

# Adenosine (Adenocard)

McHenry Western Lake County  
EMS



# Objectives

- During this session we will discuss:
- Class
- Actions
- Indications
- Contraindications
- Dosing/Routes
- Pharmacokinetics
- How supplied
- Precautions
- Side effects/adverse reactions



# Class:

- Antidysrhythmic



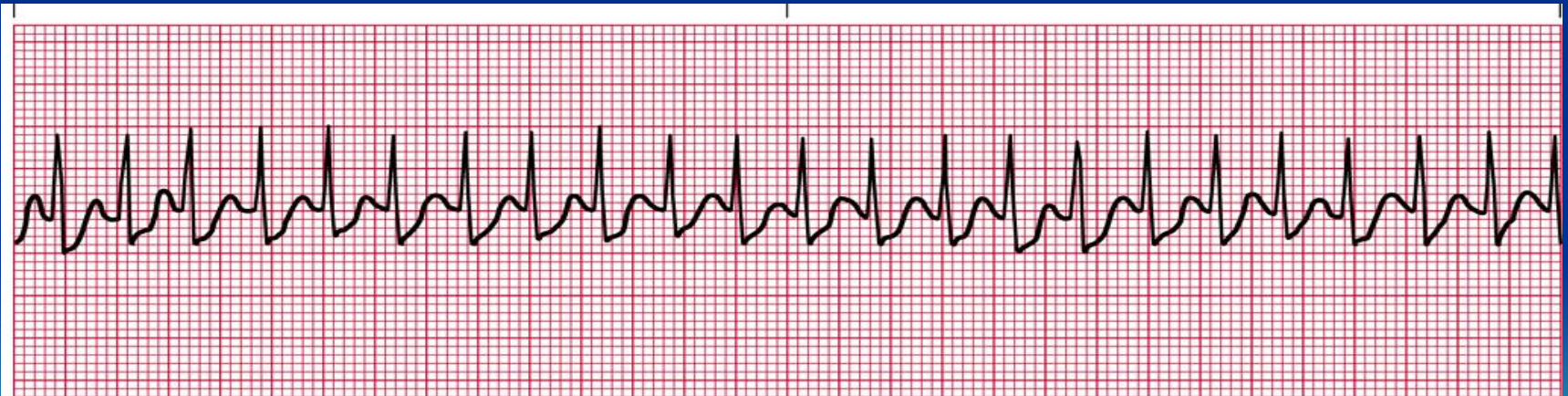
# Actions:

- Slows the conduction through AV node, can interrupt reentry pathways through the AV node, and can restore normal sinus rhythm in patients with paroxysmal Supraventricular tachycardia. (PSVT).



# Indications:

- PSVT including WPW. Unresponsive to Vagal maneuvers.



# Dosing/Routes:

- Adults: 6 mg rapid IVP followed by 10 ml NS rapid flush. Repeat: 12mg rapid IVP followed by 10 ml NS rapid flush.
- Peds: 0.1 mg/kg rapid IVP (max 1st dose 6mg) followed by 5 ml NS rapid flush. Repeat dose 0.2 mg/kg followed by 5 ml NS rapid flush.



- Use the proximal IV or the one closest to your patient.
- Larger doses may be needed in patients with significant levels of theophylline, caffeine, or theobromide.
- Reduce the dose to 3 mg in patients taking dipyrimadole (Aggrenox) or carbamazepine (**Abilify**) or with transplanted hearts.



# Pharmacokinetics:

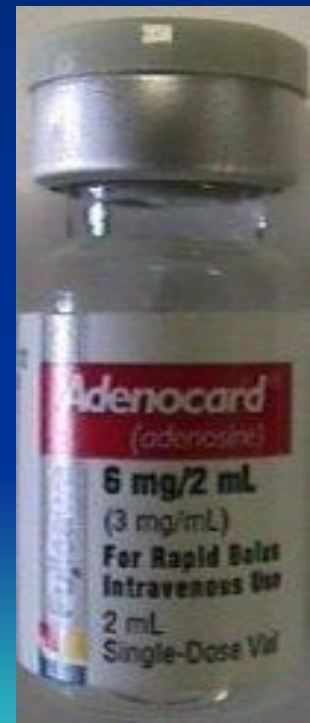
- Cleared from the plasma in <30 seconds. Half life is 10 seconds. This is why it is imperative that the flush is given immediately behind the medication through the IV port.





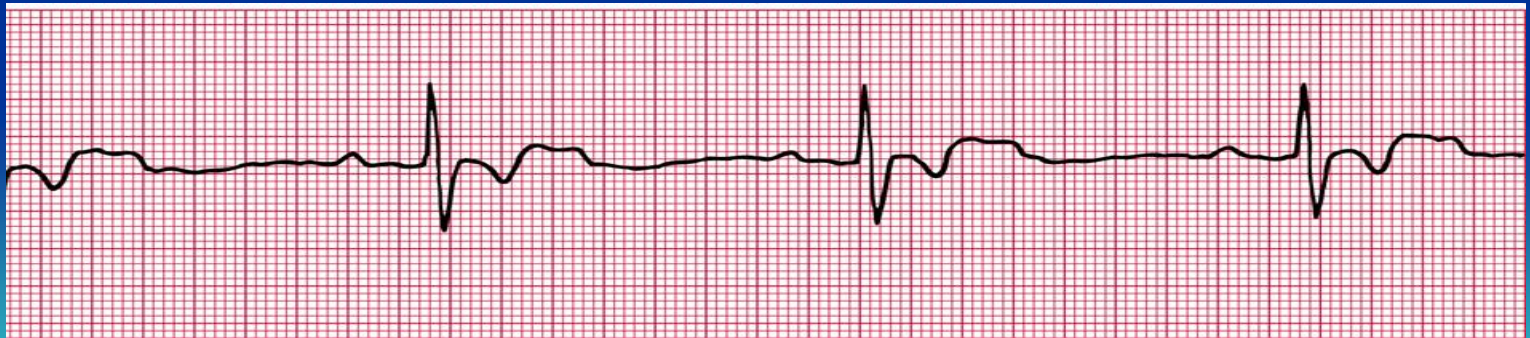
# How supplied:

- 6mg in 2ml vial.



# Contraindications:

- Asthma, 2nd and 3rd –degree block, AV block, sick sinus syndrome. Will not terminate known AF/A-flutter, but will slow conduction to identify.



# Precautions:

- Use with caution in patients with reactive airway disease (may cause bronchospasm) and heart transplant due to prolonged asystole has been reported.

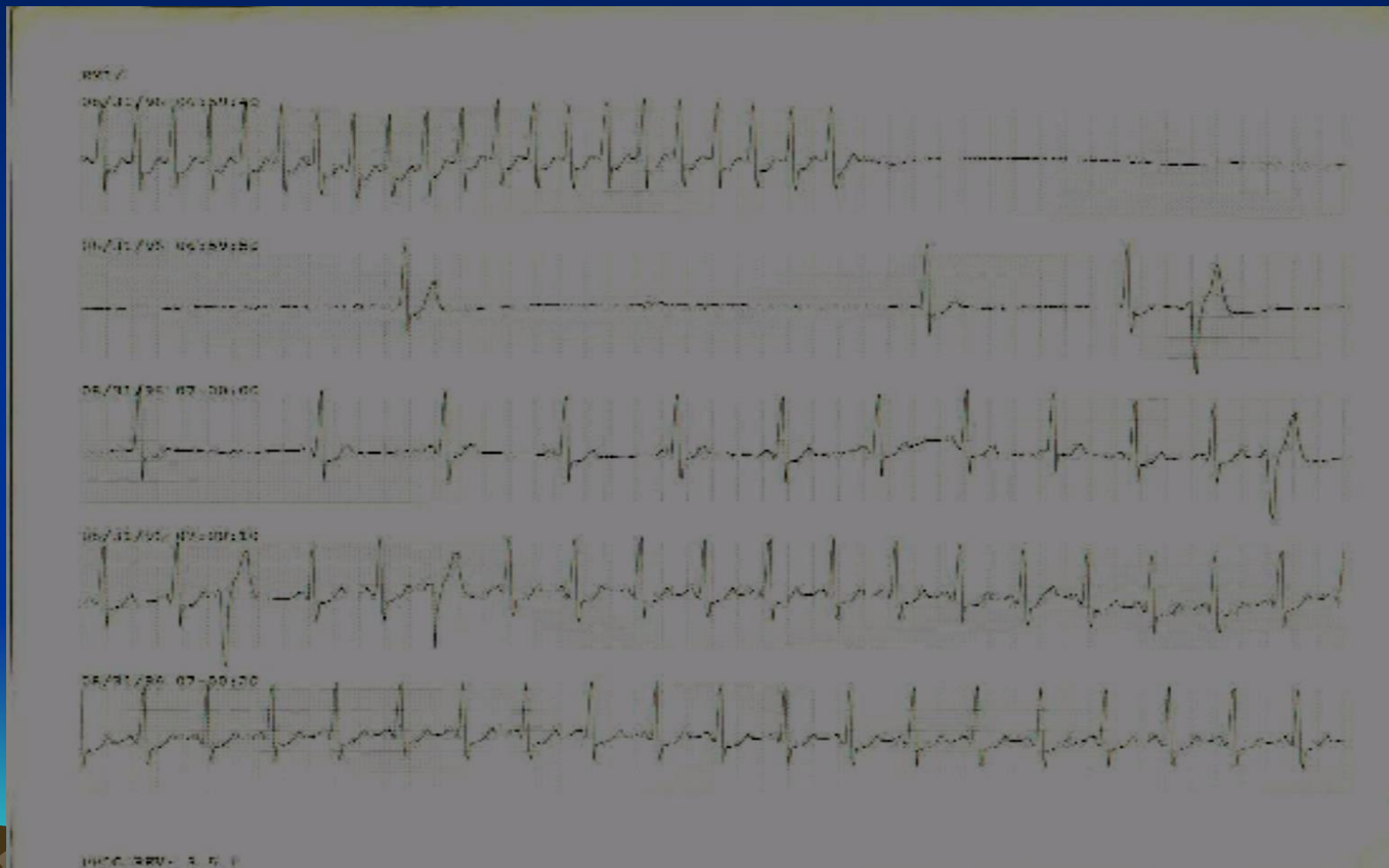


# Side effects/adverse reactions:

- GI: Nausea, metallic taste, throat tightness, groin pressure.
- Resp: Dyspnea, chest pressure, hyperventilation, bronchospasm
- CNS: Lightheadedness, dizziness, arm tingling, numbness, apprehension, blurred vision, headache, facial flushing, N/V.
- CV: Chest pain, atrial tachydysrhythmias, sweating, palpitations, hypotention, facial flushing. PVC's, PAC's, SB, ST, falling B/P.
- Ref: MWLCEMS Protocol and 2000 Mosby's Nursing Drug Reference Book.



# Adenosine administration



# Case Study

- You have been called to the scene of a woman complaining of palpitations. You feel her pulse as you do get her history and find it to be very rapid at @220. You have hooked her up to your monitor and she shows a PSVT at 224.



# Case study continued

- You have tried all of the Vagal maneuvers and have no success in converting the rhythm. Your first dose of Adenosine should be:



# Answer:

- 6mg rapid IVP followed by a 10ml bolus immediately into the proximal IV site.





# Case Study

- This has not converted your patient and you need to give a second dose. What would the repeat dose of Adenosine be:



# Answer

- 2<sup>nd</sup> dose of Adenosine would be 12mg rapid IVP followed immediately with a 10 ml bolus of NS.



# *REMEMBER!!!*

- Cleared from the plasma in <30 seconds. Half life is 10 seconds. This is why it is imperative that the flush is given immediately behind the medication through the IV port.

