Organisational Aspects of Parenteral Nutrition (PN)

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Nutrition support teams

Paediatric home PN patients must be followed-up by an experienced team on a regular basis.

Supervision of nutritional support in intestinal failure (IF) should, if possible, be provided by a multidisciplinary nutritional support team.

Nutritional assessment in hospital

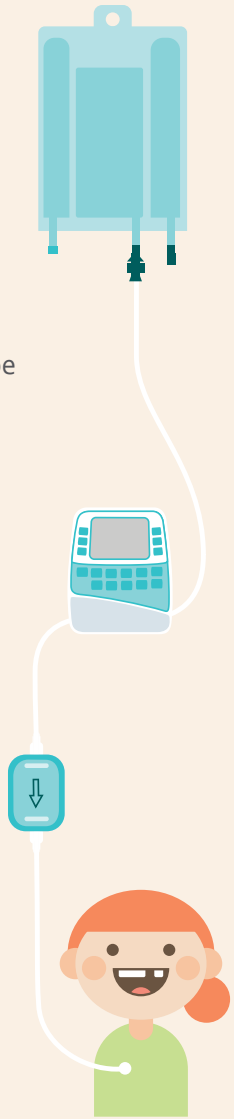
- Accurate anthropometrics and thorough clinical evaluation of chronic patients receiving PN should be undertaken by a skilled practitioner
- The frequency of laboratory assessment should be based on the child's acute clinical condition (from once daily to 2-3 times per week)

Weaning and establishment of enteral feeding

- Some enteral feed should be given whenever possible, even if only a minimal amount is tolerated
- When increasing enteral feed, only one change at a time may be made, to assess tolerance
- In severe IF, feed volumes may be increased slowly, according to digestive tolerance
- Enteral feeding may be introduced as a liquid feed infused continuously by tube over 4-24 hr periods, using a volumetric pump
- Bolus liquid feed may be given via a feeding tube, or by mouth as sip feed, if tolerated
- Children who rapidly recover intestinal function may be weaned straight onto normal food

Full references for the advice within this section can be found within the following paper: Puntis J, Hojsak I, Ksiazyk J; ESPGHAN/ESPEN/ESPR/CSPEN working group on pediatric parenteral nutrition. ESPGHAN/ESPEN/ESPR guidelines on pediatric parenteral nutrition: Organisational aspects. Clin Nutr. 2018 Jun 18. pii: S0261-5614(18)31172-5.

Infusion equipment and in-line filters



- All PN solutions may be administered with accurate flow control
- The infusion system should be under regular visual inspection
- Peripheral infusions should be checked frequently for signs of extravasation or sepsis
- The pump should have free flow prevention if opened during use, and have lockable settings
- PN solutions may be administered through a terminal filter: lipid emulsions (or all-in-one mixes) can be passed through a membrane pore size of 1.2 - 1.5µm; aqueous solutions can be passed through a 0.22 µm filter
- PN solutions for the premature newborn should be protected against light

Cyclical PN

- Cyclical PN may start once patients are in a stable clinical condition and can maintain normoglycaemia during a period without PN infusion
- In order to prevent hypo/hyperglycaemia, infusion rate may be tapered up gradually during the first 1-2h and tapered down during the last 1-2h of infusion

Type of feed

- In newborns and infants with intestinal failure, breast milk is the enteral feed of first choice
- If breast milk is not available, the choice of substitute can be based on clinical condition; in early infancy and severe illness it is reasonable to start with elemental formula, switching to extensively hydrolyzed and then to polymeric feeds

Weaning from parenteral nutrition

- Enteral feed may be given at normal concentrations (i.e. not diluted)
- PN should be reduced in proportion to, or slightly more than, the increase in EN
- If a chosen weaning strategy fails, try again more slowly

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