Frequency and Indicators of Malnutrition in the Elderly

**What is Anorexia & Malnutrition?**

- **Anorexia** is an overall decline in appetite leading to decreased food intake, and consumption of inadequate calories. It is the major cause of weight loss and poor nutritional status in elderly persons.
- **Malnutrition and dehydration** are associated with susceptibility to infections, cognitive impairment, poor skin and bone integrity, pressure sores and hip fractures. These serious consequences along with co-morbidities from chronic illness often lead to mortality.


**Nutritional Screening**

- Malnutrition, or undernourishment resulting from insufficient food intake is reported in up to 85% of nursing home patients.
- Dehydration had been documented in as many as 60% of residents.
- A protocol to screen and assess elderly residents for nutritional risk is essential in establishing early interventions to diminish serious health effects of malnutrition.


**Consequences of Malnutrition**

- Weight Loss
- Infection
- Impaired wound healing
- Immune deficiency
- Development of pressure sores
- Mortality


**Consequences of Dehydration**

- Constipation
- Urinary tract infections
- Renal disease
- Pneumonia
- Hypotension
- Delirium
- Mortality


**What are the signs?**

- Pronounced indentations at the temporal lobes commonly referred to as temporal wasting
- Loss of muscle mass
- Loose elastic skin
- Decreased functional ability to perform activities of daily living (ADL's)
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**Causes of Weight Loss**
- Poor dentition
- Swallowing difficulties
- Mouth pain
- Psychological disorders
- Depression
- Impaired mobility
- Loss of appetite
- Multiple medications
- Dementia and disease
- Sensory deficits (deafness, blindness)

**Causes of Weight Loss**
- Medications
- Emotional (depression)
- Alcoholism and substance abuse
- Late-life paranoia
- Swallowing problems
- Oral problems
- Nosocomial infections, no money (poverty)
- Wandering/dementia
- Hyperthyroidism, hypercalcemia, hypoadrenalism
- Enteric problems (malabsorption)
- Eating problems (tremor)
- Low salt, low cholesterol diet
- Shopping and meal preparation problems

**Drugs Contributing to Anorexia**
- Antidepressants
- Uricosurics
- CNS Stimulants
- Dopamine Agonists
- Antiarrhythmics
- Diuretics
- Xanthenes
- Antiepileptics
- Steroids
- Opiates
- Acetylcholinesterase inhibitors
- Antibiotics
- Antidiabetics
- Anticoagulants

**Protein, Fat & Calorie Intake by Age**

**Body Mass Index**
- Body Mass Index (BMI) is a number calculated from a person’s weight and height.
  - Weight/height$^2$ x 703
  - BMI provides a reliable indicator of body fatness for most people and is used to screen for weight categories that may lead to health problems.

**Aging Effects**
- Sensory deficits contribute greatly to a decreased desire to eat
  - Olfactory—decreased sense of smell
  - Gustatory—impaired ability to taste
  - Visual—decreased ability to see different shapes, colors, textures

Frequency and Indicators of Malnutrition in the Elderly

Weight Management Calculator

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Weight Calculator Graphically

Nutrition for Older Adults

- Energy: Needs decrease with aging due to gradual reduction in lean body mass and physical activity. Individualize to estimate energy needs 25-35 calories per kg of body weight.
- Protein: Can be met with 1 g per kg of body weight or 12-15% of total energy needs. Long-term inadequate protein intake can result in impaired immune function, loss of muscle mass and poor wound healing. Pressure ulcers increase protein requirements.
- Fat: Dietary fat is a source of essential fatty acids and concentrated energy. Include 30% or less of total calories from polyunsaturated and monounsaturated fat sources.
- Calcium: Dietary Reference Intake (DRI) for calcium in older adults is 1200 mg/day. Compensates for decrease calcium absorption with advancing age.
- Vitamin D: DRI 15 mg per day. Individuals with limited sun exposure and low consumption of margarine and milk, Vitamin D supplements are recommended.

Source: Clinical Nutrition Manual, Chapter 9 Older Adults. Pg. 142-157.

Feeding the Elderly

- Positioning:
  - Keep resident’s head and upper trunk as upright as possible with head in midline.
  - The head should be slightly forward in relation to the neck and shoulders.
  - The hips and small of the back should be centered at the back of the chair.
  - Arms should be resting on the table to facilitate proper shoulder posture.
  - Keep resident’s feet flat.
  - Keep table height at the appropriate chest level.
  - Have the resident sit up close to the table.

Feeding the Elderly

- Serving and Food Preparation:
  - Talk to the resident. Tell her who you are and what you are doing.
  - Speak slowly and clearly to orient the resident.
  - Feed slowly, alternate foods.
  - Tell the resident when the feeding utensil is near the mouth to avoid starting.
  - Feed small amounts of food at a time.
  - Alternate sides of the mouth when feeding.
  - Always tell them when you are done to put a closure on the activity.
  - For easier swallowing, add milk over a piece of cake like a glaze.
  - Combine fruit and salad with foods to vary texture.
  - Offer sips of liquid often.


Monitor signs for Swallowing Problems

- Pockling of food
- Coughing or choking during or after meals or liquids
- Frequent throat clearing
- Drooling
- “Wet” or gurgly voice quality
- Effortful chewing
- Complaining of pain while swallowing
- Watery eyes or runny nose while eating
- Reflux
- Prolongation of meals
- Implement diet modifications, positioning and swallowing techniques, modify food consistencies

Source: Clinical Nutrition Manual, Chapter 9 Older Adults. Pg. 142-157.
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**Hydration**

**SOURCES OF LIQUID**

- Milk – non-fat for residents with healthy weight, whole milk for residents needing extra calories
- Water/Flavored Water
- Fruit/yogurt shakes, smoothies
- Homemade unsweetened lemonade
- Fruit slurry
- Caffeine-free coffees and herb teas
- Crystal light
- Fruit and vegetable juices

> Older adults need six to eight 8-ounce cups of water or liquid each day.

**Drink Lots of Water**

- 2 glasses of water after waking up helps activate internal organs
- 1 glass of water 30 minutes before a meal helps digestion
- 1 glass of water before taking a bath helps lower blood pressure
- 1 glass of water before going to bed avoids stroke or heart attack

**Hydration Tips**

Add flavor, texture, fiber and water with:

- Fresh fruits. Water makes up 80-95% of most fruits.
- Thin strips of raw vegetable placed in water in the refrigerator for a few hours.
- Shredded vegetables added to meat dishes.
- Lettuce and tomato added to sandwiches and salads.
- Shredded lettuce.
- Cut-up fresh fruits in salads.
- Fruit purees added to – muffins, cakes, meatloaf, and meat dishes.
- Peanut butter mixed with equal part of applesauce, lightens its consistency and increases water content.

> Older adults need six to eight 8-ounce cups of water or liquid each day.

**Nutritional Strategies**

- Remove or substantially modify dietary restrictions (ie, liberalize the patient’s diet)
- Encourage use of flavor enhancers;
- Encourage frequent small meals;
- Offer liquid nutritional supplements for use between (not with) meals;
- Improve protein intake by adding meat, peanut butter, or protein powder;
- Treat depression with antidepressants that do not aggravate nutritional problems;
- Remove or replace medications that have anorexia-producing side effects;
- Evaluate swallowing as well as functional ability to manage eating;
- Obtain a social services assessment of living situation of community-dwelling adults.

**Nutritional Interventions**

**Megestrol Acetate (Megace® ES)**

- Megestrol acetate is a synthetic derivative of the female hormone progesterone.
- Increased appetite and weight
- Improved quality of life
- Reduction in Cytokine levels is associated with improved quality of life
- Is well tolerated
- Increased food intake, BMI, Albumin, prealbumin, hemoglobin and lymphocyte count.

**Feeding Tubes**

- Not effective in preventing malnutrition
- Do not prevent the occurrence or increase the healing of pressure sores
- Does not prevent aspiration pneumonia
- Does result in high complication rates, use of restraints, agitation and sedation
- Management of underlying cause and nutritional support is best


Source: Karcic, Philpot, Morley.

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Dietician Referral Protocol

- Resident has >5% involuntary weight loss in 30 days
- Resident has >10% involuntary weight loss in 90 days
- Body Mass Index is <21
- Resident skips meals frequently
- Resident routinely leaves 25% or more food uneaten

Staff Interventions - Preparation

- Ensure that patients are equipped with all necessary sensory aids (glasses, dentures, hearing aids).
- Ensure that the patient is seated upright at 90°, preferably out of bed in the dining room and in a chair.
- Ensure that patients residing in a long-term care facility eat in the dining room (much less likely to have low intake).
- Ensure that food and utensils are removed from wrapped or closed containers and are positioned within the patient’s reach.
- Remove or minimize unpleasant sights, sounds, and smells.

Staff Interventions - Feeding

- Allow for a slower pace of eating; do not remove the patient’s tray too soon.
- Consider ethnic food preferences and permit families to bring specific foods.
- If the patient must be fed, allow adequate time for chewing, swallowing, and clearing throat before offering another bite. Rapport between patient and feeder is critical.
- Demented patients may need to be reminded to chew and swallow and may benefit from availability of “finger foods.”
- Encourage the family to be present at mealtime and to assist in the feeding.

Source: Evans C, Castle P. Nutritional problems in the elderly patient. [Stanford (CA): Stanford University Hospital; 1991].