Level of Evidence
Clinical Practice Guidelines
Royal Children's Hospital

The Hierarchy of Evidence

The Hierarchy of evidence is based on the National Health and Medical Research Council (2000) and Oxford Centre for Evidence-based Medicine Levels of Evidence (May 2001)

I Evidence obtained from a systematic review of all relevant randomised control trials.

II Evidence obtained from at least one properly designed randomised control trial.

III-1 Evidence obtained from well-designed pseudo-randomised controlled trials (alternative allocation or some other method).

III-2 Evidence obtained from comparative studies (including systematic reviews of such studies) with concurrent controls and allocation not randomised, cohort studies, case control studies, or interrupted time series with a control group.

III-3 Evidence obtained from comparative studies with historical control, two or more single–arm studies, or interrupted time series without a parallel control group.

IV Evidence obtained from case-series, either post-test or pre-test and post test.

V Expert opinion without critical appraisal, or based on physiology, bench research, or historically based clinical principles.

Clinical guidelines are based on reviews of the best available evidence. **Level 1 evidence represents the gold standard for intervention studies;** however it is not available for all areas of practice and for some guidelines it may be appropriate to utilise results from studies with lower levels of evidence. Some clinical guidelines may also be informed by experts in the field, locally (RCH) and internationally (Journal articles) (expert opinion) etc. This NHMRC Hierarchy can be used to grade evidence. Please record details on the evidence table and return to Clinical Quality and Safety (CQS) with guideline draft. The Evidence table can be filled out electronically or printed and used as a hard copy.

Please contact Jody Smith Clinical Guideline and Path Coordinator on ext 6956 if you have any concerns or require assistance.

Clinical Practice Guidelines
EVIDENCE TABLE

GUIDELINE TOPIC: Parental Nutrition

Please record all references used in developing the clinical guideline. This form must be filled out electronically and emailed to Jody.Smith@rch.org.au
NB: If you need assistance with completing this table, please contact Jody Smith on x 6956.

Reference ***(include author ,title journal title, year of publication, volume and issue, pages)***	**Method**	**Evidence level (I-V)**	**Summary of recommendation from this reference (point form)**
Koletzko B, Goulet O, Hunt J et al. (2005) "Guidelines on paediatric parenteral nutrition of the European Society of Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) and the European Society for Clinical Nutrition and Metabolism (ESPEN), supported by the European Society of Paediatirc Research (ESPR)". Journal of Paediatric Gastroenterology and Nutrition 41:S1-S4	Guidelines	V	The guidelines are addressed primarily to professionals involved in supplying and prescribing parental nutrition (PN) to infants, children and adolescents. Due to the scarcity of good quality trials in children many of the recommendations are extrapolated from adult studies and are based on expert opinion. The document represents the consensus view of a multidisciplinary working party of professionals, who are actively involved on the management of children treated with PN. http://www.espen.org/education/documents/A174-01PaedPNGuidel_Introduction.pdf
American Society for Parental and Enteral Nutrition (2002) "Guidelines for the Use of Parenteral and Enteral Nutrition in Adults and Paediatric Patients". Journal of Paediatric and Enteral Nutrition 26(1):1SA-137SA.	Guidelines	V	These clinical guidelines, designed for use by health care professionals who provide nutrition support services and their patients, offer clinical advice for managing adult and paediatric (including adolescent) patients in inpatient and outpatient (ambulatory, home, and specialized care) settings. The Guidelines and Standards make specific practice recommendations based upon a rigorous and comprehensive evaluation of all available scientific data.
Bines, Titchen, Humphrey et al. A Practical Guide to Paediatric Nutrition support. 1997	Guidelines	V	Guidelines for the administration of parenteral nutrition to paediatric patients based on consensus of expert opinion. Written by the Royal Children's Hospital Nutrition Support Service.
Hendricks, KM. Simmons College, Department of Nutrition, Boston. Duggan, C (2005) "Manual of Pediatric Nutrition, 4th edition" p: 317-375.	Guidelines	V	A comprehensive guide that provides an overview of nutritional care for both healthy and ill pediatric patients. Featuring a new team of expert authors and utilizing exhaustive formulary, the manual provides practical management advice for common pediatric illnesses. The manual outlines current nutritional therapy based on the latest literature.

Marinella, Mark A. (2005) "Refeeding syndrome and hypophosphatemia" Journal of Intensive Care Medicine. 20(3):155-9, 2005 May-Jun.	Journal Article. Review	IV	This review briefly examines refeeding-induced hypophosphatemia in the hospitalized patient in hopes of making clinicians more aware of this common, but often overlooked, potentially dangerous problem. Hypophosphatemia is a potentially life-threatening complication of reinstating nutrition in a malnourished patient. Refeeding syndrome is a term that refers to various metabolic abnormalities that may complicate carbohydrate administration in subnourished patient populations. Hypophosphatemia is the most well-known, and perhaps most significant, element of the refeeding syndrome and may result in sudden death, rhabdomyolysis, red cell dysfunction, and respiratory insufficiency.
Marinella, Mark A. "The refeeding syndrome and hypophosphatemia" Nutrition Reviews. 61(9):320-3, 2003 Sep.	Case Reports. Journal Article. Review.	IV	This report briefly reviews the clinical manifestations of refeeding-induced hypophosphatemia. The refeeding syndrome is an underappreciated entity characterized by acute electrolyte derangements--notably hypophosphatemia--that occur during nutritional repletion of patients with significant suboptimal caloric intake. Adverse effects of hypophosphatemia include cardiac failure, muscle weakness, immune dysfunction, and death. Hypokalemia and hypomagnesaemia commonly complicate refeeding syndrome as well.
Afzal, N A. Addai, S. Fagbemi, A. Murch, S. Thomson, M. Heuschkel, R "Refeeding syndrome with enteral nutrition in children: a case report, literature review and clinical guidelines". Clinical Nutrition. 21(6):515-20, 2002 Dec	Case Reports. Journal Article. Review	IV	Refeeding syndrome is a potentially fatal complication of the nutritional management of severely malnourished patients. The syndrome almost always develops during the early stages of refeeding. It can be associated with a severe derangement in electrolyte and fluid balance, and result in significant morbidity and mortality. It is most often reported in adults receiving total parenteral nutrition (TPN), although refeeding with enteral feeds can also precipitate this syndrome. We report what we believe to be the first case of refeeding syndrome in an adolescent with newly diagnosed Crohn's disease. This developed within a few days of starting exclusive polymeric enteral nutrition. A systematic literature review revealed 27 children who developed refeeding syndrome after oral/enteral feeding. Of these, nine died as a direct result of complications of this syndrome. We discuss the implications of this syndrome on clinical practice and propose evidence-based guidelines for its management.