

ADENOSINE (ADENOCARD)

PHARMACOLOGY & MECHANISM OF ACTIONS:

- ❑ Antiarrhythmic
- ❑ Slows conduction through the AV node
- ❑ Can interrupt re-entry pathways through the AV node, which are causing a rapid atrial response, restoring normal function.
- ❑ Can restore normal sinus rhythm in patients with paroxysmal supraventricular tachycardia (PSVT), including PSVT associated with Wolff-Parkinson-White Syndrome.
- ❑ Half-life estimated to be less than 10 seconds (onset 5-20 seconds and duration of 30-40 seconds)
- ❑ Adenosine can also produce coronary artery vasodilatation

INDICATIONS:

- ❑ Adult: Heart rates ≥ 150 bpm to convert stable narrow complex tachycardia (including Wolff-Parkinson-White Syndrome) to normal sinus rhythm.
- ❑ Children: Heart rates ≥ 180 bpm
- ❑ Infants: Heart rates ≥ 220 bpm

CONTRAINDICATIONS:

- ❑ Allergy to Adenosine
- ❑ Second or third degree AV block, except in patients with functioning artificial pacemaker.
- ❑ Sick sinus syndrome, except in patients with a functioning artificial pacemaker
- ❑ Recognized Atrial Fibrillation or Atrial Flutter
- ❑ Ventricular Fibrillation
- ❑ Ventricular Tachycardia
- ❑ Pregnancy (relative) – contact OLMC

ADMINISTRATION:

	ADULT	PEDIATRIC	
PARAMEDIC	<ul style="list-style-type: none"> ❑ 12 mg rapid IV bolus (less than 5 seconds), followed by a 20 mL NS flush ❑ If no change, may be repeated once more for a total of 2 doses. 	<ul style="list-style-type: none"> ❑ 0.1 – 0.2 mg/kg IV/IO bolus, max first dose 6 mg, followed by a 10 mL NS flush. ❑ If no change, may increase to 0.2-0.4mg/kg rapid IV/IO bolus followed by a NS flush. May be repeated once more for a total of 3 doses. 	PARAMEDIC

PRECAUTIONS & SIDE EFFECTS:

- ❑ May produce short lasting first, second, or third-degree heart block, or transient Asystole
- ❑ Patients who develop high level of block with one dose of Adenosine should not be given additional doses.
- ❑ Additional side-effects may include: Hypotension, Dyspnea, Palpitations & Chest pressure, Nausea, Metallic taste in mouth, Tightness in throat or groin, Back pain, Heaviness in arms or neck, Numbness, Apprehension, and Blurred vision.

ADENOSINE (ADENOCARD) CONT.

SPECIAL NOTES:

- ❑ Many of these adverse reactions are usually minor and of brief duration, and resolve without treatment. Many patients may be intensely uncomfortable for a short period.
- ❑ Pregnancy Category C.
- ❑ Effects are antagonized by methylxanthines such as caffeine and Theophylline, larger doses may be required or Adenosine may not be effective.
- ❑ Administration of Adenosine with Dipyridamole (Persantine) may result in prolonged asystole.
- ❑ In the usual doses range, Adenosine has no systemic hemodynamic effects. Larger doses can decrease blood pressure by decreased peripheral vascular resistance, but this is transient.
- ❑ Adenosine is not effective in converting atrial fibrillation, atrial flutter, or ventricular tachycardia.
- ❑ Adenosine effects are potentiated by Persantine and may create higher degrees of heart block if patient is taking Tegretol. As a result, patients taking these medications should receive $\frac{1}{2}$ the normal dose. Patients taking Tegretol may go into refractory asystole and may need a pacemaker.
- ❑ Asthmatic patients with active bronchospasm should receive $\frac{1}{2}$ the normal dose of Adenosine as bronchoconstriction may be produced with its administration.
- ❑ At the time of conversion to NSR, a variety of new rhythms may appear on the EKG. They usually only last a few seconds and do not require intervention.
- ❑ Digitalis, calcium channel blockers, and benzodiazepines can augment the activity of Adenosine.