



Drug Therapy Protocols: Hypertonic saline 3%

Policy code	DTP_HYS3_0326
Date	March, 2026
Purpose	To ensure a consistent procedural approach to hypertonic saline 3% 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%
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Review date	March, 2028
Information security	UNCLASSIFIED – Queensland Government Information Security Classification Framework.
URL	https://ambulance.qld.gov.au/clinical.html

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Hypertonic saline 3%

March, 2026

Drug class

Osmotic diuretic

Pharmacology

Hypertonic saline (HTS) 7.5% exerts an osmotic effect on swollen cerebral tissue and the extracellular space to control intracranial pressure in an attempt to diminish the effects of secondary brain injury. Animal and human studies additionally suggest beneficial vasoregulatory, haemodynamic, neurochemical and immunological properties.

Metabolism

Excreted by the kidneys

Indications

- **Traumatic head injury** with a GCS ≤ 8
AND one or more of the following criteria:
 - fixed dilated pupil/s
 - unilateral neurological signs
 - GCS deterioration of a further 2 points (≤ 6) while in QAS care

Contraindications

- Nil

Precautions

- Nil in the setting of acute neurotrauma that satisfies the QAS indications listed above

Side effects

- Phlebitis
- Volume overload
- Renal failure
- Osmotic demyelination syndrome
- HTS induced hypernatraemia
- Electrolyte abnormalities

Presentation

- Viaflex[®] plastic container, 250 mL *hypertonic saline 3%*

Onset (IV INF)

Immediate

Duration (IV INF)

Hours

Half-life

Not applicable

Schedule

- Unscheduled.

Routes of administration

Intravenous infusion (IV INF)

ACFP

Intraosseous infusion (IO INF)

CCFP

Special notes

- Only credentialed QAS Flight paramedics are authorised to carry medications from the designated LifeFlight medication formulary.
- LifeFlight is responsible for the procurement of all medications in the LifeFlight response kits.

Adult/Paediatric dosages

As per LifeFlight standard operating procedures (SOP)

ACFP

CCFP

May only be administered on the authority of a LifeFlight Retrieval Medical Officer whilst under direct supervision.