

# Adenosine

## 6mg/2mL injection

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**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

**This is a High Risk Medication** 

An overdose can be rapidly fatal.

## Dose and Indications

1mg = 1000micrograms

Write all doses in micrograms

### To Revert Paroxysmal Supraventricular Tachycardia (SVT)

#### Intravenous

100micrograms/kg/dose initially, increasing by 50-100 micrograms/kg/dose increments (to a maximum of 300micrograms/kg/dose) every 1 to 2 minutes until return of sinus rhythm.

- > All SVT requires cardiologist consultation, but this should not delay emergency management
- > SVT not responsive to a dose of 300microg/kg, may be managed with larger doses of up to 500microg/kg or other antiarrhythmics after consultation with a paediatric cardiologist
- > SVT with shock will require prompt DC cardioversion if difficult vascular access delays adenosine administration



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### Preparation and Administration

#### Intravenous

Withdraw 1mL(3mg) from a 6mg/2mL adenosine injection and add to 2mL of compatible fluid (total volume 3mL) and shake gently to mix. The resulting solution contains 1000micrograms/mL adenosine.

Dose	100 micrograms	150 micrograms	200 micrograms	250 micrograms	300 micrograms	350 micrograms
Volume	0.1mL	0.15mL	0.2mL	0.25mL	0.3mL	0.35mL

For small volumes (e.g., less than 0.5mL) dilute further with 1 to 2mL of sodium chloride 0.9% Solution must be clear at time of administration.

Administer by rapid intravenous bolus followed by rapid 0.9% sodium chloride flush. Give by large peripheral vein or central vein, via the most proximal IV site possible.

#### To administer:

- > Withdraw the dose required from the diluted solution above
- > Prime a three-way tap and short extension tube with 0.9% sodium chloride flush and leave connected
- > Attach adenosine dose syringe to other port on three-way tap
- > Administer adenosine by rapid IV injection over 1 to 2 seconds
- > Follow instantaneously with a rapid flush over 1 to 2 seconds of 3 - 5mL 0.9% sodium chloride via other port on three-way tap.

Do not refrigerate, crystallisation will occur.

### Compatible Fluids

Glucose 5%, sodium chloride 0.9%

### Adverse Effects

Adverse effects resolve rapidly on stopping treatment due to its short duration of action.

#### Common

Flushing, dyspnoea

#### Infrequent

Transient arrhythmias, hypotension



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### Monitoring

- > Adenosine should only be used when facilities for cardiac monitoring and cardiorespiratory resuscitation exist.
- > Continuous electrocardiogram (ECG) is required during administration
- > Blood pressure

### Practice Points

- > Caffeine diminishes adenosine's affect by competitive antagonism. Larger doses may be required in patients receiving caffeine
- > Doses must be given by rapid intravenous push. Inject dose as close to intravenous site as possible with sufficient flush volume to ensure the bolus dose is administered to patient (and not still contained in the line)
- > Adenosine has a very short duration of effect (half-life of less than 10 seconds) making it necessary to give this agent as a rapid bolus
- > Diluting the ampoule assists with drawing up an accurate dose.

### Document Ownership & History

<b>Developed by:</b>	SA Maternal, Neonatal & Gynaecology Community of Practice
<b>Contact:</b>	<a href="mailto:Health.NeoMed@sa.gov.au">Health.NeoMed@sa.gov.au</a>
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