PARENTERAL FLUID THERAPY FOR CHILDREN & YOUNG PEOPLE (AGED OVER 4 WEEKS & UNDER 16 YEARS)

**Resuscitation**
- **ADMINISTER FLUID BOLUS OVER LESS THAN 10 MINUTES**
  - Give 20 ml/kg of glucose-free crystalloids that contain sodium in the range 131 - 154 mmol/L IV or Intraosseous [10 ml/kg if history of trauma, haemorrhage or in diabetic ketoacidosis]
  - Reassess. Repeat bolus if needed and get senior help.

**Can child be managed with enteral fluids?**
- **YES** PRESCRIBE ENTERAL REHYDRATION SOLUTION
- **NO** DKA / Burns: initiate departmental protocol. Renal / cardiac / hepatic - get senior help.

**Is there a fluid deficit?**
- **YES** ESTIMATE DEFICIT
  - FLUID DEFICIT = (% dehydration x kg x 10) as mls of:
    - Isotonic crystalloids that contain sodium in the range 131 - 154 mmol/L
  - The volume of fluid to be prescribed is: fluid deficit MINUS volume of any fluid bolus received
  - Prescribe this residual volume of deficit separately from the maintenance prescription.
  - Give over 48 hours.
  - ONGOING LOSSES: calculate at least 4 hourly. Replace with an equal volume of:
    - sodium chloride 0.9% (with pre-added potassium)
  - Change fluid type and volume according to clinical reassessment, electrolyte losses and test results

**Routine Maintenance**
- **Fluid choices:**
  - Initially use isotonic crystalloids that contain sodium in the range of 131 - 154 mmol/L. Glucose containing fluid required in infants and young children. May also be required in older children.
  - Patients particularly at risk from hyponatraemia
    - peri-operative patients
    - head injuries
    - gastric losses
    - CNS infection
    - severe sepsis
    - hypotension
    - intravascular volume depletion
    - bronchiolitis
    - gastroenteritis with dehydration
    - abnormal plasma sodium and also if less than 138 mmol/L
    - salt-wasting syndromes
  - Change fluid type and volume according to clinical reassessment, electrolyte losses and test results

**Hypokalaemia (< 3.5 mmol/L):**
- Check for initial deficit. Maintenance fluid with pre-added potassium required. For concentration > 40mmol/L get senior help.

**Hypoglycaemia (< 3 mmol/L):**
- Medical Emergency: give 2 ml/kg bolus of glucose 10%. Review maintenance fluid, consult senior and recheck level after 15-30 mins. INTRA-OPERATIVE PATIENTS: consider monitoring glucose.