Complete Summary

GUIDELINE TITLE

Altered nutritional status.

BIBLIOGRAPHIC SOURCE(S)

American Medical Directors Association (AMDA). Altered nutritional status. Columbia (MD): American Medical Directors Association (AMDA); 2001. 32 p. [33 references]

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, this guideline was reviewed by the original Steering Committee and is still considered to be current as of Jan 2007. This review involved new literature searches of electronic databases followed by expert committee review of new evidence that has emerged since the original publication date.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- May 2, 2007, Antidepressant drugs: Update to the existing black box warning on the prescribing information on all antidepressant medications to include warnings about the increased risks of suicidal thinking and behavior in young adults ages 18 to 24 years old during the first one to two months of treatment.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **
SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
QUALIFYING STATEMENTS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT

CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Altered nutritional status (ANS)

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Risk Assessment
Screening
Treatment

CLINICAL SPECIALTY

Geriatrics

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Dietitians
Health Care Providers
Nurses
Pharmacists
Physician Assistants
Physicians
Social Workers
Speech-Language Pathologists

GUIDELINE OBJECTIVE(S)

- To improve the quality of care delivered to patients in long-term care settings
- To help the interdisciplinary team evaluate and manage nursing home residents who are at risk for or who have experienced a significant change in weight
- To provide a structured approach to the recognition, assessment, treatment, and monitoring of altered nutritional status (ANS) that acknowledges the ethical implications of this condition for patients, their families, and the staff of long term care facilities
- To inform institutional policies and procedures and the survey processes of state and federal reviewers

TARGET POPULATION

Nursing home residents who are at risk for or who have experienced a significant change in weight

INTERVENTIONS AND PRACTICES CONSIDERED

Screening/Diagnosis/Evaluation

1. Baseline evaluation of patients' nutritional status [Weight, height, body mass index, eating preference, laboratory (albumin, cholesterol, complete blood count with differential), Minimum Data Set (MDS)]
2. Identification of risk factors for altered nutritional status
3. Routine observation of patient for changes in weight or food intake that may indicate altered nutritional status (ANS)
4. Tier 1 and Tier II assessment to identify causes of nutritional problems
5. Screening as indicated for functional impairments, social and environmental factors, dietary restrictions, food preferences, medication conditions associated with anorexia or dehydration, malabsorption syndrome and conditions that increase nutritional needs, conditions related to fluid retention (if weight gain)

Management/Treatment

1. Dietary, medical, functional and nursing care planning to address identified risk factors and potential causes of altered nutritional status
2. Management of eating environment
3. Rehabilitation for functional disabilities
4. Management of medical conditions associated with altered nutritional status
5. Appetite stimulants
6. Tube feeding
7. Monitoring risk factors and effectiveness of treatment interventions

MAJOR OUTCOMES CONSIDERED

- Risk for altered nutritional status
- Nutritional status
- Weight and body mass indices (BMI)
- Appetite

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

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

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

The guideline was developed by an interdisciplinary work group using a process that combined evidence- and consensus-based thinking. The groups were composed of practitioners involved in patient care in the institutional setting. Using pertinent articles and information and a draft outline, the group worked to make a simple, user-friendly guideline that focused on application in the long term care institutional setting.

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

All American Medical Director Association (AMDA) clinical practice guidelines undergo external review. The draft guideline is sent to approximately 175+ reviewers. These reviewers include American Medical Director Association physician members and independent physicians, specialists, and organizations that are knowledgeable of the guideline topic and the long-term care setting.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

I. **Recognition**

Patients in long term care facilities are at risk for numerous conditions that can cause weight loss (see "Conditions often associated with anorexia or weight loss" below). For this reason, long term carte facilities should establish procedures to identify altered nutritional status (ANS) as early as possible.

Conditions often associated with anorexia or weight loss:

- Dementia/delirium
- Depression
- Chronic pain
- Constipation
- Use of multiple medications
- Chronic infections
- End-stage major organ system disease
- Terminal illness

Step 1

Perform a baseline evaluation of the patient's nutritional status. Because nutritional status is often compromised by events (such as hospitalization) that precede admission to a long term care facility, it is important to evaluate nutritional status as soon as possible after an individual's admission. Record the following information in the patient's chart within 14 days of admission.

- **Admission weight**. For best results, try to weigh the patient on the same scale, at the same time of day, and without clothing or shoes. Preferably, the patient should be weighed in the morning before breakfast. However, checking weight when the patient is having a bath or shower is acceptable. A good option is to identify a Height and Weight Team, who become responsible for assuring the timeliness and accuracy of the measurements. Weigh the patient weekly for the first 4 weeks to establish a baseline. If the patient's weight is stable, weigh the patient monthly thereafter for routine monitoring. It is advisable to calibrate or check the calibration of the scale on at least a monthly basis. Consider calibrating the scale anytime it is moved.
- **Height and body mass index (BMI)**. Each facility should adopt a standard method for measuring the height of individuals who cannot stand upright. Self or family report is inaccurate, tending to

overestimate height. No single method is optimal. The arm span, knee height, and recumbent height methods (described in the original guideline document) provide acceptable alternatives to measurement of standing height; the team approach assures consistency. When a special height-measurement method is used, document this in the patient's chart.

- Arm span: Measured from finger tip to fingertip with the arms fully extended, or double the distance from extended fingertip to mid-sternum
- Knee height: A derived estimate based on the measured distance from heel to knee, with the foot and knee at 90 degrees
- Recumbent height: Measured using a flexible tape with the patient lying flat in bed. This measurement is approximately 1.5 inches (3.7 cm) greater than standing height.

Use of the body mass index (BMI) in the evaluation of nutritional status is strongly recommended. The BMI is calculated using the following formula:

BMI = weight (kg)/height (m^2)

OR [weight (lbs)/height (in^2)] x 704

- Severely underweight: <19
- Underweight: 19-23
- Desirable: 23-25
- Overweight: 25-30
- Obese: >30

- **Eating preferences**. As soon as practicable after admission (if possible within 24 hours), obtain the following information from the patient or the patient's family.
  - What kinds of food does the patient usually like to eat?
  - What size portion does the patient prefer at each meal?
  - How many meals does the patient usually eat in a day?
  - At what times of day does the patient usually eat his or her meals?

  Within the first 3 to 5 days after admission, staff should observe the patient eating and document the percentage of food on the plate that the patient consumes. An estimate of the percentage of food eaten by serving portion or by food group - meat, vegetables, fruit, grain products, dairy products, sweets - is preferable to a global estimate because it will help the dietitian tailor meals to match the patient's preferences.

- **Baseline testing**. Albumin and cholesterol levels and a complete blood count with differential can provide a baseline for comparison if weight change occurs later. If these values are not noted in the patient's hospital records, the physician may consider obtaining baseline values during the first week of admission to the facility.

However, testing to obtain these values, like other diagnostic interventions, is not appropriate for all patients. The following are questions that the physician should ask in determining whether such testing is appropriate:

- Does the patient have an advance directive? If so, does the advance directive address the patient's wishes regarding diagnostic tests?
- Is the goal of care maintenance or cure?
- Is the patient's care plan focused on end-of-life care?

- **Minimum Data Set (MDS)**. Potential predisposing factors for malnutrition in MDS-Version 2.0:
  - G1h Inability to feed oneself
  - K1a chewing problems: mouth, teeth, dentures
  - K1b swallowing problems: pain, choking
  - K3a Significant weight loss
  - K4a Presence of taste alterations
  - K4c Leaves 25% of food at most meals
  - K5c Mechanically altered diet
  - K5d Syringe (oral feeding)
  - K5e Therapeutic diets

  Because facilities use computerized data entry to complete the MDS form, these items can be extracted by means of a data searching program.

  As in the case with the use of selected MDS items used to approximate the Braden Scale for pressure ulcer risk, using the MDS to assess nutritional status helps shape the care plan and can be a tool for monitoring change. If the MDS is used in this way, it is recommended that the relevant MDS items also be incorporated into the admission evaluation. Facilities not now using a data searching program may wish to ask their computer software vendor whether such a program is available.

Step 2

Identify risk factors for altered nutritional status. Seek information about the presence of each of the following risk factors for all newly admitted patients.

- **History of recent weight loss or change in appetite**. If the patient is competent, ask whether he or she has lost weight recently or has had a loss of appetite. Also ask the patient's family and, if appropriate, consult the patient's hospital discharge records. A "yes" response from any source should trigger closer observation of the patient. Nutrition Care Alerts can help remind staff of signs and symptoms that might identify a change in nutritional status.
- **Functional disability**. Within the first 3 to 5 days after admission, a staff member should observe the patient eating and document the following:

- *Ability to feed himself or herself without assistance; degree and nature of assistance needed, if any* (e.g., help with meal set-up, cutting of meats, verbal prompts, adaptive devices).
- *Upper-extremity impairments of mobility and coordination while eating*. Pay particular attention to tremors, ataxia, and signs of weakness.
- *Body positioning*. Desirable positioning means the patient is seated with hips at approximately 90 degrees, close to the table, with approximately 12 inches from plate to mouth.
- *Ability to grasp the eating utensils, lift them to the mouth, and use them appropriately*.
- *Difficulty chewing or swallowing food*.
    - Assess the patient for tongue lesions, mouth sores, dental caries, gum disease, or poorly fitting dentures.
    - Assess gag reflex, tongue movement and strength, ability to handle saliva, and other obvious impediments to chewing or swallowing.
    - Look for signs that may indicate dysphagia, such as:
        - coughing before, during, or after swallowing
        - need to swallow 3-4 times with each bolus
        - frequent throat-clearing
        - hoarse, breathy, or wet voice; gargling while breathing
        - sensation of something caught or stuck in the throat; drooling; pocketing food in the cheeks
        - oral-buccal akathisia (protruding tongue movements)

A skilled individual such as a physician, registered nurse, or speech pathologist (see Table 5 in the original guideline document for elements of a bedside clinical evaluation of a swallowing problem) should perform a bedside clinical evaluation to distinguish true dysphagia (difficult or impaired swallowing) from other related symptoms (for example, a chewing or dental problem or a cough of nasal or pulmonary origin). If the existence of a swallowing problem is confirmed on clinical grounds, then determine whether further testing is relevant to that individual's goals and prognosis and whether it would add materially to what is already known or would change the ultimate treatment decisions, for example:

- Does the patient have an advance directive? If so, does the advance directive address the patient's wishes regarding diagnostic tests?
- Is the goal of care maintenance or cure?
- Is the patient's care plan focused on end-of-life care?

Before a fluoroscopic cine-esophagram is ordered, the interdisciplinary team (including the attending physician), speech pathologist, and the patient (if he or she is competent) or a family member should discuss the appropriateness of this test. If it is decided to proceed with the test, document in the patient's chart the reasons for the test and the expected benefits.

- **Presence of an active pressure ulcer**. Evaluate all patients with pressure ulcers to determine their nutritional status and ability to consume sufficient calories to meet their needs.
- **Presence of a terminal illness**. Even among terminally ill patients, for whom invasive interventions are rarely warranted, changes in diet can improve intake and satisfaction.
- **Depression**. In addition to closely observing patients' weight and food intake for the first 4 weeks after admission, staff should monitor all newly admitted patients for other signs that may indicate depression (see American Medical Directors Association [AMDA] guidelines on depression).
- **Medication use**. Document all medications the patient is taking, noting especially any new medications prescribed during his or her hospital stay. Ask the patient or family whether the patient takes any over-the-counter products not listed in the medical record. It is often helpful for the physician and a clinical pharmacist to review the medication regimen, paying specific attention to medications associated with ANS. Refer to Table 6 in the original guideline document for a list of medications that may be associated with altered nutritional status
- **Presence of nausea, vomiting, or diarrhea**. These symptoms may indicate medication side effects or a gastrointestinal, hepatobiliary, or renal disorder. Medications commonly associated with these symptoms include digoxin, antibiotics, and non-steroidal anti-inflammatory drugs (NSAIDs). Antibiotics may also cause *Clostridium difficile* colitis.
- **Presence of fluid retention and edema**. Weight monitoring should focus on dry weight, especially in patients with cardiac, renal, or hepatic disease, in whom weight gain can be important early signs of impending decompensation.
- **Presence of underlying infection**.

Refer to the original guideline document for further discussion of factors listed above.

Step 3

Observe the patient routinely for changes in weight or food intake that may indicate ANS. At any time during a patient's stay in long term care, observation of any one of the following conditions should trigger a prompt initiation of an assessment of the patient's nutritional and fluid status (Step 5):

- Weight change of 5% in 1 month, 7.5% in 3 months, or 10% in 6 months (Resident Assessment Protocol [RAP] criteria).
- Decline in food intake over several days (not to exceed 7 days). An abrupt change, such as refusal of food for two or more successive meals, usually indicates a medication side effect or the presence of an acute illness rather than a nutritional problem.
- BMI drifting to <19. Establish if BMI <19 is normal for this individual or whether he or she has slowly lost weight. People who are constitutionally thin may need closer monitoring and more narrow

triggering criteria, although they are within their normal weight range, because their physiologic reserves are low.

- Persistent, unexpected and unintended weight loss for 3 consecutive months. Without a detailed history, this may be difficult to assess on admission, but it is an easily appreciated and far more sensitive trigger than the RAP criteria.

II. Assessment

The following steps are intended to guide the diagnostic assessment of the patient who triggers one or more of the ANS criteria from Step 3. The diagnostic process has been divided into two tiers.

- **Tier I** is intended to identify causes of nutritional problems that are common, easily identified, and reversible in some cases. It should be completed within 30 days of recognition of ANS.
- **Tier II** is intended to identify uncommon conditions, or diagnoses for which cure is less likely. These conditions are important because they may affect prognosis, alter the goals of care, and redirect the care plan. A Tier II Assessment is not appropriate in all cases; some patients and families may choose to forego this assessment for personal reasons. If a Tier II Assessment is undertaken, it should be completed within 90 days, but no more than 120 days of recognition of ANS. By this time, the decision to insert a percutaneous endoscopic gastrostomy (PEG) tube or pursue a palliative care plan should be clarified, if the patient has not stabilized.

Steps within tiers are meant to be concurrent rather than sequential. They represent complementary aspects of a comprehensive, interdisciplinary review. Weight loss and weight gain follow separate but occasionally overlapping tracks.

Tier 1 Assessment. These steps are intended to identify causes of a nutritional problem that are common, easily identified, and potentially reversible. Each discipline has a role in the assessment within its sphere of knowledge and a responsibility to share its findings with the team. Because multiple factors usually contribute to a nutritional problem, the assessment should not stop with the first or most obvious cause. Other less apparent causes may be equally important and, when treated, may lead to improvement or resolution of the problem. The Tier I Assessment should be completed and recorded in the patient's chart as soon as practicable, but no more than 30 days after recognition of ANS.

Step 4

Confirm the existence of a problem that requires additional assessment.

- Validate weight measurements before initiating an interdisciplinary assessment of ANS.
- Evaluate whether the patient's weight change (loss or gain) is truly unintended or unexpected.

- Evaluate the patient's willingness to undergo a diagnostic assessment.

If this review confirms the presence of a problem that requires additional assessment, mobilize the interdisciplinary team to help identify the underlying causes of the problem and develop a treatment plan. If the Step 3 assessment criteria are met but the patient or family decides not to intervene, this decision and the rationale for it should be clearly documented in the patient's record. (See Step 13.) For the patient who triggers an assessment because of weight gain, skip to Step 10.

Step 5

For a patient who has lost weight: Establish that the patient is eating the food he or she receives. Monitor the patient's food intake for at least 1 day (some dietitians prefer a 3-day evaluation). A simple estimate of the fraction of each portion or food from each food group consumed at each meal is usually sufficient; a calorie count is not necessary. Refer to the original guideline document for a discussion of anorexia, weight loss that occurs despite normal intake, and hyperphagia.

Step 6

For patients whose food intake is inadequate: Screen for functional impairments.

- Observe the patient while he or she is eating. Pay attention to tremors, ataxia, signs of upper extremity weakness, joint pain, conditions that limit mobility, body positioning, and ability to grasp the eating utensils and lift them to the mouth.
- Evaluate the patient for oral pain caused by tooth decay or gum pathology. Do dentures fit properly? Is the food of a consistency that the patient can chew and swallow?
- Observe the patient's swallowing ability. Assess tongue strength and movement, the presence of coughing and other signs of dysphagia while eating, ability to differentiate tastes, and sensitivity to hot and cold foods.
- Evaluate whether adequate feeding assistance is available and whether the time set aside for meals is sufficient for patients who eat slowly.

Step 7

For patients whose food intake is inadequate: Screen for social and environmental factors, dietary restrictions, and food preferences.

- Reassess the patient's food preferences. Ask the patient's family to bring in foods the patient likes. Try to individualize the patient's meal plan. (See Step 17.)
- Review the necessity for any dietary restrictions. Routine dietary restrictions are usually unnecessary in the long term care setting. (See Step 18.)

- Evaluate the environment in the room where patients eat their meals. Noise and distractions may deter some patients from eating an adequate amount of food. On the other hand, eating alone may adversely affect mood and contribute to anorexia.

Step 8

For patients whose food intake is inadequate: Screen for medical conditions associated with anorexia or dehydration.

- Consider fluid and electrolyte imbalance. [See American Medical Directors Association (AMDA) guideline on dehydration.]
- Look for and evaluate any changes in the patient's mood or behavior. Consider using structured evaluations such as the Geriatric Depression Scale for patients who are verbal or the Cornell Scale for Depression in Dementia, which is more behaviorally based.
- Comprehensively review all medications. Refer to the original guideline document for a discussion of medications associated with ANS.
- Consider the presence of infections.
- Consider gastrointestinal pathology and motility disorders.
- Order a chest X-ray and a panel of laboratory tests (see below) to screen for occult physical illness. Results of the history and physical examination may suggest additional laboratory and radiographic studies.

Tier 1 Assessment - Baseline Laboratory Tests

The following are the most readily available laboratory values to support the findings of a diagnosis resulting in ANS. However, the diagnosis of malnutrition cannot be made on the basis of either laboratory tests or anthropometrical measurements alone. Test results and measurements must be correlated with clinical findings and recent medical history.

- Appropriate drug levels
- Complete blood count with differential
- Comprehensive metabolic profile (or similar panel including liver enzymes, total protein and albumin, calcium and phosphorus, cholesterol and magnesium)
- Hemoccult
- Malabsorption syndromes (e.g., *C. difficile* assay)
- Thyroid-stimulating hormone
- Urinalysis and culture if urinalysis (UA) is positive

Pre-albumin may be useful in the laboratory assessment of the adequacy of enteral feeding prescriptions.

Step 9

For patients who lose weight despite normal intake: Screen for a malabsorption syndrome and for conditions that increase nutritional needs. Patients who lose weight despite normal intake generally fall into one

of three categories: those receiving inadequate servings of food, those whose metabolic need is greater than their usual level of food consumption, and those with a malabsorption disorder.

- **Inadequate caloric intake**. Patients who weigh more than 175 lb may need more than the standard 2000 kcal/day as a basal diet. Patients who wander or fidget or suffer from chronic movement disorders may need additional food to compensate for the energy expended in these activities.
- **Increased metabolic need**. Persistent infections, advanced illness, such as heart failure, chronic bronchitis/emphysema, liver or renal failure, and the presence of large pressure ulcers increase metabolic demands more than the patient's activity level might suggest.
- **Malabsorption**. This condition is usually but not always associated with diarrhea. Causes may include pancreatic insufficiency, dumping syndrome related to bacterial overgrowth in the small intestine, acquired lactose intolerance, partial ileus, *C. difficile*-related colitis (with diarrhea), or a protein-losing enteropathy (with or without diarrhea).

Step 10

Screen patients who gain weight for conditions related to fluid retention.

Tier II Assessment

Most patients with an unexpected and unintended change in weight should undergo the Tier I Assessment described in Steps 4-10, as appropriate, with exceptions clearly documented. If this assessment fails to identify a likely cause of the weight change, a search for less common and less obvious causes should be pursued if it is consistent with the patient's and family's goals. Because it may take up to 3 months to identify a cause, an empiric nutritional interaction is often appropriate while the diagnostic evaluation continues. If a Tier II Assessment is undertaken, it should be completed within 120 days of recognition of ANS.

Step 11

For patients who have lost weight: Evaluate whether a continued search for the cause of weight loss is appropriate. The Tier II Assessment for patients who have lost weight is more likely than the Tier I Assessment to conclude with the discovery of an irreversible or terminal diagnosis. Important examples include metastatic cancer; progressive dementia or other degenerative neurological conditions; and end-stage cardiac, pulmonary, renal, and hepatic illnesses. Unremitting weight loss in the context of these conditions should be considered evidence of a terminal disease and progressive weight loss should be considered unavoidable. (See Step 13)

When no terminal condition can be clearly identified, the patient's care goals and willingness to undergo more intensive medical evaluation must be

considered in determining whether a continued search for the cause of weight loss is appropriate. If it is decided to continue, the interdisciplinary team should

- Repeat the patient's history and physical findings in light of the recent weight change.
- Order additional laboratory and radiological studies based on any new findings in the "second-look" history and physical examination.

Refer to Table 9 in the original guideline document for a list of additional possible causes for weight loss.

If it is decided to halt further testing, document this decision in the patient's record. Some patients and their families may wish to forego further testing for personal reasons; these wishes should be respected.

In some cases, the physician may determine that further testing would not substantially change the treatment or outcome. In this circumstance, documentation of a second opinion by a corroborating physician or the medical director of the facility is strongly recommended. The patient, or other responsible party, should be notified, and if there is disagreement, the case presented to an Ethics Committee. Empiric oral supplementation may be tried (see Steps 19 and 20), but if the patient fails to stabilize despite these efforts, additional weight loss should be considered unavoidable. (See Step 13.)

Step 12

For patients who have gained weight: Evaluate whether a continued search for the cause of weight gain is appropriate. A Tier II Assessment is indicated for a patient who has gained weight

- To determine if the cause of the fluid retention is remediable.
- If obesity has become pathologic. Pathologic obesity commonly has a psychiatric cause such as depression or an obsessive-compulsive disorder. Psychiatric consultation is warranted unless the patient declines it. The patient's refusal of psychiatric consultation should be documented in his or her record.

  When no terminal condition can be clearly identified, the patient's care goals and willingness to undergo more intensive medical evaluation must be considered in determining whether a continued search for the cause of weight gain is appropriate. (See Step 11.)

Step 13

Identify and document unavoidable ANS. Assessment and treatment of a nutritional problem must be consistent with the individual's care goals and must offer a benefit to the patient. Review the patient's advance directives.

For a patient with a terminal condition, a change in weight is unavoidable when one or more of the following conditions applies after a Tier II Assessment has been completed and documented, or after a decision not to proceed with a Tier II Assessment has been documented.

- The assessment has identified no remediable cause for the patient's change in weight.
- Although the cause of the change in weight has been identified, the patient has not responded to a therapeutic trial. (See Steps 15-19).
- Further intervention may harm the patient or offers no reasonable expectation of benefit.

For a patient who has an end-stage condition or is in a persistent vegetative state, a change in weight is unavoidable when one of the following conditions applies after a Tier II Assessment has been completed and documented, or after a decision not to proceed with a Tier II Assessment has been documented.

- The assessment has identified no remediable cause for the patient's change in weight.
- Further intervention may harm the patient or offers no reasonable expectation of benefit.
- The patient or family has requested that no further diagnostic or therapeutic intervention be pursued.

Step 14

Summarize the results of the assessment of the patient's ANS. This summary should:

- Identify the extent of the weight loss or gain.
- Describe all identified or probable conditions contributing to ANS.
- Project the individual's prognosis and likely clinical course.

III. Treatment

The assessment process described above is intended-to the extent that is reasonable and practical and has the patient's consent-to identify all treatable conditions and diagnose all remediable illnesses. Treatment is defined in this guideline as any intervention that offers a reasonable expectation of benefit for the patient. This may include making changes in the eating environment, offering rehabilitation for functional disabilities, and controlling or mitigating the effects of medical conditions associated with ANS. Treatment may be considered successful when the patient's weight has stabilized, even if it stabilizes at a level below baseline.

The patient does not have to regain the weight lost. Older adults tend not to return to their previous weight after an illness or temporary nutrient and fluid deficiency.

Step 15

Address each identified risk factor and potential cause of ANS identified in the Recognition and Assessment phases *(see Steps 1-13)*. The dietary, medical, functional and nursing care plans should address identified risk factors and the associated causes identified in the diagnostic assessment. For each identified risk factor, establish a planned intervention.

- Treat depression aggressively. Some antidepressants may increase appetite. However, relief of the patient's depression is the major reason for improved food intake following initiation of antidepressant therapy.
- Reassess all medications for continued indications, potential side effects, and interactions that may affect nutritional status.
- Evaluate the patient's activity level and ability to exercise (exercise can stimulate appetite).
- For a verified swallowing problem, consider the underlying causes and patient prognosis and determine whether the patient is a candidate for rehabilitation. A physician should help the interdisciplinary team weigh the benefits of allowing someone to eat a less restricted diet versus any potential risks. Based on understanding the overall picture, a speech pathologist may recommend appropriate food textures and consistency, improve body positioning, and teach the patient specialized swallowing techniques such as a chin-tuck swallow and double swallowing. Or, it may be concluded that no restrictions are appropriate because it is preferable to allow the patient to eat despite aspiration risks.

Step 16

Address issues that may affect the eating environment in the nursing facility.

- Ensure that the environment in the room where meals are served is pleasant and conducive to eating. For example, try to reduce noise, confusion, and distractions.
- Make every effort to ensure that all foods offered are attractive and palatable. Use garnishes, seasonings, and sweets, as appropriate, to enhance the appearance and taste of dishes.
- Consider having more than one meal sitting. Multiple sittings for smaller groups are preferable to separate sittings for independent and non-independent eaters. Patients who are alert and can eat independently may be asked to help patients who need verbal cues to encourage them to eat.
- Adopt a flexible staffing pattern that enables nursing staff to move to floors or units where more patients need assistance at meal times.
- Use non-nursing staff and volunteers at meal times to help set up trays and enhance socialization at mealtimes. This frees nursing staff to assist patients who need the most help with eating and those who can feed themselves if they receive verbal cues. Training of family members to help feed selected patients is encouraged. (AMDA strongly supports the development of certificate feeding-assistance programs for family, volunteers and non-professional staff in accordance with state and federal guidelines.) However, only certified nursing

assistants (CNAs) and other properly trained staff should feed patients with dysphagia and other swallowing disorders.
- Consider having a happy hour before dinner, when residents may congregate and have an alcoholic beverage or sweets before their meal.
- Try using the smell of freshly cooked food as an enhancement to eat. For example, consider warming foods in a crock-pot or operating a bread-making machine in the dining area.

Step 17

Tailor meals and foods to individual preferences. Each patient has a lifetime of eating habits and food preferences based on ethnic, regional, and personal tastes. By adopting a flexible approach to food service and presentation, facilities can meet the challenge of satisfying these preferences in an institutional setting.

- Individualize each patient's meal plan. Offer the option of small, medium, and large portions at each meal. Patients may have a preferred time to eat their main meal of the day, especially breakfast or lunch, at which they are likely to consume a larger portion.
- Permit flexibility in the times that meals are served. Scheduling meals and snacks at approximately 3-hour intervals between 6 a.m. and 9 p.m. allows patients to eat at the times they prefer. Flexible meal scheduling also has the effect of staggering through-out the day the number of patients who need help with eating.
- Permit patients to eat at their own pace. If a patient has stopped eating, do not immediately remove the tray. Ask the patient if he or she has finished eating. Encourage the at-risk patient to eat a few more bites before removing the tray.
- Invite the patient's family members to bring in foods they know the patient likes to eat (unless the patient's diet is restricted because of medical conditions; see Step 18).
- Offer foods that satisfy patients' ethnic, regional, and personal preferences as well as their preferences for sweet, salty, or spicy foods.
- Provide foods of a consistency and texture that allows comfortable chewing and swallowing. For example, a patient who has difficulty swallowing may reject pureed or artificially thickened foods but may eat foods that are naturally of a pureed consistency, such as oatmeal, ice cream, yogurt, mashed potatoes, and puddings.
- Provide adaptive devices that promote independent eating and encourage patients who need help with feeding to use them. Adaptive devices include swivel spoons, rocker knives, utensils with thick handles, plates with an inner lip, and bowls with a large distal lip.
- For patients who cannot use utensils, offer finger-foods, for example, nuggets instead of fillets, french fries instead of mashed potatoes, and carrot sticks instead of a salad.

Step 18

Reconsider all dietary restrictions. Routine dietary restrictions are usually unnecessary and can be counterproductive in the long term care setting. Special diets for diabetes, hypertension and heart failure, and hypercholesterolemia have not been shown to improve control or affect symptoms. When a patient is at risk for or has an unintended weight loss, the presence of one of these diagnoses alone is insufficient justification for continuing dietary restrictions. The reasons for any dietary restrictions that are ordered should be clearly stated in the patient's record.

Late-stage renal insufficiency is an exception to this general rule; protein restriction in patients with late-stage renal insufficiency may delay the onset of dialysis. However, protein need not be restricted in patients on dialysis. Dietary restrictions may need to be removed gradually to avoid medication side effects. For example, for patients taking lithium, easing restrictions on dietary sodium may reduce lithium levels and may exacerbate the underlying illness. These patients require closer monitoring during the transition.

Diets of altered consistency (especially purees) are often unpalatable and visually unappealing and patients may reject them. To the extent possible, tailor changes in food consistency to patients' preferences and tolerance; finely chopped foods may retain their flavor and be equally well handled. Every effort should be made to season and enhance flavors of altered textured foods. Order diets of altered consistency only when a patient has a demonstrated problem or a very high risk of aspiration-for example, a patient who has recently had a stroke or laryngopharyngeal surgery.

Step 19

Consider ways to supplement the patient's diet. If the patient does not consume sufficient food or fluids, consider options for supplementation roughly in the following order.

- Increase the nutrient density of foods. Increase protein content by adding milk powder, egg whites, or tofu (a bland soy-based food). Increase fat content by adding butter, margarine, or oil during food preparation, and sauces or gravy at meals.
- Offer snacks as part of a defined between-meal snack program- for example, during or after a group activity.
- Consider giving a daily multivitamin and mineral supplement to patients whose food consumption is marginal until the cause of the inadequate intake is determined.
- Distribute liquid dietary supplements during the medication pass. Evidence suggests that a liquid supplement given approximately 60 minutes before a meal does not reduce food consumption. For example, 2 to 4 oz of a 2 kcal/cc formula given four times daily with the medication pass provides 500 to 1000 kcal/day.

Step 20

Consider the use of appetite stimulants on an individual basis. Increased exercise may be an appropriate, non-pharmacological approach to appetite stimulation in some patients. The use of medications (see Table 10 in

the original guideline) to stimulate appetite in long term care patients is controversial. In general, these medications have not been adequately studied and are not part of the routine evaluation and treatment of weight loss in the long term care setting. However, their use may be considered on an individual basis. If initiated, appetite stimulants, such as megesterol acetate, are not likely to have a demonstrable effect for at least 2 months. If the patient gains weight and tolerates the regimen, the agents should be continued for at least 12 weeks, at which point, the regimen may be discontinued. Although weight gain, improved appetite and greater sense of wellbeing may continue for several months, there is no evidence of improved longevity.

Step 21

Evaluate the risks and benefits of tube feeding. Questions about advance health care directives and attitudes about tube feeding may be included in the patient's admission evaluation. (See Step 1.) Record this information in the patient's chart so that it is available to guide later decision-making. Because the patient may be incapable of expressing a choice when the need arises, appointment of an advocate for health care decision-making is the best means of assuring that his or her wishes are honored in the future.

Tube feeding may be clinically appropriate in certain circumstances (see "Indications for the use of a feeding tube" below). However, it should not be an automatic next step when other feeding strategies have failed. Table 12 (see "Selection and administration of tube feeding" below) gives the guidelines on the use of feeding tubes that are used by federal surveyors. Before deciding to initiate tube feeding, the interdisciplinary care team should meet with the patient and family to carefully consider the risks and benefits of tube feeding and the patient's preferences.

In general, tube feeding may be appropriate when

- There is a clear clinical indication for its use
- It provides a benefit that is not outweighed by risks
- It is consistent with the known values and preferences of the patient and family

Indications for use of a feeding tube:

- Choking prevents ingestion of a meal (aphagia)
- Difficulty swallowing prevents oral intake of adequate calories (dysphagia)
- Stroke or other neurological disorders
- Head and neck surgery
- Esophageal obstruction
- Discontinuous gastrointestinal (GI) tract
- Patient/family preference

Selection and administration of tube feeding:

- Tube-feeding care plan reflects the wishes/advanced directives of the resident/family
- Goals for feeding are stated and are consistent with the tube-feeding care plan
- Residents' rights to privacy and dignity are respected
- Tube will be withdrawn when no longer needed or consistent with therapeutic goals

Refer to the original guideline document for further discussion regarding tube feedings.

Step 22

Summarize the results of treatment interventions on the patient's ANS. Weight stabilization is the primary endpoint. Individual interventions may need to be tried for up to 2 to 3 months before their effectiveness can be determined. During these therapeutic trials, progress notes should briefly describe:

- The treatment plan and the patient's compliance with it.
- Complications or side effects of interventions.
- Trends in weight lost or gained.
- The strategy for monitoring the patient's response to the intervention and adjusting the intervention as necessary.
- The individual's prognosis and likely clinical course.

Document the resolution of the ANS episode. Ultimately, either the patient's weight will stabilize or the lack of response will indicate an unavoidable condition. (See Step 13.) The progress note or discharge summary should include a synopsis of the assessment, therapeutic plan, and outcome. If the patient's weight stabilizes at a level not considered a healthy body weight, subsequent interventions may be considered but are not part of this guideline.

IV. Monitoring

The steps involved in recognizing, assessing, and treating ANS may take place over several months. For this reason, it is recommended that one individual such as a dietitian or nursing supervisor be designated as responsible for tracking the process and its resolution for each patient who triggers an ANS evaluation. At the facility level, the Quality Assurance (QA) committee or an ANS Oversight Committee should be responsible for ensuring the continuity of the recognition, assessment, treatment, and monitoring phases through a program of continuous quality improvement.

Step 23

Monitor the effectiveness of treatment interventions. Weight stabilization is the primary endpoint. If ANS persists, reconsideration of the treatment plan should be documented at least monthly. When the ANS

episode is resolved, the causes, interventions, and outcome should be summarized in the patient's record.

Step 24

Monitor all patients regularly to identify ANS as early as possible. Document the findings of periodic re-evaluations in the patient's chart.

- Following the admission evaluation, weigh the patient weekly for the first 4 weeks. If weight is stable, weigh monthly thereafter. For the most accurate results, always weigh the patient on the same scale, at the same time of day (preferably in the morning before breakfast), and without clothing or shoes. (See Step 1.)
- Implement ongoing surveillance for the ANS criteria. (See Step 3.)
- If MDS data are used as a monitoring tool (see Step 1), complete the MDS-Version 2.0 quarterly and record these findings in the patient's chart as a distinct entry.
- Review advance directives annually as well as whenever a patient's clinical status changes to a degree sufficient to prompt an MDS re-evaluation. In discussions with patients and families about advance directives, ensure that preferences concerning nutritional interventions are addressed.
- If baseline laboratory values (e.g., albumin and cholesterol levels and complete blood count) would be helpful in monitoring or setting care goals, consider checking these values annually.

Step 25

Monitor to ensure that each ANS risk factor identified in the admission evaluation is addressed (see Step 2). An ANS Oversight Committee or similar facility-wide oversight body should establish mechanisms for tracking the risk factors identified in the admission evaluation. Each risk factor should be linked to a planned intervention. Both implementation of the care plan by the interdisciplinary team and effectiveness of the interventions should then be monitored as part of a continuous quality improvement program.

Step 26

Monitor the incidence and prevalence of ANS in the facility. The frequency with which the ANS criteria in Step 3 initiate an assessment can be used as an indicator of both the severity of illness among recent admissions and the quality of ANS prevention programs.

These criteria are:

- Weight change of 5% in 1 month, 7.5% in 3 months, or 10% in 6 months (Resident Assessment Protocol [RAP] criteria).
- Decline in the patient's food intake over several days (not to exceed 7 days). (An abrupt change, such as refusal of food for two or more

successive meals, usually indicates a medication side effect or the presence of an acute illness rather than a nutritional problem.)
- BMI drifting to <19. (Establish if this is a normal state for this individual or whether he or she has slowly lost weight. People who are constitutionally thin may need closer monitoring, although they are within their normal weight range, because their physiologic reserves are low.)
- Unexpected and unintended weight loss that persists for 3 consecutive months.

Step 27

Monitor the assessment process (see Steps 4-14). The ANS oversight or Quality Assurance committee should establish a mechanism for tracking the assessment process when a patient triggers an evaluation for ANS. Compliance with Steps 4 and 5 is easily monitored and should be verified before the interdisciplinary team proceeds with subsequent steps. Compliance with the Tier I Assessment (Steps 6-10) may be most readily tracked by a sign-off mechanism for each discipline represented on the interdisciplinary team. If desired, each discipline can develop a worksheet to track completion of the elements for which it is responsible. Verify that each discipline has fulfilled its responsibilities before proceeding to the Tier II Assessment.

CLINICAL ALGORITHM(S)

An algorithm is provided for the recognition, assessment, treatment, and monitoring of altered nutritional status (ANS).

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The guideline was developed by an interdisciplinary work group using a process that combined evidence- and consensus-based thinking.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Improved quality of care delivered to patients in long-term care settings
- Appropriate evaluation and management of nursing home residents who are at risk for or who have experienced a significant change in weight
- Weight stabilization in patients who have altered nutritional status (ANS)
- Prevention of altered nutritional status in patients at risk

POTENTIAL HARMS

Risks of Feeding Tube Insertion

Often, insertion of a feeding tube may cause diarrhea, abdominal pain, and local complications and may increase the risk of aspiration.

Pureed and Other Diets of Altered Consistency

Diets of altered consistency (especially purees) are often unpalatable and visually unappealing and patients may reject them.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

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IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The implementation of this clinical practice guideline (CPG) is outlined in four phases. Each phase presents a series of steps, which should be carried out in the process of implementing the practices presented in this guideline. Each phase is summarized below.

I. **Recognition**
   - Define the area of improvement and determine if there is a CPG available for the defined area. Then evaluate the pertinence and feasibility of implementing the CPG.

II. **Assessment**
   - Define the functions necessary for implementation and then educate and train staff. Assess and document performance and outcome indicators and then develop a system to measure outcomes.

III. **Implementation**
   - Identify and document how each step of the CPG will be carried out and develop an implementation timetable.
   - Identify individual responsible for each step of the CPG.
   - Identify support systems that impact the direct care.
   - Educate and train appropriate individuals in specific CPG implementation and then implement the CPG.

IV. **Monitoring**
   - Evaluate performance based on relevant indicators and identify areas for improvement.
   - Evaluate the predefined performance measures and obtain and provide feedback.

As is the case with the other clinical practice guidelines in the American Medical Director Association (AMDA) series, implementation of this guideline requires a long-term, facility-wide commitment to review and improve care processes. Many of the recommended initial interventions address the eating environment and food presentation; individualization of the diet to meet personal preferences and self-feeding ability; and feeding programs that involve staff, family members, and volunteers. Facilities should customize the implementation of the guideline in accordance with their own circumstances. Several facility-wide changes in policy and procedures should be considered in preparation for clinical implementation. For example, environmental changes to the dining room may be warranted. The recommendation to individualize meal plans presents challenges for the dietary and nursing staff.

Congregate meals and assisted eating programs involving family members and volunteers may require special training and supervision. Appropriate members of the interdisciplinary team should be identified as responsible for each step of the assessment and care delivery process when a patient triggers an ANS evaluation.

It is also important to establish a facility-wide ANS Oversight Committee to develop procedures that ensure proper performance of all activities, the foundations on which clinical decisions are based, and the methods used to explain options to patients, and their family, who have or are at risk for ANS. This committee should include representatives of most disciplines as well as administrative and food-preparation staff. Another important responsibility is the initiation of preventive measures that may reduce the incidence of ANS. Many of these strategies are outlined in Steps 16–18 of the guidelines.

Another important feature of the guideline is the extended timeline for completion of the steps involved in assessing and treating ANS. Nutritional interventions often must be implemented for 2 to 3 months before their efficacy can be determined.

IMPLEMENTATION TOOLS

Clinical Algorithm

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

End of Life Care
Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Medical Directors Association (AMDA). Altered nutritional status. Columbia (MD): American Medical Directors Association (AMDA); 2001. 32 p. [33 references]

ADAPTATION

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

DATE RELEASED

2001 (reviewed 2006)

GUIDELINE DEVELOPER(S)

American Medical Directors Association - Professional Association

GUIDELINE DEVELOPER COMMENT

Organizational participants included:

- American Association of Homes and Services for the Aging
- American College of Health Care Administrators
- American Society of Consultant Pharmacists
- Center for Health Information
- National Association of Directors of Nursing Administration in Long-Term Care
- National Association of Geriatric Nursing Assistants
- National Conference of Gerontological Nurse Practitioners

SOURCE(S) OF FUNDING

Corporate supporters of this guideline include Bristol Meyers Squibb and Ross Products Division Abbott Laboratories.

GUIDELINE COMMITTEE

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, this guideline was reviewed by the original Steering Committee and is still considered to be current as of Jan 2007. This review involved new literature searches of electronic databases followed by expert committee review of new evidence that has emerged since the original publication date.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the American Medical Directors Association, 10480 Little Patuxent Pkwy, Suite 760, Columbia, MD 21044. Telephone: (800) 876-2632 or (410) 740-9743; Fax (410) 740-4572. Web site: www.amda.com

AVAILABILITY OF COMPANION DOCUMENTS

The following companion document is available:

- Guideline implementation: clinical practice guidelines. Columbia, MD: American Medical Directors Association, 1998, 28 p.

Electronic copies: Not available at this time.

Print and CDROM copies: Available from the American Medical Directors Association, 10480 Little Patuxent Pkwy, Suite 760, Columbia, MD 21044. Telephone: (800) 876-2632 or (410) 740-9743; Fax (410) 740-4572. Web site: www.amda.com

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on December 3, 2002. The information was verified by the guideline developer on December 10, 2002. This summary was updated by ECRI on August 15, 2005, following the U.S. Food and Drug

Administration advisory on antidepressant medications. This summary was updated by ECRI Institute on November 2, 2007, following the U.S. Food and Drug Administration advisory on Antidepressant drugs.

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Date Modified: 9/15/2008