**ADRENALINE (A)**

*(Revised: January 2010)*

**TYPE:** A naturally occurring catecholamine [S3]

**PRESENTATION:**
- 1:10000 - 1 mg in 10 ml – IMS Mini-jet
- 1:1000 - 1 mg in 1 ml – ampoules

**ACTIONS:**
1. Peripheral vasoconstriction (α effect)
2. Increased rate of sinus node
3. Increased myocardial contractility
4. Increased AV conduction
5. Increased myocardial irritably (β₁ effect)
6. Bronchodilatation
7. Vasodilatation of skeletal muscle (β₂ effect)

Onset: 30 seconds IV; IM: 30 – 90 seconds
Max effect: 3 – 5 minutes IV; IM: 4 – 10 minutes

Endotracheal use: slightly longer times

**USES:**
- Ventricular fibrillation & VT No Output
- Asystole
- Pulseless Electrical Activity (PEA)
- Anaphylaxis
- Severe life-threatening asthma
- Bradyarrhythmias resistant to Atropine
- Severe upper airway obstruction due to swelling

**ADVERSE EFFECTS:**
- Tachycardia
- Tachyarrhythmias
- Hypertension

**CONTRA-INDICATIONS:** Known hypersensitivity

**PRECAUTIONS:** These apply to patients with cardiac output only:
- Care with patients with history of hypertension.
- Care with patients with history of ischaemic heart disease.
- Give extremely slowly to patients on MAO Inhibitor antidepressants (e.g.: Marplan, Parstelin, Marsilid, Nardil, Parnate) as Adrenaline may provoke a greatly exaggerated response. Generally, patients on MAOIs with cardiac output should receive no more than ¼ normal dose of adrenaline, titrated to response.

*continues over*
ADRENALINE (cont)

DOSE:  

CARDIAC ARREST  
Adult:  1 mg, IV fast push  
Paediatric:  0.01 mg/kg IV / IO fast push  
(If no IV or IO access, administer via endotracheal tube)  
No limit on the number of doses in cardiac arrest  

ANAPHYLAXIS / SEVERE LIFE-THREATENING ASTHMA:  
Adult:  0.5 mg IM  
Paediatric:  0.01 mg/kg IM (to 50 kg)  
Repeat IM dose x 1 as required  
(The preferred IM site for anaphylaxis is the thigh)  

If required, IV Adrenaline by infusion:  1 mg in 1000 mls Normal Saline (= mcg/ml)  
Titrate to response (20 dpm = 1 ml/min = 1 mcg/min)  

Paediatric - use burette  

If the patient is critically ill, slow IV, up to 0.01 mg/kg, no faster than 50mcg/minute  
(i.e. 0.5ml of 1:10000/min)  

NOTE: IV Adrenaline in anaphylaxis & asthma should be used very cautiously.  

BRADYARRHYTHMIAS RESISTANT TO ATROPINE:  

IV Adrenaline by infusion:  
1 mg in 1000 mls Normal Saline (= 1 mcg/ml)  
Titrate to response (20 dpm = 1 ml/min = 1 mcg/min)  
Paediatric - use burette  

SEVERE UPPER AIRWAY SWELLING:  

Adrenaline 1:1000:  
wt > 10 kg - nebulise 5 mls Adrenaline 1:1000  
w.t < 10 kg - nebulise 0.5 ml/kg Adrenaline 1:1000  
(make volume up to 5 mls with saline, as required)  
Single dose only  

SPECIAL NOTE: Adrenaline in 1000ml flask is to have medication label attached!