

Neonatal Drug Guideline

ADENOSINE

DESCRIPTION AND INDICATION FOR USE

Adenosine is an antiarrhythmic agent used in the acute treatment of sustained paroxysmal supra-ventricular tachycardia (SVT). It activates specific receptors on the cell membrane to slow impulse generation in the sino-atrial node, impair conduction through the atrio-ventricular node and dilate the coronary arteries.

DOSE

1 mg = 1000 micrograms

ALL AGES

IV/IO: 100 microg/kg/dose initially, increasing by a maximum of 100 microg/kg/dose every 2 minutes (to a maximum of 300 microg/kg/dose) until return of sinus rhythm. Larger doses may be used after consultation with a paediatric cardiologist.

RECONSTITUTION/DILUTION

Ampoule = 6 mg in 2 mL (3 mg/mL)

IV bolus: Dilution required to enable measurement of dose. Large doses may be given undiluted

DILUTION:

1. Withdraw 1 mL of 3 mg/mL solution from vial
2. Add to 2 mL of 0.9% sodium chloride in a 5 mL syringe (total volume = 3 mL)
(concentration = 3 mg in 3 mL = **1 mg/mL = 1000 microg/mL**)
Shake gently to ensure thorough mixing
3. Withdraw required dose
4. For small volumes, further dilute with 1 to 2 mL of 0.9% sodium chloride

Discard remaining diluted solution immediately after use. Do not refrigerate.

Not for IM or subcut use.

ROUTE AND METHOD OF ADMINISTRATION

MEDICAL STAFF TO BE PRESENT DURING ADMINISTRATION

IV: Give by rapid intravenous push (over 1 to 2 seconds) into a large vein. Flush immediately with a sufficient volume of 0.9% sodium chloride to ensure the bolus dose is administered to the patient (and not still contained in the line).
Administer as close to IV site as possible.

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COMPATIBILITY INFORMATION

Please contact your clinical pharmacist for information on drugs or fluids not appearing in the table below. Medications that are not routinely used in the Special Care Nursery have not been included in this table and may be incompatible.

	Compatible	Incompatible
Fluids	Dextrose 5%, Sodium chloride 0.9%	No information
Drugs	No information	No information

SIDE EFFECTS

Adverse effects resolve rapidly on treatment discontinuation, due to the short duration of action of adenosine.

- Flushing, dyspnea
- Transient arrhythmias may occur between termination of SVT and onset of normal sinus rhythm, recurrence of SVT
- Hypotension, irritability

SPECIAL PRECAUTIONS

CONTRAINDICATIONS

- 2nd or 3rd degree AV block or sick sinus syndrome

DRUG INTERACTIONS

Theophylline, caffeine

Antagonises the effect of adenosine, higher adenosine doses may be required

Carbamazepine

Higher degrees of heart block may be produced in the presence of carbamazepine

NURSING RESPONSIBILITIES

- Observations/Monitoring:
 - Continuous cardio-respiratory monitoring, including continuous electrocardiogram (ECG)
 - Monitor blood pressure