Chapter 11
A HEALTHY LIFESTYLE

Chapter 11 Objectives

- State importance of implementing a wellness plan
- Identify major coronary heart disease risks
- Cite the cancer prevention guidelines
- Explain the relationship between spirituality and wellness
- Differentiate between physiological age and chronological age
- Give guidelines for preventing consumer fraud

Chapter 11 Objectives

- Enumerate factors to consider when selecting a health or fitness club
- Explain how to select appropriate exercise equipment
- Record your own health and fitness accomplishments and chart a wellness program for the future
- Estimate your life expectancy and determine your real physiological age
Wellness

Is a constant and deliberate effort to stay healthy and achieve the highest potential for well-being

Leading health problems in the United States

- Lack of wellness leads to loss of health, vitality, and zest for life.
- Most of the leading causes of premature illness and death are self-controlled.
  - Approximately 53% of all deaths in the U.S. are caused by cardiovascular disease and cancer
  - Chronic lower respiratory disease and accidents, the 3rd and 4th leading causes of death in the U.S., are preventable.
  - The “big five” are responsible for almost 1.5 million deaths each year.

Leading health problems in the United States

- Close to 80% of these deaths could be prevented with a healthy lifestyle
- Eight of the nine underlying causes of death are related to lifestyle and common sense
Cardiovascular diseases

- Diseases that affect the heart and blood vessels
  - Coronary heart disease
  - Heart attack
  - Peripheral vascular disease
  - Congenital heart disease
  - Rheumatic heart disease
  - Atherosclerosis
  - Higher blood pressure
  - Congestive heart failure

Risk factors for coronary heart disease (CHD)

<table>
<thead>
<tr>
<th>Leading contributors to CHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical inactivity</td>
</tr>
<tr>
<td>High blood pressure</td>
</tr>
<tr>
<td>High body mass index (BMI 30 or higher)</td>
</tr>
<tr>
<td>Low high-density lipoprotein (HDL)</td>
</tr>
<tr>
<td>Elevated low-density lipoprotein (LDL)</td>
</tr>
<tr>
<td>Elevated triglycerides</td>
</tr>
<tr>
<td>Elevated homocysteine</td>
</tr>
<tr>
<td>Inflammation</td>
</tr>
<tr>
<td>Constant stress</td>
</tr>
</tbody>
</table>
Risk factors for coronary heart disease (CHD)

Leading contributors to CHD

- Diabetes
- Abnormal electrocardiogram (ECG)
- Tobacco use
- Stress
- Personal and family history of CVD
- Gender – Men are at higher risk earlier in life
- Age – risk increases with age
- Personal and family history of disease

Physical activity helps control major risk factors

- Regular activity and aerobic exercise influence risk factors for heart disease
  - Increases cardiorespiratory endurance
  - Increases and maintains good heart function
  - Lowers total cholesterol and blood lipids
  - Prevents and helps control diabetes
  - Decreases blood pressure
  - Reduces body fat, tension and stress
  - Motivates smoking cessation
  - Counteracts a personal history of heart disease

High blood pressure

- Blood pressure measurements
  - **Systolic pressure** – pressure during contraction of heart
  - **Diastolic pressure** – pressure during relaxation of the heart
  - Written with systolic over diastolic: 120/80
- Blood pressure that is equal to or over 140 systolic or 90 diastolic is high blood pressure, or **hypertension**
Treatment of hypertension

- Mild hypertension is treatable through lifestyle changes:
  - Aerobic exercise and strength training
  - Limit sodium to 1,500 mg/day
  - Diet low in fat and high in potassium and calcium
  - Lower alcohol and caffeine intake
  - Smoking cessation
  - Stress management
- If lifestyle changes are not sufficient, medication may be used to manage blood pressure

Excessive body fat

- Obesity is a major risk factor for cardiovascular disease
  - Greater risk when fat is stored in the abdominal area and around organs
  - Risk for heart failure increases proportionately with BMI
- Maintaining recommended body fat percentage is essential
  - Positive health effects will be noted with a 5 to 10 percent weight loss

<table>
<thead>
<tr>
<th>Body Weight and Activity Level</th>
<th>Percent Risk Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lean and active</td>
<td>1%</td>
</tr>
<tr>
<td>Overweight and active</td>
<td>49%</td>
</tr>
<tr>
<td>Obese and active</td>
<td>70%</td>
</tr>
<tr>
<td>Obese and inactive</td>
<td>270%</td>
</tr>
</tbody>
</table>

The Atherosclerosis Process
Abnormal cholesterol profile is most important predisposing factor for CHD

- These proteins responsible for transporting cholesterol and fats indicate cholesterol profile
  - **High-density lipoproteins (HDL)** help clear cholesterol from the blood
  - **Low-density lipoproteins (LDL)** transport cholesterol, but tend to release the cholesterol
  - **Very low-density lipoproteins (VLDL)** transport triglycerides, cholesterol and phospholipids

HDLs do more than transport cholesterol

- Free cholesterol in the blood moves into the lining of arteries and promotes atherosclerosis
  - Low HDL levels are strong predictor of CHD
  - HDLs attract cholesterol in the bloodstream and carry it to the liver where it is metabolized or excreted
  - High HDL levels protect from heart disease

### Cholesterol Guidelines

**TABLE 1.2 Standards for Blood Lipids**

<table>
<thead>
<tr>
<th>Amount</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDL cholesterol</td>
<td>&lt;40 mg/dL, Desirable</td>
</tr>
<tr>
<td></td>
<td>40–59 mg/dL, Borderline high</td>
</tr>
<tr>
<td>LDL cholesterol</td>
<td>&lt;100 mg/dL, Optimal</td>
</tr>
<tr>
<td></td>
<td>100–129 mg/dL, Near to above optimal</td>
</tr>
<tr>
<td></td>
<td>130–159 mg/dL, Borderline high</td>
</tr>
<tr>
<td></td>
<td>≥160 mg/dL, High</td>
</tr>
<tr>
<td>HDL cholesterol</td>
<td>&lt;40 mg/dL, Low (high risk)</td>
</tr>
<tr>
<td></td>
<td>40–59 mg/dL, High (low risk)</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>&lt;150 mg/dL, Desirable</td>
</tr>
<tr>
<td></td>
<td>150–199 mg/dL, Borderline high</td>
</tr>
<tr>
<td></td>
<td>≥200 mg/dL, High</td>
</tr>
</tbody>
</table>

*Source: National Cholesterol Education Program*
Counteracting cholesterol through diet and exercise

**Increase HDL Cholesterol**
- High-intensity aerobic exercise increases HDL levels
- Weight loss
- High-dose Niacin

**Decrease LDL Cholesterol**
- Replace saturated fats with unsaturated fats
- Avoid trans fatty acids, hydrogenated oils, partially hydrogenated oils
- Aerobic exercise and decreased body fat
- Increase fiber intake to 25-38 grams per day

Counteracting Cholesterol

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Food</th>
<th>Calories</th>
<th>Total Fat (g)</th>
<th>Saturated Fat (g)</th>
<th>Trans Fat (g)</th>
<th>Cholesterol (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein</td>
<td>Beef</td>
<td>255</td>
<td>15.2</td>
<td>10.1</td>
<td>0.7</td>
<td>108</td>
</tr>
<tr>
<td>Protein</td>
<td>Pork</td>
<td>165</td>
<td>16.0</td>
<td>8.8</td>
<td>0.3</td>
<td>21</td>
</tr>
<tr>
<td>Protein</td>
<td>Chicken</td>
<td>220</td>
<td>12.6</td>
<td>7.3</td>
<td>0.3</td>
<td>69</td>
</tr>
<tr>
<td>Protein</td>
<td>Fish</td>
<td>140</td>
<td>16.6</td>
<td>3.9</td>
<td>0.0</td>
<td>23</td>
</tr>
<tr>
<td>Protein</td>
<td>Eggs</td>
<td>130</td>
<td>6.3</td>
<td>2.1</td>
<td>0.0</td>
<td>210</td>
</tr>
</tbody>
</table>

Counteracting cholesterol through diet and exercise

**Lower triglycerides**
- Decrease intake of alcohol and sugars
- Reduce overall fat consumption
- Quit smoking
- Reduce weight
- Aerobic exercise
Homocysteine may contribute to atherosclerosis

- Homocysteine is formed in an intermediate step of amino acid creation
  - Typically converted into the other amino acids by folate, B6 and B12 vitamins rapidly and does not accumulate in blood
- Theorized to be toxic because it may damage inner lining of the arteries, stimulate plaque formation and encourage clotting
- Consumption of daily recommended amounts of fruits and vegetables or take 400 mcg of folate daily

Inflammation is a major risk factor for heart attacks

- Inflammation in the body can trigger heart attacks even when cholesterol is normal and arterial plaques are minimal
- C-reactive protein (CRP) increases in the blood when inflammation is present
  - Individuals with elevated CRP have twice the risk of heart attack than those with normal CRP
  - CRP elevates long before heart attack or stroke
  - Obesity, alcohol and high fat foods increase CRP

Testing C-reactive protein levels

- High-sensitivity CRP test provides probability of plaque rupturing
  - Recommended for individuals at risk for heart attack

<table>
<thead>
<tr>
<th>Amount</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 mg/L</td>
<td>Low risk</td>
</tr>
<tr>
<td>1–3 mg/L</td>
<td>Average risk</td>
</tr>
<tr>
<td>&gt;3 mg/L</td>
<td>High risk</td>
</tr>
</tbody>
</table>

Diabetes keeps the body from metabolizing carbohydrates

**Type I**
- Pancreas produces little or no insulin
- Insulin dependent
- Found mainly in young people

**Type 2**
- Non-insulin dependent, medication may be required
- Pancreas may produce enough insulin, but cells do not respond
- Most have history of being overweight
- Exercise helps to prevent Type 2 diabetes

Keeping Diabetes in Control

- In most cases this condition can be corrected through regular exercise, improving nutrition, and weight loss.
  - Regular physical activity increases the body’s sensitivity to insulin.
  - Diet high in complex carbohydrates and water-soluble fibers, low in saturated fat, and low in sugar.
  - Low-fat dairy products.

Metabolic syndrome

- Triggered by insulin resistance, creates a series of abnormalities
  - Low HDL
  - High triglycerides
  - High blood pressure
  - Increased blood-clotting mechanism
  - High blood sugar
  - Abdominal obesity

<table>
<thead>
<tr>
<th>Diagnosis of Metabolic Syndrome</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waist Circumference</td>
<td>&gt;40 inches</td>
<td>&gt;35 inches</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>&gt;120/80 mm Hg</td>
<td>&gt;130/80 mm Hg</td>
</tr>
<tr>
<td>Fasting blood Glucose</td>
<td>&gt;110 mg/dL</td>
<td>&gt;110 mg/dL</td>
</tr>
<tr>
<td>Fasting HDL cholesterol</td>
<td>&lt;40 mg/dL</td>
<td>&lt;50 mg/dL</td>
</tr>
<tr>
<td>Fasting triglycerides</td>
<td>&gt;150 mg/dL</td>
<td>&gt;150 mg/dL</td>
</tr>
</tbody>
</table>
Metabolic syndrome

- Treatment
  - Distribute daily caloric intake so that 45 percent of the calories are derived from carbohydrates (primarily low glycemic), 40 percent from fat, and 15 percent from protein.
  - Lose weight (if overweight)
  - Exercise
  - Quit smoking

Electrocardiogram (EKG or ECG)

- A recording of the electrical activity of the heart
- A stress EKG is used to evaluate heart activity during exercise

Electrocardiogram (EKG or ECG)

- **Recommended for**
  - Men over 45 and women over 55
  - Those with 2 or more risk factors or family history of CHD, syncope or sudden death of first-degree relative
  - People with abnormal resting EKG or symptoms of cardiac, metabolic or pulmonary disease
  - All individuals with symptoms of chest discomfort, abnormal heartbeat, syncope or chronotropic incompetence
**Tobacco is a major risk factor for CHD**

- Cigarette smoking is the leading cause of preventable death in the United States
- Cigarette smoking increases risk of death from
  - Heart disease and cancer
  - Stroke and aortic aneurysm
  - Chronic bronchitis and emphysema
  - Peptic ulcers
- Second hand smoke is the third-leading cause of preventable death

**Quitting smoking is difficult**

- Nicotine is a highly addictive substance, so quitting smoking is not easy
- Health risks of smoking decrease as soon as you stop smoking
- Most important factor in quitting smoking is a desire to stop
- Self-help kits to stop smoking are available
  - American Cancer Society
  - American Heart Association
  - American Lung Association

**Cancer**

- Cell growth is controlled by DNA and RNA
  - Deoxyribonucleic acid (DNA) contains a cell’s genetic code
  - Ribonucleic acid (RNA) guides the formation of cell proteins
- Tumors are created when the cell loses ability to regulate growth
  - Benign tumor is non-cancerous
  - Malignant tumor is cancerous
Metastasis occurs when cancer cells break away from the original tumor

- **Carcinoma in situ** is an encapsulated tumor that has about one million cells and does not pose a threat to health
- Spreading of cancer occurs after the tumor cells encourage **angiogenesis** and create blood flow to the tumor
- Angiogenesis creates pathway for **metastasis**
  > Cancer cells break away from the tumor, travel through the blood to a new place in the body and create cancer
Dietary changes to decrease cancer risk

Recommendations

Eat a predominantly vegetarian diet
Consume many vegetables and fruits that contain carotenoids, phytonutrients and antioxidants
- Brightly colored fruits and vegetables
- Green and dark yellow vegetables
- Cruciferous vegetables
- Beans

Consume 25 to 38 grams of fiber daily
Spend 10 – 20 minutes in the sun daily to convert Vitamin D

Drinking tea daily may also protect against cancer

- Teas contain the phytonutrient polyphenol
- Polyphenols are antioxidants and block the activation of carcinogens
  - Nitrosamines – potentially cancer-causing compounds formed when nitrates and nitrates combine with other chemicals in the stomach
  - Carcinogens – Substances that contribute to formation of cancers
- White or green teas contain the most polyphenols
Foods currently being evaluated for cancer effect

<table>
<thead>
<tr>
<th>Food</th>
<th>Potential Cancer Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spices</td>
<td>May contain phytonutrients</td>
</tr>
<tr>
<td>Sugar</td>
<td>High intake may increase risk of pancreatic cancer</td>
</tr>
<tr>
<td>Soy</td>
<td>• May decrease carcinogen formation during cooking of meat</td>
</tr>
<tr>
<td></td>
<td>• Isoflavones may prevent cancer, but could cause growth of estrogen-dependent tumors</td>
</tr>
</tbody>
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Foods currently being evaluated for cancer effect

<table>
<thead>
<tr>
<th>Food</th>
<th>Potential Cancer Effect</th>
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</thead>
<tbody>
<tr>
<td>Processed meats and</td>
<td>• Too much protein decreases enzymes that prevent precancerous cells from developing into tumors</td>
</tr>
<tr>
<td>protein</td>
<td>• Salt-cured, smoked and nitrate-cured foods increase cancer risk</td>
</tr>
<tr>
<td></td>
<td>• Red meat protein combined with hemoglobin contributes to nitrosamine formation</td>
</tr>
<tr>
<td></td>
<td>• Meat cooked at high temperature, to medium or well-done, produces carcinogens</td>
</tr>
</tbody>
</table>

Other hazards that increase cancer risk

- Estrogen may increase cancer risk
- Exposure to radiation
- Occupational hazards
  - Asbestos
  - Nickel and uranium dusts
  - Chromium compounds
  - Vinyl chloride
  - Bischloromethyl ether
- Cigarette smoking magnifies the risk of occupational hazards
Normal lung (left) is contrasted with diseased lung (right). The white growth near the top of the diseased lung is cancer; the dark appearance on the bottom half is emphysema.

Smokeless Tobacco

- Use has increased during the last 15 years
- Average starting age is 10 years old
- Leads to health problems
  - Gingivitis and periodontitis
  - Four times greater risk of oral cancer
  - Increased cavities, sore gums, bad breath, and stained teeth
  - Diminishes smell and taste
  - Increases heart rate and blood pressure
  - Just as addictive as cigarette smoking

Protections against cancer

Avoid Excessive sun exposure
- 90 percent of skin cancer could be prevented by avoiding excess sun exposure
- One or two blistering sunburns in lifetime doubles the risk for melanoma
- Short-time exposure to UVA rays from tanning beds and UVB rays from sun increase cancer risk

Wear a broad spectrum sunscreen
- Apply 30 minutes before going into the sun
- Reapply frequently if in water or sweating

Lead an active lifestyle!
Protections against cancer

**ABCD Rule**
- Asymmetry
- Border Irregularity
- Color changes
- Diameter larger than 6mm

Be familiar with the seven warning signs of cancer

1. Change in bowel or bladder habits
2. A sore that does not heal
3. Unusual bleeding or discharge
4. Thickening or lump in breast or elsewhere
5. Indigestion or difficulty in swallowing
6. Obvious change in wart or mole
7. Nagging cough or hoarseness

Assess your cancer risk!

CLRD and Accidents

- The Third and Fourth leading causes of death
- CLRD includes chronic obstructive pulmonary disease, emphysema, and chronic bronchitis
  - Increases proportionately with smoking cigarettes and exposure to certain types of industrial pollution
- Most accidents are the result of poor judgment and confused mental state
  - Alcohol abuse is the number-one cause of all U.S. accidents and the leading cause of all fatal automobile accidents
Substance abuse: Alcohol

- Alcohol effects are numerous:
  - Synergistic effect with medication that can lead to unconsciousness and death
  - Impaired peripheral vision
  - Decreased visual and hearing acuity
  - Slower reaction time
  - Reduced concentration and motor performance
  - Impaired judgment of distance and moving objects
  - Alleviates fear, increases risk taking
  - Stimulates urination
  - Induces sleep

Long-term effects of alcohol abuse

- Effects are serious and often life-threatening
  - Lower resistance to disease
  - Cirrhosis of the liver
  - Higher risk of breast, oral, esophageal, larynx, stomach, colon and liver cancers
  - Cardiomyopathy
  - Irregular heart beat and elevated blood pressure
  - Greater risk of stroke
  - Osteoporosis
  - Brain damage leading to loss of memory
  - Depression, psychosis and hallucinations

Alcohol on Campus

- More than 50% of students participate in games that involve heavy drinking (5 or more drinks in one sitting)
- Excessive drinking can lead to unplanned and unprotected sex (risking HIV infection), date rape, and alcohol poisoning
Marijuana is the most widely used illegal drug

- Marijuana is addictive
- Today’s marijuana is 10 times stronger than that available in the 1960s
- *Long-term Effects*
  - Brain atrophy
  - Less resistance to infection
  - Chronic bronchitis
  - Lung cancer
  - Sterility and impotence

Cocaine

- 25-percent of first-time users become addicted within four years
- Overdose causes respiratory paralysis and death
- *Long-term Effects*
  - Nose: constant runny nose, perforation of nasal septum, nasal inflammation and congestion
  - Digestive disorders, weight loss and malnutrition
  - Insomnia, confusion, anxiety
  - Cocaine psychosis

Methamphetamine

- Powerfully addictive form of amphetamines
- *Short-term Effects*
  - Feeling of well-being
  - Increased HR, BP and breathing rate
  - Decreased appetite
  - Hyperactivity, tremors and violent behavior
  - High doses may result in stroke or death from hypothermia and convulsions
**Methamphetamine**

- **Long-term Effects**
  - Insomnia
  - Confusion, hallucinations, inflammation of heart lining
  - Schizophrenia-like mental disorder
  - Brain cell damage
  - Decreased dopamine creates symptoms of Parkinson’s disease
  - Violent crime, homicide and suicide

**Ecstasy (MDMA)**

- Characteristics of stimulants and hallucinogens
  - **Short-term effects**
    - Feeling introspective, self-accepting, enlightened, close to those around them
    - Decreased sexual ability
    - Increased HR, BP and body temp
    - Faintness
    - Chills, sweating, nausea
    - Muscle tension and teeth grinding
    - Rapid eye movements, blurred vision

**Ecstasy (MDMA)**

- **Long-term effects**
  - Confusion
  - Depression
  - Sleep disorders
  - Anxiety
  - Aggression and paranoia
  - Impulsive behavior
  - May cause permanent damage to neurons that release serotonin
Heroin

- Narcotic drug made from morphine
- Extremely addictive drug
- Strength of the drug is unknown when purchased and unknown ingredients are often added to the drug
- Short-term effects
  - Euphoria, relaxation and relief of pain
  - Inhaled heroin effects include vomiting, nausea, intense itching and asthma attacks
- Withdrawal begins within 4-5 hours of taking drug

Heroin

- Long-term effects
  - Hallucinations, nightmares
  - Constipation
  - Sexual difficulties
  - Impaired vision
  - Reduced fertility
  - Boils
  - Collapsed veins
  - Significantly increased risk of lung, liver and cardiovascular disease

Substance abuse treatment is available

- Treating dependency is seldom accomplished without professional guidance and support
- To speak confidentially about substance abuse, contact the Substance Abuse & Mental Health Services Administration: 1-800-662-HELP (4357)
HIV and AIDS: There is no known cure

**HIV = Human immunodeficiency virus**  
Chronic, infectious, progressive disease that is transmitted through bodily fluids, blood, semen, vaginal secretions and maternal milk

**AIDS = Acquired immune deficiency syndrome**  
End stage of HIV infection  
Makes up any number of disease that arise when the body’s immune system is compromised by HIV

HIV multiplies and attacks the immune system

- The only way to know about HIV infection is through a blood test, initial infection often produces no symptoms
- Risky behaviors to avoid  
  - Unprotected sex – oral, vaginal and anal  
  - Sharing hypodermic needles or other drug paraphernalia

Risky behaviors that significantly increase contracting an STI

1. Anal sex with or without a condom  
2. Sexual contact of any kind with anyone who has symptoms of AIDS or who is a member of a group at high risk for AIDS  
3. Multiple or anonymous sexual partners, such as a pick-up or prostitute  
4. Vaginal or oral sex with someone who shoots drugs or participates in anal sex  
5. Sex with someone you know has had several sexual partners  
10. Sharing implements that could be contaminated with blood from anyone who is, or might be, infected with HIV
HPV, Chlamydia, and Herpes are the three most common STIs in college students, but are not the only ones that out there…

Guidelines for preventing STIs

The best prevention is a mutually monogamous sexual relationship

1. Postpone sex until you and uninfected partner are prepared to enter into a lifetime monogamous relationship
2. Be prepared before you get into an intimate situation and be willing to stop advances if you’re uncomfortable
The Educated Fitness Consumer

- Quackery and Fraud
  - Defined as the conscious promotion of unproven claims for profit
  - Today's market is saturated with products that promise quick, dramatic results.
    - Advertisements for these products often are based on
      - testimonials and unproven claims.
      - secret research and half-truths.
      - quick-fix statements that the uneducated consumer wants to hear.

- If it sounds too good to be true, it probably is
  - Avoid miracle cures, quick fixes and products claiming dramatic results
  - Seek the advice of a reputable professional who does not make a profit by selling the product
  - Consumer protection organizations follow-up on fraud and can help you identify possible fraud
    - National Council Against Health Fraud

- Health and fitness club memberships
  - Not necessary, but do offer social support, professional guidance and multiple exercise choices
  - Evaluate several clubs before choosing one
    - Look for certified instructors and trainers, clean environment, convenient location and hours and that they meet the ACSM standards for health and fitness centers
  - Work out at the facility several times before joining
**Personal trainers**

- Health or fitness professional who evaluates, motivates, educates and trains clients to help them meet individualized goals
- Use caution in selecting a personal trainer
  - Ask about education and certification
  - Reputable training certifications come from: ACSM, ACE, NSCA or NASM

**Purchasing Exercise Equipment**

- Determine if the particular equipment is needed.
- Test the equipment several times before purchase.
- Look for signs of wear and tear on used equipment or the prospect for wear on cheaper equipment.
- Watch out for expensive gadgets.

**LIFE EXPECTANCY AND PHYSIOLOGICAL AGE**

- Relationship between physical work capacity, aging, and lifestyle habits
- Lab 11B uses 48 critical genetic and lifestyle factors to estimate life expectancy and physiological age.
  - Honest responses are required.
  - It is assumed that present behaviors will be continued for life.
  - It is an estimate only and not intended to substitute for medical advice.
- Unhealthy behaviors precipitate premature aging.