



Complete Summary

GUIDELINE TITLE

Nutrition. In: Evidence-based geriatric nursing protocols for best practice.

BIBLIOGRAPHIC SOURCE(S)

DiMaria-Ghalili RA. Nutrition. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 353-67. [30 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT
CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

- Malnutrition
- Protein energy under-nutrition

GUIDELINE CATEGORY

Evaluation
Management
Prevention
Risk Assessment

CLINICAL SPECIALTY

Geriatrics
Nursing
Nutrition

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Dietitians
Health Care Providers
Hospitals
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To improve indicators of nutritional status in order to optimize functional status and general well-being and promote positive nutritional status

TARGET POPULATION

Hospitalized older adults who are malnourished or at risk for malnutrition

INTERVENTIONS AND PRACTICES CONSIDERED

Assessment

1. General assessment
2. Risk assessment
 - Mini Nutritional Assessment tool
3. Dietary intake
4. Anthropometric parameters
5. Visceral proteins
6. Food consumption and need for assistance

Management

1. Collaboration with multidisciplinary team members
2. Dry mouth
3. Adequate nutritional intake
4. Oral intake
5. Mealtime environment
6. Nutritional support
7. Oral supplementation
8. Nil per os orders

MAJOR OUTCOMES CONSIDERED

- Malnutrition
- Protein calorie under-nutrition

- Weight
- Functional status
- General well-being
- Refeeding syndrome

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
 Hand-searches of Published Literature (Secondary Sources)
 Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Although the AGREE instrument (which is described in Chapter 1 of the original guideline document) was created to critically appraise clinical practice guidelines, the process and criteria can also be applied to the development and evaluation of clinical practice protocols. Thus the AGREE instrument has been expanded for that purpose to standardize the creation and revision of the geriatric nursing practice guidelines.

The Search for Evidence Process

Locating the best evidence in the published research is dependent on framing a focused, searchable clinical question. The PICO format—an acronym for population, intervention (or occurrence or risk factor), comparison (or control), and outcome—can frame an effective literature search. The editors enlisted the assistance of the New York University Health Sciences librarian to ensure a standardized and efficient approach to collecting evidence on clinical topics. A literature search was conducted to find the best available evidence for each clinical question addressed. The results were rated for level of evidence and sent to the respective chapter author(s) to provide possible substantiation for the nursing practice protocol being developed.

In addition to rating each literature citation to its level of evidence, each citation was given a general classification, coded as "Risks," "Assessment," "Prevention," "Management," "Evaluation/Follow-up," or "Comprehensive." The citations were organized in a searchable database for later retrieval and output to chapter authors. All authors had to review the evidence and decide on its quality and relevance for inclusion in their chapter or protocol. They had the option, of course, to reject or not use the evidence provided as a result of the search or to dispute the applied level of evidence.

Developing a Search Strategy

Development of a search strategy to capture best evidence begins with database selection and translation of search terms into the controlled vocabulary of the database, if possible. In descending order of importance, the three major databases for finding the best primary evidence for most clinical nursing questions are the Cochrane Database of Systematic Reviews, Cumulative Index to Nursing

and Allied Health Literature (CINAHL), and Medline or PubMed. In addition, the PsycINFO database was used to ensure capture of relevant evidence in the psychology and behavioral sciences literature for many of the topics. Synthesis sources such as UpToDate® and British Medical Journal (BMJ) Clinical Evidence and abstract journals such as *Evidence Based Nursing* supplemented the initial searches. Searching of other specialty databases may have to be warranted depending on the clinical question.

It bears noting that the database architecture can be exploited to limit the search to articles tagged with the publication type "meta-analysis" in Medline or "systematic review" in CINAHL. Filtering by standard age groups such as "65 and over" is another standard categorical limit for narrowing for relevance. A literature search retrieves the initial citations that begin to provide evidence. Appraisal of the initial literature retrieved may lead the searcher to other cited articles, triggering new ideas for expanding or narrowing the literature search with related descriptors or terms in the article abstract.

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

Levels of Evidence

Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

Level VI: Opinions of respected authorities/Consensus panels

Reprinted with permission from Springer Publishing Company: Capezuti, E., Zwicker, D., Mezey, M. & Fulmer, T. (Eds). (2008) *Evidence Based Geriatric Nursing Protocols for Best Practice*, (3rd ed). New York: Springer Publishing Company.

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

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Levels of evidence (I – VI) are defined at the end of the "Major Recommendations" field.

Parameters of Assessment

- General: During routine nursing assessment, any alterations in general assessment parameters that influence intake, absorption, or digestion of nutrients should be further assessed to determine if an older adult is at nutritional risk. These parameters include the following:
 - Subjective assessment, including present history, assessment of symptoms, past medical and surgical history, and co-morbidities (University of Texas, School of Nursing, 2006).
 - Social history (University of Texas, School of Nursing, 2006).
 - Drug–nutrient interactions: Drugs can modify the nutrient needs and metabolism of older people. Restrictive diets, malnutrition, changes in

eating patterns, alcoholism, and chronic disease with long-term drug treatment are some of the risk factors in elderly that place them at risk for drug–nutrient interactions (Boullata, 2004 **[Level VI]**). The U.S. Food and Drug Administration and National Institutes for Health have Internet resources for common drug–nutrient interactions.

- Functional limitations (Salva et al., 2004 **[Level V]**).
- Psychological status (Salva et al., 2004 **[Level V]**).
- Objective assessment: physical examination with emphasis on oral exam (see the Hartford Institute for Geriatric Nursing [HIGN] topic [Oral Health Care](#) on the HIGN Web site), loss of subcutaneous fat, muscle wasting, body mass index (BMI) (University of Texas, School of Nursing, 2006) and dysphagia.
- Dietary Intake: in-depth assessment of dietary intake during hospitalization may be documented with a 3-day calorie count (dietary intake analysis) (DiMaria-Ghalili & Amella, 2005 **[Level VI]**).
- Risk Assessment Tool: The Mini Nutritional Assessment (MNA) should be administered to determine if an older hospitalized patient is either at risk for malnutrition or has malnutrition. The MNA determines risk based on food intake, mobility, BMI, history of weight loss, psychological stress, or acute disease and dementia or other psychological conditions. If the score is 11 points or less, the in-depth MNA assessment should be administered (DiMaria-Ghalili & Amella, 2005 **[Level VI]**; Salva et al., 2004 **[Level V]**). See www.consultGerRN.org resources section for the MNA tool.
- Anthropometry
 - Obtain an accurate weight and height through direct measurement. Do not rely on patient recall. If patient cannot stand erect to measure height, then knee-height measurements should be taken to estimate height using special knee-height calipers. Height should never be estimated or recalled, due to shortening of the spine with advanced age; self-reported height may be off by as many as 2.4 cm (DiMaria-Ghalili & Amella, 2005 **[Level VI]**; Salva et al., 2004 **[Level V]**).
 - Weight history: A detailed weight history should be obtained along with current weight. Detailed history should include a history of weight loss, whether the weight loss was intentional or unintentional, and during what period. A loss of 10 pounds during a 6-month period, whether intentional or unintentional, is a critical indicator for further assessment (DiMaria-Ghalili & Amella, 2005 **[Level VI]**; National Collaborating Centre for Acute Care, 2005).
 - Calculate BMI to determine if weight for height is within the normal range of 22 to 27. A BMI below 22 is a sign of under-nutrition (National Collaborating Centre for Acute Care, 2005; Nutrition Screening Initiative, 2002 **[Level V]**).
- Visceral Proteins. Serum albumin, transferrin, and prealbumin are visceral proteins commonly used to assess and monitor nutritional status (DiMaria-Ghalili & Amella, 2005 **[Level VI]**). However, these proteins are negative acute-phase reactants; therefore, during a stress state, production is usually decreased. In an older hospitalized patient, albumin levels may be a better indicator of prognosis than nutritional status (Sullivan, Roberson, & Bopp, 2005 **[Level IV]**).

Nursing Care Strategies (DiMaria-Ghalili & Amella, 2005 **[Level VI]**)

- Collaboration
 - Refer to dietitian if patient is at risk for or has under-nutrition.
 - Consult with pharmacist to review patient's medications for possible drug–nutrient interactions.
 - Consult with a multidisciplinary team specializing in nutrition.
 - Consult with social worker, occupational therapist, and speech therapist as appropriate.
- Alleviate dry mouth
 - Avoid caffeine; alcohol; tobacco; and dry, bulky, spicy, salty, or highly acidic foods.
 - If patient does not have dementia or swallowing difficulties, offer sugarless hard candy or chewing gum to stimulate saliva.
 - Keep lips moist with petroleum jelly.
 - Encourage frequent sips of water.
- Maintain adequate nutritional intake:

Daily requirements for healthy older adults include 30 kcal per kg of body weight and 0.8 to 1g/kg of protein per day, with no more than 30% of calories from fat. Caloric, carbohydrate, protein, and fat requirements may differ depending on degree of malnutrition and physiological stress.

- Improve oral intake
 - Mealtime rounds to determine how much food is consumed and whether assistance is needed.
 - Limit staff breaks to before or after patient mealtimes to ensure adequate staff are available to help with meals.
 - Encourage family members to visit at mealtimes.
 - Ask family to bring favorite foods from home when appropriate.
 - Ask about and honor patient food preferences.
 - Suggest small frequent meals with adequate nutrients to help patients regain or maintain weight.
 - Provide nutritious snacks.
 - Help patient with mouth care and placement of dentures before food is served.
- Provide conducive environment for meals
 - Remove bedpans, urinals, and emesis basin from room before mealtime.
 - Administer analgesics and antiemetics on a schedule that will diminish the likelihood of pain or nausea during mealtimes.
 - Serve meals to patients in a chair if they can get out of bed and remain seated.
 - Create a more relaxed atmosphere by sitting at the patient's eye level and making eye contact during feeding.
 - Order a late food tray or keep food warm if patients are not in their room during mealtime.
 - Do not interrupt patients for round and nonurgent procedures during mealtimes.
- Specialized nutritional support (American Society for Parenteral and Enteral Nutrition, 2002)
 - Start specialized nutritional support when a patient cannot, should not, or will not eat adequately and if the benefits of nutrition outweigh the associated risks.

- Prior to initiation of specialized nutritional support, review the patient's advanced directives regarding the use of artificial nutrition and hydration.
- Provide oral supplements

Supplements should not replace meals but rather be provided between meals but not within the hour preceding a meal and at bedtime (Wilson, Purushothaman, & Morley, 2002 [**Level IV**]). See National Collaborating Centre for Acute Care Clinical Guideline (2006) for algorithm for use of oral supplements.

- Nothing by mouth (N.P.O.) orders
 - Schedule older adults for test or procedures early in the day to decrease the length of time they are not allowed to eat and drink.
 - If testing late in the day is inevitable, ask physician whether the patient can have an early breakfast.
 - See American Society of Anesthesiologists practice guideline regarding recommended length of time patients should be kept N.P.O. for elective surgical procedures.

Follow-Up Monitoring (National Collaborating Centre for Acute Care, 2006)

- Monitor for gradual increase in weight over time.
 - Weigh patient weekly to monitor trends in weight.
 - Daily weights are useful for monitoring fluid status.
- Monitor and assess for refeeding syndrome.
 - Carefully monitor and assess patients the first week of aggressive nutritional repletion.
 - Assess and correct the following electrolyte abnormalities: Hypophosphatemia, hypokalemia, hypomagnesemia, hyperglycemia, and hypoglycemia.
 - Assess fluid status with daily weights and strict intake and output.
 - Assess for congestive heart failure in patients with respiratory or cardiac difficulties.
 - Ensure caloric goals will be reached slowly during 3 to 4 days to avoid refeeding syndrome when repletion of nutritional status is warranted.
 - Be aware that refeeding syndrome is not exclusive to patients started on aggressive artificial nutrition but may also be found in elderly individuals with chronic co-morbid medical conditions and poor nutrient intake started with aggressive nutritional repletion via oral intake.

Definitions:

Levels of Evidence

Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

Level VI: Opinions of respected authorities/Consensus panels

Reprinted with permission from Springer Publishing Company: Capezuti, E., Zwicker, D., Mezey, M. & Fulmer, T. (Eds). (2008) *Evidence Based Geriatric Nursing Protocols for Best Practice*, (3rd ed). New York: Springer Publishing Company.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Patient

- Improvement in indicators of nutritional status.
- Improvement in functional status and general well-being

Provider

- Provision of adequate food and fluid in an environment conducive to eating, with appropriate support for people who can potentially chew and swallow but are unable to feed themselves
- Reassess patients who are malnourished or at risk for malnutrition
- Monitor for refeeding syndrome

Institution

All health care professionals who are directly involved in patient care receive education and training on the importance of providing adequate nutrition

POTENTIAL HARMS

Aggressive nutritional repletion is associated with refeeding syndrome.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Staff Training/Competency Material

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

DiMaria-Ghalili RA. Nutrition. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 353-67. [30 references]

ADAPTATION

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

DATE RELEASED

2008

GUIDELINE DEVELOPER(S)

Hartford Institute for Geriatric Nursing - Academic Institution

SOURCE(S) OF FUNDING

Hartford Institute for Geriatric Nursing

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Primary Author: Rose Ann DiMaria-Ghalili

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the [Hartford Institute for Geriatric Nursing Web site](#).

Copies of the book *Geriatric Nursing Protocols for Best Practice*, 3rd edition: Available from Springer Publishing Company, 536 Broadway, New York, NY 10012; Phone: (212) 431-4370; Fax: (212) 941-7842; Web: www.springerpub.com.

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Assessing nutrition in older adults. Try this: best practices in nursing care to older adults. 2007. Electronic copies available from the [Hartford Institute for Geriatric Nursing Web site](#).
- Nutrition in the elderly: post-test instruction. Continuing education activity. Available from the [Hartford Institute for Geriatric Nursing Web site](#).
- Nutrition in the elderly: evaluation. Continuing education activity. Available from the [Hartford Institute for Geriatric Nursing Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on June 17, 2008. The information was verified by the guideline developer on August 4, 2008.

COPYRIGHT STATEMENT

This NGC summary is based on the original guideline, which is subject to the guideline developer's copyright restrictions.

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at <http://www.guideline.gov/about/inclusion.aspx>.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

© 1998-2008 National Guideline Clearinghouse

Date Modified: 11/3/2008

