

Rapid Rehydration

The calculation of rapid rehydration fluid requirements is determined by the weight of the child. It is vital that all children are weighed prior to the prescription of rehydration fluids. Bare weights should be attended for infants under three months of age. Rapid rehydration is used in the treatment of children with clinical dehydration, caused by gastroenteritis. Children should be weighed at the end of rapid rehydration to provide a new baseline.



ALERT

Seek prompt advice from a senior clinician for any child noted to have changes in neurological status or new onset of nausea or vomiting during or after fluid administration.

Rapid Rehydration Calculation - Intravenous & Enteral Routes

Volume	<p>Rapid Rehydration Volume over 4 hours = Patients weight (kg) x 50 mL</p> <p>Example: Weight 10kg</p> <p>Rapid Rehydration Volume over 4 hours = 10kg x 50mL = 500mL</p>
Rate mL/hour	<p>Rate mL/hour Rapid Rehydration = (Total volume to be administered over 4 hours) ÷ 4</p> <p>Example: Weight 10kg</p> <p>Rate mL/hour Rapid Rehydration = 500mL ÷ 4 = 125mL/hr</p>

Table 1. Calculation of rapid rehydration volume and rate



Age	Suggested route of Administration	Rehydration Solution
 < 2 years	Nasogastric Tube	Oral Rehydration Solutions
 > 2 years	Intravenously	Sodium Chloride 0.9% + Glucose 5%

Table 2. Typical route and rehydration fluid as guided by age

Although intravenous rapid rehydration is recommended in children two and over, there may be occasions where enteral rapid rehydration via a nasogastric tube is considered appropriate. One important factor to consider in children aged over two is the likelihood of successful insertion and tolerance of a nasogastric tube.





ALERT

A slower rate over 8-12 hours is recommended in children

- with significant co-morbidities (e.g. renal disease, cardiac disease, diabetes, on diuretics)
- infants less than 6 months of age to avoid fluid overload
- who continue to vomit during rapid rehydration
- who are being admitted overnight

For further information:

[CHQ Guideline: Intravenous fluid guideline – paediatric \(QH only\)](#)

[Queensland Paediatric Guideline: Gastroenteritis - Emergency management in children](#)

[CHQ Guideline: 24-hour paediatric fluid balance chart \(QH only\)](#)

Video:

[Video: The tricky maths of rehydration](#)

References:

Children's Health Queensland Hospital and Health Service. (2022, August 23). Intravenous Fluid Guidelines - Paediatric and Neonatal. https://qheps.health.qld.gov.au/_data/assets/pdf_file/0025/705670/gdl-01025.pdf

Children's Health Queensland Hospital and Health Service. (2023, March 2). Gastroenteritis - Emergency management in children. <https://www.childrens.health.qld.gov.au/guideline-gastroenteritis-emergency-management-in-children/>

Queensland Health State wide ED Nurse Educator Committee, Pearson, N., Cole, T., & Carney, S. (Eds.). (2016). Unit 8 Renal, Fluids and Electrolytes. In Queensland Health: Transition Support Program - Emergency. Module 3 - Paediatric Care in the Emergency Department (4th ed., pp. 143-145). State of Queensland (Queensland Health).

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- Providing care within the context of locally available resources, expertise, and scope of practice.
- Supporting consumer rights and informed decision making in partnership with healthcare practitioners including the right to decline intervention or ongoing management.

- Advising consumers of their choices in an environment that is culturally appropriate and which enables comfortable and confidential discussion. This includes the use of interpreter services where necessary.
- Ensuring informed consent is obtained prior to delivering care.
- Meeting all legislative requirements and professional standards.
- Applying standard precautions, and additional precautions as necessary, when delivering care.
- Documenting all care in accordance with mandatory and local requirements.

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