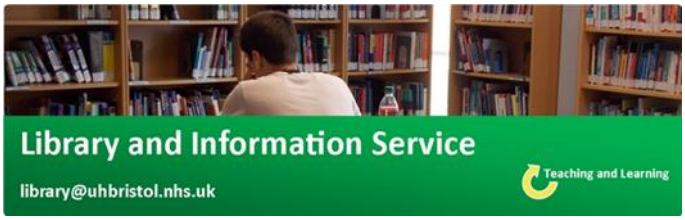
University Hospitals Bristol NHS
NHS Foundation Trust

Nutrition and Dietetics

Evidence Update
Summer 2017
(Quarterly)

Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.



Training Calendar 2017

All sessions are one hour

August (12.00-13.00)

15th (Tues)	Interpreting Statistics
24th (Thurs)	Critical Appraisal

September (13.00-14.00)

Fri 1st	Literature Searching
Mon 4th	Critical Appraisal
Tue 12th	Interpreting Statistics
Wed 20th	Literature Searching
Thu 28th	Critical Appraisal

October (12.00-13.00)

Fri 6th	Interpreting Statistics
Mon 9th	Literature Searching
Tue 17th	Critical Appraisal
Wed 25th	Interpreting Statistics

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

Contents

Updates

NICE National Institute for Health and Care Excellence

Searched – No content of relevance to add.

Cochrane Library

Searched – No content of relevance to add.

UpToDate®

OpenAthens login required. Register here: https://openathens.nice.org.uk/

Overview of enteral nutrition in infants and children

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: Jul 2017. | This topic last updated: Feb 22, 2017.

INTRODUCTION — Enteral nutrition consists of providing nutrients via the gastrointestinal tract. Although the term technically refers to nutrition given either by mouth or through a feeding tube, in common usage the term usually refers to tube feeding. In comparison to parenteral nutrition (the provision of nutrients via a venous catheter directly into the bloodstream), enteral nutrition offers several advantages, including lower costs, beneficial effects from utilization of the gastrointestinal tract, and avoidance of the many potential complications of parenteral nutrition.

For many pediatric patients with suboptimal nutrition, intake by mouth can be improved by offering high-calorie foods, oral supplements, or boosting the nutrient density of foods by adding high-energy supplements such as fats (oils, cream, or butter), carbohydrates (sugars and powdered supplements), and proteins (milk or other protein powders). Children who are still unable to take in

sufficient energy through these approaches, or those who are unable to tolerate oral feedings because of the underlying disease, are candidates for enteral nutrition.

Related content can be found in the following UpToDate topic reviews:

●(See "Measurement of growth in children".)

●(See "Parenteral nutrition in infants and children".)

●(See "Parenteral nutrition in premature infants".)

●(See "Approach to enteral nutrition in the premature infant".)

●(See "Management of short bowel syndrome in children".)

Other – Behind the Headlines, Guidance

Searched – No content of relevance to add.

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 Behavioral Nutrition and Physical Activity
August 2017

Nutrition Research Reviews
Volume 30 - Issue 1 - June 2017

Proceedings of the Nutrition Society
Volume 76 - Issue 2 - May 2017

British Journal of Nutrition
Volume 118 - Issue 1 - July 2017

Nutrition Journal
July 2017

European Journal of Clinical Nutrition
Volume 71 - Issue 8 - August 2017

KnowledgeShare

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Targeted evidence updates

These are individualised, based on a staff member's interest in particular conditions or lifestyle factors, age groups, settings of care, interventions and management topics.

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Database Articles

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

Head-of-bed elevation in critically ill patients: a review.

Author(s): Metheny NA; Frantz RA

Source: Critical care nurse; Jun 2013; vol. 33 (no. 3); p. 53-66; quiz 67

Publication Date: Jun 2013

Publication Type(s): Journal Article

PubMedID: 23727852

Available in full text at Critical Care Nurse - from Highwire Press

Available in full text at Critical Care Nurse - from EBSCOhost

Abstract: Clinicians are confused by conflicting guidelines about the use of head-of-bed elevation to prevent aspiration and pressure ulcers in critically ill patients. Research-based information in support of guidelines for head-of-bed elevation to prevent either condition is limited. However, positioning of the head of the bed has been studied more extensively for the prevention of aspiration than for the prevention of pressure ulcers, especially in critically ill patients. More research on pressure ulcers has been conducted in healthy persons or residents of nursing homes than in critically ill patients. Thus, the optimal elevation for the head of the bed to balance the risks for aspiration and pressure ulcers in critically ill patients who are receiving mechanical ventilation and tube feedings is unknown. Currently available information provides some indications of how to position patients; however, randomized controlled trials where both outcomes are evaluated simultaneously at various head-of-bed positions are needed.

Database: PubMed

Effectiveness of an aspiration risk-reduction protocol.

Author(s): Metheny NA; Davis-Jackson J; Stewart BJ

Source: Nursing research; 2010; vol. 59 (no. 1); p. 18-25

Publication Date: 2010

Publication Type(s): Comparative Study; Journal Article; Research Support, N.I.H., Extramural

PubMedID: 20010041

Available in full text at Nursing Research - from Ovid

Abstract:BACKGROUND: Aspiration of gastric contents is a serious problem in critically ill, mechanically ventilated patients receiving tube feedings.OBJECTIVES: The purpose of this study was to evaluate the effectiveness of a three-pronged intervention to reduce aspiration risk in a group of critically ill, mechanically ventilated patients receiving tube feedings.METHODS: A two-group quasi-

experimental design was used to compare outcomes of a usual care group (December 2002-September 2004) with those of an Aspiration Risk-Reduction Protocol (ARRP) group (January 2007-April 2008). The incidence of aspiration and pneumonia was compared between the usual care group (n = 329) and the ARRP group (n = 145). The ARRP had three components: maintaining head-of-bed elevation at 30 degrees or higher, unless contraindicated; inserting feeding tubes into distal small bowel, when indicated; and using an algorithmic approach for high gastric residual volumes.RESULTS: Two of the three ARRP components were implemented successfully. Almost 90% of the ARRP group had mean head-of-bed elevations of 30 degrees or higher as compared to 38% in the usual care group. Almost three fourths of the ARRP group had feeding tubes placed in the small bowel as compared with less than 50% in the usual care group. Only three patients met the criteria for the high gastric residual volume algorithm. Aspiration was much lower in the ARRP group than that in the usual care group (39% vs. 88%, respectively). Similarly, pneumonia was much lower in the ARRP group than that in the usual care group (19% vs. 48%, respectively).DISCUSSION: Findings from this study suggest that a combination of a head-of-bed position elevated to at least 30 degrees and use of a small-bowel feeding site can reduce the incidence of aspiration and aspiration-related pneumonia dramatically in critically ill, tube-fed patients.

Database: PubMed

A nursing clinical decision support system and potential predictors of head-of-bed position for patients receiving mechanical ventilation

Author(s): Lyerla F.; LeRouge C.; Cooke D.A.; Turpin D.; Wilson L.

Source: American journal of critical care : an official publication, American Association of Critical-Care Nurses; Jan 2010; vol. 19 (no. 1); p. 39-47

Publication Date: Jan 2010

Publication Type(s): Article

PubMedID: 20045847

Abstract:BACKGROUND: Patients receiving mechanical ventilation are at high risk for pneumonia due to aspiration. Published guidelines recommend elevating the head of the bed 30 degrees to 45 degrees , if not contraindicated, to reduce risk, but this intervention is underused. OBJECTIVES: To facilitate incorporating evidence-based practice by improving positioning of patients receiving mechanical ventilation and to identify patient and nurse characteristics that predict use of the guideline. METHODS: A modified interrupted time-series design was used. Data were collected on 43 patients and 33 nurses 3 separate times in a 12-bed intensive care unit at a medium-sized hospital. A total of 105 observations were recorded for analysis each time. RESULTS: Mean elevations of the head of the bed increased significantly from phase 1 (27.7 degrees) to phase 2 (31.7 degrees) and from phase 1 to phase 3 (31.1 degrees). Elevations were higher for tube-fed patients than for patients not given enteral tube feedings. Elevations were higher for patients with a pulmonary-related diagnosis and lower for patients with a gastrointestinal diagnosis than for patients with other diagnoses. Elevations were lower for patients with a body mass index between 25.0 and 29.9 (overweight) than for patients with other body mass index values. Nurse characteristics were not significant predictors of elevation. CONCLUSION: A nursing clinical decision support system integrated into a patient's electronic flow sheet can increase nurses' adherence to guidelines. Pulmonary and gastrointestinal diagnoses, body mass index, and tube feeding are predictors of elevation of the head of the bed.

Database: EMBASE

Minimizing respiratory complications of nasoenteric tube feedings: state of the science.

Author(s): Metheny N

Source: Heart & lung : the journal of critical care; 1993; vol. 22 (no. 3); p. 213-223

Publication Date: 1993

Publication Type(s): Journal Article; Review

PubMedID: 8491657

Abstract: This article summarizes research findings regarding ways to minimize the two most dreaded complications of tube feedings: (1) introduction of feedings through tubes positioned in the respiratory tract, and (2) pulmonary aspiration. Bedside methods that lack reliability in ruling out inadvertent respiratory placement of feeding tubes include the auscultatory method, the bubbling under water method, and observing for respiratory symptoms. Testing the pH of aspirates from feeding tubes can be of use in ruling out respiratory placement of newly inserted tubes when acidic values are properly obtained; further, this method can also be helpful in determining when a tube has migrated from the stomach to the intestine. Based on experience, the most frequently cited values for excessive gastric residuals are 100 to 150 ml. In a recent small study, researchers concluded that the residual volume that should raise concern in patients with nasogastric tubes is 200 ml and in patients with gastrostomy tubes the amount is 100 ml. Several recent studies indicate that although elevating the head of the bed 30 to 45 degrees does not prevent aspiration, it does reduce its frequency and severity. Because many studies described in this review have not been replicated, readiness of their findings for clinical application is variable. Many questions regarding methods to prevent respiratory complications in tube-fed patients remain unanswered, largely because it is difficult to design clinical studies with sufficient control of significant variables.

Database: PubMed

Exercise: Creating a search strategy

Scenario: A 64 year old obese male who has tried many ways to lose weight presents with a newspaper article about 'fat-blazer' (chitosan). He asks for your advice.

1. **What would your PICO format be?**

Population/problem	
Intervention/indicator	
Comparator	
Outcome	

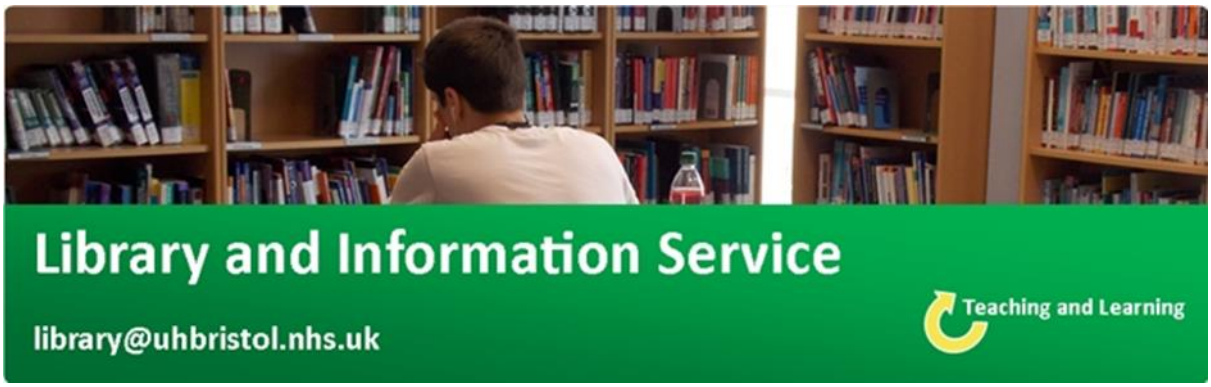
2. **What would your research question be?**

Taken from the Centre for Evidence-Based Medicine

*Find out more about constructing an effective search strategy in one of our **Literature searching** training sessions.*

For more details, email library@uhbristol.nhs.uk.

PICO: P = obese patients; I = chitosan; C = placebo; O = decrease weight
Research question: In obese patients, does chitosan, compared to a placebo, decrease weight?



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

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