Adenosine

MEDICATION

THE DRUG

Class: slows conduction through the AV node; interrupts AV reentry pathways to restore sinus rhythm

Acts on receptors in the cardiac AV node, significantly slowing conduction time

Activates potassium channels (driving potassium out of cells) and inhibits calcium influx

Hyperpolarization and suppressed calcium-dependent action potentials slow conduction in these cells

USE IT FOR

- Paroxysmal supraventricular tachycardia
- Picture: regular tachycardia ~140-280 bpm, narrow QRS (<120 ms) unless aberrant conduction
- Symptoms: sudden rapid regular palpitations, presyncope/syncope, chest pain, dyspnoea, anxiety

DON'T GIVE / CAUTION

- Hypersensitivity to the drug
- 2nd or 3rd degree AV block
- Sinus node disease (sick sinus syndrome)
- Precautions: will cause arrhythmia at the time of conversion; asthma

DOSE

Adult: 1st dose 6 mg
Peds: Not stated on the page
Repeat: 2nd dose 12 mg

WATCH FOR

- Nausea, rash, dizziness/lightheadedness, facial flushing, chest pressure, dyspnea

PEARLS

- Give rapid with flush — it is metabolized in the blood pool in less than 10 seconds
- Sick sinus ECGs are variable: sinus bradycardia, sinus arrhythmia, sinoatrial block, sinus arrest, AFib with slow response, brady-tachy syndrome

Take Home Message:

Adenosine resets AV-node SVT — 6 mg rapid push first, 12 mg second, and expect it to work in under 10 seconds.