GENERIC NAME: ADENOSINE

BRAND NAME: Adenocard

CLASS: Antiarrhythmic, Endogenous nucleoside

Mechanism of Action:

Slows conduction time through AV node; can interrupt re-entrant pathways through the AV node. Slows sinus rate. Larger doses decrease BP by decreasing peripheral resistance.

Indications and Field Use:

Conversion of supraventricular tachycardias with no known atrial fibrillation or atrial flutter. Wide complex tachycardia of uncertain origin unresponsive to lidocaine.

Contraindications:

Sick sinus syndrome, 2nd or 3rd degree AV blocks; except in patients with a functioning ventricular pacemaker. Use

cautiously in patients with known asthma (has precipitated acute bronchospasm). Patients on theophylline and related methylxanthines.

Patients on dipyridamole (Persantine) or carbamazepine (Tegretol). Cardiac transplant patients are more sensitive to adenosine and require only a small dose (relative). Known atrial fibrillation or atrial flutter. Pregnancy (no controlled studies)

Adverse Reactions:

CV: Transient dysrhythmias (systole, bardycardia, PVC's) occur in 55% of patients (none reported as irreversible). Palpitations, chest pressure, chest pain, hypotension, transient hypertension; facial flushing, sweating.

Resp: Dyspnea, hyperventilation, tightness in throat, bronchospasm. **CNS:** Lightheadedness, headache, dizziness, paresthesias, apprehension, blurred vision,

neck-back pain. **GI:** Nausea, metallic taste.

NOTES ON ADMINISTRATION

Incompatibilities/Drug Interactions:

Adenosine is not blocked by Atropine. Theophylline and related methylxanthines (caffeine & theobromine-xanthine) in therapeutic concentrations decrease effectiveness. See: CONTRAINDICATIONS

Dipyridamole (Persantine) & carbamazepine (Tegretol, Atretol) block uptake and potentiate effects. See: CONTRAINDICATIONS.

Adult Dosage:

Initial: 6 mg rapid IV bolus over 1-3 seconds Special administration procedure: Follow immediately with 20 ml normal saline flush. IV site recommended is antecubital fossa (close to central circulation); use injection port nearest hub of IV catheter; arm elevated during procedure; constant ECG monitoring. Repeat: If no response in 1-2 minutes (of each dose, respectively) may repeat 12 mg, twice, utilizing the same procedure for repeat dose.

Pediatric Dosage:

(Drug of choice for treating SVT in symptomatic infants and children)

Initial: 0.1 mg/kg as a rapid IV bolus. Special administration procedure: Follow immediately with 2-3 ml normal saline flush. Use injection port nearest the hub of IV catheter for procedure; constant ECG monitoring. Repeat: If no response, dose may be doubled 1 time (0.2 mg/kg) using same administration procedure. Maximum singe dose: Should not exceed 12 mg.

Infants with SVT associated with shock: Adenosine may precede cardioversion if vascular access is available, but cardioversion should not be delayed while IV access is achieved.

Routes of Administration:

Rapid IV push

Onset of Action:

Seconds

Peak Effects:

Seconds

Duration of Action:

10-12 seconds (1/2 life 5 seconds)

Dosage Forms/Packaging:

Flip top vials 6 mg/2 ml (3 mg/ml) Prefilled syringe 6 mg/2 ml (3 mg/ml)

Arizona Drug Box Supply Range:

PARAMEDIC and QUALIFIED IEMT: INTERMEDIATE:

Special Notes:

5 - 6 vials 0

> Dysrhythmias may recur (short half life).

> Dysrhythmias appear in 55% of patients at conversion, lasting for a few seconds, do not usually require intervention.

> Second dose must be prepared and available.

> Check for crystallization in cold climates.