Propranolol

10mg tablet, 4mg/mL oral mixture (SAS)

Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Dose and Indications

Tachyarrhythmias (e.g. supraventricular tachycardia), thyrotoxicosis, hypertension

Start only after consultation with a cardiologist

Oral

0.25 to 0.5mg/kg/dose every six to eight hours

Adjust dose daily according to response up to a maximum dose of 1mg/kg/dose every six hours.

Fallot's tetralogy

Start only after consultation with a cardiologist

Oral

0.25 to 1mg/kg/dose every six to eight hours

Capillary haemangiomas situated in a critical site or complicated by haemorrhage or ulceration

Usually started only after consultation with a dermatologist

Oral

0.5mg/kg/dose every 12 hours, increasing to 1mg/kg/dose every 12 hours

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Preparation and Administration

Oral Mixture (4mg/mL)

The oral mixture contains 4mg/mL propranolol.

Dose	1mg	2mg	3mg	4mg	5mg	6mg
Volume	0.25mL	0.5mL	0.75mL	1mL	1.25mL	1.5mL

Give with feeds to minimise gastrointestinal irritation.

This product is not registered in Australia and is accessed under the Special Access Scheme (SAS). Parental consent must be received prior to use and an SAS form completed.

Oral Tablets

If a dose is needed outside of pharmacy hours:

Disperse one 10mg propranolol tablet in 10mL of sterile water. The resulting solution contains 1mg/mL propranolol.

Dose	1mg	2mg	3mg	4mg	5mg	6mg
Volume	1mL	2mL	3mL	4mL	5mL	6mL

Give with feeds to minimise gastrointestinal irritation.

Discard remaining solution after dose.

Adverse Effects

Common

Diarrhoea, bronchospasm, dyspnoea, cold extremities, bradycardia, hypotension, sleep disturbances, hypoglycaemia, alteration of lipid metabolism

Infrequent

Rash, acute urinary tract retention, nasal congestion, increased airway resistance

Rare

Hypersensitivity reactions, thrombocytopenic purpura, liver function abnormality, alopecia

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Monitoring

- Baseline investigations – blood sugar level, blood pressure, electrocardiograph if clinically indicated
- Monitor heart rate, blood pressure and observe for bronchospasm hourly for 3 hours after the first dose.
- Monitor blood glucose levels 3 hours after the first dose.
- Consider the above monitoring with every mg/kg increase in dosage.
- In neonates aged 0-4 weeks corrected, small for gestational age, weight less than 2.5kg or with clinical concerns (ie at risk of hypoglycaemia) consider admission as inpatient/outpatient for observation at initiation of therapy.

Practice Points

- Contraindicated in congestive heart failure, heart block and in reactive airway disease.
- For treatment of haemangiomas the twice daily dosing is for practical purposes to improve compliance.
- For cardiac indications, atenolol is an alternative to propranolol. Atenolol can be administered once or twice daily, is a more selective beta 1 antagonist, and is commercially available in liquid form. However, the shorter half-life of propranolol may be advantageous when commencing therapy because steady state is more rapidly achieved, and side-effects are short lived when therapy is discontinued.
- A withdrawal syndrome (nervousness, tachycardia, sweating, hypertension) has been associated with sudden cessation of the drug.
- When used in the treatment of haemangiomas, doses of oral propranolol should be held in infants with viral infections if there is any suggestion of wheeze, cough or respiratory difficulties.

References

- Smithson SL et al. Consensus statement for the treatment of infantile haemangiomas with propranolol. Australian Journal of Dermatology. 2017, 58, 155-159

Document Ownership & History

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Approval Date	Version	Who approved New/Revised Version	Reason for Change
28/4/2020	V2.1	A/Prof Rosalie Grivell, Chair SA Health Maternal, Neonatal and Gynaecology Community of Practice	Change of oral mixture formulation to SAS product (change in strength and storage conditions)
15/11/2018	V2	SA Health Safety and Quality Strategic Governance Committee	Formally reviewed in line with 5 year scheduled timeline for review.
9/03/2018	V1.1	SA Health Safety and Quality Strategic Governance Committee	Review date extended to 5 years following risk assessment. New template.
8/10/2013	V1	SA Health Safety and Quality Strategic Governance Committee	Original SA Health Safety and Quality Strategic Governance Committee approved version.