This document is for reference only. Please refer to SWO's for specific indications, dosages, and applications

RX

Drug Name: **Adenosine**

Trade Name: **Adenocard**

Revised: **July 24, 2017**

REVISED: **November 1, 2017**

Class:

- Supraventricular Antiarrhytmic
- 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:

- 2nd or 3rd 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:

- IV: 6 mg RAPID IVP
- Repeat at 12 mg in 3-5 minutes two times PRN (total 30 mg)
- Follow each dose with a flush of at least 20-60 ml

Pediatrics:

- 0.1 mg/kg.
- Max intial 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)

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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 if possible.***
  - ***Adenosine has been successfully administered via the IO route and smaller veins if needed.***
- ***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 may 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.***