

**SODIUM BICARBONATE**  
**(Base Hospital Order Only)**

**Classification:** Alkalinizing agent

**Actions:**

1. Combines with hydrogen ions to form carbonic acid ( $H_2CO_3$ ) which breaks down into  $H_2O+CO_2$
2. Increases blood pH

**Indications:**

1. Prolonged resuscitation not responding to hyperventilation, oxygenation, defibrillation, and first-line medications.
2. If used for cardiac arrest, Sodium Bicarbonate should not be given until all other more effective interventions, such as defibrillation, effective cardiac compressions, positive pressure ventilation via the ET tube, and pharmacological therapies, including Epinephrine and anti-arrhythmic have been employed.
3. Consider in suspected tricyclic overdoses with signs of tachycardia and QRS widening ( $>0.1$  seconds) on the EKG.
4. Consider in hyperkalemia with EKG changes refractory to Calcium Chloride.

**Contraindications:** **Metabolic and/or respiratory alkalosis**

**Adverse Effects:** **Metabolic**  
Hyponatremia  
Hyperosmolarity  
Hyperkalemia  
Metabolic alkalosis

**Administration:** **ADULT DOSE**  
1 mEq/kg IVP/IO, may repeat every 10 minutes at  $\frac{1}{2}$  the initial dose

**PEDIATRIC DOSE**  
1 mEq/kg IVP/IO

**Onset:** Immediate

**Duration:** Dependent upon the degree of acid-base imbalance

**Notes:**

- Causes Calcium Chloride to precipitate and inactivates catecholamines. Flush IV tubing before and after administration.
- Adequate alveolar ventilation is the mainstay in the control of acid-base balance in cardiac arrest.