A. Adenosine (Adenocard®)

I. Classification
- •Antidysrhythmic agent

II. Actions
- •Depresses automaticity in the sinus node
- •Suppresses AV conduction

III. Indications
- •Perfusing PSVT unresponsive to Valsalva
- •Poorly perfusing PSVT in a conscious patient

IV. Contraindications
- A. History of Sick Sinus Syndrome
- B. Second degree type II or third degree heart block
- C. Asthma patients

V. Adverse Effects
- A. Cardiovascular
  - **•Bradycardia/asystole**
  - **•Second/third degree blocks**
  - •*Chest pain/pressure*
  - •*Hypotension*
  - •*PACs/PVCs*
- B. Neurological
  - •***Seizures***
  - •Headache
  - •Blurred vision
  - •Tingling/numbness
  - •Light-headedness
  - •Dizziness
- C. Respiratory
  - •Dyspnea/shortness of breath
  - **•Bronchoconstriction in asthmatic patients**
- D. Gastrointestinal
  - •*Nausea*
  - •Metallic taste
- E. General
  - •Flushed skin
  - •Throat tightness

VI. Administration
- A. Adult:
  6 or 12 mg **rapid IVP**, within 1-3 seconds, followed by rapid flush of 10-20 ml NS.
  -Patients known to be taking Persantine® (dipyridamole) or Tegretol® (carbamazepine) receive half of the normal dose (3 or 6 mg).

B. Pediatric [by on-line MD order only]:
0.1 mg/kg **rapid IVP** within 1-3 seconds, followed by rapid flush of 10 ml NS. May repeat 0.2 mg/kg IVP in 1-2 minutes one time.

VII. Onset
•Immediate

VIII. Duration
•Less than 10 seconds

IX. Precautions
Adenosine is metabolized in less than 10 seconds. In order to ensure rapid administration into central circulation:
A. Cannulate a large vein (antecubital fossa) using an 18g-20g catheter.
B. Use the IV port closest to patient and immediately flush with 10-20 ml NS to ensure drug is administered as rapidly as possible.

X. Notes
A. It is important to evaluate patient response and document rhythms for follow up care. Monitor patient and run a continuous strip before, during and after administration of adenosine to document the effect of the drug.
B. Patients often have a 10 second period of escape beats or asystole before the sinus node starts up again.
C. Adverse effects of chest pain, hypotension or shortness of breath will resolve spontaneously within 1-2 minutes.
D. Adenosine will not convert sinus tachycardia, atrial flutter or atrial fibrillation to a normal sinus rhythm, but may cause a transient slowing of the heart rate in atrial fibrillation with a rapid ventricular response.
E. Persantine and Tegretol potentiate the actions of adenosine, which may result in second/third degree blocks.
F. Theophylline and xanthine preparations as well as caffeine, may render adenosine ineffective.
G. Signs/symptoms of poor perfusion includes: chest pain, shortness of breath, altered level of consciousness, and hypotension.
H. Definition of paroxysmal supraventricular tachycardia (PSVT): A supraventricular rhythm caused by rapid atrial depolarization, which overrides the SA node. Characterized by a sudden onset and abrupt termination, which is determined by the patient's history. The rhythm is regular with narrow complexes and a rate > 150 beats/minute (pediatric patients >220 beats/minute) and may last from minutes to hours.