Sodium Bicarbonate 8.4%  
(\text{NaHCO}_3)  

McHenry Western Lake County  
EMS
Objectives

• During this session we will discuss:
• Class
• Actions
• Indications
• Contraindications
• Dosing/Routes
• How supplied
• Precautions
• Side effects
Class:

• Alkalinizer (A substance, such as sodium bicarbonate, used to boost the alkali reserve artificially)

• Chemical Class: NaHCO$_3$
Actions:

- Bicarbonate ion buffers acidosis
- Raises serum pH
- ↓ uptake of cyclic antidepressants
- Shifts K+ into cells
Indications:

- Known preexisting hyperkalemia
- Known preexisting bicarbonate-responsive acidosis (DKA, OD of tricyclic & other Na channel blocking agents; ASA OD, cocaine, or diphenhydramine
- Prolonged resuscitation with effective ventilation; upon return of spontaneous circulation after long arrest interval
- Crush Syndrome
Dosing/Routes:

- 1mEq/kg (1ml/kg) IVP/IO
- May repeat full dose and more in cyclic antidepressant OD
Dosing/Routes

• **NOTE!!**
• Check IV patency before infusing.
• Ensure adequate ventilation before administration
How supplied:

- 50mEq/50ml
Contraindications:

• None when used in treatment of documented metabolic acidosis with effective ventilations.
• Alkalosis
• Inability to ventilate acidotic patient
• Not useful or effective in hypercarbic acidosis (cardiac arrest and CPR without intubation)
Precautions:

• Don’t mix with catecholamine's or calcium agents.

• The most abundant catecholamine's are epinephrine (adrenaline), norepinephrine (noradrenaline) and dopamine

• From Wikipedia.org
Side effects/adverse reactions:

- Electrolyte: Metabolic alkalosis, ↑ Na ↓ K, hyperosmolality, ↓ Ca.
- Shifts oxyhemoglobin dissociation curve to the L.
- Inhibits O2 release to the tissues
- CV: ↓ VF threshold; impaired cardiac function
- Skin: Tissue necrosis with infiltration at IV site.
Case Study

• You are at a Cardiac Arrest of a known dialysis patient and she has been unresponsive to resuscitative efforts. You have a patent IV line, your first dose of Sodium Bicarb would be?
Answer

- 1mEq/kg (1ml/kg) IVP/IO
Question?

• You are considering what condition with this patient.
Answer

- Hyperkalemia