

Paediatric Rapid Rehydration

The calculation of rapid rehydration fluid requirements is determined by the weight of the child. Therefore, it is vital that all children are weighed where possible and in infants under 3 months of age this should be a bare weight.

Rapid rehydration is used in the treatment of children with severe clinical dehydration, caused by gastroenteritis. It can also be considered in children who have failed an initial trial of fluids, with mild to moderate dehydration caused by gastroenteritis.

Calculating Rapid Rehydration – Intravenously and Enterally

Rapid Rehydration =
(Patients weight x 50 mL) over 4 hours

Example for a 10kg child
(10 kg x 50 mL) over 4 hours
= 500 mL over 4 hours
= 125 mL/hour for 4 hours.

Administering Rapid Rehydration

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



ALERT

Infants and children should be weighed at each emergency encounter. Where possible approximate weights should be avoided.

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

Tips in children

- Although >2 years of age intravenous rapid rehydration is recommended there will be a number of occasions where enteral rapid rehydration via a nasogastric tube may be appropriate. One important factor to consider in children aged >2 is the likelihood of successful insertion and tolerance of a nasogastric tube.

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:

This Queensland Paediatric Emergency Nursing Skill Sheet was developed by the Emergency Care of Children working group (funded by the Queensland Emergency Department Strategic Advisory Panel) with the help of the following resources:

Children's Health Queensland Hospital and Health Service. (2018a, April 3). 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. (2019, September 26). 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).

Nursing Skill Sheet Legal Disclaimer

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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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