Intravenous maintenance fluid recommendations for previously well children aged from one month to 16 years old

**Ambient temperature to be a minimum of 21 degrees Celsius.**

For smaller children and neonates undergoing surgery or resuscitation, additional warming with a Bair Hugger® or similar device is recommended (5).

The majority of children may be safely administered sodium chloride 0.45% with glucose (2.5 or 5%). Do not use sodium chloride 0.18% with glucose 4%.

* The correct size of an oropharyngeal airway is one that, when laid against the side of the face, has a length equal to the distance between the level of the patient’s incisors (or where they will be) to the angle of the jaw (1).

** A correctly sized uncuffed tracheal tube should have a small audible leak around the tube when 20 cm of water pressure is applied from the breathing system (5).

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### References

5. Mapleson C in anaesthetic room (210000 or 210000), adult circle system in theatre (210000).

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### Disclaimer

While every care has been taken to ensure that doses and recommendations are correct, the responsibility for final checking must rest with the practitioner. The authors cannot accept any responsibility for errors in this publication. Equipment sizes are based upon Intersurgical recommendations.

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**Intravenous maintenance fluid recommendations for previously well children aged from one month to 16 years old**

The majority of children may be safely administered sodium chloride 0.45% with glucose (2.5 or 5%). Do not use sodium chloride 0.18% with glucose 4%.

Some children at high risk of hypovolaemia should only receive isotonic fluids (see list opposite).

Some acutely ill children with increased anti-diuretic hormone (ADH) secretion (e.g. post-operative patients or those with intracranial infections or head injuries) may benefit from their maintenance fluid being restricted to two-thirds normal recommended volume.

To avoid dangerous hypovolaemia or hypovolaemic shock, monitor the child’s weight and calculate fluid balance. Use a volumetric pump. Check plasma electrolyte and glucose concentration before and regularly throughout intravenous therapy.

Consider adding potassium 40 mmol/l to maintenance fluids once plasma potassium levels are known. Some acutely ill children with increased ADH secretion (e.g. post-operative patients or those with intracranial infections or head injuries) may benefit from their maintenance fluid being restricted to two-thirds normal recommended volume.

**A correctly sized uncuffed tracheal tube should have a small audible leak around the tube when 20 cm of water pressure is applied from the breathing system (5).**

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### Children who should only receive isotonic fluids

- peri- or post-operative
- require the replacement of ongoing losses
- have low plasma sodium
- have intravascular volume depletion or hypotension
- have CNS infection or a head injury
- have aspergillosis
- have excessive gastrointestinal losses
- have a self-wasting syndrome
- have a chronic condition such as diabetes, cystic fibrosis or a pituitary disorder

**Examples of isotonic fluids are: sodium chloride 0.9%, sodium chloride 0.9% with 5% glucose or Hartmann’s solution.**

For further information regarding the treatment of shock and the replacement of pre-existing fluid deficit, consult the NPSA website, 

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