

Medication: Sodium Bicarbonate	PDN: 6909.06	Last Updated: March 7 2023	PMD: Andrew Travers*	PDC: Tanya Fraser*	Page 1 of 2
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SODIUM BICARBONATE (Bicarb)

1.0 Classification

- Alkalinizing agent; electrolyte

2.0 Mechanism of Action

- Increases plasma bicarbonate which buffers metabolic acidosis.

3.0 Indications

- Cardiac arrest patients with pre-existing or suspected hyperkalemia (renal failure).
- Cardiac arrest patients with suspected ASA overdose.
- Cardiac arrest patients with suspected DKA.
- Sodium channel blocker overdose (e.g., Tricyclic Antidepressant or cocaine overdose) with wide complex tachycardia, hemodynamic instability, or cardiac arrest.

4.0 Contraindications

- None

5.0 Precautions

- It is important to maintain adequate ventilation to ensure CO₂ elimination.
- Sodium bicarbonate deactivates epinephrine and dopamine therefore cannot be given through the same line.
- Sodium bicarbonate should not be administered with calcium chloride simultaneously as a precipitate can form which may clog the line.
- Extravasation of sodium bicarbonate may cause tissue necrosis.

6.0 Route

- May be given IV/IO

7.0 Dosage

Adult

- 1 mEq/kg initially, then 0.5 mEq/kg every 10 minutes as needed (persisting wide complex QRS, hemodynamic instability or cardiac arrest).

Pediatric

- 1 mEq/kg slow push, then 0.5 mEq/kg every 10 minutes as needed (persisting wide complex QRS, hemodynamic instability or cardiac arrest).

8.0 Supplied

- 50 mEq in 50 mL preloaded syringe

9.0 May Be Given By

- In cardiac arrest: ICP/ACP/CCP
- For wide complex tachycardia due to sodium channel blocker OD: ICP (with CSP consult)/ACP/CCP

10.0 Adverse Effects

- None

11.0 Special Notes

- Always flush the line between doses of bicarbonate and calcium to avoid precipitation.
- Routine administration of sodium bicarbonate for DKA is not recommended.
- Routine administration of sodium bicarbonate for cardiac arrest is not recommended.
- Irrigate the IV/IO line before and after infusion.
- Patients may be placed on a sodium bicarbonate infusion during interfacility transfers for conditions such as TCA overdose or rhabdomyolysis.
- Pregnancy category C [if the patient will benefit from a Category C drug, it is generally used]

12.0 References

- Cardiac Arrest Adult Clinical Practice Guideline
- Toxicological Emergencies Clinical Practice Guideline
- Compendium of Pharmaceuticals and Specialties (CPS)

*Electronically Signed

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