Older Adult Care: Strategies to Improve Nutrition

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COURSE OBJECTIVE: The purpose of this course is to prepare healthcare professionals working with older adults to address barriers to good nutrition, recognize signs of poor nutrition, and improve the nutritional status of older adults in home and institutional settings.

LEARNING OBJECTIVES:
Upon completion of this course, you will be able to:

• Identify factors that affect nutrition in the older adult population.
• Recognize barriers to good nutrition in older adults.
• Discuss the process of performing a nutritional assessment of an older adult.
• Explain adaptations and treatment options for improving nutrition.
• Discuss the positive and negative implications of tube feeding.
• Describe the process to evaluate the success of nutrition interventions.

INTRODUCTION

As adults age, many changes impact their eating: losing one’s spouse can take away the socialization surrounding eating; physical decline can interfere with the ability to cook, drive to the grocery store, or carry groceries; and medications and physical, sensory, and cognitive impairments can interfere with both the enjoyment and physical ability to eat.

Eating difficulties can lead to serious consequences for older adults, including significant weight loss, malnutrition, aspiration pneumonia, dehydration, slow healing, and depression. Caregivers, whether family members, close friends, or staff in an assisted-living or skilled nursing facility, can learn to recognize warning signs of malnutrition, identify the barriers to good nutrition, and take action to maximize nutrition in the elder(s) for whom they provide care.
Problems with nutrition, eating, and feeding in elderly clients are commonplace, both in the community and in institutions. The prevalence of malnutrition in the community has been estimated to be 10% to 30%; in rehabilitation settings, the estimate is significantly higher at 30% to 50% (Marshal et al., 2014).

In a 2014 study, researchers found that in a random sample of cognitively intact older adults in the emergency room, more than half were malnourished or at risk for malnutrition. Factors that increased the risk of malnutrition included depression, difficulty eating, and difficulty buying groceries (Pereira et al., 2014).

CASE

Rita is an 87-year-old woman with progressive dementia who has lived in a skilled nursing facility for the past six months. Prior to that she lived with her son and daughter-in-law until they could no longer care for her at home. She has limited verbal ability, can use her hands with one-on-one coaching, and needs assistance to walk and move from chair to bed. On this particular day, she has been brought, along with all the other residents who need to be fed, to the activity area for lunch. She is semi-reclined in a chair with an attached tray and cannot easily reach her food.

When the occupational therapy assistant (OTA) tries to help Rita feed herself, Rita turns her head away and grabs a towel to cover her face. The OTA, fearful that Rita will starve without eating, tells her, “Eat, or I’ll tell your son.” When the comment has no effect, the OTA gently holds Rita’s hands together on the tray so that she cannot push the spoon away. Despite this, Rita still does not eat, and her plate is sent back to the kitchen basically untouched.

The OTA reports this to the occupational therapist and the charge nurse, who know that Rita’s refusal to eat has been an ongoing situation. The nurse’s first thought, born out of frustration, is “Maybe we should think about talking to her physician about a feeding tube.” Realizing that this is not an appropriate initial intervention, she makes a note to put Rita’s nutrition on the agenda for the weekly care conference. The nurse also remembers that Rita has indicated which members of the staff she prefers by smiling or frowning.

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FACTORS LEADING TO DECREASED NUTRITION IN THE ELDERLY

Physical Obstacles to Eating

Older adults can have a wide range of issues that lead to difficulty eating. Physical obstacles can take the form of difficulty in holding and using utensils or in conveying food from plate to mouth, decreased ability to chew and swallow, decreased appetite, and decreased awareness of hunger and thirst.
Some physical barriers to eating come from diagnoses such as arthritis or stroke. **Arthritis** is the leading cause of disability among older adults in the United States (Hootman et al., 2012). Arthritis that occurs in the hands can cause swelling and decreased joint function. The pain and lack of mobility can cause an inability to manipulate utensils, pick up or cut food, or use a cup.

**Stroke** can lead to decreased upper body use through paralysis, weakness, and changes in muscle tone, usually on one side of the body. Balance and an ability to sit upright so that the hands are free to pick up food or utensils can also be affected. In addition, specific functions needed to orally manage food can be affected, including the ability to close the mouth completely, manipulate the food within the mouth, chew, and swallow.

Problems with **dentition** can also lessen the ability to eat. Missing or painful teeth and ill-fitting or uncomfortable dentures may make chewing difficult or impossible.

The senses of **smell** and **taste** can also diminish as a natural consequence of aging, which can decrease interest in and appreciation of food. Between 62.5% and 75% of people over the age of 80 years have an impaired sense of smell due to changes in the smell receptors themselves or in the environment of the smell receptors, such as the mucus composition (Bernstein & Munoz, 2016).

The ability to smell and taste can also be affected by smoking and upper respiratory infections. Certain medications, such as intranasal steroids, may affect taste and smell as well (Edmunds, 2016). Some medications, particularly those for mental health problems, can lead to dry mouth, which can interfere with tasting, chewing, and swallowing.

For older adults living at home, other physical barriers to good nutrition start before food is even on the table. Does the older adult have the **physical mobility, dexterity, and strength** necessary to get to a grocery store, shop for, and carry groceries? The physical skills needed to open cans or jars, move heavy pots from stove to sink, and safely balance while cooking are also appropriate considerations.

**Cognitive/Perceptual Obstacles to Eating**

Cognitive and perceptual barriers to eating may also impact the older adult’s likelihood of taking in sufficient nutrients and are especially prevalent in cases of dementia. Dementia can cause physical damage to the olfactory system itself and can also lead to several types of cognitive issues that affect the ability to eat (Sell, 2014).

- **Apraxia:** Apraxia is the inability to perform physical actions despite having intact physical ability. With apraxia, people may not know what to do with utensils or how to chew and swallow even once food is in their mouths.

- **Amnesia:** Amnesia refers not just to forgetting what has occurred in a certain period of time, but also deficits in memory in general. Amnesia can lead people to forget to eat altogether; to forget that they have just eaten, leading them to eat again; or to think they have eaten when they haven’t, causing them to skip the next meal.
• **Decreased executive functioning:** Executive functioning is necessary for self-regulation and awareness. A deficit in this area can lead people to exhibit unsafe behavior or behavior that is socially inappropriate, such as taking food from other people’s plates or not regulating the amount of food they are eating.

• **Agnosia:** Agnosia is the inability to interpret sensory information despite having intact senses. Those with agnosia may not react to smells and taste with an increased appetite, decreasing the likelihood that they experience hunger. In addition, they might eat dangerous, nonfood items. They may not recognize the feeling of thirst and may become dehydrated.

In addition to the cognitive and perceptual deficits resulting from dementia, perceptual problems can result from stroke. Stroke can cause hemianopsia, a visual field cut in which a portion of the visual field does not take in information. People with visual field cuts may ignore food on one side or particular part of their plate simply because they do not see it. In cases of hemianopsia, it is recommended that, at least initially, accommodations to the environment should be made, including placing food on one side of the plate within the patient’s field of vision (Lewis et al., 2014).

### Other Medical Causes of Decreased Nutrition

Stroke, dementia, and arthritis have been mentioned above as potentially impacting nutrition, but other medical conditions can decrease nutrition as well. Many studies have shown that cancer, and certainly its treatment, can lead to weight loss (Fabbrio et al., 2014). COPD (chronic obstructive pulmonary disease), in particular, and its effect on breathing capacity can make the increased oxygen demands of eating too great. Gallstones can cause an inaccurate feeling of fullness. Diabetes and Parkinson’s disease can affect metabolism, and depression can severely decrease appetite.

Other health issues that can impact appetite and nutrition include:

- GERD (gastroesophageal reflux disease)
- Irritable bowel syndrome
- Bone loss
- Hip fractures
- Anemia
- Alcoholism
- Pain

### Social and Economic Barriers to Proper Nutrition

Social and economic factors such as poverty, social isolation, and even gender create barriers to proper nutrition and can affect an individual’s likelihood of eating properly.
The relationship between poverty and nutrition is clear. Older adults living on a fixed income may sacrifice buying high-quality food to purchase necessary medications (Meiner, 2015). As financial constraints increase, they may no longer buy enough food to meet their nutritional needs. Food that is purchased may be poor quality, such as ready-made meals that are high in fats and carbohydrates. The percentage of poor and near-poor older adults who are food insecure, not knowing where their next meal will come from, is projected to increase to nearly 13% by 2025 (Bales et al., 2015).

The social environment in which older adults eat can have a profound impact on intake. A loss of role functions due to retirement, the death of family members and friends, and a lack of transportation can lead to social isolation (Bales et al., 2015). As isolation increases, the desire to prepare food and to eat may decrease as well. Although we eat to satisfy hunger, eating with others provides opportunities for social interaction support. Eating alone has been shown to increase the risk of depression, which is itself correlated with decreased intake (Kuroda et al., 2015).

Gender and marital status can serve as barriers to proper nutritional intake in older adults. Today’s cohort of older males is less likely than females to have proficiency in food preparation, to be part of a social network, and to turn to religious organizations for nutritional support. Unmarried or widowed men tend to have poor nutritional intake compared to those who are married (Edelstein, 2015). Older women who are widows may be less likely to prepare nutritious meals when they are cooking only for themselves. Because women tend to outlive men, they are less likely to have a spouse available to provide assistance at mealtimes (Agarwalla et al., 2014).

People living at home may have the desire to eat good food but lack the knowledge of what constitutes good nutrition. Again, this may be particularly true for the current cohort of elderly men, who lack proficiency in food selection and preparation. Simple education on good nutrition may alleviate this problem.

INSTITUTIONAL BARRIERS TO GOOD NUTRITION

Institutions such as nursing homes offer their own challenges to nutrition and dining. The physical environment, the social environment, and the many dietary restrictions of particular diets can impact a resident’s nutritional intake.

People who require a moderate amount of assistance to eat may be at greater risk than those who require more or less assistance. Those who require less assistance to eat can manage their own nutritional needs, and those who require feeding receive individualized attention to ensure appropriate intake. But those with needs for moderate assistance may be overlooked.

Social Environment

At first glance, one might think that a nursing home, with its large numbers of both residents and staff, would be able to provide a positive social environment for dining. Although the sheer numbers of people living and working in nursing homes should make dining a social experience,
isolation can occur during mealtimes as those who need to be fed may not sit with other residents and those feeding them may not attempt to converse.

Social isolation can be quite profound in institutions, however, especially if residents do not eat with others of similar cognitive and social levels. Several questions can be useful in identifying barriers to good nutrition in this regard:

- Do residents have the opportunity to eat with other residents of similar social and cognitive abilities?
- How is dinner served? Is it placed on a tray or directly on a table set with eating utensils?
- If residents are eating in their rooms, do they receive their meals at the same time as their roommates? Some facilities deliver meals according to diet type, rather than location, leading to roommates of different dietary restrictions eating at different times.
- Do people sit at the same tables at each meal, fostering opportunities for increased connections?
- Do staff have the opportunity and training to engage the residents at mealtimes and encourage their intake?
- What are the seating arrangements? Are tables in individual groups that can seat four or six, or are they placed together cafeteria style to make it easier for a staff member to feed multiple people? Smaller seating areas make it easier for people to have a conversation. In addition, residents can be unintentionally excluded from the social environment by being placed facing a wall, with activity going on behind them.
- What are the constraints of the room? Both a small, crowded room and a large area with open access can present environmental problems. A small space can have overwhelming noise levels and crowding. Large areas with open access can also lead to overstimulation due to high noise levels as well as distractions from people coming and going. Background noise for people with dementia can interfere with concentrating on an essential task, such as eating (Andrews, 2015).
- What are the preferences of the individual residents? Some individuals might prefer privacy, and their desire to determine where and with whom they wish to eat must be honored.

**Physical Environment**

The aesthetic aspects of the dining room may decrease as the residents become more impaired and need more assistance to eat. Carpeting gives way to tile floors, tablecloths to bare tables, and decorations may disappear altogether. While some of these factors arise from practical cleaning issues, they should not overshadow the importance of a pleasing environment.
Aesthetics

- Tablecloths, even if covered with glass, are generally more attractive than bare tabletops.
- Increasing the lighting can make dining easier by illuminating the food and brightening the overall atmosphere.
- Live or permanent plants improve a room’s appearance and increase a sense of diversity in the environment.

Noise Level

- Even low levels of ambient noise can reduce the ability of a resident to focus on the meal, leading to reduced consumption.

Table Height and Style

- A table has to be high enough to accommodate the armrests of a wheelchair and allow residents to get close enough to the table so that food doesn’t end up on their laps.
- Tables must also not be so high that people feel they cannot comfortably reach the table.
- Table supports can be barriers to wheelchairs, as can table legs that are spaced too closely together.
- On the other hand, clients who do not use wheelchairs might find that a table suitable for a wheelchair user is too low for them. Tables and chairs of different heights might be necessary to meet everyone’s needs.

Dietary Restrictions

The prevalence of restricted diets for residents of nursing homes can contribute to poor nutritional intake. Murphy (2012) states that therapeutic diets are a major cause of weight loss in older people.

Diets that restrict salt, sweets, or cholesterol tend to reduce intake by decreasing the taste of the food and often do not achieve a clinically significant effect. Touhy and Jett (2012) write that the restricted diets that are common to institutions, such as low-salt, low-cholesterol, no concentrated sweets, “should be avoided if at all possible.”

The American Dietetic Association (now the Academy of Nutrition and Dietetics) (Dorner et al., 2010), in its position paper on diet in long-term care, recommends the liberalizing of restricted diets:

- Increasing the amount of a medicine that can control a disease such as diabetes may be preferable to restricting the diet; a more liberal diet may result in increased enjoyment of food, increased consumption, and increased quality of life.
- If the reduction of salt in meals in unavoidable, other flavor enhancers such as butter, oil and powdered milk have been show to increase food intake and maintain weight in nursing home residents (Hark et al., 2014).
Meals made from fresh ingredients are preferable to prepackaged meals, which typically contain high levels of salt. Saltshakers can be removed from the table in order to prevent the addition of salt into food already prepared.

**ASSESSING NUTRITIONAL STATUS**

Changes that signify decreased nutritional status often happen slowly and may not be noticed, even by care providers, family members, or friends. This inadvertent lack of attention can occur in a care facility or at home. It is therefore important for those who have regular contact with older adults to be aware of signs of decreased nutrition and hydration.

Anyone concerned about an elder’s welfare—whether the elder is living at home or in a facility—should be alert for signs of decreasing nutritional status. How does one know that an older adult is experiencing nutritional declines? In order to identify decreased nutritional status in older adults, one can:

- Look for physical changes
- Perform a nutrition screening
- Consult with a dietitian for a complete nutrition assessment

Once concern about the elder’s nutrition is raised, a healthcare professional’s education and experience is needed to do a more in-depth assessment.

**Physical Changes**

Many physical symptoms of insufficient nutrition can alert the health professional or the informed family member or friend to the need for a more in-depth look. Changes in the body occur especially in areas that undergo rapid cell replacement and are clearly visible, such as the hair and skin. Thus, anyone can watch for signs of malnutrition or dehydration in specific body parts (see table below).

<table>
<thead>
<tr>
<th>Physical Signs of Malnutrition or Dehydration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Body Part</strong></td>
</tr>
<tr>
<td>Hair</td>
</tr>
<tr>
<td>Eyes</td>
</tr>
<tr>
<td>Mouth</td>
</tr>
<tr>
<td>Skin</td>
</tr>
<tr>
<td>Nails</td>
</tr>
</tbody>
</table>
Unfortunately, relying on these changes to indicate decreased nutrition status is insufficient, as they can occur under other circumstances as well. For example, dry, cracked lips can be caused by sun exposure, poorly fitting dentures, or medications such as antidepressants. Dry, red eyes can also have many causes, including medications, hormonal changes, irritants or allergens in the air, and various disease processes.

Taken together, however, observing the sorts of changes described above may indicate the need for a nutrition screening or assessment.

**Nutrition Screening**

Nutrition screening offers a more comprehensive next step in looking at the nutritional status of older adults. A quick look at a few variables can help determine if individuals are malnourished or at risk for malnutrition.

**“DETERMINE” CHECKLIST**

In the early 1990s, the Nutritional Screening Initiative (NSI) produced a simple checklist with the goals of increasing self-awareness of nutritional status and promoting routine nutrition screening. This checklist can enable health professionals or family members to help older adults determine whether they are at risk for nutritional deficiencies (Bernstein & Munoz, 2016).

The checklist includes ten statements, such as:

- I eat fewer than two meals a day.
- I have tooth or mouth problems that make it difficult for me to eat.
- I am not always physically able to shop, cook, and/or feed myself.

Each item is assigned a numerical value between 1 and 4, with a final score indicating the risk for malnutrition. The warning signs addressed by the NSI checklist (see “Resources” at the end of this course) can be remembered using the mnemonic device *DETERMINE*.

<table>
<thead>
<tr>
<th>Warning Sign</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease</td>
<td>Disease affects eating.</td>
</tr>
<tr>
<td>Eating poorly</td>
<td>Eating too much or too little can affect health. Eating insufficient amounts of nutritious foods, such as fruits and vegetables, and drinking too much alcohol can affect health.</td>
</tr>
<tr>
<td>Tooth loss/mouth pain</td>
<td>Missing, loose, or rotten teeth or ill-fitting or missing dentures can affect the ability to eat.</td>
</tr>
<tr>
<td>Economic hardship</td>
<td>Economic hardship makes it difficult to purchase nutritious food.</td>
</tr>
</tbody>
</table>
Reduced social contact | Reduced social contact negatively affects food intake.
---|---
Multiple medicines | Taking multiple medications increases the risk of side effects such as increased or decreased appetite, change in taste, constipation, weakness, drowsiness, diarrhea, and nausea. Vitamins can also act like drugs and impact eating.
Involuntary weight loss/gain | Losing or gaining a significant amount of weight unintentionally is a warning sign of a health change.
Needs assistance in self-care | Many older adults require assistance in shopping and cooking in addition to self-feeding.
Elder years above 80 | As age increases, the risk of health and nutrition problems increases.


While the *DETERMINE* checklist is still used nationally, Watson and colleagues (2015) write that the checklist is best used for education and to alert older adults and caregivers to a potential nutrition problem. They recommend the use of a validated screening tool, such as the Mini Nutritional Assessment short form, to identify those who are at risk for or already experiencing nutrition deficits.

**MINI NUTRITIONAL ASSESSMENT**

The Mini Nutritional Assessment (MNA) is a screening tool *(see “Resources” at the end of this course)* that has the advantage of examining specific physical data as well as lifestyle issues. The short form of the MNA is based on the original longer version. Both have been validated for use as screening tools, but the short form is preferred due to its ease of use; the long form is used more often as a research tool.

Other benefits of the MNA are that:

- It is designed specifically for older adults.
- Its short form, which consists of only seven questions, takes less than five minutes to administer.
- It takes into account important elements that other tools do not, such as mobility, depression, and dementia.
- It is available in multiple languages.

Five of the MNA’s seven questions address mobility, weight loss, food intake, psychological stress, and the presence of neuropsychological problems, such as dementia and depression. The other two questions require objective data in the form of body mass index (BMI) and calf circumference.

BMI, which is determined by height and weight, may not always be reliable in older populations due to changes in height as a result of curvature, spinal stenosis, and osteoporosis. As early as
1963, the World Health Organization included calf circumference as a measure of nutrition status. Measurement of calf circumference continues to be recommended as a sensitive indicator of the loss of body muscle mass (Bernstein & Munoz, 2016).

As with the results of all other screening tools, if the MNA indicates a moderate to high risk for malnutrition, a referral to a dietitian for a more in-depth nutritional analysis should be initiated.

**Nutrition Assessment**

Screening tools can point to the need for a more in-depth assessment; a nutritional assessment is a comprehensive look at the factors that go into an individual’s nutritional status. It should be initiated if a nutrition screen shows risk for malnutrition or at any time when observation leads to concern regarding nutritional status.

Complete nutrition assessments typically look at four types of data, which can be remembered by the mnemonic *ABCD* (Nix, 2013).

- **Anthropometric data**: looks at body measurements, including weight, height, and body fat
- **Biochemical parameters**: obtained through lab tests and includes protein, cholesterol, and vitamin levels
- **Clinical assessment**: includes information on the client’s emotional, oral, physical, and cognitive function as well as medication use
- **Dietary history**: includes information on food and beverage consumption, dietary practices and beliefs, and supplement use

Looking at the interaction of these four types of data is also an essential part of the assessment. It is possible, for example, that a person taking in what would seem to be appropriate levels of nutrients may show signs of decreased nutrition due to a medication that is interfering with nutrient absorption (Debruyne et al., 2016).

**CASE (continued)**

Several days later, Rita’s situation is one of several discussed during the care conference, attended by members of the nursing, nutrition, occupational therapy, physical therapy, and speech therapy staff. In preparation, the nurse reads several articles on nutrition assessment for elders, including one specific for residents of assisted living or skilled nursing facilities. She also reviews Rita’s chart since her admission and collects data, using her reading as a guide. She presents the following information:

- Rita has lost 8 pounds since admission, at a rate of about 1.25 pounds per month.
- Rita’s weight was 109 pounds and her BMI was 18.7 on admission, which put her at the lowest weight for a woman of her height. Her current weight is 101 pounds and BMI is 17.3, which put her in the “underweight” range.
- Rita has all her own teeth, which are in good condition, and she had a normal dental examination on admission. She receives mouth care after each meal.
- Rita eats very little but will drink when offered beverages from a cup or glass once the container is placed to her mouth.
- Rita seems aware of her fullness level because she will drink different amounts at different times.
- Rita has frail skin but no signs of skin breakdown. Although she cannot stand without assistance, she does change position in her bed or chair on her own. She shows no signs or symptoms of dehydration.
- If items are placed in front of her at a table or on a tray table, Rita will manipulate them.
- The food preferences listed on Rita’s admission form are general rather than specific.
- Although Rita is almost totally nonverbal, her smiles or frowns are reliable indicators of her feelings toward people or situations.
- Rita appears easily distracted, especially in noisy or crowded rooms.

It is clear that Rita’s nutrition is a significant issue. She is losing weight at a steady rate, although she is maintaining adequate hydration. She appears to have the manual dexterity and cognitive ability to perform simple manipulations and has no dental or swallowing issues. The facility is able to provide specific foods attractive to residents, but little is known of Rita’s preferences.

DINING AND FEEDING INTERVENTIONS

Interventions for barriers to good nutrition can take many forms. Adaptive equipment, providing the best physical and social environment, and specific feeding techniques can all contribute to increasing intake in older adults.

Responding to Physical Limitations

The use of adaptive equipment and options for positioning during dining may help address the physical barriers to eating. If possible, referrals to occupational therapists should be made, as occupational therapists are trained in both adaptive equipment and positioning.

ADAPTIVE EQUIPMENT

Many options are available for people who have difficulty holding or manipulating utensils, and numerous products and companies exist in the area of adaptive equipment. Occupational
therapists typically assess clients for this kind of adaptive equipment and are excellent resources in this area.

Some of the equipment includes:

- **Nonslip materials**: the use of foam handles or large, molded handles that slip over regular utensils; or a universal cuff to increase the client’s ability to grip and/or for joint protection

- **Rubber-coated spoons** for people who have a tendency to bite down on utensils

- **Plates with a built-up edge** for scooping against and plate guards to prevent food from being pushed off the edge

- **Rocker knives** or roller knives, similar to pizza cutters, which require less strength and coordination to cut with than standard knives

- **Divided plates** to keep food separate on plates and prevent it from moving around too much

- **Two-handled mugs** to compensate for a weak grip or decreased coordination

- **Cups with a cut-out** near the top or an integral straw so that the client can drink without tilting the head back (to prevent aspiration), for those with tremors who have a difficult time sipping, or for those who have only a sucking reflex

- **Suction cups** or nonslip mats to keep cups, bowls, and plates in place

One drawback to the use of adaptive equipment is that the client might feel that the equipment looks infantile or odd. Just as many people resist the use of hearing aids because they do not like the way they look, people are often reluctant to use utensils that look like adaptive equipment. Finding items that look most like traditional utensils may yield the best results.

**POSITIONING**

Occupational and physical therapists can help determine the best type of equipment to promote upright positioning, such as the use of cushions or pillows.

Proper positioning not only can increase intake but also can increase safety during swallowing by decreasing the risk of aspiration (Stein et al., 2015). **Aspiration** occurs when solid or liquid matter is inhaled into the airways; it can lead to pneumonia. The strongest predictor of aspiration is dependence on others for feeding and oral hygiene. Other predictors include complex medical diagnoses and use of multiple medications. All of these are often the case in patients with dementia (Martin & Preedy, 2015).

Proper positioning can also help normalize muscle tone, increase awareness of the environment, help with digestion, and support independent movement of the arms for self-feeding (if the trunk
is not stable, the hands will often be used for supporting the body and not be available to hold utensils or pick up food).

The preferred seating position for mealtime is sitting in a dining room chair with armrests rather than sitting in a wheelchair. If an older adult can sit in a chair, the caregiver should assist with transferring if needed. If a person cannot sit in a dining room chair, a wheelchair is preferable to sitting in a geriatric chair or sitting in bed. Regardless of the type of chair, caregivers should pay attention to the posture of the person, looking at the alignment of the head, neck, trunk, and hips.

The following are factors to look for in proper positioning:

- The pelvis should be positioned in neutral, with a slight anterior tilt.
- The posture should be erect and symmetrical, with weight distributed equally on each hip.
- The head should be positioned in midline, with the chin slightly tucked.
- Both arms should have support available on a table or lap tray of appropriate height.
- The legs should be in a weight-bearing position, with hips and knees flexed at 80 to 90 degrees, ankles in neutral position under the knees, and the feet flat on the floor.
- A stool or wheelchair footrest should be used to provide a secure base of support if the person’s feet do not touch the floor. Feet should never be left dangling; if the feet are unsupported, the body will slowly begin to slide down. In addition, the arms may be needed for support and therefore unavailable for eating.

**Feeding in Bed**

If feeding a person in bed is the only option, the head of the bed should be elevated to 45 degrees or more and a pillow may be placed behind the person’s back to increase upright trunk posture and hip flexion. Some of the positioning devices that can aid a person in keeping an upright posture are:

- Padded solid back and solid seat inserts
- High-back wheelchairs to facilitate lumbar and thoracic support
- Wedges, lateral and forward trunk supports
- Headrests, pelvic belts, pillows, and towel rolls

**Special Positioning Considerations**

- If a person has a kyphotic posture (particularly in the thoracic region), caregivers should have the person lean back slightly so the chin is parallel to the floor.
• People with a hemiplegic arm should have the arm placed on the table, and the arm and hand should be incorporated as a stabilizer as much as possible during meals.
• Anyone with an amputated lower limb may need special postural adjustments to create a comfortable seating arrangement for mealtime.
• If edema is present, lower extremities may need to be elevated.

Cognitive and Perceptual Interventions

There are many different ways in which cognitive and perceptual deficits can affect the ability of an older adult to eat. Interventions to deal with these deficits can be broken up into various components, such as: stimulating an interest in eating, decreasing distractions, using color to compensate for perceptual deficits, and cueing the client.

STIMULATING AN INTEREST IN EATING

People with dementia often do not recognize feelings of hunger or thirst and may simply forget to eat. Stimulating their appetite through a series of events leading up to meals may help increase the likelihood that they will eat or drink. Some techniques for stimulating the appetite include:

• **Involve the client.** Present opportunities for meal or snack preparation or in setting the table. People who are involved in the meal preparation itself may be more interested in eating than those who just have food served to them. Just being near the preparation and serving of food can stimulate appetite.

• **Allow adequate time for eating.** Thirty to 45 minutes per meal is ideal.

• **Maximize caloric intake.** People with dementia tend to take in the most calories at the midday meal, as that is the time of day when cognition tends to be best (Nelms et al., 2014).

• **Appeal to the senses.** Even if the meal is not cooked near the room in which the client will eat, some food smells, like bread toasting or coffee perking, may help stimulate the appetite. Foods and beverages that offer diverse tastes and texture experiences can stimulate appetite (Kennedy-Malone et al., 2014).

  o Clients with swallowing disorders, however, should not be served foods that include a mix of textures, such as soup with pieces of vegetables or meat. Cold, thick liquids, such as milkshakes, can be sucked through a straw, providing both the stimulation of the cold liquid and ease of feeding, as no utensils are necessary.

  o Contrasting colors of foods and an attractive presentation can stimulate appetite. Red, green, and brown have been shown to be popular food colors, with red especially likely to stimulate appetite (Kimmel, 2015). Color contrast between foods and between the food and plate can not only stimulate appetite (Loehr & Malone, 2014) but also help in instances of low vision.
• **Offer food that the individual likes.** This recommendation may seem simplistic, but it is worthwhile to find out from either the client or family members the specific types of food the client likes to eat and at what time. Sometimes people have a routine of drinking coffee in the morning and juice at lunch time; offering the reverse may decrease a desire to drink.

• **Increase the readiness to swallow.** Techniques include instructing the older adult to perform a sucking motion or pressing down on the tongue with a cold spoon (Chernoff, 2014). These techniques should be used only on the recommendation of a speech-language pathologist.

### DECREASING DISTRACTIONS

For people with cognitive deficits, eliminating distractions in the dining environment can lead to increased nutritional intake.

**Noise**

As discussed above, noise levels can be a source of distraction, particularly in institutional settings. Overhead paging should be turned off. Padded tabletops or tablecloths can reduce the sound of clattering utensils and plates. While some researchers feel that radios and televisions should be turned off (Martin & Preedy, 2015), others find that low levels of relaxing music can help decrease agitation and increase intake (Williams & Hopper, 2015).

**Clutter**

Clutter can also serve as a distraction during mealtimes. While flower arrangements may help improve the aesthetic appeal of the dining environment, they can also contribute to a sense of visual clutter. Can salt- and peppershakers be removed? Napkin holders? In the home setting, is the kitchen or dining table also used to hold mail or magazines?

**Visual Presentation**

Perceptual deficits can make finding items on a table difficult. One way to compensate for these deficits is through visually defining the space around a plate by using a placemat that differs in color from both the plate and the table or tablecloth underneath. Providing a color contrast between food and plate may help as well (Williams & Hopper, 2015). Many foods show up better on a dark plate; mashed potatoes, rice, pasta, and bread, for example, may all get lost on a white plate for those with decreased visual acuity.

The quantity of food on the plate may be adjusted as well, since some people feel overwhelmed by the amount of food on a plate; small, frequent meals may actually lead to increased intake, particularly in patients with dementia (Linton, 2015).
In some instances, low vision may be affecting a person’s ability to feed themselves. If it looks like this is the case, an occupational therapist can order a vision test. Poor lighting can also contribute to visual problems. It is important to have natural light without glare or diffused overhead lighting.

**Time Pressure**

A sense of having to rush through a meal can decrease enjoyment and cause distraction. For meals in institutions, this issue is particularly complicated, as there are many factors that contribute to the time constraints of meals. Some questions to consider are:

- Can residents take as much time as they need to eat or are they rushed to eat?
- Do the needs of the kitchen and laundry staff require that the table linens and dishes be returned by a certain time in order to prepare for the next meal?
- What are the consequences to the institution of meals that run late? Can these consequences be altered in any way?
- Is the dining area used for other activities that are scheduled to take place soon after mealtimes?
- Do staff have enough time for their own meals so that, if meal times run late, they are not forced to eat quickly?

Some institutions have incorporated into their patterns a tendency to bring residents to the dining hall as soon as they are dressed. The advantage to the facility is that the residents are already located in the dining hall and do not have to be moved again at meal times. The disadvantage to this practice, however, is that the cognitive and sensory connection between entering the dining area and appetite is lost. The move to the dining area should happen close to the actual serving of the meal in order to reinforce the connection between the location and the activity.

**TECHNIQUES FOR APPROACHING SWALLOWING DIFFICULTIES**

Difficulty swallowing (dysphagia) can arise from a number of problems—physical, cognitive, and perceptual. The following techniques can help alleviate swallowing difficulties (Maher, 2012):

- **Maintain an upright position** during meals and for at least 30 minutes after meals in order to prevent reflux.
- **Do not tilt the head back.** Tilting the head back increases the risk of aspirating food into the lungs.
• **Do not use syringes or straws to deliver solids.** Syringes and straws force food into the back of the throat, increasing the risk of aspiration. Use of syringes may also be perceived as demeaning and reduce the dignity of the client.

• **Focus on the client.** The person doing the feeding should not engage in conversation with other staff members or talk on the phone while feeding. These actions objectify the person being fed rather than include them in the process. Caregiver distraction may also increase risk of overlooking signs of possible aspiration.

• **Check for pocketing.** Clients with swallowing and food manipulation difficulties may “pocket” food in their cheeks, which might then be aspirated later. Check for pocketing to make sure that food doesn’t remain in the mouth. A mirror can be helpful for the client to check for pocketed food together with the caregiver in order to reduce the feelings of infantilization.

• **Offer small bites and liquid.** Liquids should be alternated with solids in order to promote safe swallowing. Do not offer liquids, however, when there is still food in the mouth. Trying to “wash down” foods with liquids can result in choking, as food that has not been sufficiently chewed can end up going down the throat.

• **Avoid foods that combine textures.** For example, soup can contain both thin liquids and chunks; this kind of food may be difficult to manipulate. Offering a variety of textures one at a time, however, may work well to stimulate the appetite.

A healthcare professional’s role in addressing swallowing problems depends on the level of experience. For instance, an entry-level OTA may work on activities such as energy conservation during meal preparation, shopping, oral-facial exercises, and instruction in assistive devices. An experienced OTA or OT may participate in videofluoroscopic swallow studies and assist tracheostomized and ventilator-dependent older adults with self-feeding and swallowing.

Speech-language pathologists are experts in swallowing and oral motor skills and should be contacted for an evaluation if swallowing difficulties are suspected. Indications of swallowing deficits include a cough or frequent throat clearing after swallowing. Speech-language pathologists have training in assessing and treating oral manipulation and swallowing difficulties.

In addition to some of the above recommendations, speech-language pathologists may recommend the use of thickened liquids as a means of slowing the rate of swallowing. While this may be helpful in preventing aspiration, thickened liquids should be prescribed with some caution and care should be taken to thicken liquids to the prescribed consistency (Madhavan et al., 2015). People tend to dislike the consistency and are often noncompliant with their use. In addition, some concern has been raised over the long-term effects of using thickened liquids, since it may result in deterioration of the muscles required for swallowing.
CASE (continued)

At the facility’s care conference, staff set the goal to help Rita return to her admission weight over a period of three to six months. The following activities and interventions are proposed to achieve this goal:

- Because Rita can drink mostly independently, the nutrition staff will prepare samples of a variety of nourishing liquids and liquefied foods. She will be provided adequate amounts to meet her baseline caloric and nutritional needs. A member of the staff will contact Rita’s family to get information about what specific foods they recall her preferring. Rita’s consumption, along with her facial expressions, will give some guide to her preferences.

- Caregivers that Rita reacts favorably toward will be assigned to assist her. They will be given instructions on Rita’s nutritional plan.

- An accurate record of both the type and quantity of items consumed will be used to monitor calorie and specific nutrient intake.

- Rita will be offered snack-sized portions at frequent intervals.

- Small pieces of food that can be eaten without utensils will be introduced to Rita’s diet, based on information from her family and what she has consumed in liquefied form. The assigned caregiver will assist Rita to pick up the food and move it to her mouth and will demonstrate by simulating eating. The ultimate goal is for Rita to obtain most of her nutrition in the form of solid food.

- Rita will be assisted to eat at mealtimes in the activity room, but on the periphery rather than the center, to reduce the risk of overstimulation. She will receive her between-meal snacks in her room. Comparison of both the amount and variety of what she eats in each setting will be used to determine the best environment in which to eat.

- Rita will be positioned upright, with pillows and bolsters as needed, and her tray within her reach. For snacks provided in her room, she will sit either in bed or in her chair.

The changes to Rita’s nutritional support program are implemented slowly in order to avoid overwhelming her with change. The introduction of solid foods requires patience and time. Gradually, however, Rita progresses from blended chicken soup with peas, carrots, and celery to sips of chicken stock alternating with chunks of chicken and vegetable pieces. Fruit and yogurt smoothies morph into thinned yogurt and fruit pieces.

Rita is weighed every week, and an ongoing assessment of her overall nutrition and hydration indicators is performed and documented. Over the first month, she gains back 2 pounds, and gains 1.5 to 2 pounds/month in the next two months.

Rita seems less distracted when she eats at the edge of the room, in a small group setting, or in her room, in that order. Her family is encouraged to visit at her meal or snack times, as she recognizes them more often than not and seems more willing to eat when they are there. (continues)
Nutrition Education

While specific information about nutrition is beyond the scope of this course, providing older adults with information about nutrition may help improve dietary habits, food choices, and overall nutritional status (Wunderlich, 2013). These goals can be accomplished through the following steps:

- Increase awareness of good nutrition
- Enhance motivation to eat well
- Facilitate the opportunity to take action
- Increase the environmental support for action

Seeing these steps laid out is helpful because they show that knowledge by itself is not enough. Unless an individual is motivated to eat well and has the ability and support to eat well, knowing what constitutes good nutrition will not be enough.

Interventions and Assistance in the Home Setting

The factors discussed in the context of an older adult living in an institution apply equally to one living at home, either alone, with an age-equivalent spouse, or with some form of in-home assistance or care. Someone with either a professional or social relationship with the individual should observe the person for signs of poor or deteriorating nutrition and then determine what assistance or intervention is indicated.

Options include:

- If a professional caregiver is involved, the employing agency should be notified and appropriate referrals, consultations, or notifications made.
- If the caregiver or concerned person is a family member or friend, the nature of the relationship dictates the degree of direct intervention possible.
  - Family members can encourage a doctor’s involvement but have a limited ability to act if the elder is competent and unwilling to accept direct assistance.
  - Friends have a more limited role: informing family (if they exist and/or are willing to become involved) or notifying a responsible agency of their concerns.
  - In either scenario, the possibility of temporary or permanent estrangement from the very person for whose welfare they were concerned is very real.
- Less direct, more acceptable forms of assistance may be available from community resources for an elder who just needs limited help. Examples include:
  - Meals on Wheels or local equivalents
  - Peer visits from elder support groups
Assistance from faith-community members
- Services of a homecare agency (as opposed to a certified home health aide)

Each older adult’s individual needs need to be taken into consideration, and the interventions modified as his or her abilities increase (due to PT, OT, or other rehabilitation interventions) or decrease (due to disease progression or natural decline secondary to aging). The individual’s safety, preferences, and current condition are important factors to be considered.

SUPPLEMENTAL NUTRITION

When older adults begin to show signs of unintentional weight loss, supplemental nutrition may provide a means of increasing intake. For example, research supports the use of nutritionally complete oral nutritional supplement drinks in cases of dementia to increase weight gain (Methven et al., 2013).

There are different types of supplemental nutrition. The first is simply the practice of offering snacks between meals. Other types include hand- and tube-administered supplements.

Snacks

Caregivers can learn about a client’s usual snacking pattern at home in order to determine their desire for snacks.

One might think that between-meal snacks would decrease overall intake of nutritional food. While a mid-afternoon snack may reduce caloric intake in the evening, research suggests that the total daily caloric intake does not decline (Marangoin et al., 2013). In fact, some studies demonstrate the beneficial effect on nutrition of high-energy, between-meal snacks.

Snacking may actually increase the overall quality of diet among adults. Xu and colleagues (2013) report that in their study of more than 11,000 adults, snacking was associated with higher healthy eating scores. Another report looked at walking speed in older adults who snacked frequently compared to those who did not snack; results showed that those who snacked four or more times daily had a faster gait speed than those who did not snack.

Oral Nutritional Supplements

Oral nutritional supplements (ONS) are generally liquid preparations that are high in energy and protein. Liquids can be easier to consume than solids, and because they are less likely to make a person feel full, they are also less likely to interfere with other meals.

A review of several studies on the benefits of ONS showed largely consistent benefits, including declines in mortality and other complications such as pressure ulcers and infections. Some older studies had shown that people with COPD were less likely to benefit from oral nutritional supplements (Stratton & Elia, 2007); a more recent meta-analysis, however, showed that
nutritional support, mainly in the form of ONS, did improve total intake, anthropometric measures, and grip strength in people with COPD (Collins et al., 2012).

Tube Feeding

When swallowing is impaired, tube feeding may seem like a logical step to increase nutrition. The decision can be a difficult one, as in many cases, the benefits have not been shown to outweigh the risks.

TYPES OF TUBE FEEDING

There are different types of tube feeding, each with its own benefits.

**Enteral nutrition** delivers nutrients and fluids directly to the digestive tract. It can be delivered by:

- **Naso-gastric tube (NG):** An NG tube runs through the nose directly into the stomach; it does not bypass the digestive system. NG tubes are generally used temporarily, for two weeks or less, to deliver fluids and nutrients (Tanner, 2006).

- **Gastric tube (G-tube):** G-tubes are inserted directly through the abdomen into the stomach and can stay in place for long-term feeding. They can be useful for instances in which the digestive system is intact but swallowing is impaired, for example, due to stroke.

- **Jejunostomy tube (J-tube):** A J-tube is similar to a G-tube but is inserted into the jejunum, the second part of the small intestine.

**Parenteral nutrition** bypasses the digestive system entirely, delivering fluid and nutrients intravenously (through an IV). Short-term parenteral nutrition may be used if the digestive system is shut down due to a temporary condition. It is also occasionally used long term following an accident or digestive disorder. When all nutrition is gained through this type of feeding, it is referred to as total parenteral nutrition (TPN).

CONCERNS REGARDING TUBE FEEDING

If a client cannot make an informed decision regarding tube feeding and has not prepared an advance directive, the decision to start or stop tube feeding can be extremely difficult. For healthcare professionals, knowing and presenting the information about the benefits and drawbacks of tube feeding can be very helpful in making these decisions.

*Effectiveness*

The biggest question regarding tube feeding is: Does it work? Although it would seem logical that placing fluid and nutrients directly into the body would increase one’s
nutritional status, that is not always the case. For instance, research has shown that TPN may be useful before the terminal stages of cancer; but there is evidence that in advanced stages of disease, the body will not make use of nutrients, no matter how much is taken in.

For those people with advanced dementia, research demonstrates that enteral tube feeding does not increase survival, improve nutritional status, or decrease pressure ulcers (Lucendo & Friginal-Ruiz, 2014). Agronin (2014) concludes that tube feeding in end-stage dementia neither enhances quality of life nor prolongs survival. Swallowing problems may represent the beginning of the end stage of dementia, regardless of nutritional status. Once dementia has reached this stage, death will occur relatively soon, whether or not tube feeding is started.

The lack of benefit from PEG (percutaneous endoscopic gastrostomy) feeding is evident in terminal illnesses other than dementia, such as cancer or neuromuscular diseases (Friedrich, 2013).

**Complications**

Tube feeding can cause a wide range of negative side effects. Some of these side effects, such as aspiration pneumonia, are exactly the problems the tube feeding was meant to prevent. Ying (2015) lists the following as potential complications of tube feeding in advanced dementia:

- **Pain** can be caused by the physical insertion of the feeding tube.
- **Infection and bleeding** can result from the insertion of the feeding tube.
- **Fluid overload** can lead to pulmonary and peripheral edema.
- **GI problems** such as nausea, vomiting, diarrhea, and abdominal pain can result. Diarrhea carries its own set of problems, including risk of skin breakdown from frequent exposure to feces and dehydration.
- **Aspiration** of food into the lungs can occur with tube feeding even when no food is going into the mouth. Reflux and inhalation of gastric contents and saliva can be responsible for aspiration into the lungs.

**Quality of Life**

While not intended, tube feeding can decrease quality of life by taking away the pleasure of tasting food. In addition, tube feeding is usually a much faster process than hand feeding. Tube feeding therefore deprives people who may already have minimal opportunities for socialization of a potentially important interpersonal event. Mealtimes can provide a chance for one-to-one interaction that might otherwise not occur.
Ethical Considerations of Tube Feeding

Instituting tube feeding at the end of life requires careful consideration. On the one hand, the fear that a person will literally starve to death is valid. On the other hand, especially at the end of life and in end stages of dementia, tube feeding has not been shown to increase longevity or quality of life. Instead, patients with severe dementia fail to benefit from tube feeding due to an inability of their bodies to benefit from the nutrition. This inability to benefit from nutrition occurs in advanced dementia and is known as cachexia, a syndrome characterized by loss of weight, muscle atrophy, appetite loss, and malnutrition (Sekerak & Stewart, 2014).

Furthermore, with dementia, clients often end up being restrained in order to prevent their pulling out tubes, leading to an even greater assault on their dignity (Ying, 2015). In addition, some researchers suggest that dehydration at the end of life causes less discomfort than artificial hydration and can cause the release of chemicals that serve as natural anesthetics (Burton & Ludwig, 2015).

There are many ethical principles to consider here, including:

- **Autonomy:** Autonomy is the principle that competent clients have the right to make decisions about their own care, even if that decision might result in death. Deciding competency can be complicated, however. A client might be considered competent to make a decision to decline a tube feeding even if the ability to make complicated financial decisions is lacking. Ideally, if the client is not able to make an informed decision, a living will or healthcare proxy can inform the decision.

- **Beneficence:** Beneficence is the principle of doing good. In terms of treatment, beneficence directs that procedures must be for the good of the client. It can be difficult to decide what is best for the client; for instance, is promoting longevity always best?

- **Nonmaleficence:** Nonmaleficence is similar to beneficence but approaches the issue from the other side, that is, do no harm.

Lo (2013) recommends the following perspective: If the client has a reversible illness in which nutritional intake is impaired, tube feeding is appropriate. It is not appropriate in situations of serious, progressive illness with a poor quality of life. Most situations will fall in the middle, however. In that case, Lo recommends a trial. If the feeding tube is well tolerated, then benefits probably outweigh the burdens. If restraints become necessary to keep a tube in place, Lo writes that it is difficult to see the humanity of such care. He recommends offering food and water by hand, stating that “compassion and comfort, however, are better expressed through attention and affection than by forced feeding.”
TUBE FEEDING AND AUTONOMY

In a cogent discussion of tube feeding and the tendency of patients with dementia to try to pull out the tubes, Dekkers (2004) writes about the concept of the lived body, that despite the deterioration of cognitive function, the body retains an ability to express reactions and intent.

Dekkers explores the questions of whether someone with dementia can possess will or intent as well as whether a person with dementia should be denied the opportunity to express autonomy. He writes, “In accordance with the extent that the self and personal qualities are gradually disappearing, we must take seriously the patient’s bodily defensive movements. The person with dementia simply possesses no other means to express himself.”

This conversation is a valuable one: it recognizes the difficulties inherent in interpreting the desires of a person whose cognition is eroded, it calculates the risk and benefits of tube feeding, and it comes down on the side of recognizing the expression of will in a case in which the advantages of tube feeding are small and the risk of erosion of dignity great.

Alternatives to Tube Feeding

Feeding someone by hand can be a reasonable alternative to tube feeding, as long as the person is able to swallow safely. If the person is not able to take in food by mouth, not feeding at all may be a reasonable alternative. Some researchers suggest that even if their decision-making ability is impaired, clients’ decisions not to eat must be honored.

CASE (continued)

Rita regains all but 0.5 pounds of her weight loss and remains stable at that weight for almost a year. She continues to eat and drink on her own, with minimal assistance. Then, she gradually begins to sink deeper into dementia. Over the next few weeks, she becomes less aware of those around her. She forgets how to pick up finger food and no longer automatically drinks when a cup is lifted to her lips. Despite efforts to encourage self-feeding, Rita soon requires active feeding by the OTAs, then begins to push the food and their hands away. She is no longer able to be out of bed.

Next, Rita gradually loses the ability to chew and swallow and has several severe choking fits when feeding. Altering what and how she is fed makes no difference. One by one, the OTAs become afraid of being assigned to her care. Over the next week, Rita spends more and more time with her eyes closed or staring out at some distant point. She begins to show signs and symptoms of dehydration and malnutrition. She becomes incontinent. Her breathing and heart rate slow to concerning levels.
Throughout this period of decline, her family visits frequently. They express their concern to the nursing staff and to Rita’s doctor. At the end of the week, the family, their priest, Rita’s doctor, and facility staff meet to discuss her condition and how to proceed. Fortunately, Rita has an advance directive, which clearly states that she does not wish any extraordinary measures to be taken to preserve her life. The doctor presents the options of parenteral or enteral feeding as a way of providing nutritional support. Representatives of the facility staff discuss how Rita’s ability to eat has deteriorated. The conversation continues for over two hours, with everyone having the opportunity to speak freely.

The family asks for time alone with the priest to deliberate. Sometime later, they ask to speak to the doctor and request that no more attempts be made to feed Rita and that she be offered only clear liquids or broths. Other comfort-oriented care measures are discussed and implemented. She is given appropriate religious care, and she dies quietly the next evening.

(continues)

EVALUATING THE OUTCOMES OF NUTRITION INTERVENTIONS

How can the success of nutritional interventions be evaluated? To a large extent, the same methods used to determine nutritional status to begin with can be used for evaluation. Screening, looking at physical signs of malnutrition, and nutritional assessment are all used at both the beginning stage of the process and to determine effectiveness throughout the process.

In short, evaluating the effect of a nutritional intervention involves a brief rechecking of the four factors that are part of a nutritional assessment:

- Anthropometric factors
- Biochemical parameters
- Clinical assessment
- Dietary history

Specifically, one can compare outcome measures to baseline measures:

- Has there been a change in weight?
- Lab values?
- BMI or calf circumference?

How are the caregivers reacting to the changes? Do they feel that the plan is practical and useful?

Finally, is the client satisfied with and able to adhere to the plan? A perfect plan is of no use if the client will not or cannot follow it.
Throughout the process of working with Rita, both the nurses and OTAs noticed positive changes, and they began to wonder whether other residents would benefit from some of these changes. Similar assessments were done for other residents who were identified as having nutrition issues.

Now, residents are identified as being more introverted or extroverted. The mealtime activity room configuration has been changed from a uniform cafeteria-like appearance to a more restaurant-like setting, with tables seating from two to eight diners. Residents are seated according to their expressed choices, if they are able to articulate them, or in accordance with what is observed about their preference. With time and practice, the room can now be set up for meals and reconfigured for its next use in less than 10 minutes.

More attention is paid to residents’ posture and access to food and eating utensils. The physical and occupational therapists are major contributors to this initiative. While some residents still require active feeding or significant assistance, others have become much more involved in eating than was previously thought possible. Successful individual modifications have become part of each resident’s care plan.

RESOURCES

Eat Right for Seniors (Academy of Nutrition and Dietetics)
http://www.eatright.org/resources/for-seniors

Mini Nutritional Assessment
http://www.mna-elderly.com/mna_forms.html

NANASP (National Association of Nutrition and Aging Services Programs)
http://www.nanasp.org

National Resource Center on Nutrition, Physical Activity and Aging
http://nutritionandaging.fiu.edu

NSI Checklist

Seniors nutrition information (Nutrition.gov)
http://www.nutrition.gov/life-stages/seniors
REFERENCES


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1. Which is a physical barrier to good nutrition in older adults?
   a. Social isolation
   b. Decreased memory
   c. Missing or painful teeth
   d. Economic hardship

2. Nutrition status in older adult patients with apraxia can be affected by an inability to:
   a. Remember whether or not they have already eaten.
   b. Use utensils.
   c. Understand directions to eat the food in front of them.
   d. Recognize smells.

3. Which is a true statement about social factors and older adult nutrition?
   a. Social isolation is rare in nursing homes because there are always other residents and staff to provide interaction.
   b. Today’s cohort of older men is quite proficient in food preparation.
   c. Role changes, such as those caused by widowhood, can lead to a lack of desire to both prepare and eat food.
   d. The concept of being “food insecure” refers to a lack of competence in knowing which foods are most nutritious.

4. Which resident in a skilled nursing facility is likely at greatest risk for impaired nutritional status?
   a. John, age 68, who is recovering from a total shoulder replacement and requires a feeding assistant
   b. Mary, age 92, who has dementia and requires a moderate amount of assistance in eating
   c. Jorge, age 74, who is recovering from a stroke and requires complete assistance in eating
   d. Lucretia, age 80, a patient who is blind but only requires guidance to feed herself independently
5. Which practice is consistent with the American Dietetic Association’s (Academy of Nutrition and Dietetics) recommended strategies to improve the nutrition of residents in long-term care?
   a. Liberalizing dietary restrictions in order to increase food consumption and enhance quality of life
   b. Decreasing the dosage of oral hypoglycemic drugs and restricting caloric intake for residents with diabetes
   c. Placing saltshakers on tables to allow residents to flavor their own foods
   d. Using mostly prepackaged foods to allow for better nutritional monitoring

6. The Nutritional Screening Initiative’s (NSI) DETERMINE checklist is best used by healthcare professionals and family members as:
   a. A validated measure of malnutrition in older adults.
   b. A means of promoting exercise among healthy older adults.
   c. An education and basic screening tool for nutrition deficits.
   d. A long version of the Mini Nutritional Assessment (MNA).

7. Which are types of anthropometric data included in nutrition assessments?
   a. Weight, height, body fat
   b. Protein, cholesterol, and vitamin levels
   c. Cognitive, emotional, and sensory functions
   d. Diet, physical activity, and psychosocial stress

8. The nurse prepares to assist a patient who is recovering from a stroke with eating. Which improper alignment of the patient’s body requires immediate correction?
   a. Sitting in an erect and symmetrical posture, with weight distributed equally on each side
   b. Head facing forward, with the chin midline and tipped upward
   c. Arms and hands resting on the table in alignment with the shoulders
   d. Legs weight-bearing with feet flat on the floor and ankles under the knees

9. An older adult’s sensory interest in meals can be stimulated by:
   a. Limiting meal times to less than 30 minutes so that the older adult does not have time to lose interest in the meal.
   b. Offering a choice of mashed potatoes, white rice, and steamed cauliflower as side dishes at the same meal.
   c. Using darker-colored plates to bring out the varieties of color and texture in the food served.
   d. Serving coffee only in the morning to prevent appetite suppression and to increase energy level.
10. Which is a true statement about the effect of music in nursing home dining facilities on older adult residents with cognitive deficits?
   a. Noise of any kind gives the impression of high energy, which encourages the residents to eat.
   b. Eliminating distractions, including music, in the dining area reinforces the activity of eating among residents.
   c. Older adults, regardless of level of cognition, generally prefer music to be off while eating.
   d. There is no consensus on the effect music will have in encouraging this group of residents to eat.

11. Which action can help prevent time pressures while eating?
   a. Having clients in the dining area at least an hour before the meal is served to ensure that meals begin on time
   b. Making sure that staff know they must complete feeding clients by a certain time in order to get their own meals
   c. Making sure clients know that there is a specific beginning and ending time to meals in order to get them to focus on eating
   d. Allowing clients to take as much time as they need for a meal, since each person eats at a different pace

12. Which technique is correctly used to assist a client with swallowing difficulties?
   a. Tilting the client’s head slightly forward
   b. Offering foods that combine several textures in the same spoonful
   c. Using liquids to wash down foods
   d. Using a syringe to place food directly into the back of the client’s mouth

13. Tube feeding is most successful in increasing nutritional intake during:
   a. End-stage dementia, when swallowing is impaired and food cannot be ingested orally.
   b. Recovery from surgery from colon cancer, when swallowing is temporarily impaired.
   c. Mid-stage dementia, when impaired ability to bring food to mouth is evident.
   d. Advanced rheumatoid arthritis, when holding utensils has become difficult due to joint changes in the hands.

14. In late stages of dementia or terminal illness, tube feeding has been shown to:
   a. Decrease the patient’s risk of pressure ulcers.
   b. Enhance the patient’s quality of life.
   c. Increase the patient’s ability to absorb and use nutrients.
   d. Increase the patient’s risk of bleeding, infection, and aspiration.
15. When evaluating the success of a new dietary plan for an older adult resident in a long-term care facility, the clinician measures the resident’s body mass index, calf circumference, and weight to compare with the resident’s measures from one week ago. Which other baseline measure does the clinician review in completing the evaluation?
   a. The current hunger status of the resident
   b. The results of follow-up laboratory tests
   c. The foods from the past week that will be provided again in the coming week
   d. The documentation of which foods the resident preferred