Home Parenteral Nutrition (PN)

ESPGHAN

The aim of home PN should be survival into adult life with the best possible growth and psychosocial development.

Preparation for PN care at home

A child who is expected to need PN for >3 months can be discharged home as soon as they are clinically stable, as long as:

- There is a safe environment (e.g. running water, reliable electricity)
- At least one parent/caregiver has been trained by a specialised nutrition nurse/team, and
- Appropriate social support is available

Safe patient discharge will improve quality of life for both the child and the family and reduce complications

Recommendations for fluids and nutrients

- The patient should be on a stable regimen before starting home PN
- PN solutions should be compounded according to the individual patient's macro and micronutrients needs
- The use of a single bag may be recommended
- PN mixtures that are stable for >7-14 days may be used to minimise the frequency of deliveries required

Organisation, monitoring and follow-up

Centralised management of patients by an experienced multidisciplinary team or 'expert centre', with 24hr phone support, may minimise complications, improve outcome and allow earlier weaning from PN.

Monitoring for complications can be considered on an annual/alternate year basis, including:

- Detection of liver disease by ultrasound
- Bone density, vitamin D and body composition
- Radionuclear lung perfusion scan for pulmonary emboli
- Chest X-ray to assess appropriate position of central line

Standard vs Individualised PN

Standard solutions should generally be used in the majority of paediatric patients, including very low birth-weight premature infants

Individually tailored solutions should generally be used when the nutritional requirements cannot be met by standard formulations i.e. in very sick and metabolically unstable patients, and in children requiring PN for prolonged periods

Computerised prescriptions for standardised and individualised PN should be used where possible

References for the advice within this section can be found within the following paper: Hill S, Ksiazyk J, Prell C, Tabbers M; ESPGHAN/ESPEN/ESPR/CSPEN working group on pediatric parenteral nutrition. ESPGHAN/ESPEN/ESPR/CSPEN guidelines on pediatric parenteral nutrition: Home parenteral nutrition. Clin Nutr. 2018 Jun 18. pii: S0261-5614(18)31173-7.
And: Riskin A, Picaud JC, Shamir R; ESPGHAN/ESPEN/ESPR/CSPEN working group on pediatric parenteral nutrition. ESPGHAN/ESPEN/ESPR guidelines on pediatric parenteral nutrition: Standard versus individualised parenteral nutrition. Clin Nutr. 2018 Jun 18. pii: S0261-5614(18)31174-9.