

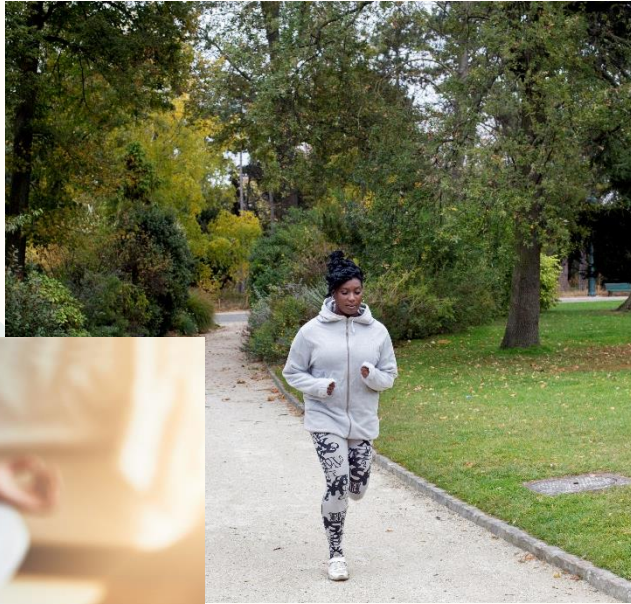
Maximizing Health and Fitness for the Working Woman

Kelly Huestis, MPT, WCS

Physical Therapist

Upper Chesapeake Medical Center

What does health look like?





Health...

“A state of complete physical,
mental and social well being.
Not merely the absence of
disease or infirmity.” -WHO

Challenges that women face towards physical fitness and health

Hormonal Changes

Consequences of childbirth

Weight gain, changes in body and muscle mass

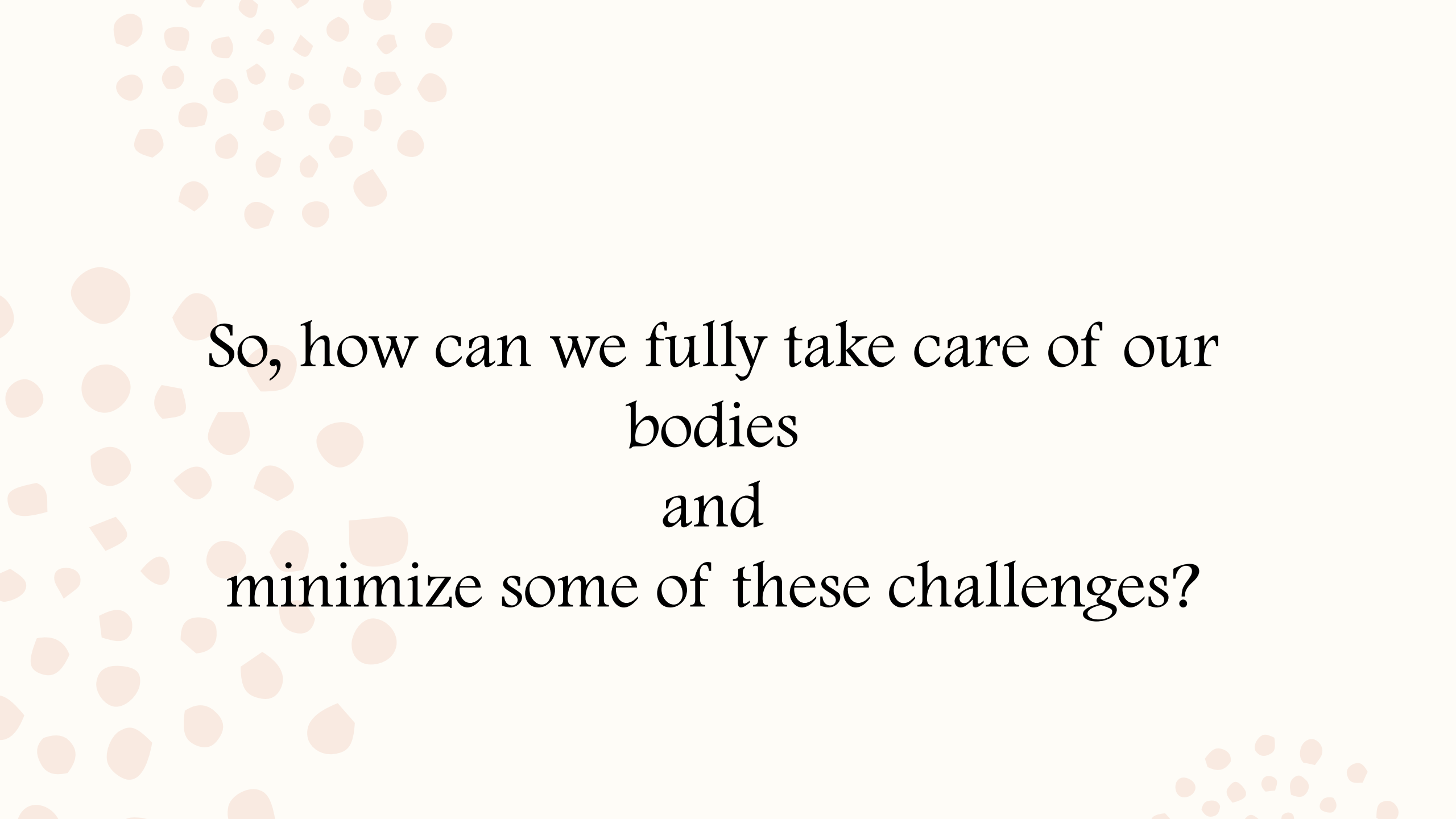
Bone density changes

Sleep deprivation

Cardiovascular changes

Additional challenges for the working woman

- Stress
- Time Constraints
- Limited Sleep
- Nutrition on the run
- Money



So, how can we fully take care of our
bodies
and
minimize some of these challenges?



Today's goal:

- Discussion of the body changes and challenges that women experience through the lifespan
- Discuss how these changes impact physical fitness and health
- Review the current standards and recommendations for fitness and health
- List critical ways to support physical fitness and health with nutrition and sleep
- Options and suggestions for implementing these standards in a realistic way

Fitness

Let's get physical.



Fitness Defined

Condition of being physically sound and healthy. Includes mental acuity, cardiorespiratory endurance, muscle strength, muscle endurance, body composition and flexibility.

Fitness components



- Cardiovascular Health
- Muscle performance
- Bone Health
- Flexibility

Cardiovascular Changes for Women through the lifespan

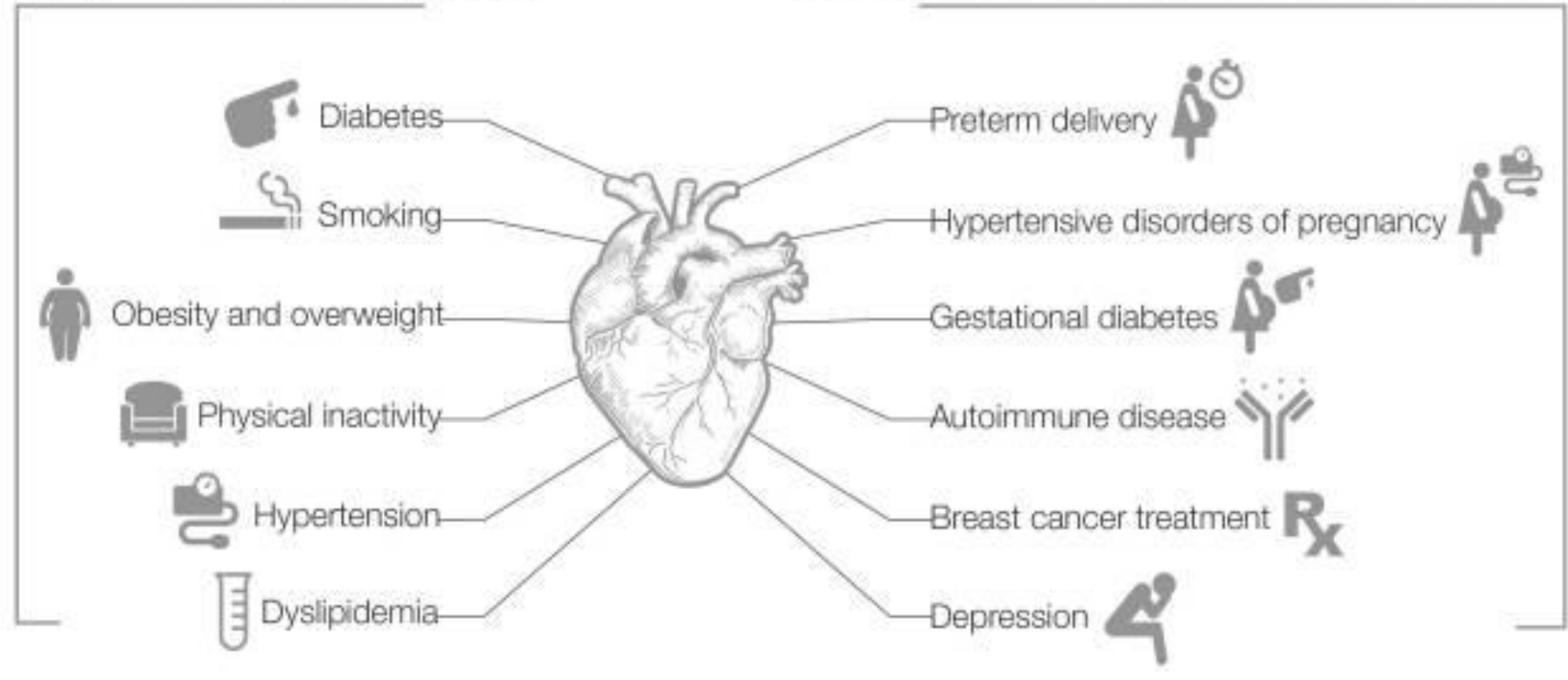
Cardiovascular disease is the number one cause of death for women in the United States. One in 5 women will die of heart disease.

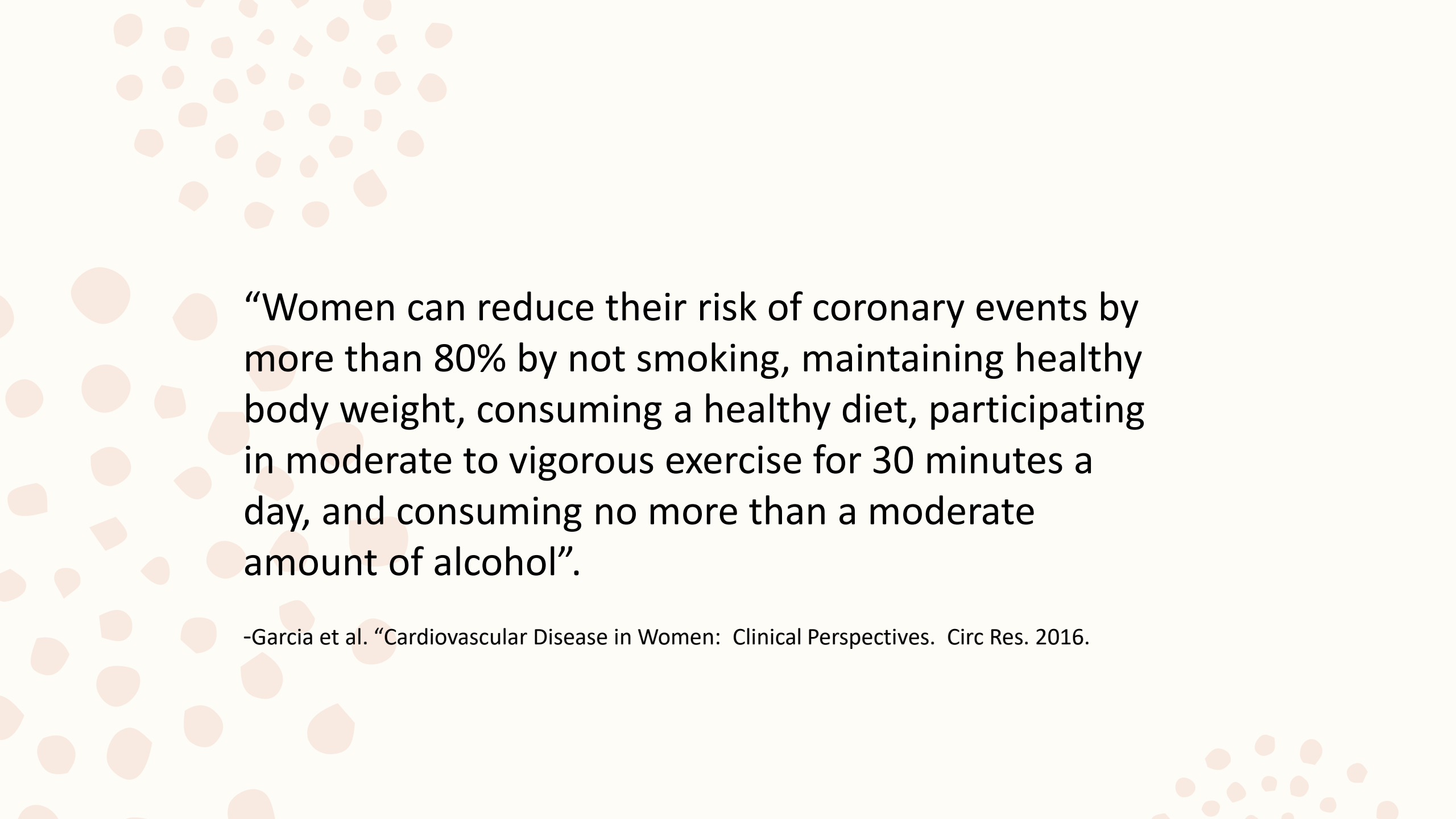
A few Considerations:

- Women have higher risk of obesity
- Women aren't given as aggressive medical treatment
- Women have higher inactivity levels than men

Traditional ASCVD Risk Factors

Emerging, Nontraditional ASCVD Risk Factors





“Women can reduce their risk of coronary events by more than 80% by not smoking, maintaining healthy body weight, consuming a healthy diet, participating in moderate to vigorous exercise for 30 minutes a day, and consuming no more than a moderate amount of alcohol”.

-Garcia et al. “Cardiovascular Disease in Women: Clinical Perspectives. Circ Res. 2016.

Implementing exercise to combat risk factors





Rhythmic movement of the large muscles for a sustained period



Increased heart and respiratory rate



Brisk walking, running, cycling, swimming, aerobics

Aerobic Activity

Fitness goals

Physical Activity Guidelines for Americans:

- 150-300 minutes of moderate intensity physical activity per week.

ACSM Recommendations:

- Engage in at least 20-60 min of aerobic physical activity of moderate intensity at least 5 days per week

0

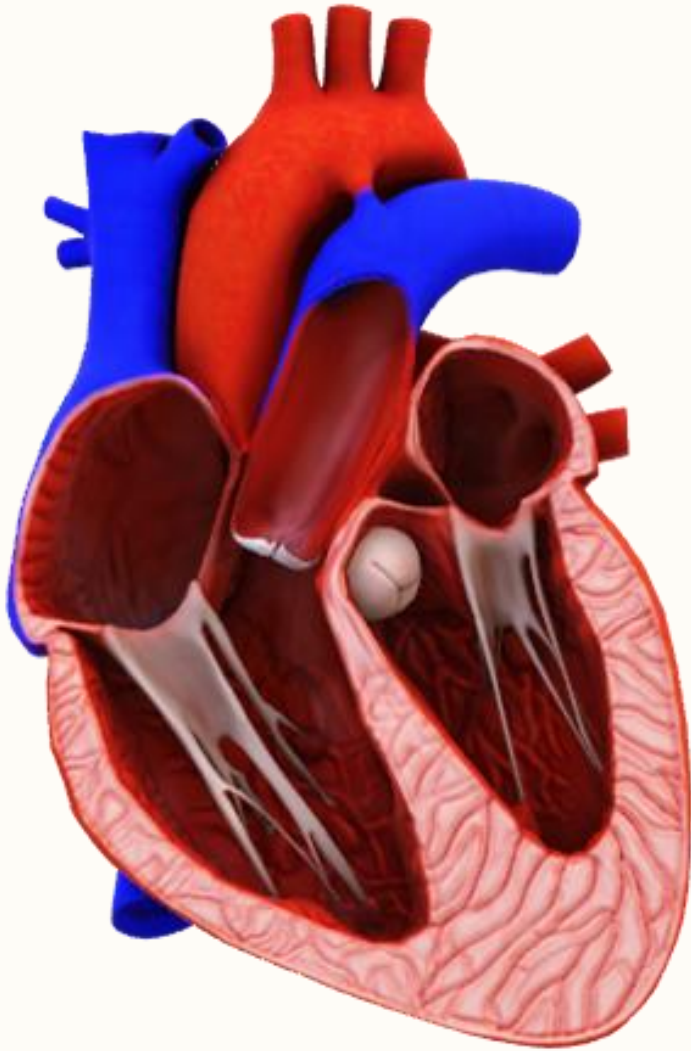
150

300



Is anyone meeting this?

Percent of adults aged 18 and over who met the Physical Activity Guidelines for aerobic physical activity: 53.3% in 2018.



Using heart rate to determine exercise intensity

- Healthy resting heart rate is 60-80 bpm
- Maximum heart rate is $220 - \text{age}$
 - Moderate physical activity is typically considered 64-76% of your max
 - Vigorous physical activity is 77-93%

Target heart rates

Age	Target HR Zone 50-85%	Average Maximum Heart Rate, 100%
20 years	100-170 beats per minute (bpm)	200 bpm
30 years	95-162 bpm	190 bpm
35 years	93-157 bpm	185 bpm
40 years	90-153 bpm	180 bpm
45 years	88-149 bpm	175 bpm
50 years	85-145 bpm	170 bpm
55 years	83-140 bpm	165 bpm
60 years	80-136 bpm	160 bpm
65 years	78-132 bpm	155 bpm
70 years	75-128 bpm	150 bpm

Perceived exertion scale

Another option for monitoring exercise intensity

Rating of Perceived Exertion Borg RPE Scale		
6	Very, very light	How you feel when lying in bed or sitting in a chair relaxed. Little or no effort.
7		
8		
9		
10		
11	Fairly light	Target range: How you should feel with exercise or activity.
12	Somewhat hard	
13		
14		
15	Hard	
16	Very hard	How you felt with the hardest work you have ever done.
17		
18		
19		
20	Maximum exertion	Don't work this hard!

Muscle changes in women through the lifespan

Childbearing years

- Decreased core strength
 - Diastasis Recti
- Pelvic floor weakness
- Posture changes

40 and beyond

- Decreased lean muscle mass
- Higher body fat percentage
- Increased abdominal fat distribution



Pregnancy-related Posture Changes

- Diaphragm shortens
- Back extensors tighten
- Abdominal muscles stretched
- Hip flexors tighten
- Pelvic floor muscles weaken

Muscle Strengthening Recommendations

- Recommended 2-3 times per week
- Muscles work against an applied force or weight.
- Can be done with weights, bands, or body weight.
- Weight lifting, push ups, planks, rock climbing
- Must vary to work all major muscle groups



Percent of adults aged 18 and over who met the Physical Activity Guidelines for both aerobic and muscle-strengthening activity: 23.2%

How much weight should I lift?

For Strength

- Able to do 8-10 reps with fatigue at the end of the set
- Note that the weight becomes difficult at rep #6
- When you can do 2 additional reps, increase your weight.
- Three sets

For endurance

- Lighter weight that you can do 15-20 reps in each set
- Three sets or time based
- Will not promote strength and muscle growth but offers resistance training

Bone Density Issues

- Osteopenia
 - Smaller decline in bone density
 - T-score 1-2.5
- Osteoporosis
 - A disease characterized by compromised bone strength predisposing a person to an increased risk of fracture
 - Measured by t-score on bone density scan (>2.5)
 - Greater amounts of bone being reabsorbed than created



Key Activities to Preserve Bone Density

- Build your bone bank
- Impact
 - Jumping, jogging, tennis
- Resistive exercises/strength training

Additional types of exercise



- Balance Activities

- Reduce fall risk
- Improved by strengthening the back, abdomen, and legs
- Includes yoga, tai chi, standing on one leg or unstable surfaces

- Flexibility Exercises

- Improve range of motion, reduce injury
- Improved by stretching
- Includes yoga, pilates, stretching pre and post activity
- Reduces injury risk



Ways to maximize physical fitness for the working woman

1. Find something that you enjoy (hiking, biking, walking, dance)
2. Start with achievable short -term goals
3. Look for exercise options that include all of the components of fitness such as strength, flexibility, cardiovascular, balance
4. Buy a fitness tracker
5. Give yourself incentives and rewards
6. Consider how you can squeeze exercise in at home
7. Find an exercise buddy
8. Multi-task!

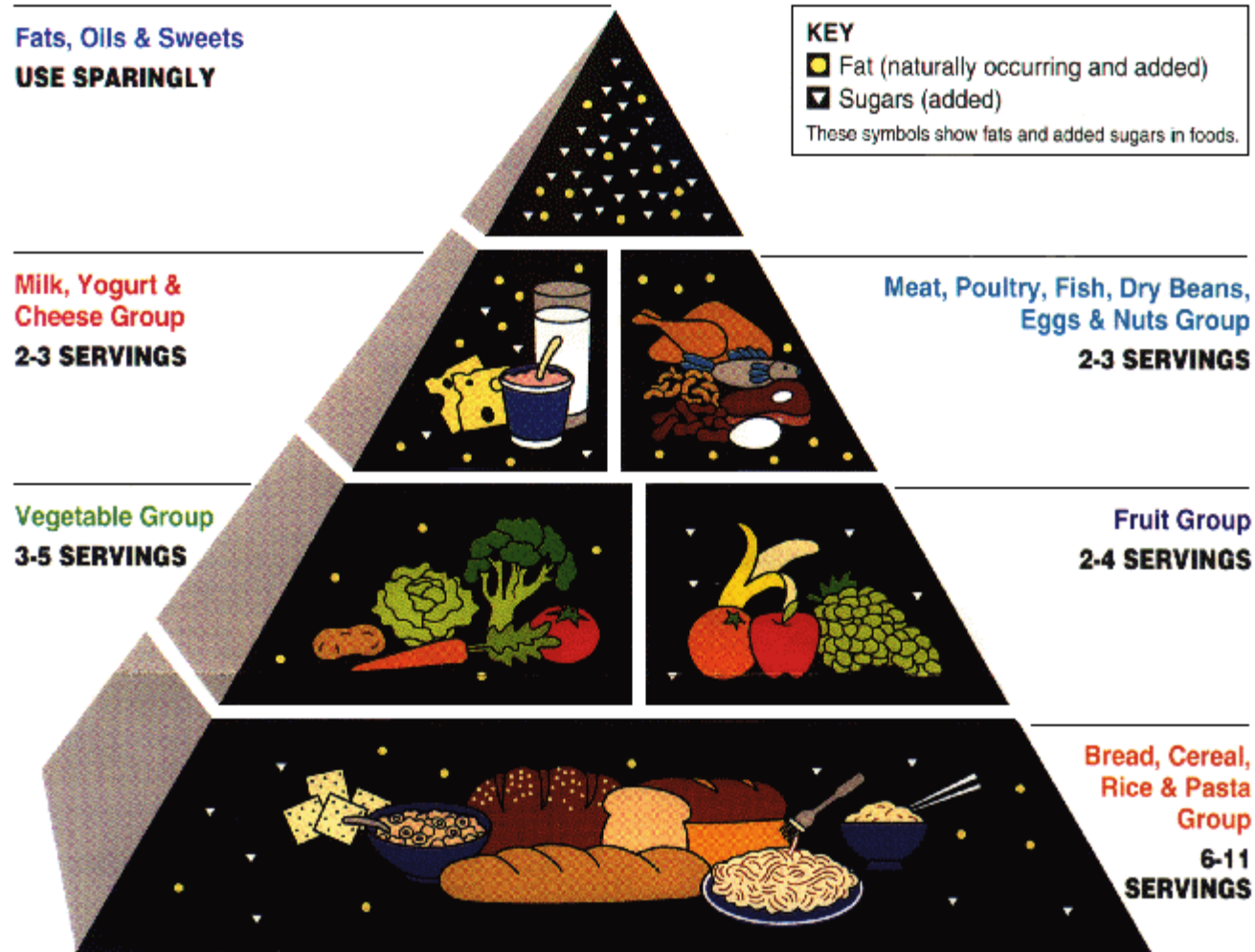
Muscle strengthening for the busy woman

- Combine with your cardio
 - Walk with weights
 - Do interval or HIIT training
- What are your strength goals? Muscle mass? Light toning and health?
- Choose 2 days of the week that you are most likely to be compliant and stick to them. Ex: Tuesdays and Saturdays
- Not a weights person? Try pilates, boot camps, walking programs with bands, yoga

Nourishment...

Supporting your physical health and
fitness

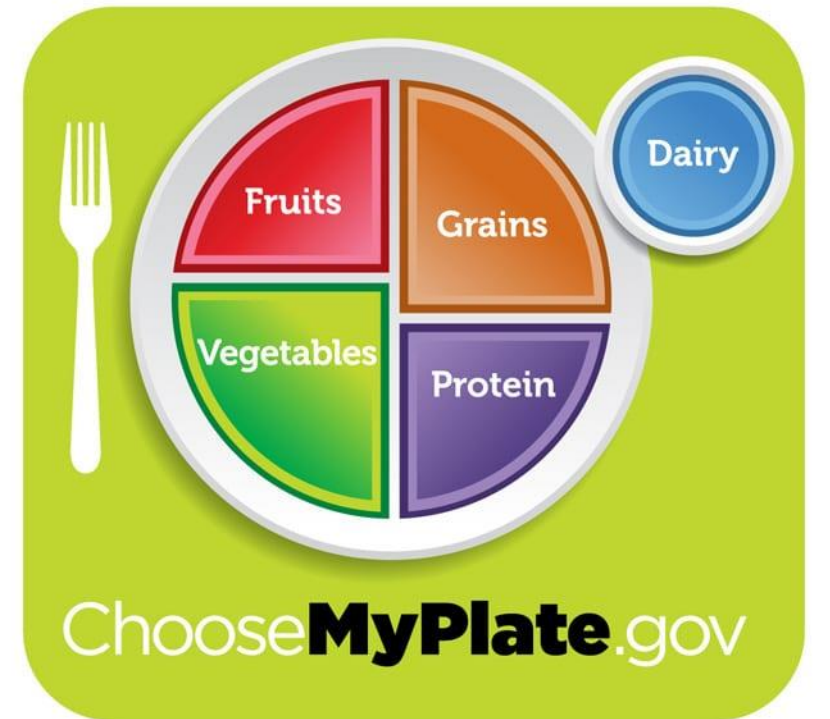
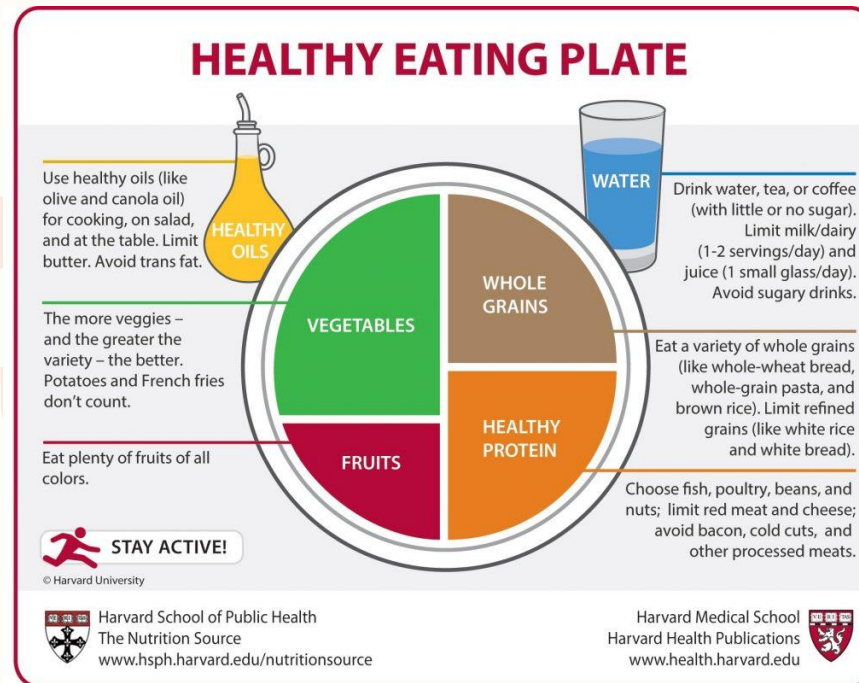
Food Pyramid



- 1992-2005
- 20 year symbol of dietary guidelines

Current Recommendations

-Everything in moderation



Estimated Calorie Needs by Day

Age	Sedentary	Mod Active	Active
20's	1800-2000	2000-2200	2400
30's	1800	2000	2200
40's	1800	2000	2200
50's	1600	1800	2200
60's	1600	1800	2000

What components are most women missing that support our health and fitness?

- Calcium
- Vitamin D
- Fiber
- Water



Calcium and Vitamin D

Calcium

- Major component of bone, giving it strength and structure
- Also critical for muscle contraction and nerve transmission

Vitamin D

- Promotes calcium absorption in the gut
- Required for bone growth and remodeling

Calcium

- Recommended Intake
 - Under 50: 1000 mg of calcium daily
 - Over 50 (or early menopause): 1200 mg of calcium daily
- Calcium rich foods:
 - Dairy products, collared greens, kale, salmon, almond milk, orange juice, beans
- Use the NOF.org calculator to determine needs for supplementation



Vitamin D

- Recommended amount varies (around 600 IU). Discuss with your PCP.
- Ways to increase your vitamin D
 - Sun Exposure
 - Milk, fatty fish, egg yolks, mushrooms, foods fortified with vitamin D
- Other health benefits of vitamin D
 - Reduction of inflammation, modulation of neuromuscular and immune function, and glucose metabolism

Fiber

- Fiber is the parts of plant foods that your body can't digest or absorb. It isn't digested and passed through your stomach, small intestine, and colon.



2 Types of Fiber

Soluble

- Dissolves in water to form a gel like material
- Moves through the colon and feeds your good gut bacteria
- Reduces the body's ability to absorb fat and fills you up
- Lowers cholesterol and blood sugar

Insoluble

- Promotes movement of material through your digestive system by absorbing and sticking to other materials to bulk and form stool
- Improves bowel health, prevents constipation and colorectal disease

Foods with fiber

Soluble

- Apples
- Carrots
- Citrus
- Beans
- Oats
- Peas

Insoluble

- Beans
- Nuts
- Wheat bran
- Vegetables and Berries

How to add fiber!

- SLOWLY!
- Goal:
 - Under age 50- 25 grams/day
 - Over 50- 21 grams/day
- Switch your cereal.
- Add 1-2 pieces of fruit per day.
- Look for whole grain crackers and breads.
- Eat your fruit instead of drinking it.
- Snack on raw veggies.



8 glasses per day. Getting your water in.

- National Academy of Science, Engineering, and Medicine recommends a total of 91 ounces per day for women, including food.
- Prolonged heat exposure and exercise increase water needs.

Why so much water??

Inadequate Water

- Constipation
- Dizziness
- Fatigue
- Dry Mouth
- Muscle Cramps

Adequate water

- Healthy blood volumes
- Healthy skin
- Healthy kidneys
- No constipation
- Decrease risk of tooth decay

Bladder health

- As estrogen supply decreases, women are more susceptible to urinary incontinence, infection, and urgency/frequency.
- Limit bladder irritants:
 - *Acidic beverages, Citrus, Alcohol, Caffeine, Spicy foods, Soda & Carbonation*
 - *Be sure to drink enough water to keep urine a pale yellow color*

If you notice any changes, talk to your doctor!

Ways to incorporate water

- Carry water with you at all times
- Set water goals.
- Find ways to flavor your water.
- Don't forget that water in foods counts!
- Set phone or computer alarms.
- Set short term goals.



Restoration

Sleep...essential for recovery.



Sleep is the critical period of recovery that supports cardiovascular, neurologic, and basic life functions.



Previously viewed as a luxury, we now realize that it is critical for:

Downregulation of the nervous system, altered activation of the stress response

Upregulation of the immune system

Decreased sensitivity to pain stimuli



Sleep disturbances are present in 1/3 of the population and sleep has recently been declared a public health problem

Sleep is vital.

Risks of inadequate sleep

- Increased pain
- Increased depression
- Loss of function
- Reduced quality of life
- Impaired memory
- Attention Deficits
- Development of other health problems such as HTN, obesity, diabetes, dementia
- Reduced ability to learn new motor skills
- Increased risk of accidents and falls
- Difficulty with work related activities
- Difficulty with self care and recreation
- Overall decreased quality of life, function, and well-being

Sleep changes with age

Feeling tired earlier in the evening

Waking earlier in the morning

Shortened sleep duration at night

More daytime naps

More nightly awakenings



How do you know if you have sleep issues?

- Ask yourself...
 - How much sleep are you getting?
 - Are you well rested when you wake up?
 - Does being sleepy during the day interfere with your function?
 - Do you have difficulty falling asleep or returning to sleep if you wake up?
 - Do you snore loudly or frequently?
 - Do you have a strong urge to continually move your legs while you are trying to sleep?

Sleep Standards

Adults age 18-60

- 7-9 hours per night

Adults 60+

- 7-8 hours per night

Sleep debt

- The difference between the amount of sleep someone needs and the amount of sleep that they actually get.
 - Cumulative
 - Causes: work hours, commuting, socializing, relaxing, watching TV
 - People are able to adapt to sleep debt and feel awake but decline in physical and mental performance.

I finally got 8
hours of sleep.
Took me 4 days,
but whatever.



Recovering from sleep debt

- Take a nap
- Sleep in on the weekends
- Keep a set sleep schedule
- Develop a nightly routine
- Consider your daytime habits
- GIVE IT TIME. Sleep debt recovery is slow.

A photograph of a wooden bedside table. On the table is a white lamp with a white shade, a silver alarm clock, a small green dish with a ring, and a stack of books. In the background, there is a bed with white and yellow pillows.

Creating a sacred sleep environment

- Dark Curtains
- Avoid light emitting electronics 30 min before bed (blue light suppresses melatonin)
- Comfortable sleeping temperature
- Comfortable pj's & bedding
- Ear plugs, eye mask, or white noise if needed

Sleep Hygiene Tips

- Go to bed and wake up at the same time daily. Wake to light.
- Use your bed for sleep and sexual activity only. No eating, working, or TV.
- Develop a relaxing bed-time routine.
- AVOID
 - moderate to vigorous exercise at least 2-3 hours before bed
 - caffeine 4 hours before bed
 - Alcohol and smoking 3-4 hours before bed
 - eating a large meal or spicy food 2-3 hours before bed

Sleep Positioning

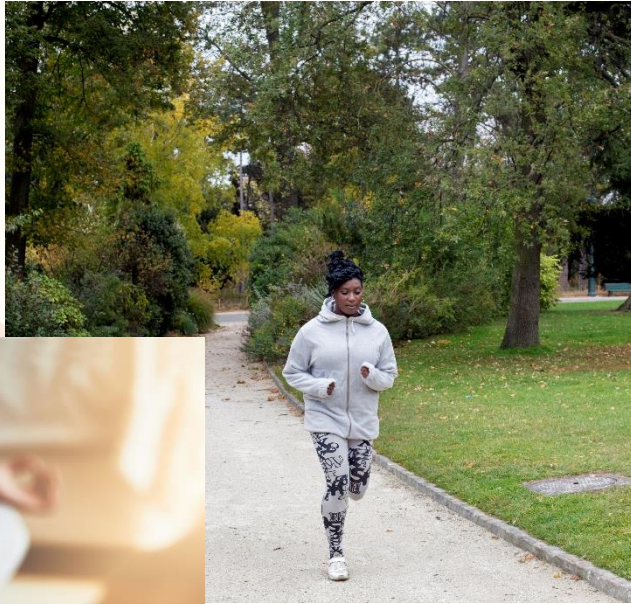


Putting it all together



But one step at a time...

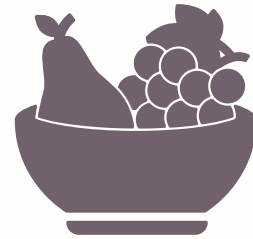
What does health look like?



What can you do to improve these?



Exercise



Nutrition



Sleep



You wouldn't let this
happen to your phone.
Don't let it happen
to you either.

SELF CARE IS A PRIORITY.
NOT A LUXURY.

Thank you for your
time!

Questions?

Khuestis@umm.edu