



| Policy code | DTP_HYPS_0924 |
|----------------------|--|
| Date | September, 2024 |
| Purpose | To ensure a consistent procedural approach to hypertonic saline 7.5% 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 |
| Review date | September, 2026 |
| Information security | UNCLASSIFIED - Queensland Government Information Security Classification Framework. |
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Hypertonic saline 7.5%

September, 2024

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.^[1-3]

Metabolism

Excreted by the kidneys

Indications

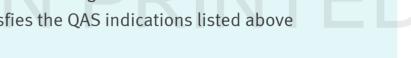
- Traumatic head injury with a GCS ≤ 8
 AND one or more of the following criteria:
 - fixed dilated pupil/s
 - unilateral neurological signs
 - GCS deterioration of a further 2 points (≤ 6)
 while in QAS care

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, 500 mL hypertonic saline 7.5%

| Onset (IV INF) | Duration (IV INF) | Half-life | |
|----------------|-------------------|----------------|--|
| Immediate | Hours | Not applicable | |

Schedule

Unscheduled.

Routes of administration

Intravenous infusion (IV INF)



Intraosseous infusion (IO INF)



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.
- Transfusion of packed red blood cells must be independent of a HTS infusion.

Adult dosages[1-3]

Traumatic head injury with GCS \leq 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



IV/IO INF 4 mL/kg over 10 minutes Single dose only, not to exceed 500 mL.

Paediatric dosages[1-3]

- Traumatic head injury with GCS \leq 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



IV INF

QAS Clinical Consultation and Advice Line approval required in all situations.

4 mL/kg over 10 minutes Single dose only, not to exceed 250 mL.