

## **ADRENALINE INFUSION**

### **ACTION**

Increases SVR, cardiac contractility, conduction velocity, automaticity and irritability. This results in increased heart rate, blood pressure and cardiac output. Causes bronchodilation and mobilises liver glycogen

### **PRESENTATION**

1mg/1mL (1 in 1000) or 1mg/10mL (1 in 10,000) amps.

Ampoules are stored in Acute Care and Operating Theatres, or in all hospital cardiac arrest trolleys.

### **CONTRAINDICATIONS**

- Known hypersensitivity to sympathomimetic amines.
- Cardiac dilatation and coronary insufficiency, ischaemic heart disease or cardiac arrhythmias.
- Cerebral arteriosclerosis.
- Diabetes Mellitus.
- Hyperthyroidism.
- Organic brain damage.
- Labour.
- In obstetric patients with a maternal blood pressure in excess of 130/80mmhg.

### **PRECAUTIONS**

- Coronary insufficiency or dilation
- Use in caution in patients with acute myocardial infarction.
- Adrenaline causes increased rate and force of cardiac contractions.
- Administration through a peripheral line may cause phlebitis.
- Patients with allergies to sodium metabisulfite.

### **ADVERSE REACTIONS**

1. Severe hypertension which may lead to cerebral haemorrhage and pulmonary oedema.
2. Arrhythmias e.g. VT, VF, bradycardia.
3. Tachycardia, palpitations.
4. Nervousness, anxiety
5. Tremors, flushing, sweating

### **INTRAVENOUS BOLUS ADMINISTRATION**

#### **To be administered in cardiac arrest only**

- Non-shockable rhythm (asystole and pulseless electrical activity)- administer 1mg of adrenaline as an IV bolus immediately
- Shockable rhythm (ventricular tachycardia or ventricular fibrillation)- administer 1mg of adrenaline as an IV bolus AFTER the second shock.
- Follow all adrenaline bolus doses with a flush of 20mL sodium chloride 0.9%.

### **INTRAVENOUS INFUSION ADMINISTRATION**

- Add 6mg of adrenaline 1:1000 into 100mL sodium chloride 0.9% or glucose 5% (to make a concentration of 60 microgram/mL).
- Administer using a giving set and infusion pump.
- Start the infusion at 1 microgram per minute, i.e. 1mL per hour.
- Titrate infusion to achieve desired hemodynamic result Adrenaline is incompatible with many drugs and should be administered on a dedicated line or lumen.
- In an emergency situation adrenaline may be infused peripherally for short term use only.

## ADRENALINE INFUSION cont'd

A central line must be inserted as soon as possible with a dedicated lumen for the adrenaline infusion.

- **MONITORING** Continuous ECG and blood pressure monitoring is required.
- Monitor urine output and peripheral perfusion. Observe for signs of cardiac ischaemia.
- Report abdominal pain (may indicate mesenteric vasoconstriction).
- Monitor blood glucose levels.
- If the infusion is being temporarily delivered via peripheral line, observe site frequently for signs of extravasation and tissue necrosis.
- Wean off an adrenaline infusion slowly as per medical order.

### REFERENCES

- Australian Injectable Drugs Handbook 6<sup>th</sup> Edition Published by The Society of Hospital Pharmacists of Australia April 2014,.
- [www.use.hcn.com.au/profiles/resource00005/index.php](http://www.use.hcn.com.au/profiles/resource00005/index.php) 16/11/07.
- Astrazeneca, Adrenaline injection BP product information, TGA approved June 2005, Astrazeneca, North Ryde, Australia.
- Cardiology Specialty Manual, 1999, Adrenaline Infusion Policy No.2.50.ADR, Liverpool Health Service.
- Cardiology Department, 2007, Adrenaline hydrochloride, St George Hospital Coronary Care Unit.
- Australian Resuscitation Council Advanced Life Support Guidelines 2014
- POW ICU Clinical Practice Guidelines 2010

**Risk rating:** High

**NATIONAL STANDARD:** Medication Safety

### REVISION & APPROVAL HISTORY

Reviewed and endorsed Therapeutic & Drug Utilisation Committee 12/7/18  
Approved Quality & Patient Safety Committee 19/2/15  
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Reviewed and endorsed Therapeutic & Drug Utilisation Committee 14/6/11  
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