

Common Diseases and Nutrition

1. Diabetes

- Description:
 - Type I: Diagnosed in children and young adults. Pancreas produces too little or no insulin. The insulin deficiency is due to pancreas beta cell destruction inhibiting the transfer of glucose (sugar) into the cell.
 - Type II: Diagnosed when people experience insulin deficiency and therefore glucose (sugar) is not being absorbed into the cell from the blood.
- Sign and symptoms: Hyperglycemia/ Hypoglycemia (high blood sugar/low blood sugar), cardiovascular disease, frequent urination, excessive thirst, blindness, eye damage/ blurred vision, foot damage, weight loss/ weight gain, and fatigue.
- How you control it: Monitor blood glucose levels.
- How you prevent it: Type II by a balanced "healthy" meals and exercise.
- Nutrition recommendations: Frequent, balanced "healthy" diet. Reduce simple carbohydrates.
- Lifestyle recommendations: Daily exercise: mixing cardiovascular with muscle strengthening exercises to maintain fitness. Reduce Alcohol consumption.

2. Hypertension

- Body Location: Arteries and veins through out the entire body.
- Description: Decreased elasticity and narrowing of arteries and veins due the thickening of the walls with plaque/fat or chronically raised blood pressure.
 - ** If untreated leads to: Kidney disease, stroke, heart disease, and heart attack.
- Sign and symptoms: Stressful lifestyle, inactivity, high saturated fat diet, headaches, nausea and vomiting.
- How you prevent it: Following "healthy" lifestyle with reduced stress.
- Nutrition recommendations: Reduce sodium, reduce saturated fat with a balance diet.
- Lifestyle recommendations: Increase cardiovascular physical activity, stop smoking, weight loss, and reduction of alcohol intake.

3. Stroke/ Heart Disease

- Body Location: Heart.
- Function of heart: Pump blood through out the body.
- Description:
 - Heart Attack: If a blood clot totally blocks the artery, the heart muscle becomes "starved" for oxygen. Within a short time, death of heart muscle cells occurs, causing permanent damage or heart attack.
 - Signs and symptoms: Discomfort, pressure, heaviness, or pain in the: chest, arm or below the breastbone, radiating to the back, jaw, throat or arm, fullness, indigestion, or choking feeling (may feel like heartburn), sweating, nausea, vomiting, or dizziness, extreme weakness, anxiety, or shortness of breath, rapid or irregular heartbeats.
 - Heart failure: The heart muscle is damaged causing the pumping power to be weaker than normal; blood moves through the heart and body at a slower rate, and pressure in the heart increases. As a result, the heart cannot pump enough oxygen and nutrients to meet the body's needs.
- How you get heart related health problems: High blood pressure, narrowing of arteries, high saturated fat diet.

- How you prevent it: Maintain a “healthy” balance diet; high in unsaturated fats. Along with daily exercise.
- Nutrition recommendations: Low saturated fats and balanced “healthy” diet.
- Lifestyle recommendations: Slowly increase daily exercise incorporating cardiovascular exercises with muscle strengthening exercising to maintain fitness.

4. Cholesterol

- It is a buildup of fatty acids and is a waxy substance that cannot be dissolved in water.
- Some is needed for hormones, fat digestion and cell membranes.
- It is consumed through diet but our body’s makes all that is needed.
- Anything that comes from an animal will have cholesterol.
- Cholesterol causes Atherosclerosis, which is plaque build up in the arteries. It slows down blood flow and can lead to a heart attack or stroke.
- Plaque build up can be caused by smoking, high blood pressure and diabetes because of the harm it puts on the arteries.
- Limit your intake of animal fats: Meat, butter, whole milk, cheese, egg yolks, etc.
- Good idea to monitor your cholesterol levels by getting a simple blood test every few years.
- The ideal cholesterol levels are <200mg/dl.
- There is “good” cholesterol that can help keep your risks of CVD down and that is HDL; can be increased by exercise.

5. Kidney disease:

- Located: Two fist-sized organs, on either side of your spine just above the waist.
- Body Function: Perform several life-sustaining roles; they cleanse your blood by removing waste and excess fluids, maintain the balance of salt and minerals in your blood, and help regulate blood pressure.
- Description of disease: Decreased function the kidney.
- Sign and symptoms: symptoms early on. Urinate less than normal, swelling from fluid buildup in your tissues (called edema, feel very tired or sleepy, not feel hungry, or you may lose weight without trying, often feel sick to your stomach (nauseated) or vomit, have trouble sleeping, headaches or trouble thinking clearly, waste products and fluid can build up in the body, causing a swelling in your hands and feet, shortness of breath, problems with urination.
- How it occurs: traumatic injury with blood loss, the sudden reduction of blood flow to the kidneys, damage to the kidneys from shock during a severe infection called sepsis, streptococcal bacteria infection, or damage from certain drugs or toxins.
 - Diabetes and high blood pressure are the most common causes of chronic kidney disease (CKD).
 - Immune system conditions: such as lupus, and chronic viral illnesses such as HIV/AIDS, hepatitis B, and hepatitis C can cause kidney damage.
 - Drugs and toxins, including long-term exposure to some medications and chemicals, can damage the kidneys. Overuse of NSAIDS (no steroidal anti-inflammatory drugs) such as ibuprofen and naproxen can be harmful to the kidneys in some people. Intravenous “street” drugs can cause kidney disease.
- How you prevent it: By controlling the other diseases or factors that can contribute to kidney disease; keeping your blood pressure and blood sugar levels near normal can help prevent damage to your kidneys.

- Nutrition recommendations: no added sodium, low calcium, lean/ whole protein, and low carbohydrates.
 - Food Sources: lean/whole protein: eggs whites
- Lifestyle recommendations: Adequate hydration and exercise daily; mixing cardiovascular exercises with muscle strengthening exercising to maintain fitness. Excessive exercise is not necessary to maintain good kidney function.

6. Liver disease:

- Some causes of a fatty liver “hepatic steatosis” are alcohol abuse and obesity.
- Can be physically recognized by water retention in the abdominal area “distended belly” because of a decrease in blood flow.
- Leads to fat in your stool; not absorbing fat because your liver isn’t functioning properly. Treated by dietary changes.
- A fatty liver needs to be treated by nutrition recommendations.
- Everything that is broke down in the body eventually goes to your liver to go elsewhere.
- It is important to stay at a healthy weight and not abuse alcohol so your liver stays healthy.
- When there’s not much fat accumulation and normal blood flow the liver can function properly (meaning your body will function properly!).
- You don’t want the domino effect.

7. Hepatitis C

- Location of liver: Is one of the largest organs in the body, it has four lobes and fills the upper right side of the abdomen inside the rib cage.
- Body functions of the liver: Filtering harmful substances from the blood so they can be passed from the body in stools and urine, making bile to help digest fats from food, and storing glycogen (sugar) (which the body uses for energy.)
- Description of Hepatitis C: a liver disease caused by the hepatitis C virus (HCV). The infection is spread by contact with the blood of an infected person; and sharing needles, etc. Sexual contact can spread HCV but it is less common. Most persons who get hepatitis C carry the virus for the rest of their lives.
 - ** Most common transmission in the United States is through sharing needles and other equipment used to inject illegal drugs.
- Sign and symptoms: Feeling very tired, joint pain, belly pain, itchy skin, sore muscles, dark urine, and yellowish eyes and skin known as jaundice. (Jaundice usually appears only after other symptoms have started to go away)
 - ** Most people have no symptoms when they are first infected with the hepatitis C virus.
- How you control: see *liver disease*.
- How you prevent it: Don't ever shoot drugs. Never reuse or share syringes, water, or drug works. Get vaccinated against hepatitis A and hepatitis B. Do not share toothbrushes, razors, or other personal care articles (they might have blood on them). Use sterile techniques when getting a tattoo or body piercing.
 - Hepatitis C virus is NOT spread by: breast feeding, sneezing, hugging, coughing, sharing eating utensils or drinking glasses, food or water and casual contact.
- Nutrition recommendations: see *liver disease*.
- Lifestyle recommendations: see *liver disease*.

8. Drugs and Malnutrition:

- Stimulants such as crack, cocaine, and meth. Significantly decrease appetite, therefore not getting adequate calories, vitamins and minerals; leading to malnutrition.
- Your body is depleted of protein, and there is usually dehydration and electrolyte imbalance because of long periods of being awake.
- Alcohol influences the function of vitamins and body systems.
- Accompanied by a poor diet which helps lead to many deficiencies.
- Hard to heal cuts and bruises, excess bleeding (even in intestinal tract), as well as brain damage from the depletion of many important vitamins.
- Marijuana users are at a higher risk for CVD: heart attacks, strokes and cancers.
- Heroin and Morphine affect the gastrointestinal tract usually causing constipation.
- During withdrawals there tends to be nausea, vomiting, and diarrhea, which lead to electrolyte imbalance, dehydration and vitamin & mineral deficiencies that can cause a multiple concerns.
- **Get malnutrition from the substance itself as well as through negative lifestyle changes (poor diet and irregular eating habits).**

9. Other

Ideal Body Weight (IBW):

Definition: The weight that is optimal for your frame based on your height. The number generated in the middle IBW which is used as a reference and does not yield absolute health status results; other important factor should be included when measuring weight for height to gage health status (frame size, area of weight gain, activity level.... Etc.).

Equation for men:

$$106\text{lbs} + (6\text{lbs} \times [\text{inches over } 5']) = \text{IBW} \pm 10\%$$

Example:

Height: 6'1" i.e. 5 foot plus 13 inches

$$106 + (6 \times 13) = \text{IBW}$$

$$106 + 78 = \text{IBW}$$

$$184\text{lbs} = \text{IBW}$$

Healthy Range: 165- 202lbs IBW

Body Mass Index (BMI):

Definition: Measures a person's level of health for their height and weight. This is just to use as a reference and does not yield absolute results; other important factor should be included when measuring weight for height to gage health status (frame size, area of weight gain, activity level... Etc.)

Equation:

$$(\text{Weight (lbs)} / [\text{Height (inches)}] \times [\text{Height (inches)}]) \times 705 = \text{BMI}$$

Results Table:

18-25: Normal

26-30: Over Weight

31-35: Class I Obesity

36-40: Class II Obesity

41-45: Class III Obesity

Example:

Weight: 230lbs & Height: 5'11" (71 inches)
 $[230 / (71 \times 71)] \times 705 = \text{BMI}$
 $[230 / 5041] \times 705 = \text{BMI}$
 $[0.0456] \times 705 = \text{BMI}$
 $32 = \text{BMI}$
 Results: Class I obesity

Recipe (demo/ sample):*Smoothies:*

Demonstrates:

1. Use of dairy and fruit in low fat, vitamin rich recipe. (yum!)

Ingredients: (tropical smoothie)

- 1 1/3 cup pineapple juice
- 12 oz mango yogurt
- 16 oz frozen strawberries

1. Combine together juice, yogurt, and strawberries in blender.
Serves 4-6.

Ingredients:

- 1 1/3 cup orange juice
- 12 oz strawberry yogurt
- 2 medium bananas
- 2 cups ice

1. Combine together juice, yogurt, ice and bananas in blender.
Serves 4-6.

Resources:

Webmd.com