WOMEN AND NEWBORN HEALTH SERVICE
Neonatology Clinical Care Unit (NCCU)
King Edward Memorial Hospital & Princess Margaret Hospital

DRUG: SODIUM BICARBONATE

PRESENTATION:
- Vial: 8.4% 10 mL
- Vial: 8.4% 100 mL
- Oral Solution: 8.4% (1 mmol/mL)

Each 1ml contains:
- Sodium Ions: 1mmol
- Bicarbonate Ions: 1mmol

ACTION & INDICATION:
Alkalising agent that dissociates to provide bicarbonate ions. For correction and treatment of metabolic acidosis.

DOSE:
CARDIOPULMONARY RESUSCITATION:
Sodium bicarbonate is not recommended in a resuscitation situation unless it has progressed greater than 10-15 minutes and a blood gas has demonstrated a severe metabolic acidosis. Intravenous/Umbilical arterial/venous: 1-2 mmol/kg over 30 minutes of 4.2% sodium bicarbonate. The dose could be repeated according to arterial blood gas analysis.

CORRECTION OF pH:
To be used for correcting metabolic acidosis if pH<7.2, BE>-10, and a normal PCO₂

Dose (mmol) = 0.3 x weight (kg) x Base deficit / 2

This is a half correction.

MAINTENANCE OF pH
Bicarbonate may be infused at a prescribed rate to slowly elevate pH. A rate of 1 – 2 mmol/kg/hr of 4.2% Sodium bicarbonate may be infused peripherally. 8.4% Sodium bicarbonate may be given into a central vein only. Once desired pH is reached this infusion may be ceased.

SUPPLEMENTATION (Oral)
1 mmol/kg tds

PREPARATION:
Diluent: Water for Injections
Dilute 1:1 or 1:2 before use. May be further diluted if required.

ADMINISTRATION:
For correction of metabolic acidosis, infuse dose over 2 to 6 hours (usually slower infusions for smaller babies)
ORAL
May be given at any time with regard to feeds only if on full feeds.

ADVERSE EFFECTS:
- Hypernatraemia
- Increased risk of intraventricular haemorrhage.
- Alkalosis: dyspnoea, restlessness, muscle weakness, myocardial depression, convulsions, coma.
- Hyperosmolality, extravasation may cause tissue necrosis.

COMMENTS:
Usually not used in the acute phase of resuscitation - ensure adequate ventilation.
Monitor blood pH
Discard vial immediately after use

REFERENCES:
Neonatal Pharmacopoeia 2nd Ed Royal Women’s Hospital Melbourne Neofax 2013

DATE:
July 2015