

IV Fluids



- Patient fluid and electrolyte requirements are dynamic and complex- regular reassessment is key
- Excessive administration of IV fluid may be as harmful than under administration, which is easier to correct
- Consider fluid resuscitation, replacement, redistribution and maintenance as different phenomena

Resuscitation

- Boluses of 250-500mls balanced solution, repeated as per response. Colloids should be avoided
- 0.9% NaCl in patients with neurological injury

Replacement and redistribution

- Consider the composition of previous and ongoing losses
- Redistribution into peripheral oedema is difficult to manage, and doesn't usually require further fluid

Maintenance

- Regularly review input and output
- See table over for likely requirements
- Glucose containing solutions are more appropriate



Substance	Daily requirements
Water	25ml/kg (1ml/kg/hr)
Sodium	1mmol/kg
Potassium	1mmol/kg
Chloride	1mmol/kg
Sugar	100g (5% glucose=50g/l)

- Electrolytes, especially potassium, should be administered enterally or as concentrated solutions. Premixed bags should only be a last resort.
- Assessment of fluid balance includes- history and clinical examination, BP, pulse, urine output, lactate, creatinine, urea, sodium, weight, fluid balance, presence of oedema- no one feature is decisive.
- Where fluid responsiveness is unclear, more invasive monitoring maybe appropriate- Cardiac output monitoring, transthoracic echocardiography.
- Always take into account infusions, drugs and enteral feeding, pyrexia and insensible losses when assessing IV fluid maintenance requirements, and remember enteral water may be suitable for some patients.
- 50mls/hr 10% glucose will suffice for many and prevent starvation ketosis