

The logo consists of the letters 'RX' in a white, serif font, centered within a dark gray square.

**Drug Name: Adenosine**

**Trade Name: Adenocard**

**Class:**

- Supraventricular Antiarrhythmic
- Endogenous purine nucleoside (present in all cells, wide range of metabolic roles, formed as a breakdown product of ATP.)

**Mechanism of Action:**

Slows tachycardias associated with the AV node via modulation of the autonomic nervous system without causing negative inotropic effects. It acts directly on sinus pacemaker cells and vagal nerve terminals to decrease chronotropic & dromotropic activity. Thus it:

- Slows conduction through the AV node
- Blocks reentry pathways through the AV node
- Can slow conduction in the SA node somewhat

**Indications:**

- PSVT (including WPW) refractory to vagal maneuvers

**Contraindications:**

- 2<sup>nd</sup> or 3<sup>rd</sup> degree heart block (without a functioning pacemaker)
- Sick sinus syndrome
- Known hypersensitivity
- Pregnancy (C)
- Known atrial fibrillation or atrial flutter (not effective in managing these arrhythmias)
- Irregular Wide-complex tachycardias

**Precautions:**

- **May cause refractory bronchospasm. Use with caution with COPD and Asthma.**

**Dosage:**

**Adults:**

- 6 mg rapid IV bolus followed by 20 ml flush
- No response in 1-2 minutes—12 mg
- After 2 additional minutes—12 mg

**Pediatrics:**

- 0.1 mg/kg.
- Max initial dose: 6 mg
- if no effect, 0.2 mg/kg x 2 PRN
- Maximum single dose: 12 mg

***Rapid administration (over 1-2 seconds) is imperative due to the extremely short half-life. It should be given as proximal to the heart as possible (i.e. Antecubital veins)***

**DRUG: ADENOSINE**

# RX

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### Onset:

- 30 seconds or less

### Duration:

- 10 seconds

### Side Effects:

- Flushing
- Chest Pain
- Dyspnea
- Headache
- Diaphoresis
- Metallic Taste
- Dizziness, Lightheadedness
- Numbness
- Nausea/Vomiting
- Palpitations

### Interactions:

- Additive Effects—digoxin, calcium channel blockers
- Antagonistic Effects—methylxanthines (caffeine, theophylline)
- Potentiating Effects—dipyridamole (Persantine)

### PEARLS:

- **Advising patient of the side effects of [adenosine](#) prior to administering can help minimize patient anxiety.**
- **Large bore IV, antecubital access**
- **IV wide open during administration**
- **It may help to have your partner administer the fluid bolus**
- **Start your EKG printout before administration, and continue printing through bolus and conversion.**
- **Administration of [adenosine](#) will cause a period of asystole & various conversion dysrhythmias, be patient, most will transiently resolve. Those that don't convert (rare) are treated symptomatically.**
- **Be prepared to treat life threatening problems.**