

## Section 20

### Undernutrition CAP

#### Problem

The Undernutrition CAP focuses on the nutritional support of adults who are below their “medically recommended” ideal body weight, as measured by a low Body Mass Index. Some persons who are triggered for follow-up will already be significantly underweight and thus undernourished, while other persons will be at risk of undernutrition.

Loss of weight has many causes, including the person’s lack of knowledge of how to follow a healthy diet; chewing and swallowing difficulties; need for others to help in feeding; cognitive and communication deficits; medical conditions (for example, muscle problems); appetite problems (for example, premature sensation of being full); mood disorders such as depression, anxiety, and behavior problems; medications; limited food choices; and environmental factors (for example, limited finances or appliances that do not work).

There are a number of adverse consequences of undernutrition, some of which could place the person at risk of premature death. Other consequences include continued weight loss, functional decline, heart problems, skin problems, and risk of infection. At the same time, for persons with terminal or preterminal disease, one needs to consider first the overall care plan. Heroic nutritional interventions at such times may not be desired or appropriate.

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#### Overall Goals of Care

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- Address underlying diseases, conditions, or medications that contribute to undernutrition or risk of it, if possible.
- Implement a reasonable treatment plan to ensure adequate caloric intake and thus prevent further weight loss or underweight.
- Increase quality of life by preventing the negative consequences of undernutrition.

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#### Undernutrition CAP Trigger

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There are three levels to the Undernutrition CAP trigger, all based on the person’s Body Mass Index (BMI), which represents the ratio of the person’s weight to height. Thus, the only items required to calculate this trigger are weight and height.

At the same time, this assumes these items have been accurately measured, and the interRAI assessment tools provide a full description of how this is to be accomplished.

#### TRIGGERED — HIGH RISK

This group includes persons with **both** a baseline BMI score lower than 19 **and** who do not have a clear indication that death is near. Such persons are universally recognized to be underweight.

The BMI can also indicate the extent of undernutrition: a BMI of less than 16 = severely undernourished; a BMI of 16 to 17 = moderately undernourished; and a BMI of 18 = mildly undernourished.

About one-half of the persons in this group will regularly leave 25% or more of their food uneaten, and they will be more likely than others to lose weight in the future.

This group includes about 10% of persons in long-term care facilities and 8% of persons receiving home care.

TRIGGERED — MEDIUM RISK

These persons have **both** a baseline BMI score of 19 to 21 **and** have no clear indication that death is near.

Although not customarily judged to be underweight, about one in five long-term care facility residents in this group will fall into the 18 or lower BMI range by their next full interRAI assessment. Four out of ten of these persons will regularly leave 25% or more of their food uneaten at most meals.

This group includes about 18% of persons in long-term care facilities and 14% of persons receiving home care.

NOT TRIGGERED

All other persons. This group includes about 73% of persons in long-term care facilities and 78% of persons receiving home care.

## Undernutrition CAP Guidelines

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The following review works through a list of the problems that relate to a person's undernutrition and, as relevant, they should be addressed in the care plan.

First, determine whether the person is leaving a significant amount of food uneaten at most meals. About one-half of those triggered fall into this category. When this is the case, the key to assessment and care is to reverse this situation. Without an active plan to reverse this situation, the vast majority of these persons will continue to leave significant amounts of food uneaten in the future. In comparing those who leave food uneaten with those who do not, higher rates of the following are seen: abnormal laboratory values (70% vs. 40%); a greater likelihood of being on a new drug (60% vs. 30%); having a cardiovascular problem, for example, hypertension (51% vs. 29%), or congestive heart failure (CHF) (23% vs. 10%); and a recent decline in ADLs (31% vs. 10%).

For persons who do not leave food uneaten, the key to assessment is to determine what they are being given to eat. Like all underweight persons, they might benefit from more complex carbohydrates, whole grains, vegetables, fruit, proteins, and in some cases, fat. But this remains a significant challenge for those triggered by this CAP. The key is to get the person to eat more calories (at least 1,600 a day for an average-sized woman and 2,000 a day for a similar man). To do that, there should be a conversation with the person about his or her food preferences and what it would take to begin to increase slowly her or his caloric intake.

### Assessment of Current Eating Patterns

**Failure to eat food provided at meals.** Even a few days of insufficient food intake could lead to a downward process, with accelerated weight loss and de-conditioning. Unfortunately, over 40% of the persons triggered will regularly leave a significant

proportion of their meals uneaten. Thus, regularly monitoring food intake is important.

- ☐ Simple monitoring questions: Count the number of meals and between-meal supplements normally provided during the day (for example, one breakfast, lunch, dinner, and all supplements on a given day). What proportion of the food was left uneaten? Is there a pattern as to which foods are left uneaten — for example, meat, potatoes, pasta, bread, vegetables, or fruit? Is the person uninterested in eating processed foods?
- ☐ Food offered or available is not congruent with the person's food choices (for example, no meats, flavorless), allergies or food intolerance (for example, not lactose-free), religious tenets, or food quality (for example, not like what spouse used to prepare).
- ☐ The intervals between meals, particularly the fasting hours from the last meal in the evening to the first in the morning.
- ☐ New medication or treatment regimen that might reduce interest in food. [See Appropriate Medications CAP.]
- ☐ Unwilling to accept food supplements or eat more than three meals a day.
- ☐ Food not meeting special dietary requirements.

### **Factors to Be Considered in Altering Current Eating Patterns**

**Assess the person's food preferences.** Include types of foods, types of spices, when he or she likes to eat, and what to avoid.

**Swallowing problems (dysphagia).** This mechanical problem in swallowing is normally associated with one or more of a number of medical conditions or treatments (for example, esophagitis, injury from radiation, a malignancy in the neck or esophagus, a stroke, Parkinson's disease, a diverticulum or a stricture, a foreign body, or end-stage dementia). If dysphagia is present, consider referral for a swallowing assessment.

- ☐ Issues of concern include reluctance to eat certain foods, slowness in eating, complaint of food sticking in the back of the mouth or in the chest, pain on swallowing or when lying down, coughing or choking when eating, and regurgitation of food.
- ☐ If on a special diet, could the person eat and swallow without this type of diet? The monotony of such diets can themselves lead to lessened intake.
- ☐ If esophagitis is caused by reflux, treating this problem might help to resolve the swallowing problem.

**Dental problems.** Dental problems might have various causes (for example, a broken or fractured tooth, bleeding gums, loose dentures, oral lesions, dry mouth, or generally poor oral hygiene).

- ☐ **Broken or fractured teeth.** Persons with broken teeth require professional attention.
- ☐ **Bleeding gums.** Bleeding from around the teeth can be due to inflammation of the gums (gingivitis) or destructive inflammation of the

bone surrounding the teeth (periodontitis), and systemic illnesses or medications.

- Attention should be paid to regular procedures in oral hygiene.
- Professional attention is often warranted if bleeding is present.
- **Problems with loose or sore dentures.** Dentures causing soreness need to be evaluated by a dentist to determine whether they can be adjusted or if replacement is necessary.
- **Lip or mouth lesions (cold sores, fever blisters, canker sores, new lumps in mouth).** There are many lesions that occur on the lips and in the mouth that affect chewing. A dentist or physician should evaluate lesions that fail to completely heal within 2 weeks.
- **Problems with taste or smell.** Older adults frequently complain of difficulties with taste or smell. One of the most common causes is poor oral hygiene.
- **Dry mouth.** This condition may be caused by multiple medications, diseases, head and neck radiation, and dehydration. The medications commonly implicated include antihypertensives, anxiolytics, antidepressants, antipsychotics, anticholinergics, and antihistamines. [See Medications CAP.]

**Need for others to assist in eating.** A reduced ability to feed oneself can be due either to cognitive or physical deficits.

- Cognitive deficits relate to staying focused on the act of eating or an inability to comprehend the sequences needed in eating.
- Physical deficits include musculoskeletal problems related to conditions such as arthritis, contractures, loss of range of motion in an arm, an inability to sit up, or a missing limb.

Approaches to treatment can involve the support of others, prosthetic strategies, and reconditioning/retraining. Feeding an eating-dependent person can require 30 to 45 minutes. Prosthetic approaches include the use of special equipment (for example, a weighted spoon), provision of foods the person can eat using his or her residual abilities (for example, a texture-modified menu, finger foods). Retraining consideration will require a consult by an occupational therapist.

**Disease conditions.** Acute and chronic disease, and especially malignancy, can affect the person's nutritional needs by reducing the person's appetite or interest in food or by requiring special feeding or nutritional requirements. Among the conditions and diseases to be considered are

- Dementia and other neurological diseases, arthritis, asthma, COPD, heart disease, liver disease, renal disease, cancer, diabetes, thyroid disease, or a dental or oral condition.
- Any recent acute illness or operation can result in weight loss. The problem may be the postoperative course and not the underlying disease itself. Such persons may benefit from a program of adequate nutrition and exercise.
- Any acute disease or condition including a fever or an infection, and pain, especially gastrointestinal pain.

**Cognitive and communication problems.** Insufficient food intake and weight loss is associated with the severity of a person's cognitive deficit (especially for a person with a Cognitive Performance Scale [CPS] score of 4 to 6, which translates into a Mini Mental State Examination [MMSE] score of less than 10). [See Cognitive Loss and Communication CAPs.] The mechanisms vary, but can include a decline in cues to feed oneself, to chew, to swallow; a decrease in the pleasure of eating; and the emergence of a variety of disruptive behaviors such as wandering in search of pleasurable foods. Primary intervention strategies could be dictated by these conditions, including nonthreatening approaches to feeding persons who are physically aggressive or the introduction of a prompting schedule to ensure that all or almost all of the food is eaten.

**Depression.** Depression can cause some persons to decrease the amount of food they eat. A score of 3 or higher on interRAI's Depression Rating Scale (DRS) suggests a possible clinically relevant depression. [See Mood CAP.]

**Medications.** Adverse drug effects are common reversible causes of decreased nutritional intake. Several drugs have been noted to alter food intake through changes in appetite or the senses of taste and smell, or through adverse gastrointestinal side effects. In addition, drugs may interfere with the absorption, metabolism, and excretion of nutrients. On the other hand, the person's ability to cope with everyday living (such as shopping for food and cooking) can be limited when drugs do not lead to the anticipated relief of symptoms (for example, pain). Hence, the prescribed medications should be reviewed by the physician and, when necessary, changed to other types with fewer side effects.

- ☐ Those using the following drugs may require an adjustment of their nutritional care plan: diuretics, certain cardiac drugs, anti-inflammatory drugs, and antiparkinsonian drugs. [See Medications CAPs.]

**Need for special diets.** Determine which type of special diet the person is on, if any, and whether there is a need to continue that diet. Consult a dietician as needed.

- ☐ Diabetic diet and restriction of a variety of foods
- ☐ Weight gain diet
- ☐ Therapeutic diet — high calorie or high protein diets that have been chopped or blended

**The physical and social environment.** Normal eating requires more than the serving of complete nutrition. The psychosocial setting must be suitable for the eating experience, including the physical layout and who is in the dining space with the person.

**Prospective monitoring:**

- ☐ Leaving food uneaten
- ☐ Continued weight loss
- ☐ How well the person uses adaptive equipment
- ☐ Continued need for cueing or assistance with eating
- ☐ Emergence or continuation of a swallowing problem
- ☐ Changes in food preferences
- ☐ Assess the "energy density" of the food served

**Additional Resource**

**National Institute for Health and Clinical Excellence Quick Reference Guide.**  
2006. (February). Oral nutrition support, enteral tube feeding, and parenteral  
nutrition. [www.guideline.gov/summary/summary.aspx?doc\\_id=8739#s24](http://www.guideline.gov/summary/summary.aspx?doc_id=8739#s24)

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