

Sodium Bicarbonate

Classification

Electrolyte

Alkalinizing agent / buffer

Indications

- ACP: Known or suspected hyperkalemia
- ACP: Tricyclic or salicylate overdoses
- ACP: Suspected or confirmed metabolic acidosis
- ACP: Pre-treatment prior to weight release in crush injury

Contraindications

Suspected metabolic alkalosis

History of excessive vomiting (i.e., evidence of chloride loss)

Adult dosages

- ACP: All indications
 - 1 mEq/kg IV/IO slow push.
 - May repeat 0.5 mEq/kg IV/IO slow push every 10-15 minutes as required
 - Tricyclic overdoses may require doses as high as 2-3 mEq/kg IV/IO

Pediatric Considerations And Dosing

[Follow weight-based dosing](#)

- ACP: All indications
 - Infant: 1-2 mEq/kg very slow IV/IO. May repeat 0.5 mEq/kg every 10-15 minutes as required
 - Use 4.2% solution for infants
 - Child: 1-3 mEq/kg slow IV/IO. May repeat 0.5 mEq/kg every 10-15 minutes as required

Mechanism Of Action

Buffers or neutralizes excess acid (specifically, excess hydrogen ions), raising overall pH.

Pharmacokinetics

Intravenous:

- Onset: 2 minutes
- Peak: 30 minutes
- Half-life: uncertain

- Duration: 1-3 hours

Adverse Effects

- Metabolic alkalosis may produce hypoxia due to the leftward/upward shift of the oxyhemoglobin dissociation curve
- Muscle tetany
- Seizures

Warning And Precautions

Administration of sodium bicarbonate may paradoxically worsen metabolic acidosis if minute ventilation is insufficient. Consider overall physiological state when selecting ventilation strategy.

