

# PARACETAMOL

<b>Indication</b>		<ul style="list-style-type: none"> <li>Relief of pain and fever</li> <li>To achieve PDA closure in selected neonates<sup>1</sup> (at consultant discretion)</li> </ul>		
<b>ORAL</b>	<b>Presentation</b>	<ul style="list-style-type: none"> <li>Oral solution 100 mg in 1 mL</li> </ul>		
	<b>Dosage</b> (pain management)	<ul style="list-style-type: none"> <li>15 mg/kg (frequency according to current gestational age in weeks)<sup>2</sup></li> </ul>		
		Current gest age (weeks)	Frequency	Maximum (mg/kg/day)
		Less than 31+6	every 12 hours prn <sup>1</sup>	30 mg/kg/day <sup>3</sup>
		32+0–36+6	every 8 hours prn <sup>1</sup>	45 mg/kg/day <sup>4</sup>
37 or more	every 6–8 hours prn <sup>2</sup>	60 mg/kg/day <sup>3</sup>		
<b>Dosage</b> (PDA closure)	<ul style="list-style-type: none"> <li>15 mg/kg every 6 hours for three days<sup>1,5</sup> <ul style="list-style-type: none"> <li>Maximum 60 mg/kg/day</li> </ul> </li> </ul>			
<b>Preparation</b>	<ul style="list-style-type: none"> <li>Draw up prescribed dose in 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>Vial 500 mg in 50 mL   1000 mg in 100 mL</li> </ul>		
	<b>Dosage</b> (pain management)	<ul style="list-style-type: none"> <li>7.5 mg/kg every 6 hours to a maximum of 30 mg/kg/day<sup>6</sup></li> </ul>		
	<b>Dosage</b> (PDA closure)	<ul style="list-style-type: none"> <li>15 mg/kg every 6 hours for three days<sup>1,5</sup> <ul style="list-style-type: none"> <li>Maximum 60 mg/kg/day</li> </ul> </li> </ul>		
	<b>Preparation</b>	<ul style="list-style-type: none"> <li>Nil 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 enough additional solution to prime infusion line</li> <li>Prime the infusion line and reduce total syringe volume to the prescribed dose</li> <li>IV infusion via syringe driver pump over 15 minutes<sup>6,7</sup></li> <li>On completion, disconnect syringe and infusion line</li> <li>Flush access port at same rate as infusion</li> </ul> </li> </ul>		
<b>RECTAL</b>	<b>Presentation</b>	<ul style="list-style-type: none"> <li>Use oral solution<sup>8</sup> 100 mg in 1 mL</li> </ul>		
	<b>Dosage</b> (pain management)	<ul style="list-style-type: none"> <li>15 mg/kg (frequency according to current gestational age in weeks)<sup>2</sup></li> </ul>		
		Current gest age (weeks)	Frequency	Maximum (mg/kg/day)
		Less than 31+6	every 12 hours prn	30 mg/kg/day <sup>3</sup>
		32+0–36+6	every 8 hours prn	45 mg/kg/day
37 or more	every 6–8 hours prn	60 mg/kg/day <sup>3</sup>		
<b>Preparation</b>	<ul style="list-style-type: none"> <li>Nil required</li> </ul>			
<b>Administration</b>	<ul style="list-style-type: none"> <li>Draw up prescribed dose PLUS enough additional solution to prime NGT</li> <li>Prime the NGT and reduce total syringe volume to prescribed dose</li> <li>Lubricate the insertion end of the NGT and insert 2 cm into rectum</li> <li>Slowly administer dose, holding baby's buttocks firmly together during administration and withdrawal of catheter to avoid expulsion of dose</li> </ul>			

<b>Special considerations</b>	<ul style="list-style-type: none"> <li>• High risk medication <ul style="list-style-type: none"> <li>○ Overdose can lead to serious liver damage and death.<sup>6</sup> Available in different strengths therefore check product selection carefully.<sup>7</sup> Do not exceed maximum dosage<sup>7</sup></li> </ul> </li> <li>• Multiple dosage regimens are recommended as efficacious and safe<sup>4</sup></li> <li>• Cautions <ul style="list-style-type: none"> <li>○ Hepatic or renal impairment, G6PD deficiency<sup>6</sup>, dehydration<sup>6</sup>, hypovolemia<sup>6</sup></li> </ul> </li> <li>• At consultant discretion for PDA closure <ul style="list-style-type: none"> <li>○ Route choice (oral or IV)</li> <li>○ Second course<sup>1</sup></li> </ul> </li> <li>• Use IV route for pain management only when other routes undesirable or not possible<sup>1,6</sup></li> <li>• Seek expert advice for IV use beyond 48 hours</li> </ul>
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• Liver function (at consultant discretion)</li> <li>• Temperature<sup>1</sup></li> <li>• Signs of pain<sup>1</sup></li> </ul>
<b>Compatibility</b>	<ul style="list-style-type: none"> <li>• Oral solution <ul style="list-style-type: none"> <li>○ No information</li> </ul> </li> <li>• Fluids with IV solution <ul style="list-style-type: none"> <li>○ 5% glucose (stable for one hour)<sup>7</sup>, 0.9% sodium chloride<sup>7</sup></li> </ul> </li> <li>• Y site with IV solution <ul style="list-style-type: none"> <li>○ Cefoxitin<sup>7</sup>, ceftriaxone<sup>7</sup>, clindamycin<sup>7</sup>, dexamethasone<sup>7</sup>, droperidol<sup>7</sup>, fentanyl<sup>7</sup>, granisetron<sup>7</sup>, heparin sodium<sup>7</sup>, hydrocortisone sodium succinate<sup>7</sup>, hydromorphone<sup>7</sup>, lidocaine (lignocaine)<sup>7</sup>, methylprednisolone sodium succinate<sup>7</sup>, metoclopramide<sup>7</sup>, midazolam<sup>7</sup>, morphine sulfate<sup>7</sup>, ondansetron<sup>7</sup>, piperacillin-tazobactam<sup>7</sup>, potassium chloride<sup>7</sup>, ranitidine<sup>7</sup>, vancomycin<sup>7</sup></li> </ul> </li> </ul>
<b>Incompatibility</b>	<ul style="list-style-type: none"> <li>• Drugs with oral solution <ul style="list-style-type: none"> <li>○ No information</li> </ul> </li> <li>• Drugs with IV solution <ul style="list-style-type: none"> <li>○ Aciclovir<sup>7</sup>, metronidazole<sup>7</sup></li> </ul> </li> </ul>
<b>Interactions</b>	<ul style="list-style-type: none"> <li>• IV solution <ul style="list-style-type: none"> <li>○ Probenecid: causes almost two-fold increase in blood level—reduce paracetamol dose<sup>6</sup></li> <li>○ Caution with enzyme inducing agents (e.g. phenobarbitone, carbamazepine, phenytoin)<sup>6</sup></li> </ul> </li> </ul>
<b>Stability</b>	<ul style="list-style-type: none"> <li>• Store vial below 25 °C<sup>6</sup>. Do not refrigerate<sup>6</sup>. Protect from light<sup>6</sup></li> </ul>
<b>Side effects</b>	<ul style="list-style-type: none"> <li>• Blood pathology: elevated bilirubin and hepatic enzymes</li> <li>• Hepatotoxicity<sup>1</sup> manifested first by clinical signs including vomiting, malaise, diaphoresis, and liver enlargement<sup>9</sup></li> </ul>
<b>Actions</b>	<ul style="list-style-type: none"> <li>• Analgesic<sup>7</sup> and antipyretic<sup>7</sup></li> <li>• Inhibits the peroxidase moiety of prostaglandin H2 synthetase complex, thereby reducing the production of prostaglandin E2, known to contribute to early ductal patency<sup>5</sup></li> </ul>
<b>Abbreviations</b>	OGT: oral gastric tube, NGT: nasogastric tube: PDA patent ductus arteriosus,
<b>Keywords</b>	PDA, patent ductus arteriosus, paracetamol, analgesic, acetaminophen

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

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## Document history

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