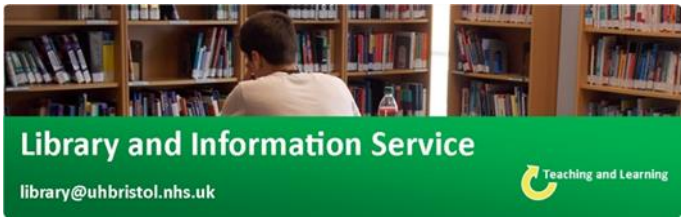
University Hospitals Bristol NHS
NHS Foundation Trust

Nutrition and Dietetics

Evidence Update
May 2018
(Quarterly)

Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.



Training Calendar 2018

May (13.00-14.00)

22nd (Tue) **Critical Appraisal**

30th (Wed) **Statistics**

June (12.00-13.00)

7th (Thu) **Literature Searching**

11th (Mon) **Critical Appraisal**

20th (Wed) **Statistics**

28th (Thu) **Literature Searching**

Your Outreach Librarian – Helen Pullen

Whatever your information needs, the library is here to help. Just email us at library@uhbristol.nhs.uk

Outreach: Your Outreach Librarian can help facilitate evidence-based practice for all in the team, as well as assisting with academic study and research. We also offer one-to-one or small group training in **literature searching, critical appraisal and medical statistics**. Get in touch: library@uhbristol.nhs.uk

Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research. Please email requests to library@uhbristol.nhs.uk

Library Opening Times

Staffed hours: 08.00-17.00, Monday to Friday

Swipe-card access: 07.00-23.00, seven days a week

Level 5, Education and Research Centre

University Hospitals Bristol

Updates

NICE National Institute for Health and Care Excellence

Evidence-based nutrition guidelines for the prevention and management of diabetes [PDF]

Source: Diabetes UK - 01 March 2018 - Publisher: Diabetes UK

A key strategy applied in these current guidelines was to formulate recommendations from the available evidence highlighting the importance of foods, rather than focusing on individual nutrients, ...

Dietary guidelines and health—is nutrition science up to the task?

16 March 2018 - Publisher: British Medical Journal

In this article, the authors discuss whether studies in nutrition science are methodologically inferior to other fields, considering the evolution of modern nutrition science and the reliability of...

Scientific Advisory Committee on Nutrition (SACN) publishes consultation on saturated fats and health [PDF]

Source: Public Health England - PHE - 08 May 2018 - Publisher: Public Health England

The Scientific Advisory Committee on Nutrition (SACN) has published a draft review of the evidence of the role of fats including monounsaturated fats, polyunsaturated fats and saturated fats on...

Does preoperative enteral or parenteral nutrition reduce postoperative complications in Crohn's disease patients: a meta-analysis

Source: PubMed - 07 May 2018 - Publisher: European Journal Of Gastroenterology & Hepatology

we assessed whether preoperative enteral nutrition (EN) or total parenteral nutrition (TPN) decreases postoperative...

Association of Energy and Protein Delivery on Skeletal Muscle Mass Changes in Critically Ill Adults: A Systematic Review

Source: PubMed - 30 March 2018 - Publisher: Jpen. Journal Of Parenteral And Enteral Nutrition

The aetiology of muscle wasting is multifactorial and nutrition delivery may play a role. A systematic literature review was conducted...

Cochrane Library

Searched but nothing relevant to add.

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Reignier J, Boisramé-Helms J, Brisard L, et al. Enteral versus parenteral early nutrition in ventilated adults with shock: a randomised, controlled, multicentre, open-label, parallel-group study (NUTRIREA-2). Lancet 2018; 391:133.

Author:
David Seres, MD
Section Editor:
Polly E Parsons, MD
Deputy Editor:
Geraldine Finlay, MD

Contributor Disclosures

All topics are updated as new evidence becomes available and our peer review process is complete.
Literature review current through: Apr 2018. | **This topic last updated:** Apr 27, 2018.

Enteral versus parenteral — Direct comparisons of enteral nutrition to parenteral nutrition in critically ill patients indicate that enteral nutrition does not reduce mortality but may be associated with a lower incidence of infection [12,22]:

- Mortality – A meta-analysis of 12 randomized trials that included 748 critically ill patients (mostly surgical) found no difference in mortality among those who received enteral nutrition compared to those who received parenteral nutrition [12]. A similar lack of mortality benefit was reported in two randomized trials that compared enteral with parenteral nutrition in over 4800 critically ill patients [16,22].

- Infection – A meta-analysis of six randomized trials that included 498 critically ill patients (mostly surgical) found that patients who received enteral nutrition were significantly less likely to develop an infection than patients who received parenteral nutrition (24 versus 43 percent, relative risk 0.61, 95% CI 0.44-0.84) [12]. In contrast, two subsequent randomized trials that included over 4800 medical and surgical patients as well as patients with shock reported no difference in the rate of infectious complications among those who received enteral or parenteral nutrition [16,22]. In

one of these trials enteral feeding was associated with an increased rate of gastrointestinal symptoms [16], which is congruent with other trials of aggressive enteral feeding, which are discussed below. (See 'Calories' below.)

Other – Behind the Headlines, Guidance

Oily fish and fresh beans may be linked to a later menopause

Gases from garlic may be good for your body

Reports that dark chocolate 'improves eyesight' are unconfirmed

No evidence that 'friendly bacteria' will help with osteoarthritis

Media reports about high levels of zinc in tinned tuna are based on flawed data

Broccoli and sprouts linked to healthier arteries for older women

Pasta unlikely to cause weight gain as part of a healthy diet

No evidence the 5:2 diet prevents heart disease

'Eat like a Victorian farm-hand' may not be the best advice

Healthy eating may not offset harmful effects of a high-salt diet

Journal Tables of Contents

The most recent issues of key journals. If you would like any of the papers in full text then please email the library: library@uhbristol.nhs.uk

International Journal of Behavioural Nutrition and Physical Activity

Nutrition Research Reviews

Proceedings of the Nutrition Society

British Journal of Nutrition

Nutrition Journal

A randomized controlled cross-over trial investigating the effect of anti-inflammatory diet on disease activity and quality of life in rheumatoid arthritis: the Anti-inflammatory Diet In Rheumatoid Arthritis (ADIRA) study protocol

Rheumatoid arthritis (RA) is a chronic inflammatory disease that affects 0.5–1.0% of the population, and where many patients in spite of modern pharmacological treatment fail to reach remission. This affects p...

Authors: Anna Winkvist, Linnea Bärebring, Inger Gjertsson, Lars Ellegård and Helen M. Lindqvist

Update on the Integrated Nutrition Pathway for Acute Care (INPAC): post implementation tailoring and toolkit to support practice improvements

The Integrated Nutrition Pathway for Acute Care (INPAC) is an evidence and consensus based pathway developed to guide health care professionals in the prevention, detection, and treatment of malnutrition in me...

Authors: Heather Keller, Celia Laur, Marlis Atkins, Paule Bernier, Donna Butterworth, Bridget Davidson, Brenda Hotson, Roseann Nasser, Manon Laporte, Chelsa Marcell, Sumantra Ray and Jack Bell

European Journal of Clinical Nutrition

Prognostic impact of early nutritional support in patients affected by locally advanced and metastatic pancreatic ductal adenocarcinoma undergoing chemotherapy

Oxidative stress in critically ill ventilated adults: effects of vitamin D_3 and associations with alveolar macrophage function

Database Articles

Below is a selection of articles related to nutrition and dietetics recently added to the healthcare databases.

Intravenous nutrition is more costly than feeding by stomach tube, with few added benefits

Early Enteral Nutrition Provided Within 24 Hours of ICU Admission: A Meta-Analysis of Randomized Controlled Trials.

The association between systemic infections and mortality in hospitalized adult patients receiving parenteral nutritional support: a systematic review and meta-analysis

1. Pharmaceutical interventions in the management of parenteral nutrition in critically ill patients

Author(s): Valera Rubio M.; Fuentes Ibanez M.B.; Ortiz Latorre J.L.; Fernandez Ovies J.M.

Source: European Journal of Hospital Pharmacy; Mar 2018; vol. 25

Publication Date: Mar 2018

Publication Type(s): Conference Abstract

Abstract: Background Currently, the functions of the clinical pharmacist in relation to parenteral nutrition (PN) are based on the preparation of these formulas and checking that the composition is adapted to the nutritional requirements and the clinical situation of the patient. The pharmacist can collaborate with the intensive care unit (ICU) physicians in the optimisation of nutritional support in critical patients. Purpose Description and analysis of pharmaceutical interventions (PIs) concerning PN in critical patients and the establishment of the degree of acceptance by physicians who belong to the ICU in a tertiary hospital. Material and methods A prospective study was conducted (July to September 2017). Variables included: demographics, indication of PN and type of PI. Data were obtained from medical and pharmaceutical nutrition records. Results Four hundred and fifty-one PN prescriptions were recorded for 33 patients (30% were females; mean age was 61, range 19-70). The average duration of treatment with PN was 18 days (1-44). Seventy-six interventions were recorded (2.3 PIs/patient). 5.3% were made at the beginning of the prescription, 92.1% were follow-up interventions and 2.6% were made at the end of the PN therapy. Distribution of PIs according to indication: postoperative complications (36.8%); colorectal surgery (18.4%); upper gastrointestinal tract surgery (17.1%); pancreatitis (13.2%); critically ill patients with a contraindication to enteral feeding (13.2%) and liver diseases (1.3%). Regarding the kind of PI, 7.9% of them were made to recommend stopping PN administration or putting off the end, 59.2% were to propose a change in macronutrient composition according to requirements; 6.6% were adjustment in hours of infusion/day in cholestasis, 7.9% were modifications in the amount of electrolytes administered parenterally, 15.8% were a request for laboratory markers of nutritional status and 2. 6% were about the insulin in the PN monitoring. 86.8% of PIs were accepted by physicians. Conclusion More than two PIs were performed per patient, mostly during the treatment follow-up and in patients with heterogeneous indications of PN. Most of the PIs were due to the need for adjusting the composition of the macronutrients to the nutritional requirements and the patient's clinical situation. The acceptance rate of PIs was highly significant, which demonstrates that ICU physicians take into account these recommendations.

Database: EMBASE

2. Pretreatment of enteral nutrition with sodium polystyrene sulfonate: effective, but beware the high prevalence of electrolyte derangements in clinical practice.

Author(s): Le Palma, Krisha; Pavlick, Elisha Rampolla; Copelovitch, Lawrence

Source: Clinical kidney journal; Apr 2018; vol. 11 (no. 2); p. 166-171

Publication Date: Apr 2018

Publication Type(s): Journal Article

Available at Clinical Kidney Journal - from PubMed Central

Abstract: BackgroundCurrent treatment options for chronic hyperkalemia in children with chronic kidney disease include dietary restrictions or enteral sodium polystyrene sulfonate (SPS); however, dietary restrictions may compromise adequate nutrition and enteral SPS may be limited by palatability, adverse effects and feeding tube obstruction. A potentially safer alternative is to pretreat enteral nutrition (EN) with SPS prior to consumption. The purpose of this study was to evaluate the efficacy and safety of pretreating EN with SPS in pediatric patients with hyperkalemia.MethodsWe performed a retrospective cohort study between September 2012 and May 2016 at the Children's Hospital of Philadelphia. In all, 14 patients (age range 0.5-53.2 months) who received 19 courses of SPS pretreatment of EN were evaluated. Serum electrolytes were evaluated at baseline and within 1 week of initiating therapy. The primary endpoint was mean change in potassium at 7 days. Secondary endpoints included the mean change in serum sodium, chloride, bicarbonate, calcium, phosphorous and magnesium, as well as the percentage of patients

who developed electrolyte abnormalities within the first week of treatment.ResultsSerum potassium levels decreased from 6.0 to 4.4 mmol/L (P < 0.001) and serum sodium levels increased from 135.8 to 141.3 mmol/L (P = 0.008) 1 week after initiating SPS pretreatment. No significant differences in mean serum calcium or magnesium levels were noted. Nevertheless, more than half of the courses resulted in at least one electrolyte abnormality, with hypokalemia (31.6%), hypernatremia (26.3%) and hypocalcemia (21.1%) occurring most frequently.ConclusionsPretreatment of EN with SPS is an effective method for treating chronic hyperkalemia in pediatric patients; however, close monitoring of electrolytes is warranted.

Database: Medlin

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June 6th: **Terrace (Level 4, Education Centre)** *12.00-14.00*

June 19th: **Welcome Centre, BRI** *10.00-16.00*

July 3rd: **Welcome Centre, BRI** *10.00-16.00*

July 4th: **Canteen (Level 9, BRI)** *12.00-14.00*

August 8th: **Foyer, Education Centre** *12.00-14.00*

August 29th: **Foyer, St Michael's Hospital** *12.00-14.00*

September 5th: **Canteen (Level 9, BRI)** *12.00-14.00*

September 11th: **Welcome Centre, BRI** *10.00-16.00*

October 3rd: **Terrace (Level 4, Education Centre)** *12.00-14.00*

November 7th: **Canteen (Level 9, BRI)** *12.00-14.00*

December 5th: **Foyer, Education Centre** *12.00-14.00*

December 11th: **Welcome Centre, BRI** *10.00-16.00*