Frequency and Indicators of Malnutrition in the Elderly

Strategies for Intervention

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.

Source: Thomas, D.R., MD, Morley, J.E. Regulation of appetite in older adults. Clinical Strategies in LTC. a Supplement to Annals of Long-Term Care. July, 2002. Pg. 4.

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

Source: Zimmerman, S. , Reed, Peter. Characteristics Associated with Low Food and Fluid Intake in Long-Term Care Resident with Dementia. The Gerontologist. October 2005. Vol. 45. Pg 74.

Consequences of Malnutrition

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

Source: Zimmerman, S. , Reed, Peter. Characteristics Associated with Low Food and Fluid Intake in Long-Term Care Resident with Dementia. The Gerontologist. October 2005. Vol. 45. Pg 74.

Consequences of Dehydration

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

Source: Zimmerman, S. , Reed, Peter. Characteristics Associated with Low Food and Fluid Intake in Long-Term Care Resident with Dementia. The Gerontologist. October 2005. Vol. 45. Pg 74.

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)

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
- Xanthines
- Antiepileptics
- Steroids
- Opiates
- Acetycholinesterase Inhibitors
- Antibiotics
- Antidiabetics
- Anticoagulants

Protein, Fat & Calorie Intake by Age

Source: Thomas, David R. Regulation of Food Intake. Appetite Problems in Nursing Home Residents: Prevention, Recognition, and Treatment Strategies. April 2004.Pg. 16.

Aging Effects

Sensory deficits contribute greatly to a decreased desire to eat

Olfactory—decreased sense of smell

Gustatory—impaired ability to taste

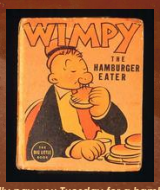
Visual—decreased ability to see different shapes, colors, textures

Source: http://www.innvista.com/health/anatomy/nervage.htm

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.

BMI	Weight status
18.5<	Underweight
18.5-24.9	Normal
25-29.9	Overweight
>30	Obese

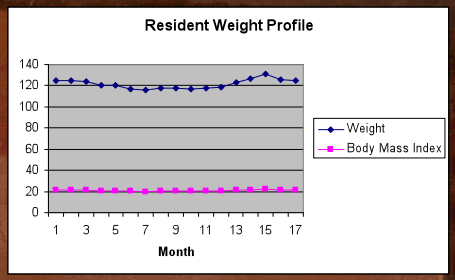


"I'd gladly pay you Tuesday for a hamburger today."

Weight Management Calculator

Home	Resident	Admit Wt.	Height	BMI	UBW	Age		
Ramsey	Sample	125	64	21.5	120	85		
	Weight	Loss/Mo.	Percent	Loss 3 Mo.	Percent	Loss Base	Percent	BMI
Month 1	125	0	0%			0	0%	21.5
Month 2	125	0	0%			0	0%	21.5
Month 3	124	-1	-1%	-1	-1%	-1	-1%	21.3
Month 4	120	-4	-3%			-5	-4%	20.6
Month 5	120	0	0%			-5	-4%	20.6
Month 6	117	-3	-3%	-7	-6%	-8	-6%	20.1
Month 7	116	-1	-1%			-9	-7%	19.9
Month 8	118	2	2%			-7	-6%	20.3
Month 9	118	0	0%	1	1%	-7	-6%	20.3
Month 10	117	-1	-1%			-8	-6%	20.1
Month 11	118	1	1%			-7	-6%	20.3
Month 12	119	1	1%	1	1%	-6	-5%	20.4
Month 13	123	4	3%			-2	-2%	21.1
Month 14	127	4	3%			2	2%	21.8
Month 15	131	4	3%	12	10%	6	5%	22.5
Month 16	126	-5	-4%			1	1%	21.6
Month 17	125	-1	-1%			0	0%	21.5

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.

Source: Ericson, Lisa L. OTR. Occupational Therapy Forum. May 31, 1991.

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 startling.
- 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.

Source: Ericson, Lisa L. OTR. Occupational Therapy Forum. May 31, 1991.

Monitor signs for Swallowing Problems

- Pocketing 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.

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 slurpy
- 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.

Source: Huffman GB. Evaluating and treating unintentional weight loss in the elderly. Am Fam Physician 2002 Feb 15;65(4):640-50.

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.

Source: Karcic, Philpot, Morley.

Nutritional Interventions

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: Finucane TE, Christmas C, Travis K. Tube feeding in patients with advanced dementia: a review of the evidence. JAMA 1999, 282:1365-70

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.

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

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].

Benjamin W Pearce

www.planetbenja.com