

# **Meeting the Nutritional Needs of Older Adults**

**BROCK INSTITUTE-GLENNAN NUTRITION SYMPOSIUM**

**ROBERT M. PALMER, MD, MPH**

**DIRECTOR, GLENNAN CENTER FOR GERIATRICS**

**AND GERONTOLOGY**

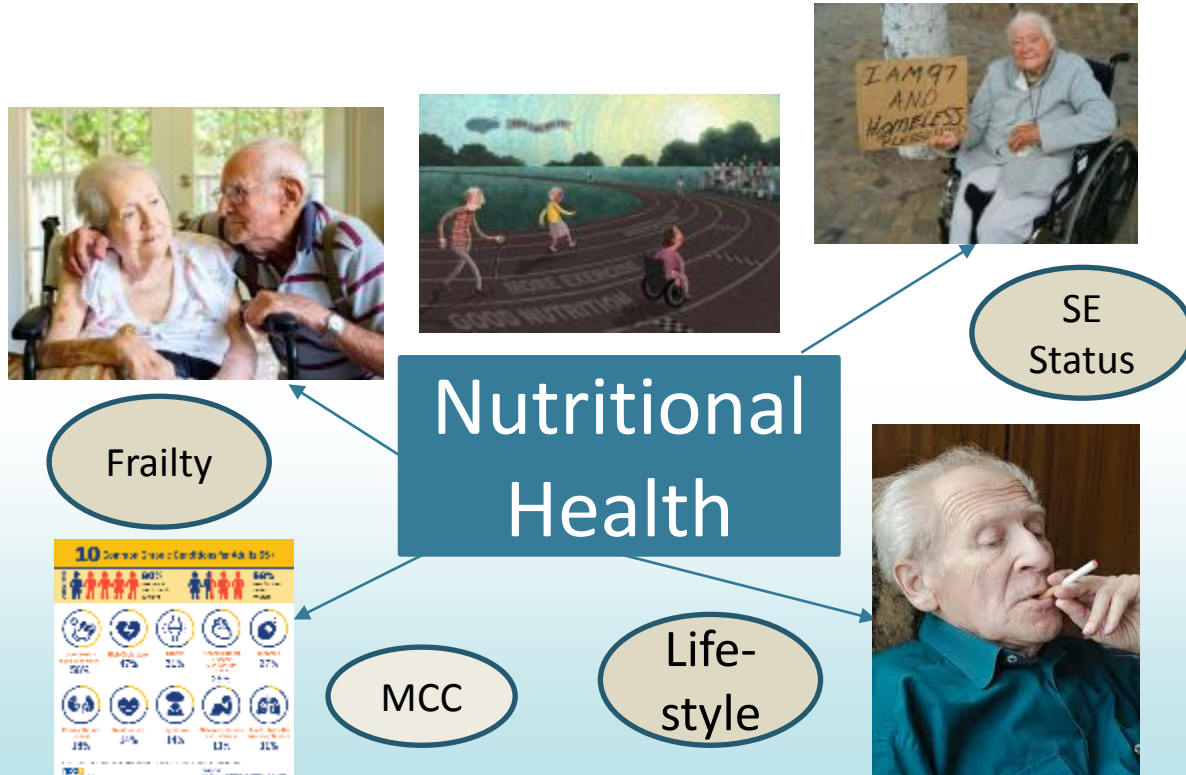
**EASTERN VIRGINIA MEDICAL SCHOOL**

**MARCH 28, 2018**

# Learning Objectives

- Special nutrition considerations and physiologic changes in older persons that impact their nutritional status.
- Sarcopenia and chronic disease management with nutritional implications.

# Determinants of Nutritional Health in Older Adults



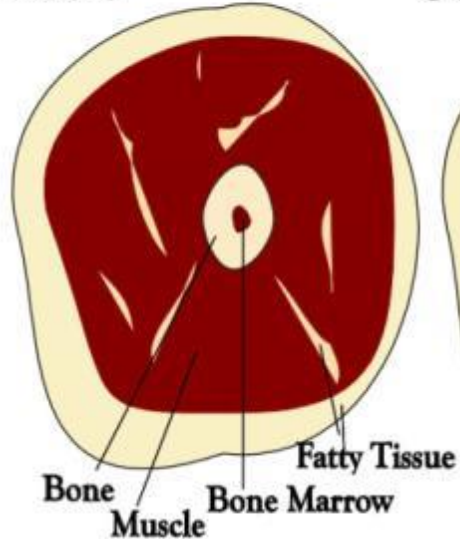
# Nutritional Concerns of Older Adults

- *Undernutrition*
  - Micronutrients
  - Macronutrients
- *Protein-Calorie Malnutrition*
  - *Sarcopenia*
  - Underweight
  - Frailty

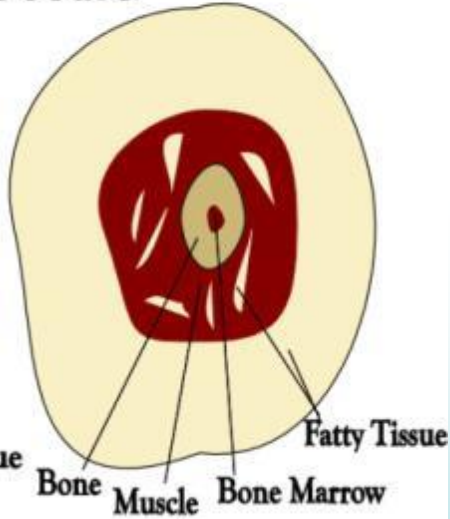


# Sarcopenia

**Muscle of  
Average Healthy  
Adult**



**Muscle After  
Sarcopenia  
Occurs**



# MALNUTRITION: AN OLDER-ADULT CRISIS

Just 4 steps can help improve  
older-adult malnutrition care

## \$51.3 Billion

Estimated annual cost of disease-associated malnutrition in older adults in the US<sup>1</sup>



Up to 1 out of  
2 older adults  
are at risk for  
malnutrition<sup>2,3</sup>



## 300%

The increase in healthcare costs that can be attributed to poor nutritional status<sup>5</sup>



20% to 50%  
of patients are malnourished or at risk for malnutrition on hospital admission<sup>4</sup>



4 to 6 days  
How long malnutrition increases length of hospital stays<sup>2</sup>

## Chronic health conditions

lead to increased malnutrition risk



Malnutrition leads to more complications, falls, and readmissions<sup>6</sup>



**Screen**  
all patients



**Assess**  
nutritional status



**Diagnose**  
malnutrition



**Intervene**  
with appropriate nutrition

## Focusing on malnutrition in healthcare helps:

- ✓ Decrease healthcare costs<sup>7</sup>
- ✓ Improve patient outcomes<sup>7</sup>
- ✓ Reduce readmissions
- ✓ Support healthy aging
- ✓ Improve quality of healthcare

Support policies across the healthcare system that defeat older-adult malnutrition.

Learn more at [www.DefeatMalnutrition.Today](http://www.DefeatMalnutrition.Today)

References: 1. Snider JT, et al. *JPEN J Parenter Enteral Nutr*. 2014;38(2 suppl):775-855. 2. Kaiser MJ, et al. *J Am Geriatr Soc*. 2010;58(9):1734-1738. 3. Izawa S, et al. *Clin Nutr*. 2006;25(6):962-967.

4. Barker LA, et al. *Int J Environ Res Public Health*. 2011;9(2):514-527. 5. Correia MI, et al. *Clin Nutr*. 2005;22(3):235-239. 6. Norman K, et al. *Clin Nutr*. 2008;27(1):5-15. 7. Philipson TJ, et al. *Am J Manag Care*. 2013;19(2):121-128.

# Micronutrients

## *Vitamin and Minerals*

- Vitamin B12
- Vitamin D
- Iron
- “Various antioxidants”



# Oxidative Stress and Free Radical Scavengers





## Red

Apples  
Bell Peppers  
Cherries  
Cranberries  
Grapes  
Radishes  
Raspberries  
Plums  
Strawberries  
Tomatoes  
Watermelon

## Orange

Apricots  
Bell Peppers  
Butternut  
Squash  
Cantaloupe  
Carrots  
Mangoes  
Oranges  
Papaya  
Pumpkin  
Sweet Potatoes  
Yams

## Yellow

Apples  
Avocados  
Bananas  
Bell Peppers  
Cabbage  
Cauliflower  
Celery  
Kiwi  
Lemons  
Limes  
Onions  
Pears  
Pineapple  
Squash

## Green

Artichokes  
Asparagus  
Broccoli  
Brussels  
sprouts  
Collard Greens  
Cucumbers  
Grapes  
Green Beans  
Honeydew  
Leeks  
Lettuce  
Peas  
Spinach  
Swiss Chard  
Turnip greens

## Blue

Beets  
Blackberries  
Blueberries  
Cabbage  
Cherries  
Currants  
Eggplant  
Grapes  
Plums

# Macronutrients

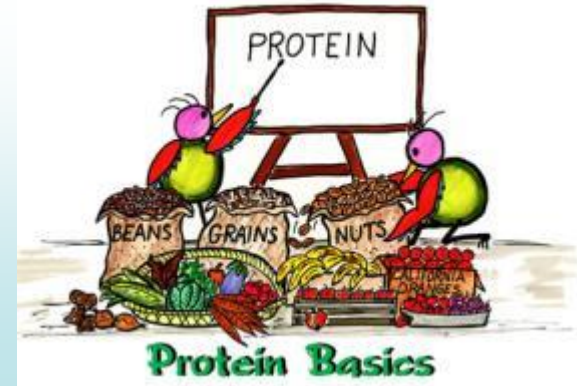
- Protein
- Lipids
- Carbohydrates

# Foods (Healthy Only)

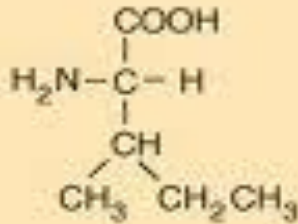
- *Protein*

- High quality

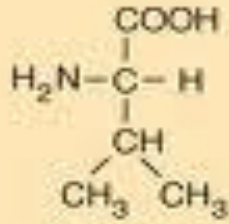
- Low quality



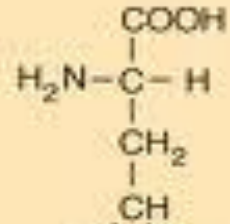
# High Quality: Essential Amino Acids



Isoleucine (ile)

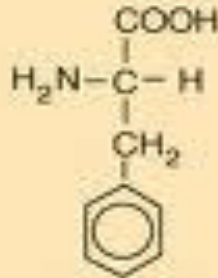


Valine (val)



Leucine (leu)

Essential amino acids with hydrocarbon R-groups



Phenylalanine (phe)

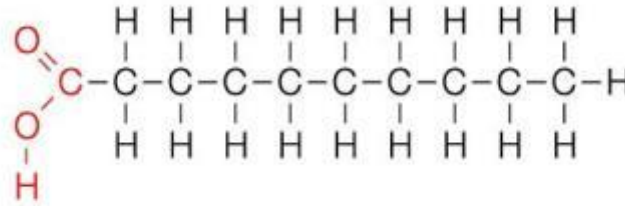
# Fats--Unsaturated and Saturated



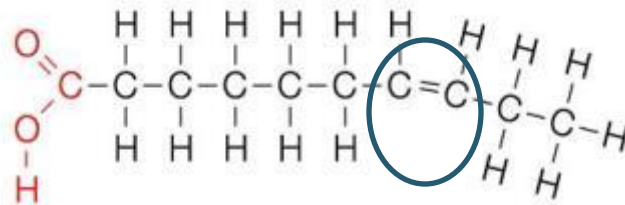
# Fats: Saturated and Unsaturated

Fatty  
Acids

## Saturated

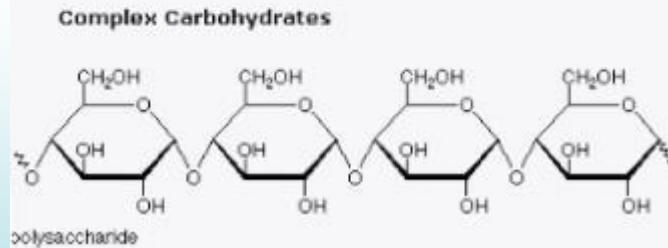
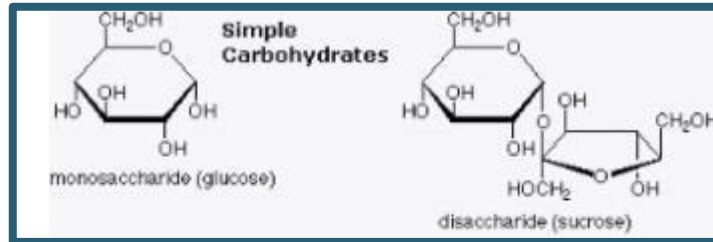


## Unsaturated



# Foods: Carbohydrates

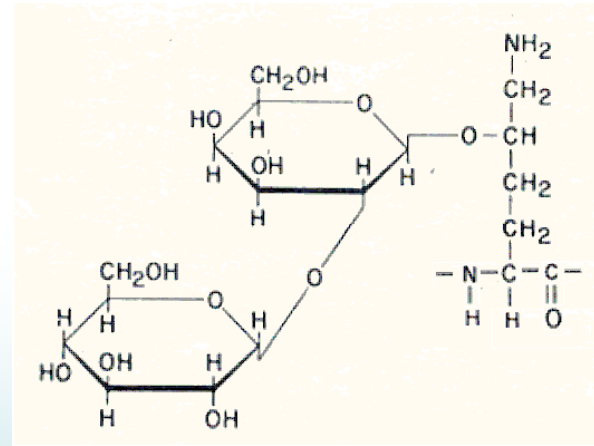
## Simple





# Foods: Carbohydrates

Complex



## Mediterranean Diet Pyramid

*A contemporary approach to delicious, healthy eating*

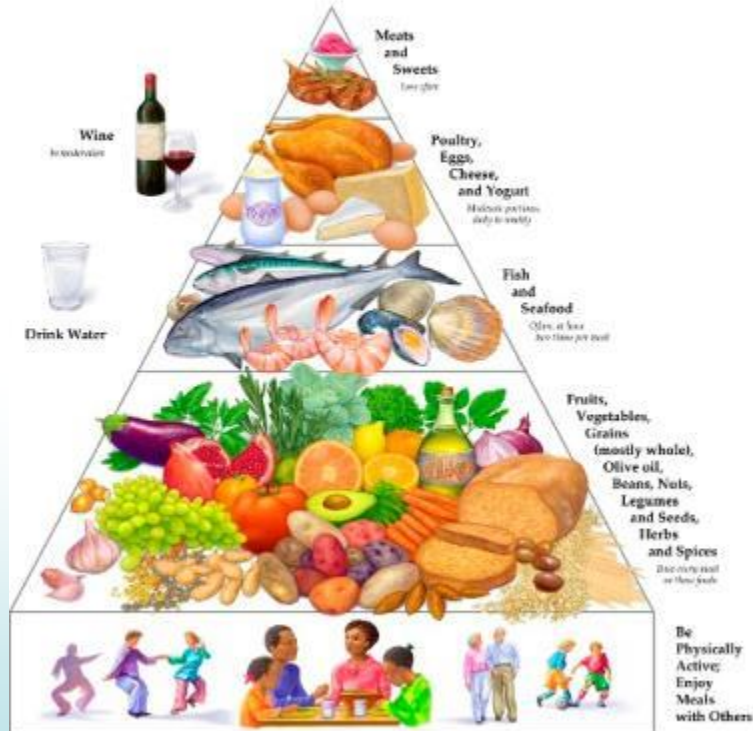


Illustration by George M. Williams

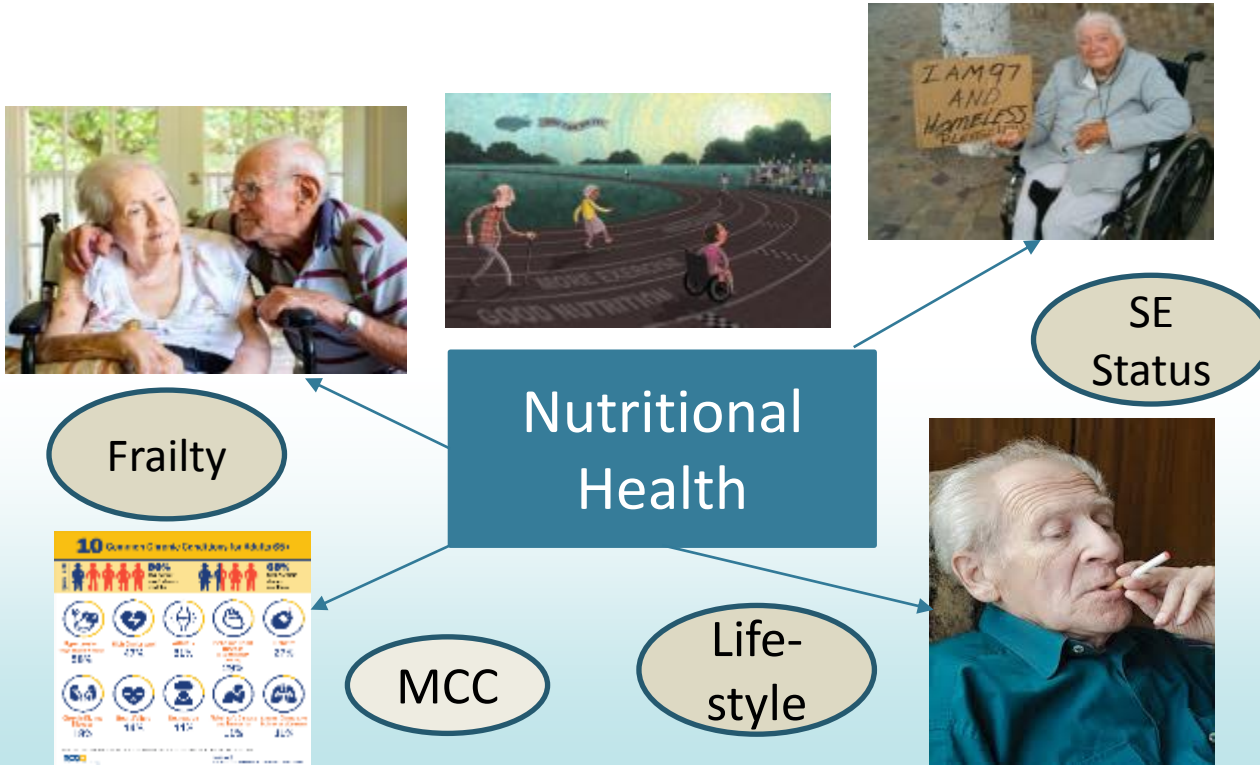
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# Preventing Nutritional Problems

- ❑ Checking weight periodically (assessment)
  - ❑ Loss of >5% in 6 months is **RED flag**
- ❑ Balanced diet-flavorful (“hedonistic”)
- ❑ Adequate hydration and fiber
- ❑ Vitamin/mineral supplements (if chronically ill)
- ❑ Nutritional supplements (acute illness/PCM)
- ❑ Vitamin D and Calcium (osteoporosis)
- ❑ Socialization—meals with others

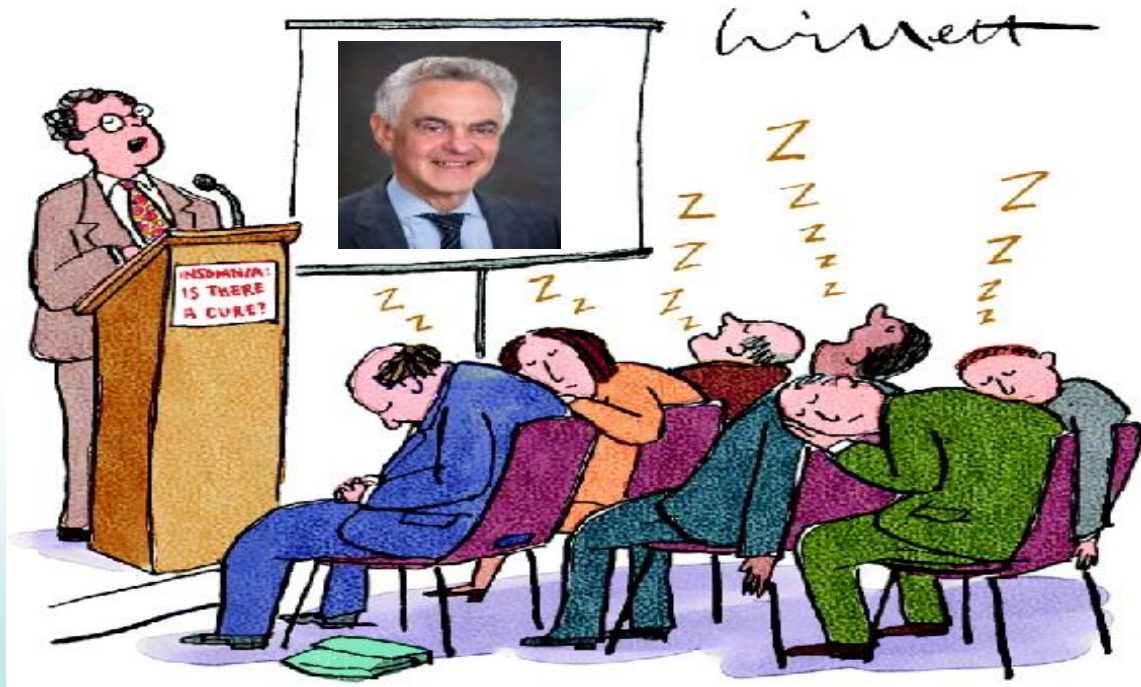


# Determinants of Nutritional Health in Older Adults





# A Happy Ending



**ANY  
QUESTIONS?**

# Readings

- *Hill TR et al.* What do we know about the nutritional status of the very old? Proceedings of the Nutrition Society 2016; 75:420-430
- *Meyyazhagan S. Palmer RM.* Nutritional requirements with aging. Clin Geriatr Med 2002; 18:557-576
- *Kaiser MJ et al.* Frequency of malnutrition in older adults. J Am Geriatr Soc 2010; 58:1734-1738