

ESPGHAN – ESPEN Guidelines on Paediatric Parenteral Nutrition

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Background



- Practice of paediatric parenteral nutrition varies very widely throughout Europe
- Factors other than the scientific evidence and the child's best interest tend to influence practice (e.g. cost saving measures)

Therefore:

- Evidence based guidelines shall be developed by a pan-European group of qualified experts
- Where scientific evidence is limited, consensus shall be defined by experts

Methods



- Systematic literature review
- Evidence and recommendations graded in levels of evidence and grades of recommendation



Levels of evidence

Scottish Intercollegiate Guideline Network 2000



- 1 Evidence from meta-analyses, systematic reviews of randomised controlled trials (RCTs), or RCTs
- 2 Evidence from systematic reviews of case-control or cohort studies, case-control or cohort studies
- 3 Evidence from non-analytic studies, e.g. case reports, case series
- 4 Evidence from expert opinion



Working groups and chairs



1 Introduction (Peter Milla, London)

- Use of partial and total parenteral nutrition
- Indications
- Ethics
- Outcomes
- Quality of life
- Process of guideline development



Working groups 2.1-2.7 Defining reasonable ranges of intakes



Age groups

- Preterm infants
- Term neonates
- 1st and 2nd year of life
- 3rd - 5th year of life
- 6th - 12th year of life
- Adolescents



Working groups and chairs



2.1 Fluid and electrolytes (Janusz Ksiascyk, Warsaw)

Advisable intake, special disease states (fever, diarrhea, burns), dehydration vs. fluid overload, upper limits of osmolality

2.2 Energy (Nachum Vaisman, Tel Aviv)

Advisable intake, components of energy needs, methods for calculation (equations, metabolic cart, isotope studies)



Working groups and chairs



2.3 Amino acids (Hans van Goudoever, Rotterdam)

Advisable intake, risks of deficiencies vs. "overdose", essentiality of amino acids (cysteine, tyrosine, etc.), available products

2.4 Lipids (incl. carnitine) (Carlo Agostoni, Milano)

Advisable intake, initial dosing for various age groups, increments and maximal dosage, available products, essential fatty acid deficiency vs. overdose, fatty acid clearance rate, fat overload syndrome, immune system, carnitine

Working groups and chairs



2.5 Carbohydrates (Olivier Goulet, Paris)

Advisable intakes, glucose oxidation as a single fuel vs. fat/CHO mixture, glucose oxidation rate, hypoglycemia vs. hyperglycemia, insulin usage

2.6 Vitamins (Orsolya Genzel-Boroviczeny, Munich)

Advisable intake of vitamins and of choline, interval of administration, stability



Working groups and chairs



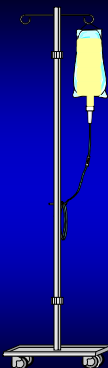
2.7 Minerals and trace elements (John Puntis, Leeds)

Advisable intakes of Zn, Mg, Se, Cu, Cr, Mn, Mbd, Iodine, Fe (pro and con, daily usage vs. periodical "loading", erythropoietin)



Working groups 3.1-3.6

Practice of parenteral nutrition



Working groups and chairs



3.1 Venous access (Sanja Kolacek, Zagreb)

Definitions (peripheral, central), equipment (PICC lines, Hickman, Broviac), early and late line monitoring (CXR, dressing methods and frequency, line designated only to PN, heparinization)

3.2 Organisation of PN (John Puntis, Leeds)

Nutrition support teams (members of team, who orders PN), mandatory monitoring & nutritional assessment (diet history, medical history, anthropometrics and physical examination, laboratory), initial ordering (energy, lipids, CHD) and advancement of PN, equipment (bags, pumps) guidelines for administration (frequency of tube replacement, filters)

Working groups and chairs



3.3 Complications and their treatment (Adrian Thomas, Manchester)

Technical, infectious, metabolic, hepatobiliary, metabolic bone disease, growth retardation, thrombocytopenia, renal disease, drug interactions, compatibility, administration



Working groups and chairs



3.4 Enteral nutrition, weaning from PN (Beint Bentsen, Fredrikstad)

Intestinal failure (NEC, short bowel, IBD, protracted diarrhea, intestinal pseudoobstruction), critical ill, postoperative, renal failure, liver disease

3.5 Home PN (Virginie Colomb, Paris)

Establishing goals (fluid, energy, nutrient needs and administration time), guidelines for assessment (development of checklist for quality assurance of proper discharge)



Action plan



Sept 02 (Glasgow)	Planning meeting at ESPEN, Glasgow
Sept - June 03	Formation of Working Groups (WG), first drafts
June 03	Discuss drafts at ESPGHAN, Prague
June-Aug 03	Revise draft chapters and circulate
Aug-Sep 03	Submit written comments on revised chapters
Sept 03	Working Group Chair Meeting, ESPEN Cannes
Sept-Dec 03	Revision and editing
Jan-Mar 03	Circulate revised drafts
Spring 04	Consensus Conference (if we can raise the funds)
Fall 04	Final Editing, Publication



Organisation

Coordinators

Olivier Goulet (Paris), Berthold Koletzko (Munich), Raanan Shamir (Haifa)

Managing team

Kathrin Krohn, Joanne Hunt (Munich)

Unconditional grant support

Baxter, Child Health Foundation

Further financial support is urgently needed to fund the planned Consensus Conference. Who can help?

