South Australian Neonatal Medication Guidelines

ibuprofen

5mg/mL injection, 20mg/mL oral mixture

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Government of South Australia
SA Health

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Endorsed by: South Australian Maternal & Neonatal Clinical Network
Contact: South Australian Neonatal Medication Guidelines Workgroup at:
NeoMed@health.sa.gov.au

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Dose and Indications

Treatment of significant patent ductus arteriosus (PDA)

Intravenous, Oral

Three day course of therapy, doses to be given 24 hours apart

Day 1: 10 mg/kg

Day 2 and 3: 5 mg/kg

If the ductus arteriosus does not close 48 hours after the last injection or if it re-opens, a second course of 3 doses, as above may be given.

A higher dose regimen 20mg/kg on Day 1; and 10mg/kg on Day 2 and 3 has been used if the standard regimen has proven ineffective.

Oral mixture can be used if the neonate is tolerating enteral feeds

Preparation and Administration

Intravenous

The intravenous injection contains 5mg/mL ibuprofen

Dose	2.5mg	5mg	7.5mg	10mg	12.5mg
Volume	0.5mL	1mL	1.5mL	2mL	2.5mL

Administer as an intravenous infusion over at least 15 minutes.

May be given undiluted, or diluted with compatible fluid for ease of administration.

Oral

The oral mixture contains 20mg/mL ibuprofen.

Dose	3mg	6mg	9mg	12mg	15mg
Volume	0.15mL	0.3mL	0.45mL	0.6mL	0.75mL

Give with feeds to minimise gastrointestinal irritation.

Compatible Fluids

Glucose 5%, glucose/sodium chloride solutions, sodium chloride 0.9%

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Adverse Effects

Common

Gastrointestinal perforation (particularly if used concurrently or in close proximity to corticosteroids), bleeding, salt and fluid retention, hypertension

Infrequent

Hyperkalaemia, renal impairment, rash

Rare

Blood dyscrasias, interstitial nephritis, acute renal failure, hepatitis

Monitoring

- Assess for ductal closure
- Renal function and urine output
- Assess for signs of bleeding

Practice Points

- If anuria or oliguria occurs after any dose, further dosing should be reviewed.
- Ibuprofen is contraindicated in babies with active bleeding, severe thrombocytopenia and bleeding disorders, known or suspected NEC, congenital heart disease with ductal-dependant systemic blood flow or renal failure. Used with caution in known infection.
- Ibuprofen has been shown to displace bilirubin from its binding site to albumin; hence it may cause a significant increase in unbound bilirubin in those infants with a high unconjugated bilirubin.
- Ibuprofen may decrease clearance of aminoglycosides. Hence strict surveillance of aminoglycoside serum levels is recommended in those babies who have both ibuprofen and aminoglycosides prescribed.
- Ibuprofen is a better tolerated medication than indomethacin. There is less effect on renal function and gastrointestinal problems are uncommon.
- Before administration of ibuprofen an echocardiographic examination should generally be performed in order to detect a haemodynamically significant patent *ductus arteriosus* and to exclude pulmonary hypertension and duct-dependent congenital heart disease.

References

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