

SODIUM BICARBONATE

EMSAC OCTOBER 2025

ACTION: Alkalinizing Agent

- Acts as a buffering agent when administered to neutralize hydrogen ions resulting in carbon dioxide as a byproduct.
- Alkalinizing blood causes potassium to shift into the intracellular space thus lowering serum potassium levels.

INDICATIONS:

- Known or suspected hyperkalemia
- Cardiac arrests associated with tricyclic antidepressants or hyperkalemia.
- Crush syndrome
- Chemical injury after inhalation of chlorine gas

CONTRAINDICATIONS:

- None

POTENTIAL SIDE EFFECTS:

- ~~Hypotension~~
- ~~Headache and flushing~~
- ~~Syncope~~
- Injection site pain (IV use)
- Edema (especially patients with cardiac insufficiency)
- Tetany
- Seizures
- ~~Fluid overload~~
- ~~Tachycardia~~
- Alkalosis

ADULT DOSE/ROUTE:

- ⇒ **Suspected Hyperkalemia:** 50mEq IV/IO one time dose
- ⇒ **QRS widening (QRS>100) from Tricyclic Antidepressant Overdose:** 50mEq IV/IO. Repeat q5 min until ECG changes improve (QRS<100) and/or to a total of 150 mEq.
- ⇒ **Crush Syndrome:** 50mEq push immediately prior to extrication.
- ⇒ **Chlorine Inhalation:** Add 2mL of 8.4% sodium bicarbonate and 2mL of sterile water nebulized.

PEDIATRIC DOSE/ROUTE:

- ⇒ **Suspected Hyperkalemia:** 1mEq/kg (max 50mEq) IV/IO one time dose. If <2 years dilute 1:1 with sterile water.

- ⇒ **QRS widening from Tricyclic Antidepressant:** 1mEq/kg IV/IO, (max of 50mEq per dose). Repeat q5 min until ECG changes improve (QRS<100) and/or to a total of 150 mEq. If <2 years, dilute 1:1 with sterile water.
- ⇒ **Crush Syndrome:** 1mEq/kg (max 50mEq) push immediately prior to extrication. If <2 years, dilute 1:1 with sterile water.
- ⇒ **Chlorine Inhalation:** Add 2mL of 8.4% sodium bicarbonate and 2mL of sterile water nebulized.

NOTES: Thorough 20 cc IV/IO flush before administration of other medications to avoid precipitation.

DRAFT