

Policy code	DTP_SOB_0722		
Date	July, 2022		
Purpose	To ensure a consistent procedural approach to sodium bicarbonate 8.4% administration.		
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.		
Health care setting	Pre-hospital assessment and treatment.		
Population	Applies to all ages unless specifically mentioned.		
Source of funding	Internal – 100%		
Author	Clinical Quality & Patient Safety Unit, QAS		
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## Sodium bicarbonate 8.4%

#### Drug class

Alkalising agent<sup>[1,2]</sup>

#### Pharmacology

Sodium bicarbonate 8.4% is a hypertonic solution that acts as a buffer. Excess hydrogen ions react with bicarbonate resulting in the formation of carbon dioxide and water. This action assists in restoring plasma pH to within normal ranges.<sup>[1,2]</sup>

#### Metabolism

Metabolised to  $CO_2$  and  $H_2O$ .<sup>[1]</sup>

- Cardiac arrest:
  - secondary to suspected hyperkalaemia (e.g. chronic renal failure)
  - secondary to tricyclic antidepressant (TCA)
    OR propranolol overdose
- Significant injury with potential for crush syndrome
- TCA poisoning (with QRS > 0.14 AND terminal R wave in aVR)
- Sodium channel blockade due to non-TCA poisoning (with QRS > 0.14 AND terminal R wave in aVR)
- **Suspected hyperkalaemia** (with QRS widening AND/OR AV dissociation)



Variable

• Nil

Nil

•

Immediate

Cerebral oedema

Congestive heart failure

Vial, 100 mL sodium bicarbonate 8.4%

Variable

#### Schedule

• Unscheduled.

#### **Routes of administration**

Intravenous injection (IV)

## Intraosseous injection (IO)

#### Special notes

• Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the QAS Clinical Consultation and Advice Line.

CC P

CCP

- Care must be taken to avoid extravasation into tissues as necrosis may occur.
- Sodium bicarbonate 8.4% administration is not indicated in the newly born pre-hospital resuscitation.
- The Phebra branded sodium bicarbonate vials are unable
- to be spiked with QAS supplied Alaris® giving sets. All medication must be withdrawn and administered using a 50 mL syringe and 19 G drawing up needle.
- All cannulae and IV lines must be flushed thoroughly with sodium chloride 0.9% before and following each medication administration.
- All parenteral medications must be prepared in an aseptic manner. The rubber stopper of all vials must be disinfected with an appropriate antimicrobial swab and allowed to dry prior to piercing.

#### Adult dosages [1-5]

#### Cardiac arrest

- secondary to suspected hyperkalaemia
- (e.g. chronic renal failure)
- secondary to TCA or propranolol overdose

### Significant injury with potential for crush syndrome

- AV dissociation)
- mia (with QRS widening AND/OR

E	IV	100 mL Single dose only.		
SL B	10	100 mL Single dose only.		
TCA poisoni	ng (with	QRS > 0.14 AND terminal R wave in aVR)		
<b>E</b>	IV	100 mL Repeated every 5 minutes. Total maximum dose 300 mL.		
ÿ	10	100 mL Repeated every 5 minutes. Total maximum dose 300 mL.		
<b>Sodium channel blockade due to non-IVA poisoning</b> (with QRS > 0.14 AND terminal R wave in aVR)				
CC	IV	100 mL Single dose only.		
ССР	10	100 mL Single dose only.		

#### Paediatric dosages [1-5]

- secondary to suspected hyperkalaemia (e.g. chronic renal failure)
- secondary to TCA or propranolol overdose

#### gnificant injury with potential for crusi

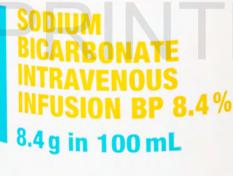
 Suspected hyperkalaemia (with QRS widening AND/OR AV dissociation)



1 mL/kg Single dose only.

1 mL/kg Single dose only.

# UNCONTROLEDEV



Each vial o Edetate 10 100 mmd S 100 mL ph

Use in one

antimicrobil

particles m

Pfizer AU 38-42 W West Ryde

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Directions tra Store below

For intravenous infusion only AUST R 10801