



# **SNS COLLEGE OF ALLIED HEALTH SCIENCES**

SNS Kalvi Nagar, Coimbatore - 35

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**DEPARTMENT : OPERATION THEATRE AND ANAESTHESIA  
TECHNOLOGY**

**COURSE NAME : PHARMACOLOGY**

**UNIT : EMERGENCY DRUGS**

**TOPICS : ADRENALINE, BICARBONATE, CALCIUM,  
EPHEDRINE, XYLOCARD**



# EMERGENCY DRUGS



- Emergency drugs are medications that are essential for immediate use in critical or life-threatening situations.
- These drugs are typically administered in emergency medical settings such as hospitals, ambulances, emergency rooms, or other healthcare facilities where rapid intervention is essential to stabilize a patient's condition.



# ADRENALINE



## Mode of Administration:

- Intramuscular (IM) or Subcutaneous (SC): Used in emergencies like anaphylaxis.
- Intravenous (IV): Administered during cardiac arrest or severe hypotension.
- Topical: Applied with local anesthetics for local hemostasis.



## Dilution:

- Intramuscular or Subcutaneous Injection: Typically used as a 1:1,000 solution.
- Intravenous Infusion: Diluted as 1:10,000 or other appropriate concentrations depending on the clinical situation.



## Dosage:

- Dosage varies based on the indication and route of administration.
- For example, in anaphylaxis, IM doses for adults may be 0.3 to 0.5 mg (0.3 to 0.5 mL of 1:1,000 solution), repeated every 5-15 minutes if needed.



## Effects:

- Cardiovascular effects: Positive inotropic and chronotropic effects, vasoconstriction.
- Bronchodilation.
- Metabolic effects: Glycogenolysis, lipolysis.
- Dilation of pupils (mydriasis).
- Increased blood flow to skeletal muscles.



# ISOPRENALINE



## **Mode of Administration:**

Intravenous (IV): Administered in critical situations like bradycardia or heart block.

## **Dosage:**

Dosage depends on the specific indication. For example, in bradycardia, an initial dose may be 2 to 10 mcg/minute IV infusion.



## Effects:

- Non-selective beta-adrenergic agonist.
- Positive inotropic and chronotropic effects.
- Bronchodilation.
- Vasodilation.
- Increases automaticity of the heart.





# ATROPINE



## **Mode of Administration:**

Intravenous (IV): Often used for bradycardia.

## **Dosage:**

Bradycardia: 0.5 to 1 mg IV, repeated every 3-5 minutes as needed.



## Effects:

- Blocks muscarinic acetylcholine receptors.
- Increases heart rate (chronotropic effect).
- Reduces bronchoconstriction.
- Dilates pupils (mydriasis).
- Reduces salivation.



# BICARBONATE



**Mode of Administration:** Intravenous (IV): Used to treat metabolic acidosis.

**Dosage:** Dosage depends on the severity of acidosis and specific clinical situation.

**Effects:** Acts as a buffer to neutralize excess acid.  
Increases blood pH.



# CALCIUM



**Mode of Administration:** Intravenous (IV): Used in conditions like hypocalcemia or hyperkalemia.

**Dosage:** Dosage depends on the specific indication.

**Effects:** Essential for muscle contraction and nerve function. Antagonizes the effects of hyperkalemia.



# EPHEDRINE



**Mode of Administration:** Intravenous (IV): Used in hypotension.

**Dosage:** Dosage varies based on the clinical situation.

**Effects:** Non-selective adrenergic agonist. Increases heart rate and blood pressure.



## **XYLOCARD (LIDOCAINE)**



**Mode of Administration:** Intravenous (IV): Used for ventricular arrhythmias.

**Dosage:** Dosage depends on the specific arrhythmia and patient characteristics.

**Effects:** Sodium channel blocker, stabilizing cell membranes. Suppresses ventricular arrhythmias.



# ASSESSMENT



- What is the Dosage of Adrenaline ?
- What all are the Effects of Ephedrine ?