



## Complete Summary

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### GUIDELINE TITLE

Administration of specialized nutrition support.

### BIBLIOGRAPHIC SOURCE(S)

Administration of specialized nutrition support. JPEN J Parenter Enteral Nutr 2002 Jan-Feb; 26(1 Suppl): 18SA-21SA. [42 references]

## COMPLETE SUMMARY CONTENT

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## SCOPE

### DISEASE/CONDITION(S)

Malnutrition

### GUIDELINE CATEGORY

Treatment

### CLINICAL SPECIALTY

Family Practice

Gastroenterology

Geriatrics

Internal Medicine

Nutrition

### INTENDED USERS

Advanced Practice Nurses

Dietitians

Health Care Providers  
Hospitals  
Nurses  
Physician Assistants  
Physicians

#### GUIDELINE OBJECTIVE(S)

- To revise the 1993 American Society for Parenteral and Enteral Nutrition Clinical Guidelines so that:
  - The Guidelines are factually up-to-date to reflect current, evidence-based, best approach to the practice of nutrition support
  - The Guidelines support the clinical and professional activities of nutrition support practitioners by articulating evidence-based recommendations upon which to base personal and institutional practices and resource allocation
  - The Guidelines serve as tools to help guide policy makers, health care organizations, insurers, and nutrition support professionals to improve the systems and regulations under which specialized nutrition support is administered
- To assist clinical practitioners who provide specialized nutrition support to patients in all care settings

#### TARGET POPULATION

Patients who are malnourished or at significant risk for becoming malnourished

#### INTERVENTIONS AND PRACTICES CONSIDERED

Specialized Nutrition Support

1. Enteral nutrition
2. Parenteral nutrition

#### MAJOR OUTCOMES CONSIDERED

- Safety and efficacy of enteral nutrition (EN) and parenteral nutrition (PN)
- Cost effectiveness of EN and PN
- Patient reports of quality of life

### METHODOLOGY

#### METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

#### DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

## NUMBER OF SOURCE DOCUMENTS

Not stated

## METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

## RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

A modified version of the method used by the Agency for Healthcare Research and Quality (AHRQ), US Department of Health and Human Services was used:

- A. There is good research-based evidence to support the guideline (prospective, randomized trials).
- B. There is fair research-based evidence to support the guideline (well-designed studies without randomization).
- C. The guideline is based on expert opinion and editorial consensus.

## METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

## DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

## METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

## DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Experts selected for their detailed knowledge and experience in a chosen niche reviewed the primary literature, synthesized and summarized it, and formulated the guideline statements.

In situations where evidence-based recommendations could not be made because of a lack of relevant clinical studies, recommendations are classified as being based on class C data (see the "Rating Scheme for the Strength of Evidence" field) and reflect an attempt to make the best recommendations possible within the context of the available data and expert clinical experience.

## Issues Considered During Recommendation Formulation

- A thread running throughout many of the disease-specific guidelines is the rationale for choosing enteral over parenteral specialized nutrition support

(SNS) or alternatively parenteral over enteral when a decision to use SNS has been made.

- Another fundamental issue that influenced many of the discussions and recommendations is the relationship between nutrition assessment, nutrition status, malnutrition, and severity of disease.

Refer to the companion document: Guidelines for the use of parenteral and enteral nutrition in adult and pediatric patients. Section I: Introduction. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl): 1SA-6SA.

## RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

## COST ANALYSIS

### Parenteral Nutrition (PN) Versus Enteral Nutrition (EN)

Costs, charges, and reimbursement for PN have all been found to be higher than those for EN by numerous investigators. There are no studies that show oral diets or EN to be more expensive than PN. However, it must also be acknowledged that true and accurate cost data (as opposed to charge based estimates) are hard to come by. Furthermore, it is very difficult to calculate true global costs (including complications, additional x-rays, monitoring, etc) of these therapies. Nevertheless, from a financial perspective, oral diets and EN are likely less costly than PN. In situations where there are no specific data demonstrating improved outcomes with PN over EN, EN therefore seems preferable on a cost basis.

### Home Specialized Nutrition Support

The cost of home specialized nutrition support (SNS) is substantial. Based on Medicare charges, home parenteral nutrition has been estimated to cost \$55,193 ± 30,596 annually, and home enteral nutrition has been estimated to cost \$9605 ± 9237 annually. Rehospitalizations, which cost up to \$140,220 per year for home parenteral nutrition patients and \$39,204 per year for home enteral nutrition patients, occur an average of 0.52 to 1.10 times per year for home parenteral nutrition patients and 0 to 0.50 times per year for home enteral nutrition patients. Monitoring of therapy is important to prevent complications and to institute early intervention, but the cost of care to providers is also substantial. Industry providers have not published information on costs; however, the annual costs of case management to a hospital nutrition support team have been estimated at \$2070 per patient.

## METHOD OF GUIDELINE VALIDATION

External Peer Review  
Internal Peer Review

## DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Completed drafts were reviewed by the section editors (the members of the Clinical Guidelines Task Force [CGTF]), edited and/or rewritten, and then reviewed twice by the members of the CGTF as a group. The entire document was then re-edited by the CGTF Chair. This four-times–edited draft was submitted to the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Board of Directors and more than 180 experts in the field of nutrition support including experts and organizations outside of A.S.P.E.N.) for content, format, and style review. These reviewers were also specifically asked to check each guideline statement for appropriateness, accuracy, and strength of evidence. This review phase stimulated a final cycle of editing by the CGTF and the CGTF Chair. The final document was then approved by the A.S.P.E.N. Board of Directors and submitted to the Journal of Parenteral and Enteral Nutrition for publication.

## RECOMMENDATIONS

### MAJOR RECOMMENDATIONS

The strength of the evidence supporting each guideline statement is coded A, B, or C. Definitions of these classifications is provided at the end of the "Major Recommendations" field.

#### Indications for Specialized Nutrition Support

1. Specialized nutrition support (SNS) should be used in patients who cannot meet their nutrient requirements by oral intake. (B)
2. When SNS is required, enteral nutrition (EN) should generally be used in preference to parenteral nutrition (PN). (B)
3. When SNS is indicated, PN should be used when the gastrointestinal tract is not functional or cannot be accessed and in patients who cannot be adequately nourished by oral diets or EN. (B)
4. SNS should be initiated in patients with inadequate oral intake for 7 to 14 days, or in those patients in whom inadequate oral intake is expected over a 7- to 14-day period. (B)

#### Home Specialized Nutrition Support

1. Home SNS (HSNS) should be used in patients who cannot meet their nutrient requirements by oral intake and who are able to receive therapy outside of an acute care setting. (B)
2. When HSNS is required, EN is the preferred route of administration when feasible. (B)
3. When HSNS is indicated, PN should be used when the gastrointestinal tract is not functional and in patients who cannot be adequately supported with EN. (B)

#### Definitions:

#### Rating Scheme

- A. There is good research-based evidence to support the guideline (prospective, randomized trials).

- B. There is fair research-based evidence to support the guideline (well-designed studies without randomization).
- C. The guideline is based on expert opinion and editorial consensus.

#### CLINICAL ALGORITHM(S)

Clinical algorithms of the Nutrition Care Process and Route of Administration of Specialized Nutrition Support are provided in the companion document: Nutrition care process. Section II: Nutrition Care Process. JPEN J Parenter Enteral Nutr 2002 Jan-Feb;26(1 Suppl): 7SA-8SA.

### EVIDENCE SUPPORTING THE RECOMMENDATIONS

#### TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting the recommendations is not explicitly stated.

### BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

#### POTENTIAL BENEFITS

##### Benefits of Enteral Nutrition (EN) Versus Parenteral Nutrition (PN)

- Proposed advantages of EN include reduced cost, better maintenance of gut integrity, reduced infection, and decreased hospital length of stay.
- A number of trials have found reduced septic complications in abdominal trauma patients given EN when compared with PN. Decreased rates of infection in enterally fed burn patients have been noted in two studies, and comparable results have been achieved in comparisons of PN and EN administered to patients with severe head injury.

##### Benefits of PN Versus EN

Many studies show an improved ability to meet nutrient goals with PN over EN, and there may be some clinical situations where even with a functional gut, it is not possible to administer adequate specialized nutrition support (SNS) other than with PN. It must be observed, however, that nutrient delivery is only an intermediate end point, and reliance on outcome data is preferable.

##### Subgroups Most Likely to Benefit

- Based on data from the North American Home Parenteral and Enteral Nutrition Patient Registry, the survival rate and rehabilitation of home SNS (HSNS) patients is highest in the pediatric age group (0 to 18 years).
- Patients with inflammatory bowel disease have the highest 5-year survival rate, approximately 90%. Patients who start HSNS when they are under 40 years of age are also more likely to do well, with a 5-year survival rate greater than 80%.

#### POTENTIAL HARMS

- Parenteral nutrition (PN) is an invasive therapy with inherent risks.
- Enteral nutrition (EN) is generally considered safe, but gastrointestinal, metabolic, and respiratory complications have been documented. Inappropriate formula advancement or feeding interruptions may result in underfeeding.
- Home specialized nutrition support (HSNS) is perceived by patients to have a negative impact on their quality of life. Despite the fact that it is life saving for patients who have lost gastrointestinal function, the technological and psychological burdens of home parenteral nutrition (HPN) are significant. In a study of home parenteral nutrition patients in Denmark, patients reported reduced strength for physical activity, feelings of depression and anger, loss of independence, and reduced social interaction. Patients in the United States have reported problems with loss of friends, loss of employment, and depression.

### Subgroups Most Likely to Experience Harms

- Based on data from the North American Home Parenteral and Enteral Nutrition Patient Registry, the survival rate and rehabilitation of HSNS patients is lowest in those greater than 65 years of age. Conversely, therapy-related complications are highest in the pediatric age group.
- Complication rates and cost of treatment are higher for HSNS patients who are opiate and sedative dependent to control pain. A majority of the complications that occur are related to the underlying disease for which the therapy is required. However, HSNS itself is associated with serious complications. These include catheter sepsis, metabolic abnormalities, organ dysfunction, and technical problems associated with feeding device placement.

## CONTRAINDICATIONS

### CONTRAINDICATIONS

Contraindications to enteral feeding include diffuse peritonitis, intestinal obstruction, intractable vomiting, paralytic ileus, intractable diarrhea, and gastrointestinal ischemia.

## QUALIFYING STATEMENTS

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These American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) Clinical Guidelines are general statements. They are based upon general conclusions of health professionals who, in developing such guidelines, have balanced potential benefits to be derived from a particular mode of medical therapy against certain risks inherent with such therapy. However, the professional judgment of the attending health professional is the primary component of quality medical care. The underlying judgment regarding the propriety of any specific procedure must be made by the attending health professional in light of all of the circumstances presented by the individual patient and the needs and resources particular to the locality. These guidelines are not a substitute for the exercise of such judgment by

the health professional, but rather are a tool to be used by the health professional in the exercise of such judgment. These guidelines are voluntary and should not be deemed inclusive of all proper methods of care, or exclusive of methods of care reasonably directed toward obtaining the same results.

## IMPLEMENTATION OF THE GUIDELINE

### DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

## INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

### IOM CARE NEED

Getting Better

### IOM DOMAIN

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### BIBLIOGRAPHIC SOURCE(S)

Administration of specialized nutrition support. JPEN J Parenter Enteral Nutr 2002 Jan-Feb; 26(1 Suppl): 18SA-21SA. [42 references]

### ADAPTATION

Not applicable: The guideline was not adapted from another source.

### DATE RELEASED

2002 Jan-Feb

### GUIDELINE DEVELOPER(S)

American Society for Parenteral and Enteral Nutrition - Professional Association

### SOURCE(S) OF FUNDING

Not stated

### GUIDELINE COMMITTEE

Clinical Guidelines Task Force

## COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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## FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

## GUIDELINE STATUS

This is the current release of the guideline.

## GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the American Society for Parenteral and Enteral Nutrition (ASPEN), 8630 Fenton St, Suite 412, Silver Spring, MD 20910-3805; (800) 741-8972. For details, please see the [ASPEN Web site](#).

## AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Guidelines for the use of parenteral and enteral nutrition in adult and pediatric patients. JPEN J Parenter Enteral Nutr 2002 Jan-Feb; 26(1 Suppl): 1SA-6SA.
- Nutrition care process. JPEN J Parenter Enteral Nutr 2002 Jan-Feb; 26(1 Suppl): 7SA-8SA.

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## PATIENT RESOURCES

None available

## NGC STATUS

This summary was completed by ECRI on May 5, 2004.

## COPYRIGHT STATEMENT

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