

Hydration Assessment

Children and infants rely on others for fluids and nutrition. They also have some key anatomical and physiological differences, making them more susceptible to dehydration. Therefore, a paediatric hydration assessment is imperative. Children assessed to be in clinical shock must be escalated to a senior medical officer immediately.

| | No dehydration | Clinical dehydration (5-10% fluid loss) | Clinical shock (over 10% fluid loss) |
|------------------------|------------------------|--------------------------------------------|-----------------------------------------|
| Level of Consciousness | Alert and responsive | Altered responsiveness | Decreased level of consciousness |
| Skin colour | Skin colour unchanged | Skin colour unchanged | Pale or mottled skin |
| Extremities | Warm extremities | Warm extremities | Cold extremities |
| Eyes | Eyes not sunken | Sunken eyes | Sunken eyes |
| Mucous Membranes | Moist mucous membranes | Dry mucous membranes | Dry mucous membranes |
| Heart Rate | HR normal | HR normal | Increased HR |
| Breathing | RR normal | Increased RR | Increased RR |
| Peripheral Pulses | Normal | Normal | Weak |
| Capillary Refill | Less than 2 seconds | Less than 2 seconds | Prolonged (greater than 2 seconds) |
| Skin Turgor | Normal | Decreased | Decreased |
| Blood Pressure | Normal | Normal | Decreased BP (decompensated shock) |

Table 1: Assessment of dehydration from CHQ Gastroenteritis - Emergency management in children guideline. The more numerous/pronounced symptoms and signs indicate greater severity.



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For clinical shock, one or more of the symptoms or signs will be present.

If in doubt, manage as if dehydration falls into the more severe category.



Helpful tips

- Due to physiological differences, infants and children are at a greater risk of hypoglycaemia. Consider the need to check and monitor blood glucose levels and ketone levels.
- As with all observations and assessments in children, it is best to conduct them in order of least to most invasive. This will help ensure minimal disruption to the child and ensure accurate findings. See [Observations in Infants & Children Skill Sheet](#).
- The anterior fontanelle closes somewhere between 9-18 months of age. When assessing the anterior fontanelle ensure the baby is settled and is either held or positioned sitting upright.

For further information:

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

Video:

[Hydration assessment](#)

References:

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 7 Neurology. In Queensland Health: Transition Support Program - Emergency. Module 3 - Paediatric Care in the Emergency Department (4th ed., p. 120). State of Queensland (Queensland Health).

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