Sodium bicarbonate

Indication	Resuscitation Correction of acidosis
Dose	**Resuscitation:** 2-4mL/kg of 4.2% sodium bicarbonate via UVC **Correction of acidosis:** *Half correction (mmol of bicarbonate):* 0.3 x base deficit (mmol/L) x weight (kg) *Full correction (mmol of bicarbonate):* 0.6 x base deficit (mmol/L) x weight (kg)
Route of administration	Concentrations of 4.2% or greater should be administered via a **central line** over 20-30 minutes. Concentrations of 1.4% or less can be administered peripherally but should be given with great care. ***In an emergency 4.2% sodium bicarbonate can be given peripherally but where possible should be given via a large vein or central vein due to risk of thrombophlebitis and severe tissue damage caused by extravasation.*** **If at all possible use a lower strength.**
To prepare	8.4% sodium bicarbonate = 1mmol/mL 4.2% sodium bicarbonate = 0.5mmol/mL If giving **centrally**: use 4.2% solution and withdraw the required dose *or* if diluting 8.4%, draw up the required dose and add the same volume of diluent to make 4.2% sodium bicarbonate. If giving **peripherally**: ideally use **1.26%** sodium bicarbonate and draw up the required dose *or* if diluting **8.4%**, draw up the required dose and add 5 times the volume of diluent to make 1.4% (e.g. if using 2mL of 8.4% bicarbonate, add 10mL of diluent to make 12mL total) *or* if diluting **4.2%**, draw up the required dose and add 2 times the volume of diluent to make 1.4% (e.g. if using 2mL of 4.2% bicarbonate, add 4mL of diluent to make 6mL total) Preferred diluents: glucose 5%, glucose 10% Other diluents: water for injection
Compatibilities	Aciclovir, aminophylline, atropine, aztreonam, caffeine citrate, erythromycin, furosemide, heparin sodium, hydrocortisone, insulin, mannitol, milrinone, morphine sulphate, tazocin, potassium chloride, propofol, vancomycin, vasopressin
Incompatibilities	Adrenaline, amiodarone, amoxicillin, ampicillin, calcium infusions, dobutamine, dopamine, magnesium, meropenem, midazolam, parenteral nutrition
Notes	If there is no compatibility information for specific drugs, do not assume compatibility. For incompatible drugs or those with no compatibility information use a separate line or, for short infusions, flush well between drugs. For side-effects see the BNFc.
References	Leeds Teaching Hospitals neonatal prescribing and administration monograph, Neonatal Formulary 7th edition, Medicines Complete, Handbook on Injectable Drugs.

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