

# Intravenous Fluid Bolus

The calculation of 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.

In the setting of hypovolaemic shock, urgent intervention to maintain circulation and tissue perfusion is needed. An intravenous (IV) fluid bolus is used to treat shock and is calculated according to clinical need in the range from 10mL/kg to 20mL/kg. This should be a balanced solution of either 0.9% Sodium Chloride or Baxter Plasmalyte-148. Children with cardiac conditions need to have a smaller IV fluid bolus volume of 5mL-10mL/kg.

The usual starting volume of 0.9% Sodium Chloride or Baxter Plasmalyte-148 to be administered is 10mL-20mL/kg.

## ALERT



Sodium Chloride 0.9% + Glucose 5% should **NOT** be given as a fluid bolus. If correcting paediatric hypoglycaemia, please refer to the Unexplained Hypoglycaemia Clinical Guideline found under further information.

It is important to reassess the patient after each fluid bolus. Pay particular attention to their central capillary refill and heart rate. See [Observations in Infants & Children Skill Sheet](#).

Monitor the cannula site closely for any signs of an extravasation injury during the administration of a fluid bolus. If extravasation occurs, cease fluid bolus and immediately inform the medical officer. See Peripheral Intravenous Access Cannula (PIVC) Care Skill Sheet (in production).

A record of all fluids administered must be recorded in the patient's fluid balance record.



## ALERT

Seek prompt senior medical advice if volumes >40mL/kg are required.

## For further information:

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

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

[Queensland Paediatric Guideline: Allergy and anaphylaxis – Emergency management in children](#)

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

[Queensland Paediatric Guideline: Sepsis – Recognition and emergency management in children](#)

[Queensland Paediatric Guideline: Unexplained Hypoglycaemia - Emergency Management in children](#)

## Video:

[Video: How to prepare and administer a normal saline fluid bolus to the child with sepsis or septic shock](#)



## References:

- Arya, V., Kavitha, M., Mittal, K. & Kumar Gehlawat, V. (2021). Plasmalyte versus normal saline as resuscitation fluid in children: A randomized controlled trial. *Journal of Pediatric Critical Care*. 8(3) 134-138. doi: 10.4103/jpcc.jpcc\_14\_21 . Accessed 8 Mar. 2023.
- 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/>
- Perth Children's Hospital. (2022, June). Intravenous fluid therapy. <https://pch.health.wa.gov.au/For-health-professionals/Emergency-Department-Guidelines/Intravenous-fluid-therapy>
- Queensland Health State wide ED Nurse Educator Committee, Pearson, N., Cole, T., et al, 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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