

Other Noninfectious Diseases

Chapter 31 Lesson 3

Diabetes

- ▶ **Diabetes-** *a chronic disease that affects the way body cells convert food into energy.*
- ▶ Diabetes is the seventh leading cause of death by disease in the US, affecting 16 million Americans. Each day approximately 2.200 new cases are diagnosed.
- ▶ Diabetes can lead to a host of other illnesses and health conditions including: blindness, kidney disease, nerve disease, amputations, heart disease, and stroke.

What Causes Diabetes

- ▶ In the normal digestive process, carbohydrates are changed to the sugar glucose, then absorbed into the blood and delivered to body cells.
- ▶ **Insulin-** *a hormone that is produced in the pancreas that helps the body convert glucose to energy*, is an essential link in this process. In the case of diabetes, sufficient insulin is not produced and/or is not used efficiently. When glucose is unable to enter the cells, it accumulates in the blood until the kidneys filter out some of the surplus, which is passed off in urine. High sugar content in urine and in the blood is one of the surest signs that a person has diabetes.

Types of Diabetes and Risk Factors

- ▶ There are two main classifications of diabetes: type 1, or insulin dependant diabetes, and type 2 non-insulin dependant diabetes. Type 1 usually occurs during childhood or adolescence. Type 2, the most common form of the disease, usually occurs after the age of 40.
- ▶ Like CVDs, some risk factors for diabetes are related to lifestyle, principally obesity, and physical inactivity, while others are genetic.
- ▶ For reasons not entirely understood, whites are more likely than other groups to develop type 1 diabetes, while African Americans, Hispanics, and Native Americans are more likely to develop type 2.
- ▶ Yet another risk factor for type 2 diabetes is **impaired glucose tolerance (IGT)**- *a condition in which blood sugar levels are higher than normal but not high enough to be classified as diabetes.*

Type 1 Diabetes

- ▶ Type 1 diabetes, which accounts for about 10% of all cases of the disease, appears abruptly and progresses rapidly. Most often, type 1 diabetes results from a malfunction of the immune system.
- ▶ In an individual with type 1 diabetes, the immune system mistakenly attacks and destroys the insulin producing cells of the pancreas. The body's cells become starved for insulin.
- ▶ Symptoms of type 1 diabetes include frequent urination, abnormal thirst, unusual hunger, weight loss, fatigue, irritability, and nausea. Because the pancreas is unable to produce insulin, patients must take daily doses of insulin either through injection, or by means of an insulin pump. Today, because of advanced methods of treatment, many people with diabetes lead near normal lives. Wearing an identification device that states the person has type 1 diabetes in case of an emergency is highly recommended.

Type 2 Diabetes

- ▶ Type 2 diabetes is a metabolic disorder resulting from the body's inability to make enough, or properly use insulin. In type 2 diabetes, the pancreas produces some insulin, but because of a cells receptor defect, the cells cannot use the insulin effectively.
- ▶ Symptoms of type 2 diabetes include: excess weight, drowsiness, blurred vision, tingling or numbness in the hands and feet, slower than normal healing of cuts and bruises, itching, and recurring skin, gum, or bladder infections.
- ▶ About 80% of all type 2 patients are overweight at the time of diagnosis. Type 2 diabetes can usually be controlled through eating patterns, exercise, and when necessary by losing excess weight. In some cases, oral medications or injections of insulin are required. Because the onset of type 2 diabetes is gradual, the disease often goes undetected for years. Of the estimated 15.3 million Americans inflicted with the disease, roughly half are unaware they have it.

Arthritis

- ▶ **Arthritis-** covers *at least 100 different conditions that cause aching, pain, and swelling of the joints and connective tissue throughout the body.*
- ▶ The term *arthritis* itself means “inflammation of a joint”. Arthritis can and does occur at all ages from infancy on. The National Center for Health Statistics estimates that over 40 million people have arthritis severe enough to require medical care.
- ▶ The two most common types of arthritis are *rheumatoid arthritis*, and *osteoarthritis*. Like type 1 diabetes, these are autoimmune diseases, conditions in which the body’s immune system turns on itself for reasons unknown.

Rheumatoid Arthritis

- ▶ The most serious type of arthritis is **rheumatoid arthritis**- *a destructive and disabling inflammation of the joints.*
- ▶ It affects primarily the joints of the hands and arms, the hips, and the feet and legs. Rheumatoid inflammation also attacks connective tissue causing symptoms such as fever, fatigue, and swollen lymph glands. Rheumatoid arthritis causes the joints to stiffen, then swell, and become tender. The inflammation can do progressive damage inside the joint if not diagnosed properly and treated.
- ▶ There is no known cause or cure for Rheumatoid arthritis. Treatment includes: anti-inflammatory medications, rest, exercise, weight control, applying heat, surgery, and rehab.

Osteoarthritis

- ▶ **Osteoarthritis-** *a disease that affects primarily the weight bearing joints of the knees and hips, causing aches and soreness especially when moving.*
- ▶ It is the most common type of arthritis, affecting about 16 million people. Osteoarthritis results from wear and tear in the mechanical parts of a joint. Inflammation is rarely a problem.
- ▶ In osteoarthritis, the cartilage becomes pitted and frayed, and in time may wear away completely. Bone ends then become thicker and bony spurs may develop. As a result, surrounding ligaments and membranes become thickened, changing the whole structure and shape of the joint. There is no cure, but early detection and diagnosis is essential in managing the disease. The treatment program includes exercise, weight control, eating a balanced assortment of foods, and pain medications.