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.

Primary Clinical Care Manual: Clinical assessment of hydration in a child.

<table>
<thead>
<tr>
<th>Clinical Feature</th>
<th>Minimal &lt;3%</th>
<th>Mild-Moderate 3-9%</th>
<th>Severe &gt;9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes and fontanelle</td>
<td>Normal</td>
<td>Mildly sunken</td>
<td>Deeply sunken</td>
</tr>
<tr>
<td>Mouth and tongue</td>
<td>Moist</td>
<td>Dry</td>
<td>Parched</td>
</tr>
<tr>
<td>Mental state</td>
<td>Alert</td>
<td>Normal to irritable</td>
<td>Irritable, lethargic, or decreased level of consciousness</td>
</tr>
<tr>
<td>Skin turgor</td>
<td>Normal</td>
<td>Recoil &lt; 2 seconds</td>
<td>Recoil &gt;2 seconds</td>
</tr>
<tr>
<td>Thirst</td>
<td>Drinks normally. May be thirsty. May refuse fluids</td>
<td>Thirsty</td>
<td>Drinks poorly</td>
</tr>
<tr>
<td>Respiratory Rate</td>
<td>Normal</td>
<td>Tachypnoea</td>
<td>Tachypnoea</td>
</tr>
<tr>
<td>Pulse</td>
<td>Normal</td>
<td>Tachycardic</td>
<td>Tachycardic, weak pulse</td>
</tr>
<tr>
<td>Capillary Return</td>
<td>Normal (&lt;2secs)</td>
<td>Delayed &gt;2 seconds</td>
<td>Very Delayed &gt;3 seconds</td>
</tr>
<tr>
<td>Extremities</td>
<td>Warm hands and feet</td>
<td>Cool hands and feet</td>
<td>Cold, mottled, cyanosed hands and feet</td>
</tr>
<tr>
<td>Urine Output</td>
<td>Normal to reduced. Clear to straw colour.</td>
<td>Reduced. Yellow/orange coloured.</td>
<td>Minimal to auric Dark orange/brown</td>
</tr>
</tbody>
</table>

**ALERT**

Due to physiological differences, infants and children are at a greater risk of hypoglycaemia. Consider the need to check/monitor blood glucose levels and ketone levels.

When to escalate care

- Urgently seek medical advice in a child with any signs of severe dehydration.
- Seek prompt senior nursing/medical advice in a child with moderate mild to moderate dehydration.
Tips in children

- 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.

- 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.

- The greater number or more pronounced symptoms indicate greater severity. If at all unsure as to which category the infant or child falls into, seek advice from senior nursing/medical staff.

For further information:

Queensland Paediatric Guideline: Gastroenteritis - Emergency management in children

Video:

The tricky maths of rehydration

Hydration assessment

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:


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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