Healthy Aging for Women

Liz Quintana
WVU School of Medicine
equintana@hsc.wvu.edu

Objectives

- Describe the physiological, psychological, and behavioral processes of aging
- Translate current research findings on aging
- Discuss effective lifestyle health promotions targeted for older women
- Identify educational strategies and resources to optimize healthy aging

US Mortality, 2007

1. Heart Diseases
2. Cancer
3. Stroke
4. Chronic lower respiratory diseases
5. Accidents (unintentional injuries)
6. Alzheimer's disease
7. Diabetes mellitus

http://www.census.gov/compendia/statab/2011/tables/11s0115.pdf

Some Statistics…

- More than 1 in 3 female adults has some form of cardiovascular disease (CVD)
- CVD ranks 1st among all disease categories in hospital discharges for women
- One in 2 female deaths in US are due to CVD (35% under age 35)

American Heart Association Women and Cardiovascular Statistics 2010

More Statistics…

- 64 percent of women who died suddenly of CVD had no previous symptoms
- Only 8% of women in America believe CVD is their greatest health threat
  - ages 25-34 least likely to identify CVD

American Heart Association Women and Cardiovascular Statistics 2010

Compared with Men…

- More women than men will die within the first year after a heart attack or stroke
- 35% women (18% men) heart attack survivors will have another heart attack within six years
- 46% women (22% men) heart attack survivors will be disabled with heart failure within six years
- Women are almost twice as likely as men to die after bypass surgery

Age as a “cardiovascular equivalent”

Risk Factors for Heart Disease

- **Age**
- **Smoking**
- **Hypertension**
- **Abnormal lipids**
- **Obesity**
- **Diabetes / Insulin resistance**
- **Family History**
- **Inactivity**

Age

- Women have symptoms in the 50-60’s
  - Men have symptoms in their 40-50’s

- Protective effect of estrogens in youth?
- Atypical symptoms - pain under the breast bone
- Worse with exertion
- “Radiates” to arm (either one) or neck or jaw
- Sometimes nausea or “indigestion” or fatigue

Why is Tobacco Smoke Harmful?

- Causes plaque to build up
- May trigger blood clots to form
- Reduces HDL (good) cholesterol
- May disturb heart rhythm and lead to sudden cardiac arrest

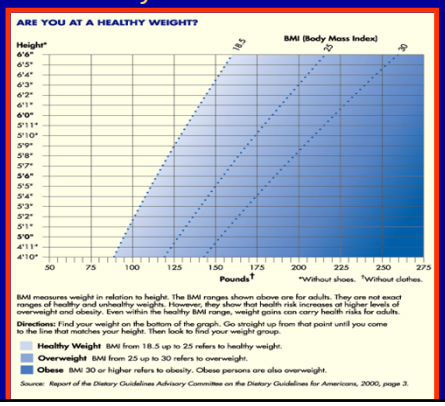
Cigarette Smoking

- Especially important in young women taking oral contraceptives
- Female smokers experience HD 3x males
- Increases the risk of heart disease in females with diabetes 4x
- Female smokers experience first MI 19 yrs earlier than nonsmokers

Hypertension

- High blood pressure is more common in women taking oral contraceptives, especially in obese women
- Greatest prevalence in African-American women
- Over age 65: More women than men have hypertension

Body Mass Index



Body Mass Index

- Body Mass Index = $\frac{\text{weight (lb.)}}{\text{height (in.)}^2} \times 703$
- Example: A 5'6" person, weighing 130 lb.

  $\frac{130}{(66)^2} \times 703 = 21$
- If 155 Lbs
- BMI = 25
- http://www.nhlbisupport.com/bmi/bmicalc.htm

Obesity

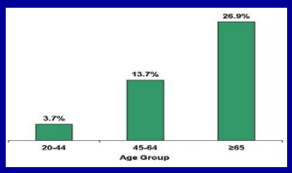
- Location of obesity - abdominal fat (WHR)
  - – ↑ risk for HD/DM indep of level of obesity
  - – Postmenopausal ↑ waist circumference
  - – Overweight women 80% ↑risk HD than lean
- Associated with insulin resistance

Calorie restriction & weight loss

- ***Calorie restriction, independent of weight loss, ↑ insulin sensitivity***
- Sustained weight loss, as little as 5-10% improves:
  - Glycemia
  - Blood pressure
  - Serum lipids

Diabetes

- Increases heart disease risk 2-4 fold
- Eliminates protection of being female
- Multiple risk factors
  - Lipid abnormalities
  - Hypertension
  - Glycosylation of proteins



Screening

- By age 45 years, repeat every 3 years
- Earlier: overweight, with risk factors
- Prevent or delay illness
- Reduce complications & mortality
- Highly cost effective

Archimedes model validated for accuracy from predicting results of 50 clinical trials.
http://www.diabetes.org/for-media/2010/screening-for-diabetes-highly-cost-effective.html

Osteoporosis

- 44 million Americans, (55% people 50+ years), have low bone density
- 10 million Americans have osteoporosis
- The “silent disease”
  - First sign may be a fracture
  - A sudden strain or bump can break a bone

*National Osteoporosis Foundation www.nof.org

Concerns

- 1 in 2 women (1 in 8 men) 50+ years will have an osteoporosis-related fracture
- WV: 77.5% women (44.4% men) 50+ suffered from osteoporosis / low bone mass
- Woman’s hip fracture risk = her combined risk of breast, uterine and ovarian cancer
- 24% of hip fracture patients 50+ die during the year following their fracture

American Heart Association

- A healthy diet and lifestyle are the best weapons to fight cardiovascular disease
  - Use up at least as many calories as you take in
  - Eat a variety of nutritious foods from all the food groups (fruits, vegetables, whole grains, fish)
  - Eat less of the nutrient-poor foods
  - Don’t smoke tobacco

AHA Guidelines www.americanheart.org

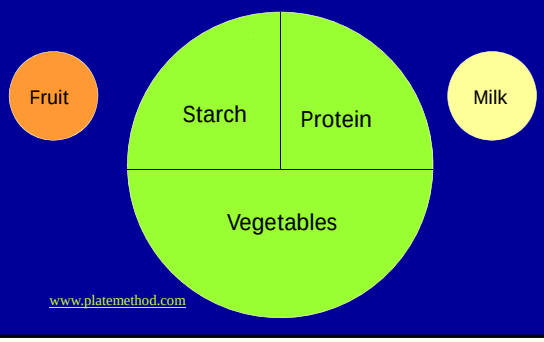
American Heart Association

- **A desirable lipid**
  - Total cholesterol: <200 mg/dL
    HDL: ≥40 mg/dL
    LDL: <100 mg/dL
    Triglycerides < 150 mg/dL
- Limit saturated fat, ***trans fat***, cholesterol
  - Substitute with grains and unsaturated fatty acids from vegetables, fish, legumes, and nuts.

American Heart Association

- **A desirable blood pressure:** 120/70
  - Limit salt (sodium chloride) <2400 mg
    High risk: < 1500 mg
  - Limit alcohol consumption (~ 1 drink per day)
  - Maintain a healthy body weight and a dietary pattern that emphasizes vegetables, fruits, and low-fat or fat-free dairy products.

Plate Method



www.platemethod.com

Meal Planning

American Institute for Cancer Research

Old American Plate

A Transitional Plate

New American Plate

Another New American Plate

Limiting portion sizes

To achieve or maintain healthy weight

- Meal plan
- Food & Activity Record
- Use measuring utensils when judging serving sizes
- Limit treats to 200 calories or less daily

Dietary Fiber

Soluble

Reduction total + LDL cholesterol

- Legumes
- Fruits
- Barley
- Oats

Insoluble

Reduction in bowel transit time

- Bran
- Wheat
- Whole grains
- Vegetables

Saturated Fatty Acids*

	gm/serving
• **Animal**	
– Meats (3 oz)	2-14
– Butter (1T)	7
– Egg	2
– Cheese (1 oz.)	3-6
• **Plant** (1T)	
– Shortening*	3.5
– Margarine*	2.5
– Mayo/dressing	0.5-1.5
– Coconut/palm oil	1.5

***Trans-fatty acids**

Monounsaturated Fatty Acids

Plant food sources only (g/T)

– Canola oil	8
– Olive oil	10.5
– Peanut oil	6.5
– Peanut butter	4
– Avocado (1/4 med)	4
– Almonds	6

Cholesterol

Animal sources only (mg/3oz)

- Beef 84
- Fish 74
- Poultry 73
- Egg yolk (1) 212
- Shellfish (shrimp) 167

Maximum recommended: 200 mg/d

Limit Sodium

Select foods low in salt

Limit consumption of salted foods and use of cooking and table salt. Substitute herbs and spices in place of salt to season foods.

*JNC 7 – "Pre-hypertension"
120/80 – 139/89

Sodium (mg)*

Processed		Less Processed	
Microwave Popcorn	370	Air popped	6
Mashed Potato	530	Baked Potato	8
Ham	810	Pork Loin	68
Green Beans (canned)	169	Fresh Green Beans	2
Spaghetti in Tomato Sauce (canned)	1220	Homemade Spaghetti in Tomato Sauce	496

*USDA Food Composition Tables Handbook 8

DASH

Dietary Approaches to Stop Hypertension

demonstrated that a diet rich in fruits, vegetables, low-fat dairy products, fiber and minerals (**calcium, potassium and magnesium**) produces a potent antihypertensive effect

- http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/new_dash.pdf

How much is a Serving Size ?

Trans fats

FDA uses "Percent Daily Value" (% DV) to describe amount of vitamins and minerals needed by general U.S. population daily

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving	
Calories 260	Calories from Fat 120
	% Daily Value*
Total Fat 13g	20%
Saturated Fat 5g	25%
Trans Fat 2g	
Cholesterol 30mg	10%
Sodium 660mg	28%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	

Vitamin A 4% • Vitamin C 2%
Calcium 15% • Iron 4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Ingredient List Label

Greatest Amount !

Ingredients: Tomatoes, Water, Carrots, Celery, Onion, Barley, Canola Oil, Salt, Spices.

Least Amount !

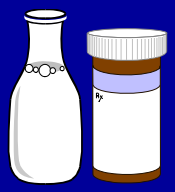
Daily Value (DV)

"Nutrition Facts" or "Supplement Facts" panel shows: 15% DV for calcium

DV for calcium = 1,000 mg

The food or supplement has 150 mg of calcium per serving.

Calcium load at one time



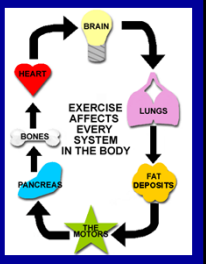
- Body can best handle about **500 mg** at one time from food and/or supplements
- Consume calcium sources with Vitamin D throughout day vs. all at one time

Osteoporosis Prevention

- Balanced diet rich in calcium & vitamin D
- Weight-bearing exercise
- Healthy lifestyle with no smoking or excessive alcohol use
- Bone density testing and medications when appropriate

Physical Activity

- Relationship to body weight
- ↑ daily activities of life
- Endurance training, aerobic exercise
- Weight bearing exercise
- Adjunct to diet
- Maintenance of weight loss



Be physically active each day

- Health benefits of physical activity
- Physical activity recommendations

  Adults - **60** minutes of moderate physical activity most, preferably all, days of the wk.

  Children -- 60 min. moderate activity daily

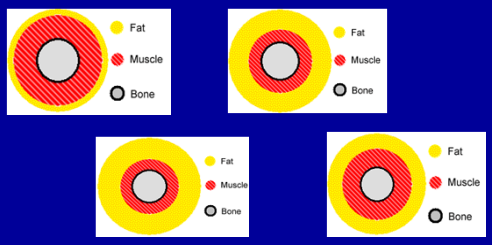
Strength training

- Diabetes: improves glycemic control
- Heart Disease: improve lipid profile, fitness
- Arthritis: ↓pain/stiffness, ↑ flexibility
- Osteoporosis: maintain bone mass
- Obesity: ↑ metabolism, weight control
- Back pain: strength back, abdominal muscles
- Sarcopenia: prevents muscle deterioration

Growing Stronger: Strength Training for Older Adults (book)
www.cdc.gov/nccdphp/dnpa/physical/growing_stronger/growing_stronger.pdf

Diet and Body Composition

Compare bone-muscle-fat mass of normal-dieter-obese patients



Dean Ornish Program

- Very low-fat, high-fiber **whole food** diet: Vegetables, fruits, whole grains, fat-free milk products, egg whites
- Exercise: walking briskly 30 minutes a day
- Stress reduction: Daily stretching, yoga, breathing, meditation
- Group support: improve emotional, spiritual, and physical health

PEIA, MSBCBS, Medicare & WVUH cover the costs for select patients who elect to follow Dr. Dean Ornish Program for Reversing Heart Disease (started May 2002.). Ornish Spectrum (Advantage) Program for Preventing Heart Disease at WVUH (started Nov. 2003).

Lifestyle Changes Genetic Expression

- Telomeres: DNA-protein complexes protect the ends of chromosomes
- Telomeres get shorter, life gets shorter
- Telomerase: enzyme that repairs and lengthens telomeres
- Biomarker: disease risk and premature death in breast, prostate, colorectal, lung cancers

Ornish et al. 2008. Increased telomerase activity and comprehensive lifestyle changes: a pilot study. *Lancet Oncology, 9*, 1048–1057.

Guidelines for Improving Adherence

- Establish goal of therapy
- Encourage lifestyle modification
- Integrate therapy into daily routine
- Encourage a positive attitude
- Educate patient about disease
- Maintain contact with patient
- Utilize other health professionals
- Keep care simple and affordable
- Be a role model

Educational Strategies

- Elderly women: diet/health conscious
- Victim to misinformation
- Information needs and sources
- Family and community resources
- Making changes

Key Points

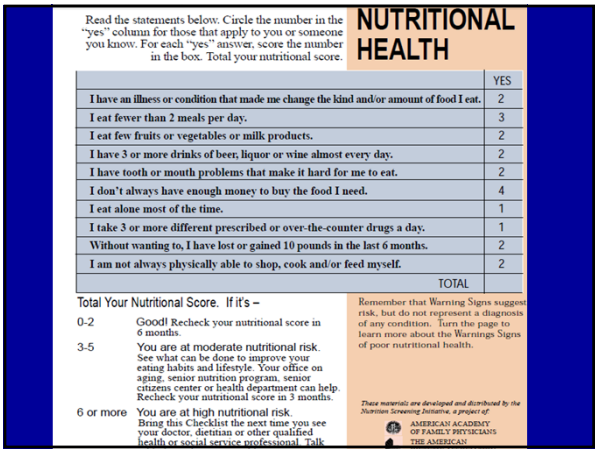
- Chronological age should not be the sole criteria for making treatment decisions
- Risk for disease and disability increases with inadequate physical activity, genetic susceptibility, poor diet
- Treatment of CVD risk factors may decrease the risk of dementia

Case

- A healthy, active, independent 85 year old woman with diabetes presents to you for care. She is concerned because her sister has a severe dementia. Other than a blood pressure of 150/70 and osteopenia, her PE is unremarkable.

Case

- Is her risk of dementia higher with an underlying diagnosis of diabetes?
- What is the significance of isolated systolic hypertension in the elderly? How should this be treated?
- What treatment is recommended for osteopenia?
- What is the average life expectancy of a healthy 80 –85 year old woman?



Read the statements below. Circle the number in the "yes" column for those that apply to you or someone you know. For each "yes" answer, score the number in the box. Total your nutritional score.

NUTRITIONAL HEALTH

	YES
I have an illness or condition that made me change the kind and/or amount of food I eat.	2
I eat fewer than 2 meals per day.	3
I eat few fruits or vegetables or milk products.	2
I have 3 or more drinks of beer, liquor or wine almost every day.	2
I have tooth or mouth problems that make it hard for me to eat.	2
I don't always have enough money to buy the food I need.	4
I eat alone most of the time.	1
I take 3 or more different prescribed or over-the-counter drugs a day.	1
Without wanting to, I have lost or gained 10 pounds in the last 6 months.	2
I am not always physically able to shop, cook and/or feed myself.	2
TOTAL	

Total Your Nutritional Score. If it's –

0-2 Good! Recheck your nutritional score in 6 months.

3-5 You are at moderate nutritional risk. See what can be done to improve your eating habits and lifestyle. Your office on aging, senior nutrition program, senior citizens center or health department can help. Recheck your nutritional score in 3 months.

6 or more You are at high nutritional risk. Bring this Checklist the next time you see your doctor, dietitian or other qualified health or social service professional. Talk

Remember that Warning Signs suggest risk, but do not represent a diagnosis of any condition. Turn the page to learn more about the Warnings Signs of poor nutritional health.

These materials are developed and distributed by the Nutrition Screening Initiative, a project of:

AMERICAN ACADEMY OF FAMILY PHYSICIANS
THE AMERICAN

Putting it all together

- Healthy body weight
- Dietary factors
- Active lifestyle
- No smoking or excessive alcohol use
- Good metabolic control
- Getting recommended screenings, labs, bone density tests, and medications when appropriate

Aim for Fitness

- Aim for a healthy weight
- Be physically active each day

References

- 10 Things You Never Knew About Heart Disease http://www.pbs.org/wgbh/takeonestep/pdf/Handouts_All.pdf
- Clinical Practice Guidelines (asthma, cholesterol, COPD, hypertension, and obesity) www.nhlbi.nih.gov/guidelines/index.htm
- American Diabetes Assn www.diabetes.org
- Am Inst Cancer Research (AICR) www.aicr.org
- The Dr. Dean Ornish for Reversing heart Disease Program at WVUH www.hsc.wvu.edu/Wellness/Dr-Dean-Ornish-Program

Alternative Medicine

- National Institutes of Health Office of Dietary Supplements ods.od.nih.gov/
- NCCAM Complementary and Alternative Medicine Citation Index http://nccam.nih.gov/camonpubmed/
- Natural Medicine Comprehensive Database www.naturaldatabase.com
- www.consumerlab.com