

Physical Activity, Nutrition, and Stress Management

Tiffany Goodrich, MPH

Physical Activity

- *Physical Fitness: The ability to respond to routine physical demands, with enough reserve energy to cope with a sudden challenge*

Health-Related Fitness Components

- Cardiorespiratory Fitness
- Muscular Strength
- Muscular Endurance
- Flexibility
- Body Composition

Health Benefits

Health Benefits of Physical Activity—A Review of the Strength of the Scientific Evidence

Strong Evidence

Lower risk of:
Early death
Heart disease
Stroke
Type 2 diabetes
High blood pressure
Adverse blood lipid profile
Metabolic syndrome
Colon and breast cancers
Prevention of weight gain
Weight loss when combined with diet
Improved cardiorespiratory and muscular fitness
Prevention of falls
Reduced depression
Better cognitive function (older adults)

Moderate to Strong Evidence

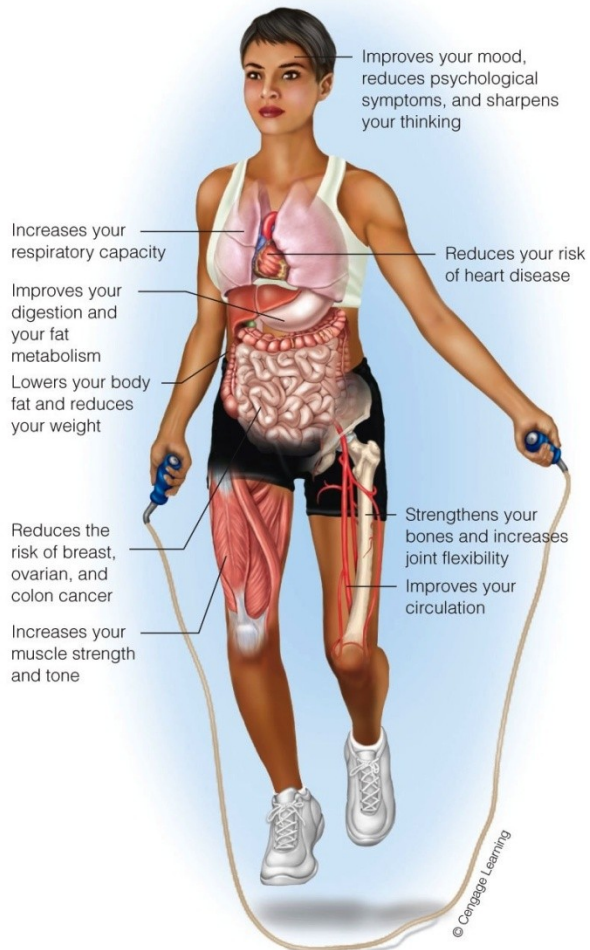
Better functional health (older adults)
Reduced abdominal obesity

Moderate Evidence

Weight maintenance after weight loss
Lower risk of hip fracture
Increased bone density
Improved sleep quality
Lower risk of lung and endometrial cancers

Source:

<http://www.health.gov/paguidelines/factSheetProf.aspx>



Physical activity effectiveness

- Do at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity aerobic physical activity per week
- Physical activity reduces stress

Designing a workout

Aerobic Workouts

- Make sure to warm-up and cool-down
- Elevate/maintain heart rate to target zone
- Vary activities and choose those that you enjoy

Muscle Workout

- Determine goal: strength training, toning/endurance or both
- Determine and know how to safely use equipment
- Need recovery days – either alternate days between upper and lower body or have a rest day between workouts

Physical fitness needs good nutrition

- **Physical activity + moderate caloric intake is most effective and healthy**
- *Physical Fitness enhances one's total fitness, providing opportunities and benefits in every dimension of holistic health*

Nutrition

The science devoted to the study of dietary needs for food, and the effects of food on organisms

Essential Nutrients: nutrients that the body cannot manufacture for itself and must obtain from food; they provide energy, build and repair body tissue, and regulate body functions

- Water
- Protein
- Carbohydrates
- Fats
- Minerals
- Vitamins

Classes of nutrients

- **Macronutrients:** nutrients needed in large amounts [water, proteins, carbohydrates, fats]; amount of energy derived measured in **calories**
- **Micronutrients:** vitamins and minerals needed by the body in very small amounts



My Plate



- Enjoy your food, but eat less; avoid oversized portions
- Make $\frac{1}{2}$ your plate fruits/vegetables
- Make $\frac{1}{2}$ grains – whole
- Switch to fat-free or 1% milk
- Choose foods with lower sodium
- Drink water instead of sugary drinks

Dietary Guidelines for Americans

Foods /Food components to reduce

- Sodium
- Fats
 - Saturated Fats
 - Trans-Fatty Acids
 - Cholesterol
- Added Sugars
- Refined Grains

Foods/Food components to increase

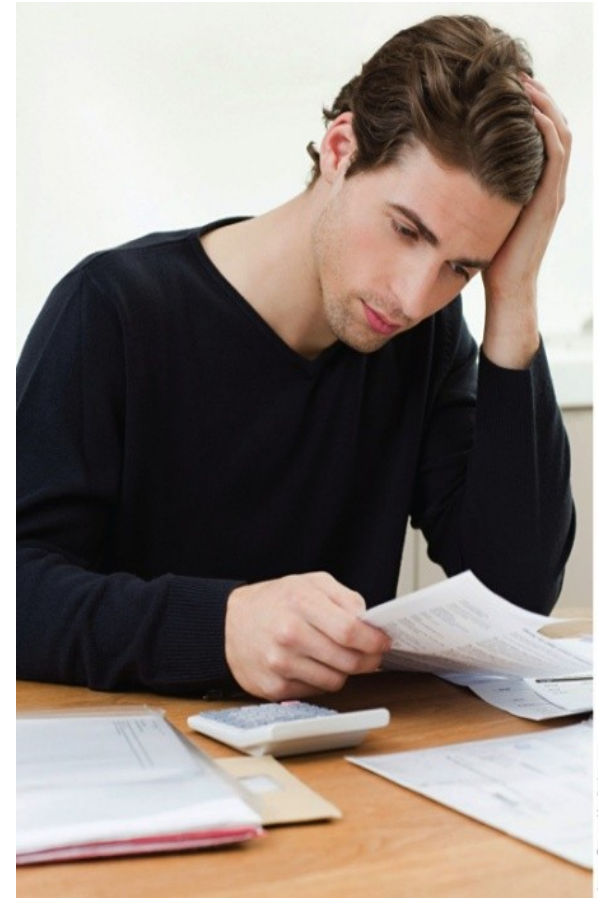
- Vegetables & Fruits
- Milk & Milk Products
- Protein Foods

Maintain caloric balance-Focus on nutrient dense foods

Avoid stress or emotional eating

What is Stress?

Stress: The nonspecific response of the body to any demands made upon it



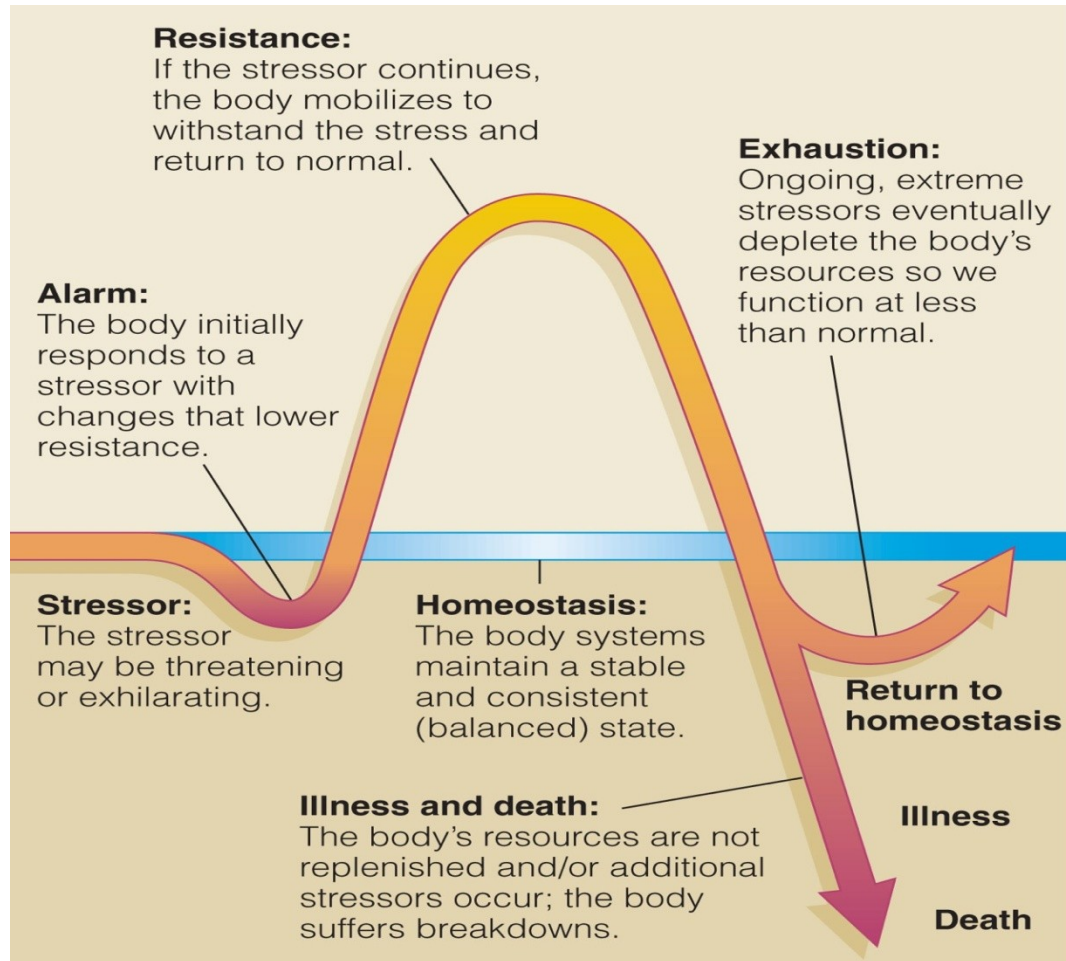
Stress Management

Stressor: Specific or nonspecific agents or situations that cause the stress response in the body. There are both *positive* and *negative stressors*

Eustress: Positive stress which stimulates a person to function properly

Distress: A negative stress that may result in illness

General Adaptation Syndrome



Effects of Stress on the Body

Brain becomes more alert.

- Stress hormones can affect memory and cause neurons to atrophy and die.
- Headaches, anxiety, and depression
- Disrupted sleep

Digestive system slows down.

- Mouth ulcers or cold sores

Heart rate increases and blood pressure rises.

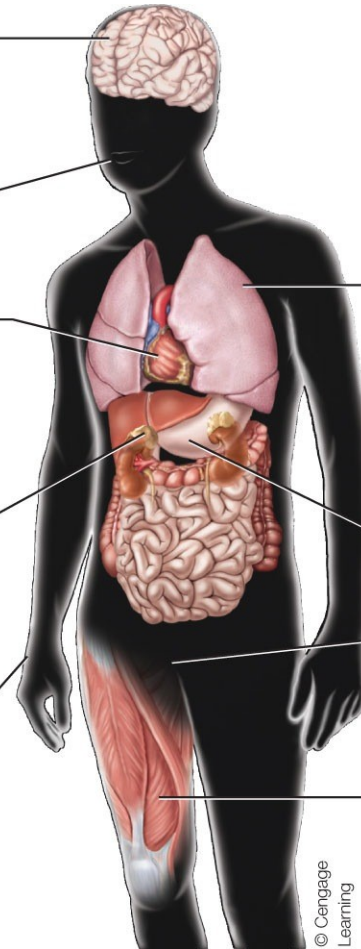
- Persistently elevated blood pressure and heart rate can increase potential for blood clotting and risk of stroke or heart attack.
- Weakening of the heart muscle and symptoms that mimic a heart attack

Adrenal glands produce stress hormones.

- Cortisol and other stress hormones can increase central or abdominal fat.
- Cortisol increases glucose production in the liver, causing renal hypertension.

Skin problems such as eczema and psoriasis

- = Immediate response to stress
- = Effects of chronic or prolonged stress
- = Other possible effects of chronic stress



Breathing quickens.

- Increased susceptibility to colds and respiratory infections

Immune system is depressed.

- Increased susceptibility to infection
- Slower healing

Digestive system slows down.

- Upset stomach

Reproductive system

- Menstrual disorders in women
- Impotence and premature ejaculation in men

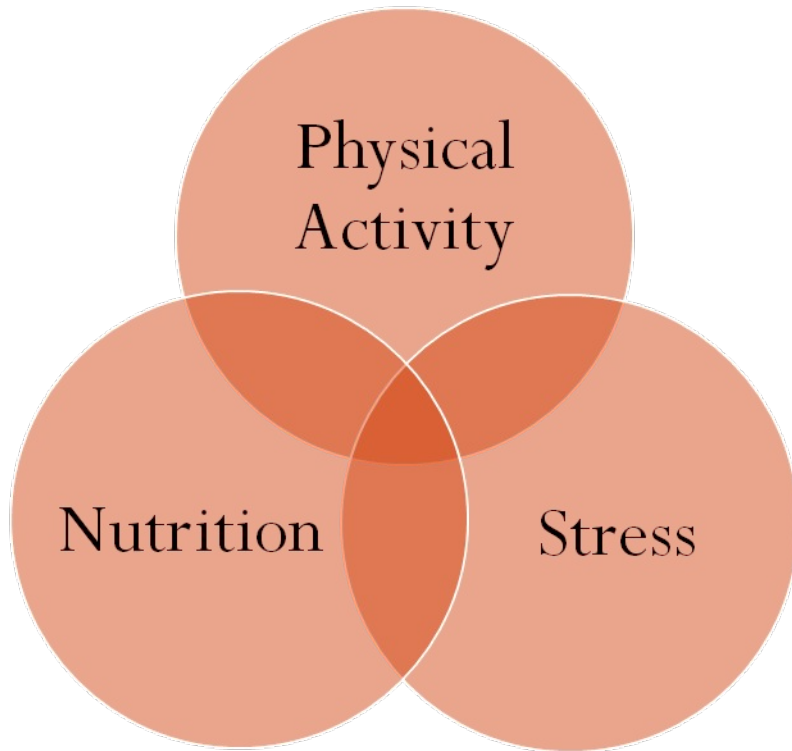
Muscles tense.

- Muscular twitches or nervous tics

Managing Stress

- Cognitive Restructuring
- Journaling
- Physical Activity
- Relaxation Techniques
 - Progressive relaxation, visualization, biofeedback
- Meditation
- Yoga

All are interrelated



- Good nutrition positively influences physical activity and stress levels
- Physical activity lowers stress and improves weight management.
- High stress levels result in poor nutrition reduced physical activity many times