

# Nutrition for Older Adults

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## Disclosures

- None

# Outline

## Nutrition in the context of 4Ms and Healthy Aging

### Framework and Overview of Dietary and Nutrient Needs

- Body Composition, physiologic, psychological and social factors
- Energy requirements
- Macronutrients: Fat, Carbohydrates, Fiber, Protein, Fluid
- Micronutrients

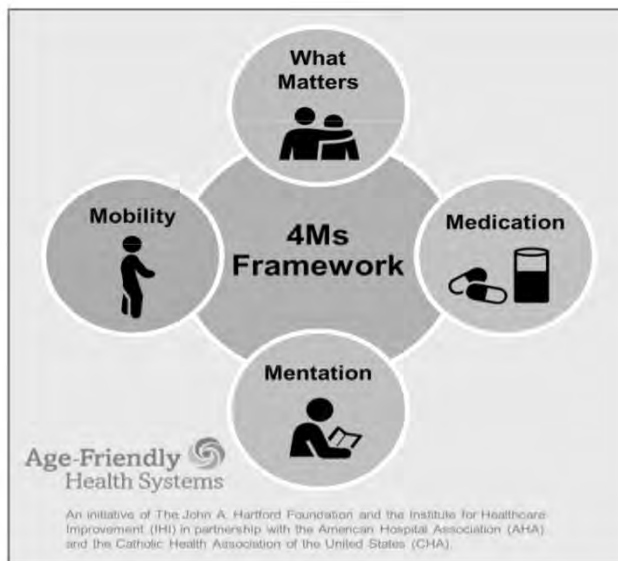
### Dietary Assessment

### Dietary recommendations that support Healthy Aging

### Food Insecurity in Older Adults

- Screen, Intervene, Advocate (JAGS 2019 Poole et al.)
- Older Americans Act
- Programs and Resources

## The 4Ms Framework



# What Matters: Health and Healthy Aging

“complete physical, mental and social well-being, not merely ... the absence of disease or infirmity”... *“Being able to do the things we value for as long as possible!”*

## Healthy Aging: American Geriatrics Society White Paper Executive Summary

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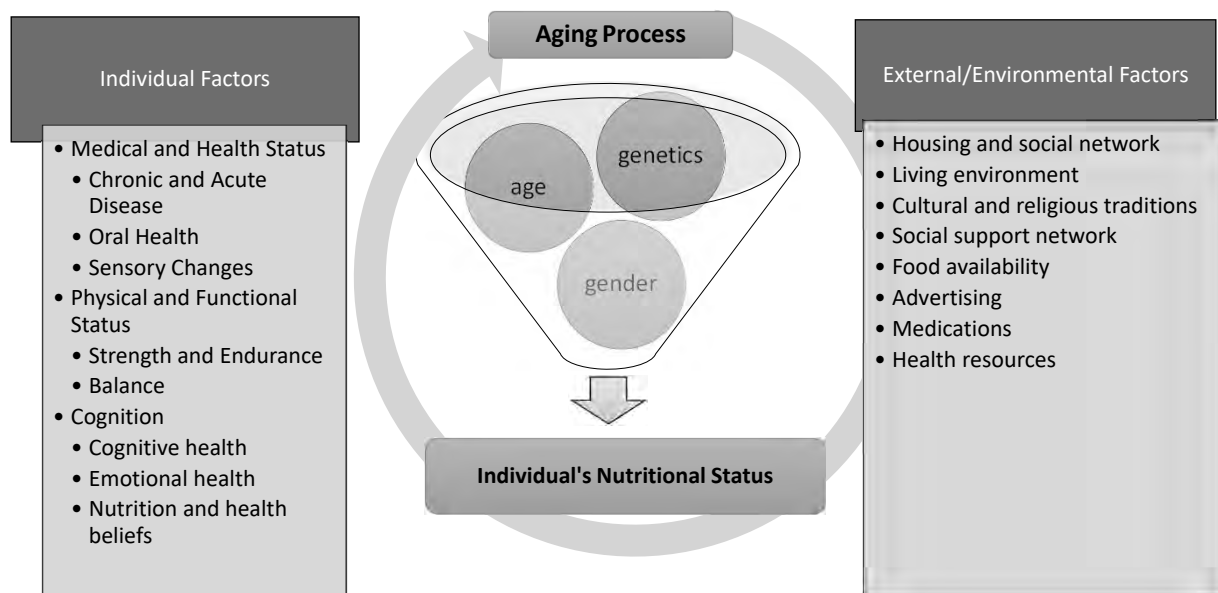
Why is healthy  
nutrition important  
for aging?

1. Prevention of disease and disability
2. Maintenance of mental and physical function
3. Quality of life

Major role management of chronic conditions, immunity, and healing

Optimal nutrition can improve health outcomes, QOL, and independence

# Factors influencing nutrition in older adults



## Framework and Overview of Dietary and Nutrient Needs in Older Adults



Body composition



Physiologic, Psychologic, Social Factors



Energy requirements



Macronutrient needs

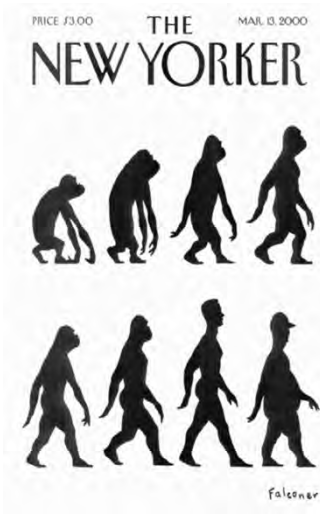


Micronutrient requirements



Fluid needs

## Body Composition



- Fat mass generally increases until age 65-70.
- Body water content, bone mass, lean mass decrease.
- Consequently well-standardized nutrient requirements are different for older adults.

## Physiologic changes

- Food consumption requires vision, olfaction, taste, mastication, and swallow and digestion and these systems must all be assessed.
  - Rates of visual and smell impairment may affect up to half of older adults.
  - Rates of poor oral health may affect up to 2/3 of older adults.
- Organ function (cardiac, renal, liver, brain, eyes, skin), metabolism, and appetite decline at variable rates, but affect nutritional assessment and interventions.

## Comorbidity and polypharmacy

- Older adults often have complex health profiles with multiple chronic conditions affecting health status.
- Multiple medications and polypharmacy are associated with reduced intake of fiber, fat soluble and B vitamins, and minerals and increased intake of cholesterol, glucose and sodium.

## Medications interfering with Nutrition

- Antipsychotics
- Sedative/Hypnotics
- Antidepressants
- Diabetes drugs
- Opiates
- Laxatives
- Diuretics
- POLYPHARMACY!!



## Mobility & Functional Capacity

- Food acquisition, shopping, cooking and preparation requires high amount of executive function, dexterity, and mobility.

## Psychologic and Social Factors



Context of eating matters.

Social factors such as loneliness, isolation, poverty, housing change, death of a partner.

Cultural beliefs, income, education.

Social factors such as loneliness, isolation, poverty, housing change, death of a partner.

## Meal planning: Energy Requirements

- Total and resting energy requirements decrease at about a rate 100-150 kcal/day per decade.
- Decline in energy is multifactorial, it is mostly attributable to a lack of physical activity and then subsequent loss of lean body mass leading to lower basal metabolic rate and less demand for energy

Healthy woman: 18- 22kca/kg/day

Healthy man: 20-24kca/kg/day

Underweight or ill require more calories

**RDA: Calories per day for a healthy individual who is 5'7" and moderately active\***

Age	Male	Female
51-70	2204	1978
>70	2054	1873

## Intake declines with Advancing Age.

- Calories decline 10kcal for men and 7kcal for women starting at 19yo
  - Average intake 2400 for men and 2000 for women >51yo
- Unfortunately, diet quality of older adults is poor.
- USDA study from 2016, using the the Healthy Eating Index 2010, a measure of diet quality, indicated the average diet for older adults is low in whole grains, greens, beans and dairy.



## Macronutrients: What is the optimal energy source?



A broad range of carbohydrate-protein-fat ratios can achieve good health and low chronic disease.

Focus on nutrient quality.

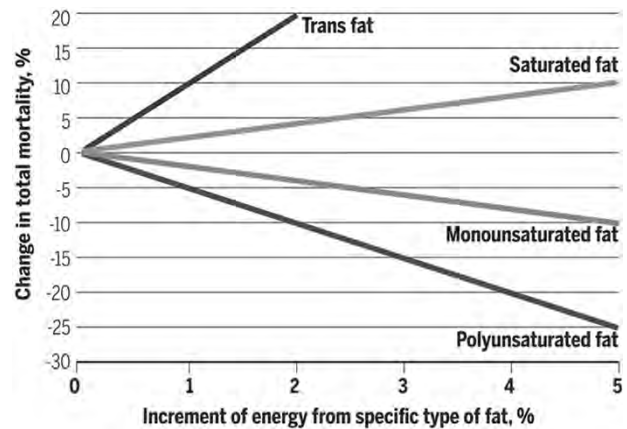
## Macronutrients: Fat & Fatty Acids

- Focus on quality: fat builds cells, transports vitamins, calorie source
- Food and Nutrition Board recommends balanced diet of 20-35% of energy from fat.
- High in monosaturated and polyunsaturated fats.
- Limit saturated fat
- Fatty acids:
  - Linoleic Acid (*n*-6) (g/d): **5-10%**
  - Alpha-Linolenic Acid (*n*-3) (g/d): **0.6-1.2%**



## Macronutrients: fats and fatty acids

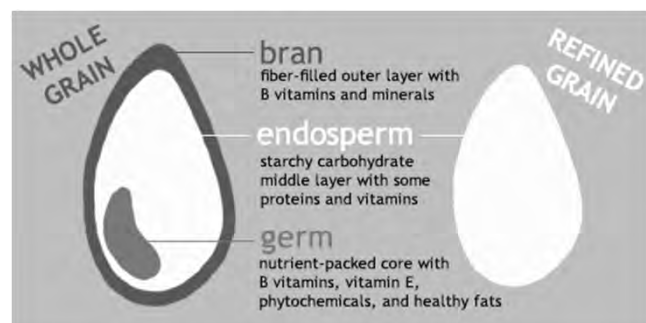
- Use liquid vegetable oils.
- Avoid trans fat.
- Eat omega-3 fats daily.
- Limit red meat and dairy.



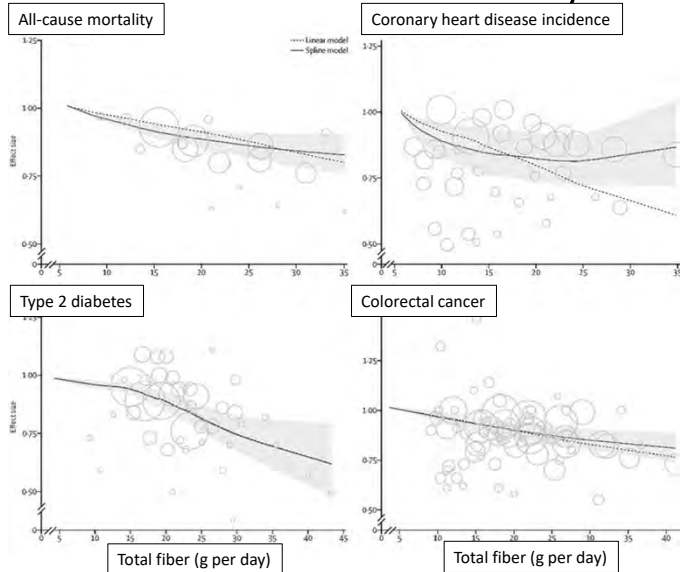
David S. Ludwig et al. Science 2018;362:764-770;

## Macronutrients: Carbohydrates and Fiber

- Quality and source are important!
- 45-65% of energy



# Macronutrients: carbohydrates & fiber



**RDA/AI: Carb (g) per day for an individual who is 5'7" and moderately active**

Age	Male	Female
51-70	130	130
>70	130	130

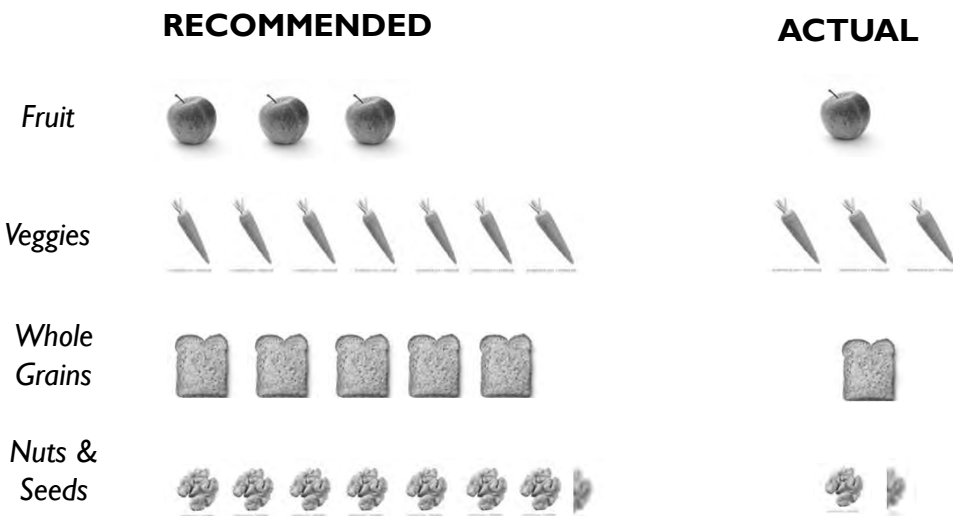
**Carbs: ~1/2 total calories**  
**Fiber: 14 g/1000 calories is minimum**

Reynolds A et Al. Carbohydrate Quality and human health: A series of systematic review and meta-analysis. Lancet 2019 Jan 10; From Summary Tables of Dietary Reference Intakes, 2011 National Academy of Sciences ([WWW.NAP.EDU](http://www.nap.edu)) Clinical Practice Guidelines for Healthy Eating, Endocr Pract. 2013;19(Suppl 3) 7

## Fiber rich foods

- Improve gastric motility, glycemic control and reduces cholesterol.
- Fiber rich foods—fruit, vegetables, and whole grains—often have higher nutrient composition and lead to increased satiety.
- When increasing the fiber content in the diet of an older adult, fluid requirements must also be assessed.

## Plants, whole grains, nuts & seeds



GBD 2017 Diet Collaborators. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2 April 2019. doi: 10.1016/S0140-6736(19)30041-8.

## Macronutrients: Protein

- RDA Protein: 0.8 g/kg/day; 10-35%
- Protein for older adults: 1-2 g/kg per day spread out over meals (*Expert Consensus– Mixed evidence*)
- Up to 1/3 of older adults may not reach dietary guidelines (*NHANES*)



**RDA/AI: Protein (g) per day for an individual who is 5'7" and moderately active**

Age	Male	Female
51-70	56	46
>70	56	46

## Macronutrients: Fluids

Fluids: 2-4 L / day

Replace sweetened beverages

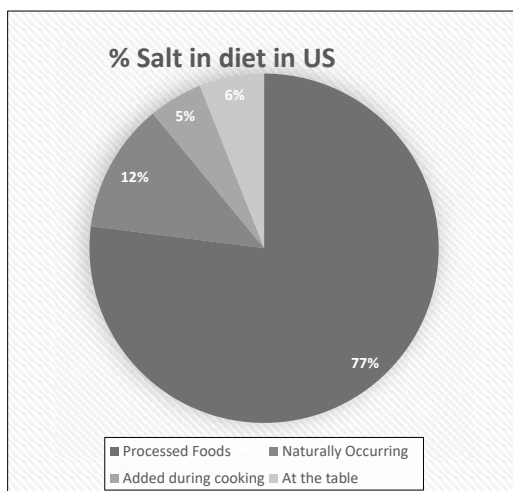
- focus on water, coffee, tea

Make water a Habit

- fill a bottle at the begin of the day to drink it all
- if you take pill
- between meals, before exercise, sips between bites during meals



## Salt and Spice!



RECOMMENDED: 1.5 grams/day  
ACTUAL: 5.6 grams/day

- Cook at home
- Eat smaller portions of salty food
- Discover reduced or no sodium alternatives, potassium salt supplement
- Cut back on prepared and processed foods

## Micronutrients: Nutrient dense diet

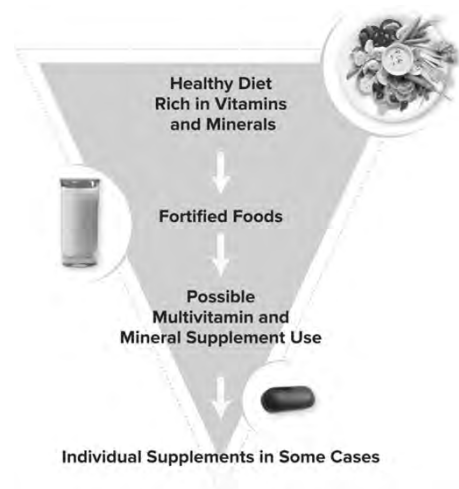
Despite lower energy requirements, vitamin and mineral needs remain constant or increase for older adults.

A diet rich in vitamin and minerals is vital to optimal function

Older adults require a nutrient dense diet that does not exceed energy requirements.

## Micronutrients in older adults

- Vitamins and Mineral bioavailability, absorption and storage is affected by age, gender, genetics, nutritional status, dietary intake fiber intake, prescriptions drugs, and alcohol usage.
- Safest, most effective, and enjoyable source to obtain vitamins and minerals is FOOD.
- Vitamin and Mineral supplementation should only be suggested with poor dietary intake or when diet is known to be deficient, or in some cases supplementation may be warranted.



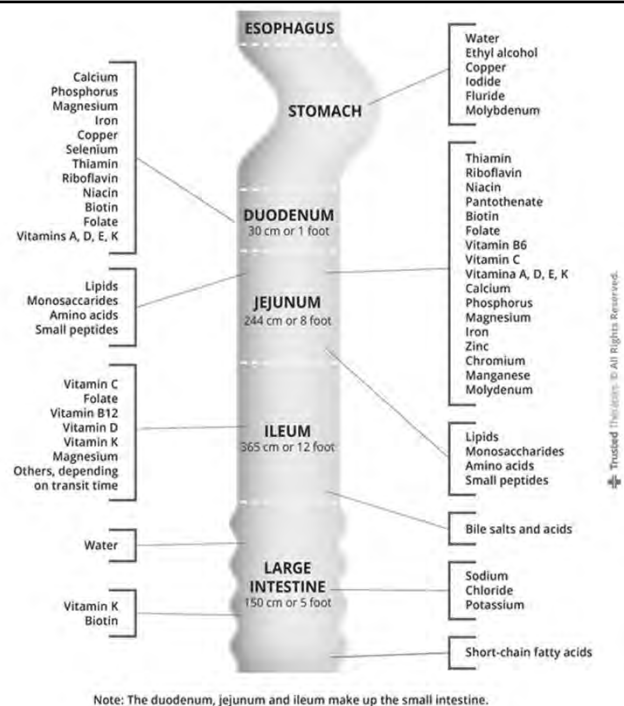
# Nutrient Absorption?

## Water soluble Vitamins (B & C)

Absorbed better **raw**, primarily in small intestine

## Fat soluble Vitamins ADEK

Absorbed better when **cooked** with dietary fat, least 20% fat in diet



## Vitamin D

- Required to maintain serum calcium and phosphorus concentrations; bone health; gene expression and cell growth
- Delay and prevention of progression of osteoporosis
- Difficult to obtain from food alone; fish liver oils, flesh of fatty fish, egg yolk, fortified dairy, fortified cereals.
- Difficult to obtain at high latitudes and with darker pigmented skin
- 51-70 years old: 15 mg/d, 600 IU per day
- >71 years old: 20 mg/d, 800 IU per day
- 1000 IU is generally a fine recommendation!

# Calcium

- Required for blood clotting; muscle contraction; nerve transmission; bone and tooth formation
- Delay and prevention of progression of osteoporosis
- Best source is food: dairy (yogurt), calcium-set tofu, Chinese cabbage, kale, broccoli, fortified foods and beverages

## Males

- 51-70 y: 1000 mg/day
- ≥71 y: 1200 mg/day

## Females

- ≥51 y: 1200 mg/day

# Vitamin B12

- Required as a coenzyme in nucleic-acid metabolism; red blood cell synthesis, forms neurotransmitters in brain, DNA stability, myelin sheath formation.
- Prevention of macrocytic anemia, impaired sensory and motor function, and neurocognitive impairment
- Fortified cereals, meat, fish, poultry
- 2.4 µg/d
- 10-30% of older adults may malabsorb food-bound B-12, it is advisable that those over 50 years meet their RDA by consuming food fortified with B-12 or a supplement containing B-12



## Folic acid

- Required as a coenzyme in nucleic-acid metabolism; red blood cell synthesis, forms neurotransmitters in brain, DNA stability, myelin sheath formation.
- Prevention of mental status decline.
- Enriched cereal grains, dark leafy vegetables, enriched whole grains, fortified ready-to-eat cereals
- 400 µg/d

## Potassium

- Maintains heart function and muscle contraction.
- Daily requirements: 4700 mg
- Veggies, salmon, fruit, dairy

## Why do people take supplements?

- Maintain overall health and wellness
- Fill nutrient gaps in the diet
- Reduce susceptibility to health problems (that is, colds)
- Prevent disease (heart attacks, cancer, osteoporosis, etc.)
- Reduce stress
- Increase “energy”

(>\$30 billion dollar industry)



## Should you recommend a supplement?

The National Institutes of Health, “Present evidence is insufficient to recommend either for or against the use of MVMs by Americans to prevent chronic diseases”

A few studies of vitamin and mineral supplements demonstrate beneficial effects for the prevention of deficiencies or chronic diseases

Eating recommended servings of fruits, vegetables, and grains is the healthiest approach to ensure adequate nutrition.

## Nutrition assessment: our role as clinicians

- Partner with patients to promote physical and emotional wellbeing by using motivational interviewing.
- Perform nutritional assessment.
- Provide education, counseling and resources.

## Geriatric Comprehensive Assessment includes Nutrition Assessment: A, B, C, Ds

- Anthropometrics: BMI, weight trajectory, usual body weight, unintended weight loss
- Biochemical: basic labs
- Clinical: history and physical exam
- Dietary history

## Anthropomorphics: BMI

- Body Mass Index (BMI= weight in kg/height in m<sup>2</sup>) is the most practical and universal anthropometric measurement for assessing weight, but does not reflect common body composition changes.
- Normal BMI parameters for older adults should be between 23 and 30.
- When assessing body composition, consider ideal body weight, % ideal body weight, usual body weight, and unintended weight loss as measures of weight and nutritional status.

Forum NQ. NQF #0421 Preventive Care and Screening: Body Mass Index (BMI) Screening and Follow-Up.  
<https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=71112>.

## Basic biochemical studies

- CBC
- Renal function
- Glucose, A1c
- Iron studies, transferrin
- Albumin/Prealbumin, C-reactive protein
- Vitamin D, Vitamin B12, RBC folate
- Lipid Panel

## Geriatric assessment incorporates dietary history

History	Specific Tactics
<ul style="list-style-type: none"><li>• Medical history</li><li>• Review of Systems</li><li>• Surgical history</li><li>• Medications</li><li>• Allergies</li><li>• Sociocultural</li><li>• Activities of Daily Living</li><li>• Socioeconomic food insecurity</li></ul>	<ul style="list-style-type: none"><li>• Self-reported health</li><li>• Usual intake</li><li>• 24 hour recall</li><li>• Food frequency</li><li>• Food record for 3 days</li><li>• Malnutrition screening tools<ul style="list-style-type: none"><li>• Mini-Nutritional Assessment</li></ul></li></ul>

<https://www.ncoa.org/assessments-tools/malnutrition-screening-assessment-tools/> Accessed April 2019.

Miller, Matt P; Best Questions and Tools for Quickly Assessing Your Patient's Dietary Health: Towards Evidence-Based Determination of Nutritional Counseling Need in the General Medical Interview <https://escholarship.org/uc/item/9s03p43r#main>, Accessed April 2019.

## Clinical History and Exam specifics

Specific Clinical History	Exam
<ul style="list-style-type: none"><li>• Usual and Current Weight</li><li>• Dietary Intake</li><li>• Gastrointestinal Symptoms</li><li>• Functional Ability</li><li>• Disease and Nutritional Status</li><li>• Metabolic demands</li></ul>	<ul style="list-style-type: none"><li>• Fat distribution</li><li>• Muscle wasting, strength</li><li>• Edema</li><li>• Ascites</li><li>• Hair, skin, nails</li><li>• Mouth and swallow</li></ul>

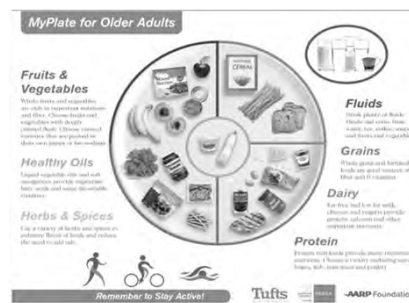
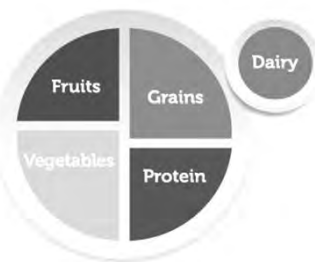
## Dietary Assessment: DETERMINE checklist

- Disease
- Eating Poorly
- Tooth Loss/Mouth pain
- Economic Hardship
- Reduced Social Contact
- Multiple Medications
- Involuntary Weight loss
- Needs Assistance
- Elder Years >80

<https://www.aafp.org/afp/2011/0101/p48.htm>

## Counseling on Healthy Eating

- Motivational Interviewing, reflective listening, cultural sensitivity
- Engage patients with partnership and collaboration
- Use practical tools: 2011 USDA MyHealthyPlate, Canadian Food Guide, MyPlate for Older Adults



Label reading?

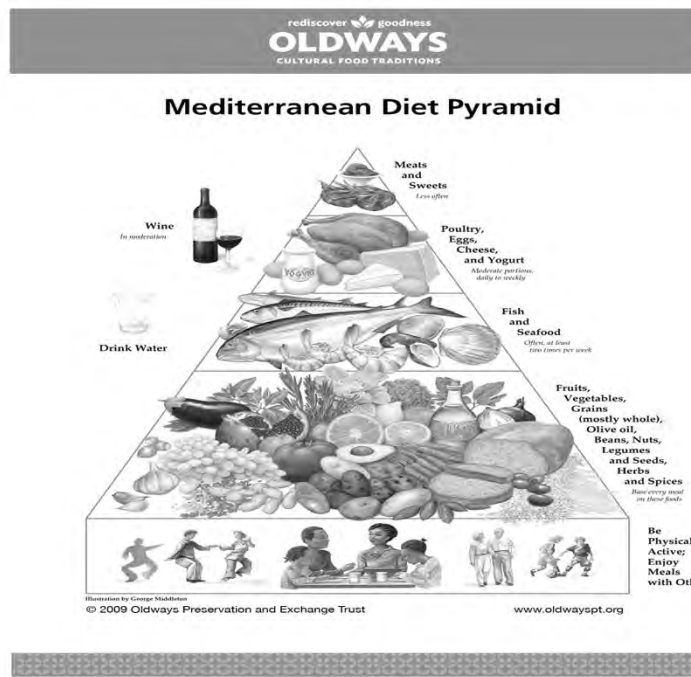
Nutrition Facts	
4 servings per container	
Serving size 1 1/2 cup (208g)	
Amount per serving	
Calories	240
% Daily Value*	
Total Fat 4g	5%
Saturated Fat 1.5g	8%
Trans Fat 0g	
Cholesterol 5mg	2%
Sodium 430mg	19%
Total Carbohydrate 46g	17%
Dietary Fiber 7g	25%
Total Sugars 4g	
Includes 2g Added Sugars	4%
Protein 11g	
Vitamin D 2mcg	10%
Calcium 260mg	20%
Iron 6mg	35%
Potassium 240mg	6%
* The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.	

## Dietary Patterns that support Healthy Aging

- Dietary patterns can be used to inform dietary interventions for older adults.
- Diets consistent with current guidelines may be associated with superior health status, quality of life and survival in older adults.
- Dietary recommendations based on foods and cohesive dietary patterns are easier to understand and adopt than numeric nutrients outline and may be culturally relevant.
- Eating is a social activity and should be pleasurable; restrictive diets should be avoided in older adults.

## Recommended dietary patterns: Mediterranean

- Patterned after the dietary traditions and customs of the peoples of the Mediterranean Basin.
- High intakes of “healthy” components such as legumes, cereals, fruits, vegetables, and fish as well as a high ratio of monounsaturated to saturated fat and a lower intake of meat and meat products, high-fat milk, and dairy products
- Associated with slower cognitive decline, lower risk of frailty and functional disability, and favorable lean body mass in older women.





## Recommended dietary pattern: DASH Diet

- Designed to prevent and treat hypertension.
- Emphasizes plant-based foods and limits saturated and total fat, cholesterol, and sodium.
- Improved markers of cardiovascular health including blood pressure and total cholesterol, greater cognition in older adults.

## Recommended dietary pattern: MIND diet

- Developed to help prevent dementia.
- A combination of the Mediterranean and DASH diets and specifies natural, plant-based foods and limits animal-source foods and those that are high in saturated fat.
- Higher adherence is associated with decreased risk of developing Alzheimer's Disease and cognitive decline.

## Novel dietary patterns

- Longevity Diet, Intermittent Fasting, and Ketogenic Diet.
- Caution should be exercised recommending these diets, particularly with older adults, as further research is needed.

## Novel diets: Longevity diet

- Developed to assist with weight loss, disease prevention, and extend the lifespan.
- A largely plant-based, low protein diet that limits saturated fat and sugar, recommends generous amounts of olive oil and nuts, and a multivitamin every three days. Advises two to three meals per day depending on weight and age and confining all eating to within a twelve-hour period.
- Purported clinically demonstrated, beneficial effects on aging and disease risk factors.
- Diet may be too low in protein for older adults. The efficacy of fasting diets requires additional investigation. Clinical trials specific to the diet should be conducted.

## Novel diets: Intermittent Fasting Diet

- Designed to activate similar biologic pathways as calorie restriction to extend the lifespan and improve function in older adults.
- Individuals fast (calorie-free beverages ad libitum) and eat (typically unrestricted) for designated (varying) periods
- Weight-loss, changes in weight circumference, increased insulin sensitivity, improved cognitive and physical functioning, and health-related quality of life.
- Changes in body composition not delineated i.e. unclear if weight loss was due to muscle loss, fat loss, or a combination of both. The efficacy of fasting diets requires additional investigation.

## Novel diets: Ketogenic diet

- Established in the 1920's as a therapy for epilepsy.
- Potential therapy for neurodegenerative disorders, insulin resistance, and overweight/obesity.
- A very high-fat and low-carbohydrate diet, reducing carbohydrate to  $\leq 10\%$  of consumed energy. The restriction causes a shift from glucose metabolism toward the metabolism of fatty acids yielding ketone bodies as substrates for energy.
- Associated with improved cognitive performance in elderly adults with Alzheimer's disease. Prevention of cognitive decline for those at risk for dementia
- Individuals following the ketogenic diet may suffer hypoglycemia and dehydration. Further research required.

# Dietary Patterns: Share mealtimes!

Eat with others!

Make it fun & delicious!

Be mindful of eating habits!

Enjoy periodic chocolate & sweets!



JM Power et al. RelAte: pilot study of the effects of a mealtime intervention on social cognitive factors and energy intake among older adults living alone; *British Journal of Nutrition* (2016), 116, 1573–1581; JL Locher et al. The effect of the presence of others on caloric intake in homebound older adults. *J Gerontol A Biol Sci Med Sci* 60, 1475–1478

## Summary of a basic nutrition toolkit

Diet is a key component of healthy aging.

A good geriatric assessment incorporates dietary history and evaluation.

Start the conversation with simple educational tools and partner with your patient

Encourage real food and healthy dietary pattern!

Use your team, partner with and refer to your local dietitian!

## Food insecurity in older adults

Food insecurity is the lack of consistent access to enough food for an active, healthy life (USDA).

## Food security promotes health!

In 2017 50 million (~8%) adults 65 and older experience food insecurity

- By 2030, expected to rise to 73 million

Adults with food insecurity:

- More likely to be in poor health
- Multimorbidity and food insecurity likely have negative effects on each other

STATE-LEVEL SENIOR HUNGER IN 2015

Food insecurity among seniors varies by state and region. (Shown in percentages)



Pooler, et al. Food Insecurity: A Key Social Determinant of Health for Older Adults; JAGS 67; 421-424, 2019; Steiner et al. Food insecurity in Older Adults in an Integrated Health Care system; JAGS 2018; Ziliak J, Gundersen C. The State of Senior Hunger in America 2016: An Annual Report.

## Reduce food insecurity

### SCREEN PATIENTS

- Programs are being scaled nationally across health systems
- 2017 Review identified 22 healthcare entities implementing screening

### INTERVENE

- Educate peers, staff, leadership about connections between food insecurity & poor health
- Work with community partners

### ADVOCATE FOR CHANGE

- Champion implementation of screening and assistance
- Engage with food policy councils to add expert health professional perspectives to important policy discussion

Pooler, et al. Food Insecurity: A Key Social Determinant of Health for Older Adults; JAGS 67; 421-424, 2019; Gundersen C, et al. Brief assessment of food insecurity accurately identifies high-risk US Adults. Public Health Nutrition. 2017.; Lundeen EA., et al. Clinical-community partnerships to identify patients with food insecurity and address and address food needs. Prev Chronic Disease. 2017. [www.seniorhealthandhunger.org](http://www.seniorhealthandhunger.org) Accessed April 2019.

## Older Americans Act (OAA)

Enacted in 1965 through Health and Human Service programs.

- 1972: Title IIIC. National nutrition (meals) programs
  - Reduce hunger and food insecurity
  - Promote socialization, health, and wellbeing
  - Delay the onset of adverse health conditions

Almost half of federal appropriations under the OAA go toward congregate and home-delivered meals.

Primary funding source for Meals on Wheels (MoW) and other senior Nutrition Programs

- nutrition screening, assessment, education, and counseling

# Meals on Wheels



>5000 independently-run local programs across the United States

Designed to meet nutritional and social needs of older adults

Payment is donation

Additional services to support Quality of life and independence

## More than a Meal Pilot Study



### Objective

- What is the Effectiveness of home-delivered meals and delivery method?

### Study

- Randomize 3-arm trial: (1) traditional daily meal deliver, (2) once-weekly frozen meal delivery, (3) continuance on waiting list
- 626 seniors selected from waiting lists

### Findings

- Strong evidence suggests home-delivered meals program have a positive impact on the nutritional well-being of older homebound persons.

Thomas et al. More Than A Meal? A Randomized Control Trial Comparing the Effects of Home-Delivered Meals Programs. 2015.



# More than a Meal Pilot Study

MoW recipients are significantly more vulnerable than the average American their age and more likely to:

- Report fair or poor self-rated health
- Report not having enough money to buy food they need
- Screen positive for depression and anxiety
- Report recent falls or falling that limits their ability to stay active
- Require assistance shopping for groceries or preparing food
- Have health or safety hazards both inside and outside the home

Thomas et al. More Than A Meal? A Randomized Control Trial Comparing the Effects of Home-Delivered Meals Programs. 2015.



## More than a Meal Pilot Study

Over study period, seniors receiving daily-delivered meals were more likely to exhibit:



Thomas et al. More Than A Meal? A Randomized Control Trial Comparing the Effects of Home-Delivered Meals Programs. 2015.



# Food is Medicine Coalition

## FOOD IS MEDICINE



JAMA Internal Medicine | Original Investigation

## Association Between Receipt of a Medically Tailored Meal Program and Health Care Use

Cori A. Berkowitz, MD, MPH; Jean Terranova, JD; Lisa Randall, PhD; Kevin Cranston, MDiv; J. Waters, MA; John Hsu, MD, MBA, MSCE

### Key Points

**Question** Is participating in a medically tailored meal delivery program for medically and socially complex adults associated with fewer inpatient admissions?

**Findings** In this cohort study of 1020 adults that used a combined instrumental variable analysis and matching approach, participation in a medically tailored meal delivery program was associated with approximately half the number of inpatient admissions.

**Meaning** For medically and socially complex adults, participating in a medically tailored meal delivery program may reduce inpatient admissions, although cautious interpretation is warranted because intervention receipt was not randomized.

<http://www.fimcoalition.org/partners>; <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2730768>; Accessed April 2019.

## Senior Farmers' Market Nutrition Program



Low income seniors with household incomes of not more than 185% of the federal poverty income guideline

Provides access to locally grown fruits, vegetables, honey and herbs.

Increase # of farmers markets, roadside stands, and community supported agriculture

In 2017, >800,000 people served in all 52 states!

In 2017, 20,000 farmers were authorized to accept SFMNP checks or coupons

USDA Seniors Farmers Market Fact Sheet, <https://fns-prod.azureedge.net/sites/default/files/sfmnp/SFMNPFactSheet.pdf>, July 2018, Accessed April 2019.

## Resource Guide

### Screening and assisting older adults:

- [www.seniorhealthandhunger.org](http://www.seniorhealthandhunger.org)
- [www.impagint.com/OASDOH](http://www.impagint.com/OASDOH)
- [www.nopren.org/working\\_groups/hunger-safety-net/clinical-linkages](http://www.nopren.org/working_groups/hunger-safety-net/clinical-linkages)
- <https://frac.org/research/resource-library/combating-food-insecurity-tools-helping-older-adults-access-snap-2>
- 1-866-3-HUNGER/866-348-6479

### Private groups working with older individuals:

- [www.feedingamerica.org](http://www.feedingamerica.org)
- [www.feedingamerica.org/foodbank-results.asp](http://www.feedingamerica.org/foodbank-results.asp)
- [www.seniorservices.org](http://www.seniorservices.org)
- Meals on Wheels Association of America
- Angel Food Ministries
- National Hunger Hotline

### Helping with food costs:

- [www.eldercare.gov](http://www.eldercare.gov) or call 1-800-677-1116
- [www.benefits.gov](http://www.benefits.gov) or call 1-800-333-4636
- [www.benefitscheckup.org](http://www.benefitscheckup.org)

### Contact your Area Agencies on Aging (AAA):

- Meals on Wheels Programs
- Mobile Market
- Community Dining/Congregate Meals
- Food Banks

### United States Department of Agriculture (USDA) & Title III

- [www.fns.usda.gov/fddprograms/csfp](http://www.fns.usda.gov/fddprograms/csfp)
- [www.fns.usda.gov/fdd/programs/tefap](http://www.fns.usda.gov/fdd/programs/tefap)
- <https://agid.acl.gov/DataGlance/SPR/>

### Educational tools and Conversation Starters

- [www.choosemyplate.gov](http://www.choosemyplate.gov)
- <https://food-guide.canada.ca/en/>
- <https://hnrca.tufts.edu/myplate/files/MPFOA2015.pdf>

## Nutritional resources

### Federal

- <https://www.nutrition.gov/subject/food-assistance-programs/nutrition-programs-seniors>
- [www.cdc.gov](http://www.cdc.gov)
- [www.nia.nih.gov/](http://www.nia.nih.gov/)
- [www.choosemyplate.gov](http://www.choosemyplate.gov)
- [www.foodsafety.gov](http://www.foodsafety.gov)
- [www.befoodsafe.gov](http://www.befoodsafe.gov)
- [www.isitdoneyet.gov](http://www.isitdoneyet.gov)
- [www.fruitsandveggiesmatter.gov](http://www.fruitsandveggiesmatter.gov)
- [www.usda.gov](http://www.usda.gov)
- [www.cnpp.usda.gov](http://www.cnpp.usda.gov)
- [www.health.gov/paguidelines](http://www.health.gov/paguidelines)
- [www.myfoodapedia.gov](http://www.myfoodapedia.gov)
- [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)
- [www.niddk.nih.gov](http://www.niddk.nih.gov)
- <https://ndb.nal.usda.gov>
- <https://www.nutrition.va.gov>

### Other

- <https://nutritionandaging.org/>
- [www.noharm.org](http://www.noharm.org)
- [www.localharvest.org](http://www.localharvest.org)
- [www.healthyfoodinhealthcare.org](http://www.healthyfoodinhealthcare.org)
- [www.eatright.org](http://www.eatright.org)
- [www.heart.org](http://www.heart.org)
- [www.aota.org](http://www.aota.org)
- [www.foodinsight.org](http://www.foodinsight.org)
- [www.localharvest.org/csa](http://www.localharvest.org/csa)
- [www.mayoclinic.com](http://www.mayoclinic.com)
- [www.mowaa.org](http://www.mowaa.org)
- [www.nanasp.org](http://www.nanasp.org)
- [www.frac.org](http://www.frac.org)
- <https://www.hsph.harvard.edu/nutritionsource/>
- <https://www.fruitsandveggiesmorematters.org>
- <https://www.ewg.org/>

## Summary

Discuss healthy eating with patients through education, meal planning and problem solving.

Screen, Intervene and Advocate for Food Security

Learn about your local food system

Connect patients to community nutrition programs, food pantries, congregate meals, farmers markets

## Questions?

## Thank you for your attention!