

# Intravenous Maintenance Fluids

As with medications, calculations for maintenance paediatric fluids are based on the child's body weight. It is vital that all children are weighed prior to the prescription of maintenance fluids. Bare weights should be attended for infants under three months of age.

Weight	Maintenance Fluid (mL per hour)
3-10kg	4 x Weight
10-20kg	40 plus 2x (weight-10)
Greater than 20kg	60 plus 1x (weight-20)
<b>Maximum: 100 mL/hour (2400 mL/day)</b>	

Table 1: Calculating Paediatric Maintenance Fluids

## Key points

- Sodium Chloride 0.9% + Glucose 5% is the usual choice of paediatric maintenance fluid.
- The use of a burette should be considered in small children to reduce the risk of large volumes of fluid inadvertently being administered.
- IV pumps should be set with an hourly volume to be infused and reset every hour with volume infused checked and an inspection of the cannula site check for signs of extravasation.
- Strict fluid balance charts are recommended.
- 2/3 maintenance fluids may be chosen in children with respiratory or cerebral infections due to the Syndrome of Inappropriate AntiDiuretic Hormone secretion (SIADH).



## ALERT

Infants are at high risk of hypoglycaemia if supplemental glucose is not provided. Ensure that maintenance fluids contain glucose unless contradicted.

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.

## For further information:

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

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

Video:

[STORK – Fluid maintenance video](#)



## 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](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).

**This Queensland Paediatric Emergency Skill Sheet was developed and revised by the Emergency Care of Children working group Initial work was funded by the Queensland Emergency Department Strategic Advisory Panel.**

### Skill Sheet Legal Disclaimer

The information contained in these Queensland Paediatric Emergency Care skill sheets is for information purposes only. It was developed to inform emergency nursing care, but can also be applied by other clinicians acting within their scope of practice. The information has been prepared using a multidisciplinary approach with reference to the best information and evidence available at the time of preparation. No representation, warranty or assurance is given that the information is entirely complete, current, or accurate in every respect. The skill sheets are not a substitute for clinical judgement, knowledge and expertise, or medical advice. Variation from the skill sheets, taking into account individual circumstances may be appropriate. This does not address all elements of standard practice and accepts that individual clinicians are responsible for the following:

- 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.

Children's Health Queensland disclaims, to the maximum extent permitted by law, all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs incurred for any reason associated with the use of this skill sheet, including the materials within or referred to throughout this document being in any way inaccurate, out of context, incomplete or unavailable.

