

Module 5: Avoiding the Repair Shop: Risk Management

Topic 4 Content: Non-Communicable Diseases

Heart Disease



HEART DISEASE

CANCER ALLERGIES ASTHMA ARTHRITIS DIABETES

HEART DISEASE

Healthy Lifestyle

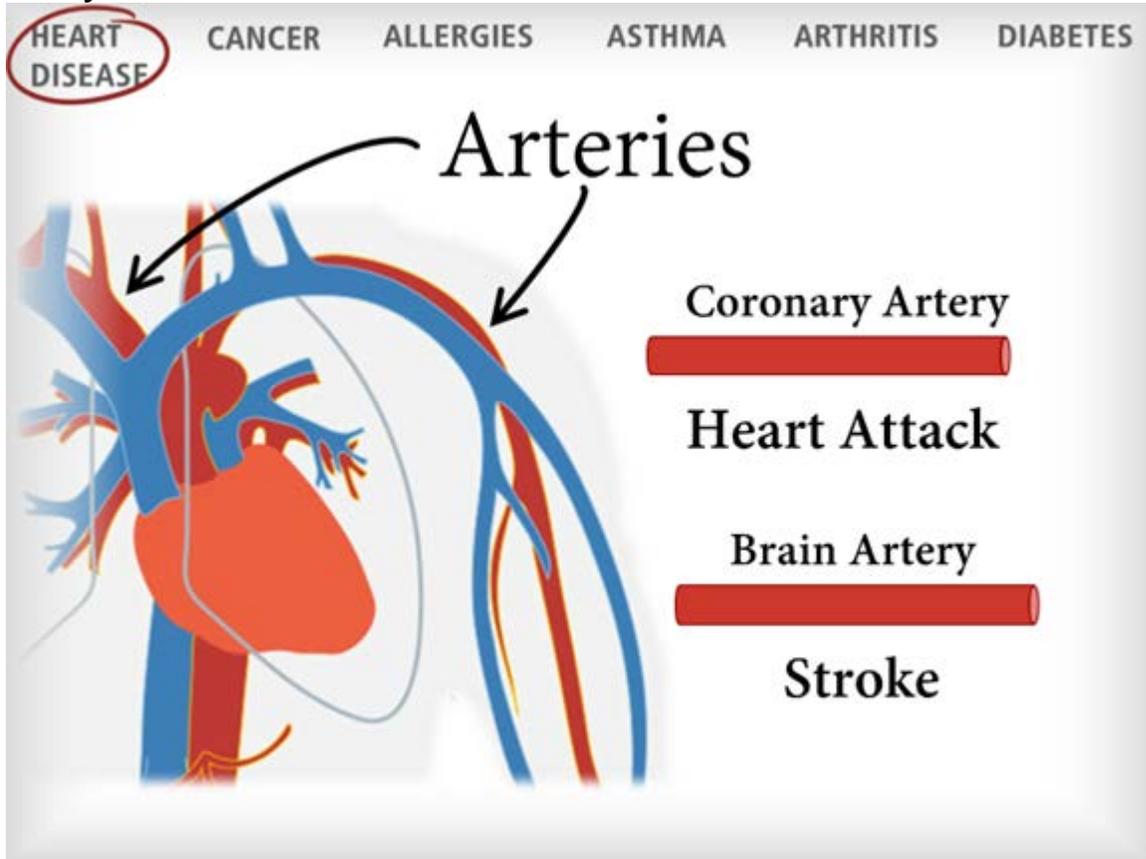
- ✓ Low-Fat Foods
- ✓ Nutrient-Rich Foods
- ✓ Regular Exercise

Heart disease is the number one killer of all adults in the United States. Heart disease includes any condition that decreases the strength or function of the heart and blood vessels. Living a healthy lifestyle can lower the risks of heart disease. Choosing foods low in fat, rich in nutrients, and exercising regularly help to diminish the threat of heart disease.

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Artery Conditions



All cells in your body, including the ones in your heart, need oxygen and nutrients. Arteries supply vital nutrients and oxygen to cells. Coronary arteries carry blood directly to the heart muscles.

Atherosclerosis is a condition where fatty substances in the blood are deposited on the walls of arteries. Cholesterol is an example of a substance that causes atherosclerosis. Cholesterol can be found in certain foods or the body can produce it.

Arteriosclerosis is a condition where arteries begin to harden. High blood pressure and blood clots result from arteriosclerosis because it slows the flow of blood within blood vessels.

When a coronary artery is blocked, the result can be a heart attack.
When an artery in the brain is blocked, the result can be a stroke.

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High Blood Pressure

The infographic features a horizontal bar at the top with the following categories: HEART DISEASE (circled in red), CANCER, ALLERGIES, ASTHMA, ARTHRITIS, and DIABETES. Below this bar is a large blue arrow pointing upwards, with the word 'HYPERTENSION' written vertically inside it. To the right of the arrow is a list of four management strategies, each preceded by a checkmark.

Blood pressure is defined as the force of the blood on the inside walls of blood vessels. As a teenager, your typical blood pressure is around 110/70. Blood pressure is not the same at all times. While you are exercising or under a lot of stress, your blood pressure may be higher. While at rest or sleeping, blood pressure decreases.

Consistently higher than normal blood pressure is called hypertension. There are four factors that increase your chances of having high blood pressure:

- Eating foods with large amounts of sodium, or salt
- Being overweight
- Having high stress over a long period of time
- Having a family history of high blood pressure

Because there are no outward signs of high blood pressure it is known as “The Silent Killer” and causes serious damage to your body. Although hypertension cannot be cured, it can be managed by eating well and exercising to lose or maintain weight. If a case of hypertension is severe enough, medication may also be prescribed to help control it.

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Genetic Risk Factors

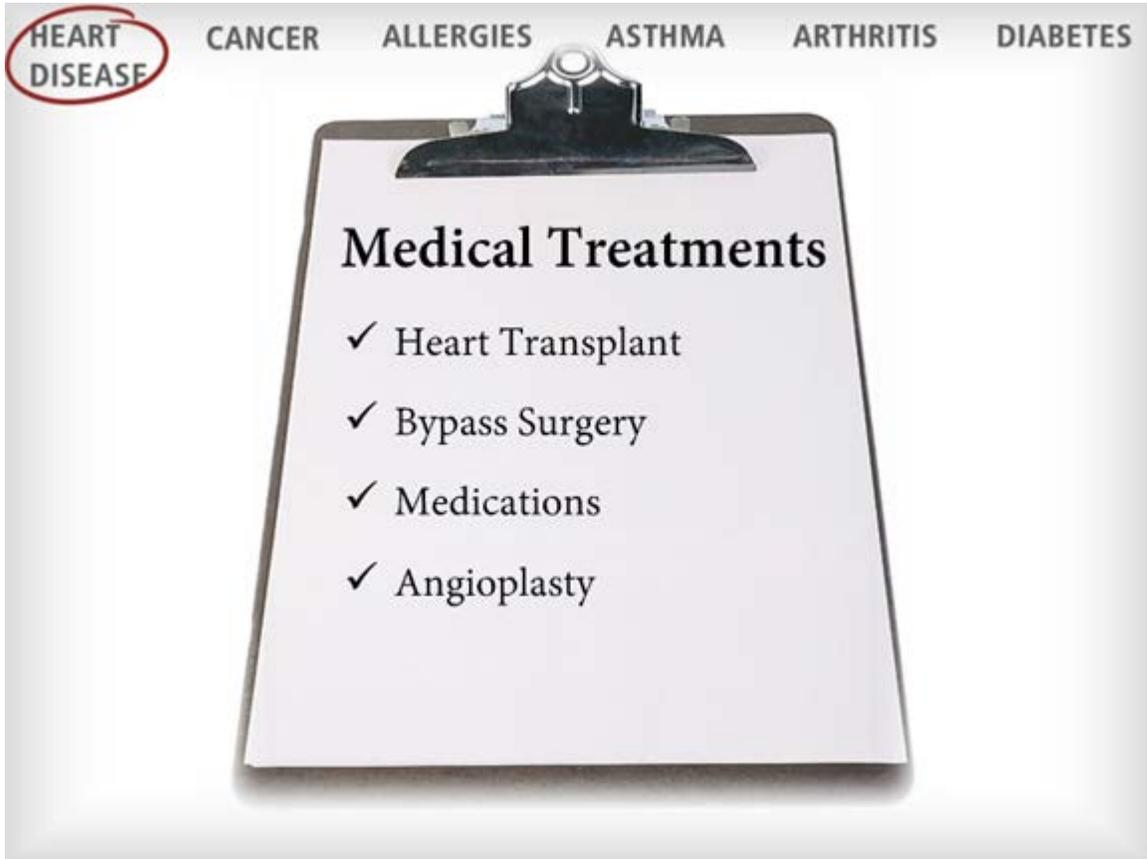
The graphic features a horizontal menu at the top with the following items: HEART DISEASE (circled in red), CANCER, ALLERGIES, ASTHMA, ARTHRITIS, and DIABETES. Below the menu, a female doctor in a white lab coat holds a sign that reads "HEART DISEASE". To the right of the doctor, a green arrow points to a list of risk factors: Age, Gender, Race, and Family History.

Some risk factors that lead to heart disease cannot be controlled. A person's age, gender, race, and family history contribute to the potential of heart disease.

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Medical Treatment



There is a range of treatments used in managing heart disease. In critical cases, a heart transplant may be needed to replace a diseased heart with a healthy one from a donor. Bypass surgery is sometimes used to remove a vein from the leg and form a detour around any blockages to the heart. Medications are also utilized to dissolve blood clots that have formed. To address an obstructed or narrowed blood vessel, doctors may place a collapsed balloon inside narrowed passages and then inflate it to crush fatty deposits and widen the opening. This is a procedure known as angioplasty.

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Lifestyle Behaviors



Changing lifestyle behaviors is the least risky and most effective way to manage heart disease early on. By living healthier, more invasive treatments may not be needed. Choosing a healthy diet, getting plenty of exercise, maintaining an acceptable weight, managing stress, and staying away from the use of tobacco and alcohol will help to prevent the development of heart disease. Adopting these behaviors while you are young is the best thing you can do for your health and your heart!

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Cancer

HEART DISEASE **CANCER** ALLERGIES ASTHMA ARTHRITIS DIABETES

Tumor = masses of abnormal tissue growth

Malignant = cancerous

Benign = non-cancerous

CANCER

After heart disease, cancer is the second leading cause of death in adults in the United States. Cancer is the uncontrolled growth of abnormal cells. There are many different types of cancers that can affect most parts of the body. All cancers are tumors but not all tumors are cancerous. Tumors are masses of abnormal tissue growth. Tumors can be malignant or cancerous, and benign or non-cancerous. Symptoms of cancer depend on the type of the tumor and its location. Sometimes pieces of a malignant tumor break away and move through blood vessels to other tissues in the body. The spread of cancerous cells to other parts of the body is metastasis. Metastasis results in the formation of new tumors and happens during the final stage of cancer.

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Stages

HEART DISEASE **CANCER** ALLERGIES ASTHMA ARTHRITIS DIABETES

Stage I: Small tumor in one place.

Stage II: Tumor has grown and begun to spread.

Stage III: Cancerous cells found in surrounding lymph nodes; may be in lymphatic fluid.

Stage IV: Cancer has spread to other parts of the body with new tumors established.

The stages of cancer refer to the extent to which the cancer has spread. It is usually talked about in the context of stages one through four. The stages take into account the size of the tumor, how severely the tumor has infiltrated, if it has spread to any neighboring organs, and if it has metastasized and spread to distant organs. The stage of cancer a person is in will help to predict their survival and also determine the type of treatment that will be needed.

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Risk Factors



HEART DISEASE **CANCER** ALLERGIES ASTHMA ARTHRITIS DIABETES

Risk Factors
Heredity
Environment
Lifestyle
Carcinogens

The causes of cancer are associated with a number of risk factors. Heredity, a person's environment, and lifestyle are among these risk factors. Some cancer cases are brought on by exposure to carcinogens, which are cancer-causing substances. Carcinogenic chemicals are found in tobacco smoke, asbestos, and other toxic wastes.

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Symptoms

HEART DISEASE **CANCER** ALLERGIES ASTHMA ARTHRITIS DIABETES

Early detection is critical!
Routine physicals
Blood tests
Biopsies

The earlier cancer is detected, the better the chance for a person's survival. Diagnosis of cancer can be through routine physicals, blood tests, and biopsies. A biopsy is when a small piece of tissue is removed for testing in a lab.

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Medical Treatment



Once cancer is detected, there are a variety of treatments that can be used depending on the type and severity of the cancer. Sometimes, surgery is performed to remove cancerous cells from the body. Removing tumors and diseased tissues stops the spread of cancer. Radiation therapies are used to stop cancer growth. Radiation or other radioactive substances are aimed at the tumor to penetrate and destroy the tumor cells. Radiation therapies are very successful in slowing the growth of certain kinds of cancer. Radiation is an option for cancers that are in difficult areas such as the head and neck. Chemotherapy is another treatment of cancer. Chemotherapy uses chemicals to destroy cancer cells by interfering with cancer cells' ability to divide and spread. Chemotherapy has some very unpleasant side effects because it is hard to protect normal body tissues with the use of such strong medication. Extreme nausea and vomiting are some of the side effects of chemotherapy.

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Lifestyle Behaviors



Healthy lifestyle choices like eating a healthy diet, exercising, avoiding tobacco, and limiting your sun exposure may help lower your risk of some types of cancer.

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Allergies

HEART DISEASE CANCER **ALLERGIES** ASTHMA ARTHRITIS DIABETES

BODY RESPONSE

ALLERGY

- Watery Eyes
- Skin Rashes and Irritation
- Stuffiness
- Swelling
- Sneezing, Itchy Eyes
- Shortness of Breath

A person that has allergies experiences exaggerated bodily responses to a substance. Sometimes a person's immune system reacts to certain substances and causes an allergic reaction. Allergic reactions can include many symptoms, with common ones being watery eyes, skin rashes and irritation, stuffiness, swelling of a body part, sneezing, itchy eyes, and shortness of breath.

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Allergens



Allergic reactions are caused by allergens. An allergen is any substance that causes an allergy. Examples of allergens are plant pollen, pet dander, mold, second-hand smoke, dust, and certain foods.

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Treatment



There is no cure for allergies, but they can be treated with antihistamines, which are medications that work against the effect of allergens. A person with allergies may be directed to avoid the allergen.

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Asthma

The graphic is a light gray rectangular area. At the top, a horizontal bar contains the words 'HEART DISEASE', 'CANCER', 'ALLERGIES', 'ASTHMA', 'ARTHRITIS', and 'DIABETES'. The word 'ASTHMA' is circled in red. Below this bar, the words 'AIR PASSAGES' are written in large, red, serif capital letters. To the left of the doctor, a list of symptoms is written in black serif font: 'Shortness of Breath', 'Chest Tightness', 'Wheezing', 'Inability to Catch Breath', and 'Continuous Coughing'. On the right side, a female doctor in a white lab coat and black pants stands holding a white sign that says 'ASTHMA' in bold black capital letters.

Asthma is a chronic condition that seriously distresses the respiratory systems by causing tiny air passages to become narrowed or blocked. Asthma attacks occur when asthma symptoms are experienced. These symptoms are shortness of breath, chest tightness, wheezing, inability to catch your breath, or coughing that won't stop.

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Triggers



Asthma triggers are substances or events that start an asthma attack. Examples of these are cold air, cigarette smoke, air pollution, certain foods or drugs, and strenuous activity.

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Treatment



Asthma can be treated with medication or relaxation techniques. Inhalers are often used to help open up airways during an asthma attack.

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Arthritis

HEART
DISEASE

CANCER

ALLERGIES

ASTHMA

ARTHRITIS

DIABETES



Autoimmune Diseases

Rheumatoid

Arthritis

Osteoarthritis

Arthritis is a condition that causes swelling, inflammation, and pain in one or more joints and connective tissues. There are more than one hundred different types of arthritis. Cartilage protects joints, allows them to move smoothly, and helps to absorb shock. Arthritis involves the breakdown of cartilage with painful results. Without the presence of cartilage, bones rub together and cause a lot of pain in the affected area.

Arthritis is usually thought of as a condition that affects the elderly, but it can and does affect people of all ages. Two common types of arthritis are rheumatoid arthritis and osteoarthritis. Both are autoimmune diseases -- conditions in which the immune system attacks healthy cells in your body by mistake.

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Rheumatoid Arthritis

HEART DISEASE CANCER ALLERGIES ASTHMA **ARTHRITIS** DIABETES

Rheumatoid Arthritis

Debilitating

No known
cure



James Helman, MD

Rheumatoid arthritis causes chronic inflammation of tissues around joints and organs in the body. It is the most serious and most debilitating type of arthritis. Joints can become so still that they no longer function normally. The cause is unknown, and there is no cure.

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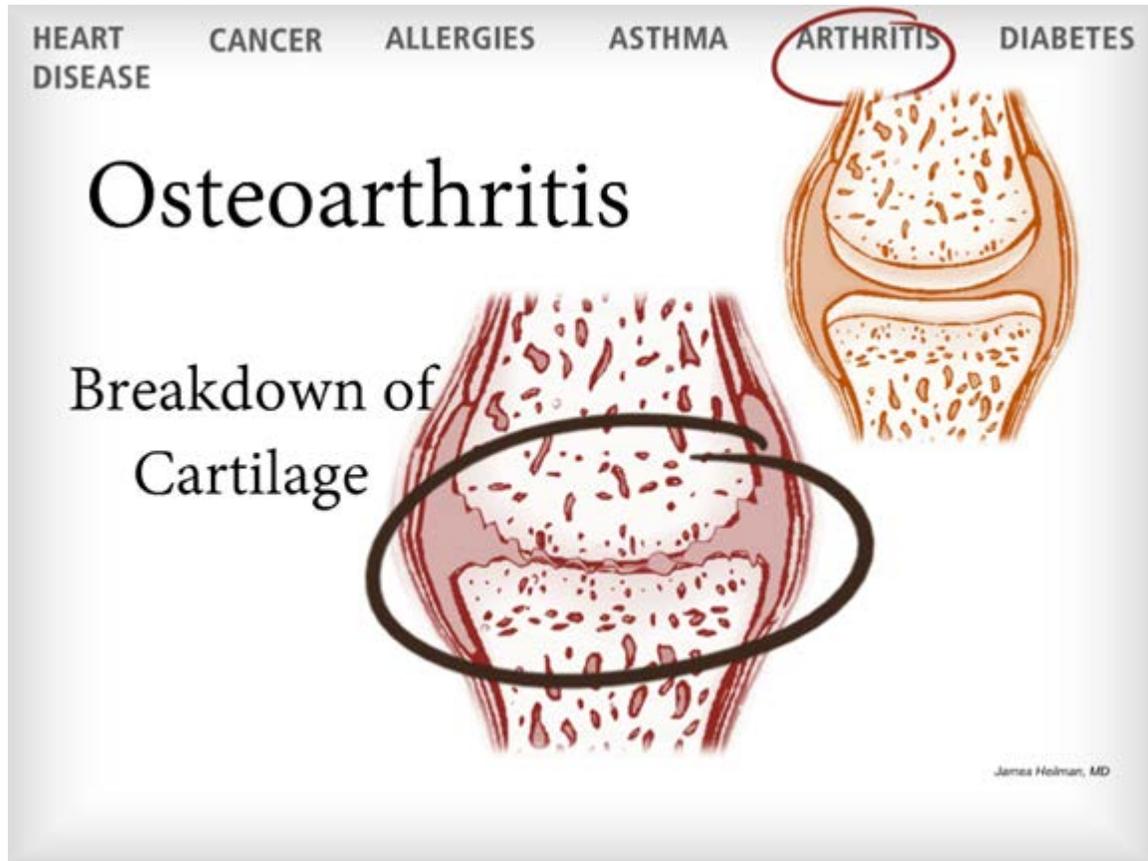
Treatment



Treatment centers help to relieve pain and improve joint function. Joints may also be reconstructed or replaced with surgical procedures.

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Osteoarthritis



Osteoarthritis is the most common type of arthritis and results from the breakdown of cartilage in joints. This type of arthritis mainly affects joints that bear a lot of weight in the body, for example, knees and hips. The risk for osteoarthritis increases with age and with people who are overweight. With the breakdown of cartilage, bones rub together and develop painful bony spurs. Sometimes the shape and structure of the joint can change.

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Medical Treatments



Exercise can prevent damage from worsening, and pain medications can help to manage any discomfort. There are also over-the-counter supplements to help with joint discomfort and mobility.

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Diabetes



Diabetes prevents the body from converting food into energy and is marked by high levels of sugar in the blood. Normally, when food is digested, carbohydrates are converted into sugar glucose to be delivered to body cells. Insulin, which is made in the pancreas, moves glucose from the bloodstream into cells, where it can be used as fuel. People with diabetes have high blood sugar because their pancreas does not make enough insulin. Without insulin, glucose cannot enter the cells, and it stays in the blood until the liver filters it out. High blood sugar also results when muscle, fat, and liver cells do not respond effectively to insulin.

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Type-I

HEART DISEASE CANCER ALLERGIES ASTHMA ARTHRITIS **DIABETES**

Type I
Children & Young Adults
More in Males

Little or No Insulin
Insulin taken daily

Type-I diabetes usually develops in children and young adults and affects more males than females. When an individual has type-one diabetes, the immune system wrongly attacks the cells that produce insulin. The result is that the pancreas produces little or no insulin. In order to survive, insulin must be taken daily.

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Type-II

HEART DISEASE CANCER ALLERGIES ASTHMA ARTHRITIS **DIABETES**

Type II
Too Little Insulin
or
Inability to use Insulin

Overweight People
Childhood Obesity

Type-II diabetes is the result of too little insulin production or the inability to use insulin. Around 90% of all diabetes cases are type-II. This form of diabetes develops in people who are overweight. Mostly, type-II diabetes is found in people over forty years old. More and more cases of type-II diabetes are being found in adolescent children. Within our population, childhood obesity, and related illnesses, are on the rise. People with type-II diabetes take medicine to help their body use and make insulin. If this disease is left untreated, it can lead to blindness, kidney failure, loss of feeling in the feet and hands, and hardening of the arteries.

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Treatment



There is no cure for either type of diabetes. In addition to insulin and medication, the best treatments for diabetes are well-controlled eating, exercise, and weight-management.