> <li>IV infusion <ul style="list-style-type: none"> <li>Draw up prescribed dose plus sufficient to prime the infusion line</li> <li>Prime the infusion line and reduce total syringe volume to the prescribed dose</li> <li>Infuse over 30 minutes<sup>1</sup> via medication safety pump</li> <li>On completion, disconnect syringe and infusion line</li> <li>Flush access port at same rate as infusion</li> </ul> </li> </ul>									
<b>Special considerations</b>	<ul style="list-style-type: none"> <li>If 10% glucose is infusing, flush with 0.9% sodium chloride before and after due to the increased osmolarity of solution when metronidazole and 10% glucose are co-infused<sup>4</sup></li> <li>If prolonged treatment required, consider change to oral solution (nearly 100% bioavailability)<sup>4</sup></li> </ul>									
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>Baseline FBC and then, if prolonged IV therapy, as required<sup>1</sup></li> </ul>									



<b>Compatibility</b>	<ul style="list-style-type: none"> <li>• Fluids <ul style="list-style-type: none"> <li>○ 5% glucose<sup>4</sup>, 0.9% sodium chloride<sup>4</sup></li> <li>○ Compatible with 10% glucose but not recommended due to high osmolality of resulting solution<sup>4</sup></li> </ul> </li> <li>• Y-site <ul style="list-style-type: none"> <li>○ Aciclovir<sup>4</sup>, amikacin<sup>5</sup>, amiodarone<sup>5</sup>, ampicillin<sup>5</sup>, cefazolin<sup>5</sup>, cefotaxime<sup>5</sup>, dexmedetomidine<sup>4</sup>, cisatracurium<sup>4</sup>, dopamine<sup>4</sup>, esmolol<sup>4</sup>, fluconazole<sup>4</sup>, foscarnet<sup>4</sup>, gentamicin<sup>5</sup>, granisetron<sup>4</sup>, heparin sodium<sup>4</sup>, hydrocortisone<sup>5</sup>, hydromorphone<sup>4</sup>, labetalol<sup>4</sup>, linezolid<sup>4</sup>, magnesium sulfate<sup>4</sup>, methylprednisolone sodium succinate<sup>4</sup>, midazolam<sup>4</sup>, milrinone<sup>5</sup>, morphine sulfate<sup>4</sup>, piperacillin-tazobactam (EDTA-free)<sup>4</sup>, tobramycin<sup>5</sup></li> </ul> </li> </ul>
<b>Incompatibility</b>	<ul style="list-style-type: none"> <li>• Fluids <ul style="list-style-type: none"> <li>○ No information<sup>4</sup></li> </ul> </li> <li>• Drugs <ul style="list-style-type: none"> <li>○ Cefepime<sup>4</sup>, daptomycin<sup>4</sup>, filgrastim<sup>4</sup>, paracetamol<sup>4</sup>, propofol<sup>4</sup></li> </ul> </li> </ul>
<b>Interactions</b>	<ul style="list-style-type: none"> <li>• Nil significant</li> </ul>
<b>Stability</b>	<ul style="list-style-type: none"> <li>• Store below 25 °C. Protect from light<sup>2</sup></li> </ul>
<b>Side effects</b>	<ul style="list-style-type: none"> <li>• Blood pathology: leucopenia (with long term intravenous therapy): caution if evidence or history of blood dyscrasias<sup>1</sup></li> <li>• Gastrointestinal: vomiting<sup>1</sup>, diarrhoea<sup>1</sup>, constipation<sup>1</sup></li> <li>• Infection: can worsen known or previously unrecognised symptoms of candidiasis<sup>1</sup>, cause overgrowth of candida (GIT and genital tract)<sup>1</sup></li> <li>• Nervous: seizures (with long term intravenous therapy)<sup>1</sup></li> </ul>
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Specific bactericidal activity against important obligate anaerobes <i>Bacteroides fragilis</i>, fusobacteria, eubacteria, clostridia, anaerobic streptococci<sup>2</sup></li> </ul>
<b>Abbreviations</b>	*Current gestational age is the same as <i>postmenstrual age</i> (PMA) CNS: central nervous system, IV: intravenous, OGT: orogastric, NGT: nasogastric
<b>Keywords</b>	Metronidazole, flagyl, infection, sepsis, antibiotic, anaerobic infection

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. IBM Micromedex®/Neofax®. Metronidazole In: IBM Micromedex® NeoFax®/Pediatrics (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. 2021 [cited 2021 August 27]. Available from: <http://neofax.micromedexsolutions.com/neofax>.
2. Therapeutic Goods Administration (TGA). Metronidazole product information. [Internet]. Canberra: Australian Government; August 2021 [cited 2021 August 25]. Available from: <https://www.tga.gov.au>.
3. British National Formulary for Children (BNFC) online. Metronidazole. [Internet]: Royal Pharmaceutical Society; 2021 November [cited 2022 January 28]. Available from: <https://www.medicinescomplete.com>.
4. Australian Injectable Drugs Handbook. Nicolette Burrridge, Keli Symons, editors. Metronidazole. 8th ed. [Internet]. New South Wales: Society of Hospital Pharmacists of Australia (SHPA); 2021 [cited 2021 August 26]. Available from: <https://aidh.hcn.com.au>.
5. IBM Micromedex®. Metronidazole in IBM Micromedex® (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. 2021 [cited 2021 August 30]. Available from: <http://www.micromedexsolutions.com>.

## Document history

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