NUTRITION AND WEIGHT

AGS Geriatrics Evaluation and Management Tools (Geriatrics E&M Tools) support clinicians and systems that are caring for older adults with common geriatric conditions.

From the AMERICAN GERIATRICS SOCIETY

Geriatrics Evaluation & Management Tools

DEFINITION

Involuntary Weight Loss

- Loss of 10 lbs (4.5 kg) or >5% of usual body weight over 6–12 months
- BMI <17 kg/m^2 is consistent with undernutrition.
- Inadequate intake is 25%–50% below the recommended daily intake (RDI).

BACKGROUND

Prevalence of Involuntary Weight Loss

- Present in about 13% of older outpatients, 25%–50% of hospitalized older adults, and >50% of nursing-home residents.
- About 40% of older adults have energy intakes lower than two-thirds of RDI.
- Vitamin D deficiency occurs in 30% of individuals >70 years old.

Causes of Involuntary Weight Loss

- Approximately 50% organ related (CHF, COPD, renal failure, chronic infection and inflammation, GI conditions, medication effects, and neurodegenerative conditions)
- 20% neoplastic
- 20% idiopathic, including age-associated sarcopenia, frailty
- 10% psychosocial (depression, isolation, economic problems, environment [eg, inability to access food])

AGE-ASSOCIATED CHANGES

Body Composition and Energy Requirements

- Lower bone mass, lean mass, and water content; more fat mass
- Reduced basal metabolic rate due to loss of lean body mass.
- Harris-Benedict or similar equations can predict basal energy expenditure.

Macronutrient and Micronutrient Needs

- MyPlate (www.choosemyplate.gov) provides an older adult food guide pyramid.
- Prudent diet has 20%–35% of energy as fat and 45%–65% as carbohydrates.
- Protein intake should be 0.8 g/kg/d or about 10%–35% of total energy; may increase to 1.5 g/kg/d with stress or injury.
- Daily fiber intake goal is 30 g for older men and 21 g for older women.
- For micronutrients, see http://books.nap.edu/openbook.php?record_id=11537&page=R1.

Fluid Needs

- Decreased thirst perception, response to changes in serum osmolality, and ability to concentrate urine.
- Fluid needs of older adults are about 30 mL/kg/d or 1 mL/kcal ingested.
- Dehydration is the most common fluid or electrolyte disturbance in older adults.

SCREENING

- DETERMINE checklist (http://bit.ly/2EFUuep)
- Mini-Nutritional Assessment tool (www.mna-elderly.com) evaluates risk of malnutrition in frail older adults.
- Simplified Nutrition Assessment Questionnaire (https://bit.ly/2GVsdqc) is a self-reported tool that identifies those at risk of weight loss.
- SCREEN II. Seniors in the community: Risk Evaluation for Eating and Nutrition. Eur J Clin Nutr 2005;59:1149

HISTORY

- Careful documentation of weight over time
- Detailed history, including medical, dental, dietary, and psychosocial elements
- Consider risk factors for poor nutritional status: chronic medical problems, restricted diet/poor eating habits, cognitive dysfunction, poor dentition, substance abuse, decreased exercise/function/mobility, poor mental health, inadequate funds, low education, lack of transportation, isolation, medications, difficulty obtaining/preparing/consuming foods.

MEDICATIONS

- Medications that may cause anorexia: digoxin, phenytoin, cholinesterase inhibitors, SSRIs, calcium channel blockers, H_2-receptor antagonists, proton-pump inhibitors, narcotic and nonsteroidal analgesics, furosemide, potassium supplements, ipratropium bromide, and theophylline.
- Medications may also interfere with taste and smell; reduce availability of specific nutrients; and cause inattention, dysphagia, dysgeusia, xerostomia, and constipation.

PHYSICAL EXAMINATION

- BMI <18.5 kg/m^2 is considered low but must be interpreted in context of individual history.
- Skin-fold and circumference measurements have limited practical clinical use.
- Careful examination, specifically looking for skeletal muscle wasting, nonhealing skin wounds and pressure sores, loss of functional ability, and clues as to the cause of poor nutritional status.

DIAGNOSTIC TESTS

Testing based on history and physical examination:

- Serum albumin lacks specificity and sensitivity as an indicator of malnutrition.
- Serum prealbumin has a short half-life (48 hours) and better reflects short-term changes in protein status and effectiveness of nutritional interventions and recovery.
- Albumin and prealbumin are not reliable markers of nutritional status in inflammatory conditions.
- Screening for vitamin D deficiency is recommended in the setting of weight loss and malnutrition, because repletion reduces falls and improves physical performance, bone healing, and response to bisphosphonates.
- No evidence to support all-body imaging for involuntary weight loss.

MANAGEMENT PRINCIPLES

- Address the causes of poor nutrition identified in the history and physical exam.
- Vitamin D intake of 1,000 IU daily is sufficient for most adults >70 years old.
- All older adults should have 1,000 mg of calcium intake daily. Do not take more than 500mg of calcium at a time.
- Specific supplementation with other vitamins, minerals, and antioxidants is not necessary and may be harmful (β-carotene and vitamins A and E can increase mortality in some settings).

Involuntary Weight Loss

- Although high-calorie supplements increase weight in older adults, there is no evidence of effect on other important clinical outcomes, such as quality of life, mood, functional status, or survival.

Obesity

- Age alone does not preclude weight loss treatment. Focus must be on a healthful weight to promote improved health, function, and quality of life.

NONPHARMACOLOGIC MANAGEMENT

- Cater to food preferences with appealing foods.
- Provide hand and mouth care as needed.
- Provide feeding assistance.
- Avoid excessive salt and sugar.
- Give adequate time for meal.
- Address cultural expectations.
- Avoid therapeutic diets when possible.
- Situate comfortably for eating.
- Place people together for meals to increase sociability.
- Attend to consistency, color, texture, and temperature of food.
- Use herbs and spices to compensate for reduced senses of taste and smell.
- Avoid hard-to-open packages.

PHARMACOLOGIC MANAGEMENT

- Avoid using prescription appetite stimulants for treatment of anorexia or cachexia, because there is not adequate evidence for improvement in long-term survival or quality of life; use nonpharmacologic management instead
- All medications are off-label
- Mirtazapine: a serotonin-norepinephrine reuptake inhibitor
  - Little evidence to support its use to promote appetite and weight gain in the absence of depression
  - 7.5–30 mg/d po at bedtime (caution required for dosages of 15–30 mg/d with hepatic or renal insufficiency)
- Cyproheptadine: a serotonin and histamine antagonist
  - Strong AGS Beers Criteria warning against its use (may cause confusion)
- Dronabinol: a cannabinoid
  - Systematic reviews have not identified adequate evidence for efficacy and safety.
  - May cause somnolence and dysphoria
  - 2.5 mg twice daily, before lunch and dinner (maximum 20 mg/d)
- Megestrol: a progestin that stimulates appetite
  - Strong AGS Beers Criteria warning against its use
  - Weight gain is primarily fat, no improvement in quality of life or survival
  - Risk of deep-vein thrombosis, fluid retention, edema, CHF exacerbation, and death.

PROGNOSIS

- >10% weight loss usually represents protein-energy malnutrition.
- 20% loss associated with impaired physiologic function and cell-mediated and humoral immunity.
- Excess loss of lean body mass is associated with poor wound healing, infections, pressure sores, depressed functional ability, and mortality.
- **Mortality rates are lowest for individuals with BMIs between 27 and 29 kg/m^2.**

CHOOSING WISELY

- Do not recommend percutaneous feeding tubes in patients with advanced dementia; instead offer oral assisted feeding.
- Avoid using prescription appetite stimulants or high-calorie supplements to treat anorexia or cachexia; instead, optimize social supports, discontinue medications that may interfere with eating, provide appealing food and feeding assistance, and clarify patient goals and expectations.