

Diseases of the Human Body

NOTE: The following list includes some of the more common diseases that humans get.

Circulatory System Diseases

Arteriosclerosis

Arteriosclerosis is a common disease of the circulatory system caused by the buildup of fat, cholesterol, or other substance in the artery wall. Deposits in the artery cause the vessel to stiffen and narrow.

Hypertension

Hypertension, or high blood pressure, occurs when a high force of blood presses against the artery walls over time.

Aortic Aneurysm

An aortic aneurysm occurs when a section of the aorta bulges, stretches and swells. This bulge can weaken the aorta to the point that it bursts, releasing blood into the body. Bleeding from an aortic aneurysm is a medical emergency.

Heart Disease

Heart disease, or coronary artery disease, occurs when the blood vessels that supply oxygen to the heart narrow and stiffen.

A heart attack or stroke can occur if the condition is untreated.

Varicose veins

Varicose veins are another common disease of the circulatory system that happens when veins in the legs twist, swell and become painful.

Chronic Venous Insufficiency

This condition occurs when blood pools or collects in the lower extremities, but it's difficult to return to the heart.

Angina

Angina is a symptom of an underlying heart condition that occurs when the flow of blood and oxygen is restricted to the heart muscles.

Peripheral Vascular Disease

Peripheral vascular disease occurs when the arteries and veins supplying the lower extremities narrow and stiffen from the buildup of plaque.

Arrhythmia

An arrhythmia occurs when the heart beats too fast, too slow, or skips a beat.

Arrhythmias can develop from a congenital heart defect, diabetes, stress, medications, a heart attack, or high blood pressure.

Other Common Circulatory System Diseases

There are several other common diseases of the circulatory system including endocarditis, acute coronary syndrome, pulmonary valve stenosis, etc. Here is a brief look at some of the common diseases of the circulatory system.

Endocarditis

Inflammation of the inner layer of the heart can be infective or non-infective.

Acute Coronary Syndrome

There is unstable angina, ST-elevation myocardial infarction or non-ST elevation myocardial infarction.

Pulmonary Valve Stenosis

Here the pulmonary valve cannot completely open resulting in decreased blood flow to the lungs.

Thrombophlebitis

Blood clots develop in the veins of the extremities.

Temporal Arteritis

Blood vessels in the neck are damaged by an immune response.

Ventricular Tachycardia

An abnormally fast heart rate that originates from the ventricles of the heart.

Congenital Heart Defects

Structural abnormalities of the heart that is present at birth.

Cardiomyopathy

The disease of the heart muscle where the chambers enlarge and weaken.

Digestive System Diseases

Gastroesophageal Reflux Disease (GERD) or heartburn is a weakness of the valve between the esophagus and stomach and may allow stomach acid to reflux (regurgitate, backup) into the esophagus and irritate and inflame the lining.

Jaundice – Yellowing of the skin and whites of the eyes from a backup of bile metabolic by-products from the blood into body tissues.

Diverticulosis/diverticulitis – Small pouches may form along the walls of the large intestine called diverticula which if symptomatic, causing discomfort to the patient, is called diverticulosis.

These abnormal pockets may collect and not be able to empty fecal material which can lead to inflammation (diverticulitis).

Cirrhosis – A degenerative disease of the liver that often develops in chronic alcoholics, but can have other causes.

Portal hypertension – A potential complication of chronic alcoholism resulting in liver damage and obstruction of venous blood flow through the liver.

Esophageal varices – bulging, engorged veins in the walls of the esophagus are often a complication of chronic alcoholism. The thin-walled, swollen veins are at risk of tearing resulting in severe, possibly fatal, bleeding.

Dysphagia – Difficulty swallowing. Maybe related to GERD, esophageal tumor or other causes.

Crohn's Disease – a chronic inflammatory disease primarily of the bowel.

Peritonitis – Inflammation of the lining of the abdominal cavity.

Endocrine System Diseases

There are eight main glands that run through your body as part of the endocrine system. The glands produce hormones that run through your bloodstream to your organs and tissues.

The hormones move slowly but they do have an effect on the entire body, including:

Development and growth

Metabolism which includes breathing, digestion, maintaining body temperature, elimination, and blood circulation

Sexual function

Procreation

Disposition

Hormone levels can go high or low due to various conditions such as infection, stress, etc., leading to endocrine system diseases.

Diseases of the Endocrine System

1. Hypothyroidism

This is the result of the thyroid gland not putting out enough of the thyroid hormone to keep the body's functions from slowing down.

2. Thyroid Cancer

This occurs when the thyroid cells start to grow out of control and the cells change creating a tumor.

3. Hypoglycemia

Hypoglycemia, as one of the diseases of the endocrine system, is probably best known as low blood sugar and happens when the blood glucose level is below normal. Glucose provides the body with energy and carbohydrates are a major source of glucose.

4. Metabolic Disorder

Your metabolism takes the food you ingest and turns it into energy. A disorder happens when the process is disrupted by abnormal chemical reactions.

5. Adrenal Insufficiency (Addison's Disease)

Addison's disease, another one of the diseases of the endocrine system, happens when there is not enough cortisol or aldosterone.

6. Cushing's Disease

This condition is what happens when a pituitary gland produces too many hormones. The end result is an adrenal gland that is overactive.

7. Polycystic Ovarian Syndrome

This disease, also known as PCOS, has to do with the levels of a woman's sex hormones being out of balance. When progesterone and hormone are off, it could result in ovarian cysts on the ovaries.

It can also create problems with their fertility, menstrual cycle, appearance, and cardiac function.

8. Thyroiditis

This is one of the diseases of the endocrine system that is considered a thyroid gland that is inflamed.

9. Other Diseases of Endocrine System

Gigantism (acromegaly) and other growth hormone problems

Too much hormone production can make a child grow too quickly and too little can make a child stop growing.

Hyperthyroidism – When a thyroid gland makes too much of the thyroid hormone it will result in loss of weight, sweating, an increased heart rate, and nervousness.

Integumentary System Diseases

Basal Cell Carcinoma

A basal cell carcinoma is a form of cancer. It is the most common of all cancers that occur and is frequently found on the head, neck, arms, and back, which are areas that are most susceptible to long-term sun exposure.

Squamous Cell Carcinoma

Squamous cell carcinoma is more aggressive than basal cell carcinoma. If not removed, these carcinomas can metastasize.

Melanoma

Melanoma is a type of cancer characterized by the uncontrolled growth of melanocytes, the pigment-producing cells in the epidermis.

Typically, a melanoma develops from a mole.

It is the most fatal of all skin cancers, as it is highly metastatic and can be difficult to detect before it has spread to other organs.

Doctors often give their patients the following ABCDE mnemonic to help with the diagnosis of early-stage melanoma.

Asymmetry – the two sides are not symmetrical

Borders – the edges are irregular in shape

Color – the color is varied shades of brown or black

Diameter – it is larger than 6 mm (0.24 in)

Evolving – its shape has changed

Skin Disorders

Two common skin disorders are eczema and acne.

Eczema is an inflammatory condition and occurs in individuals of all ages.

Acne involves the clogging of pores, which can lead to infection and inflammation and is often seen in adolescents.

Other disorders include seborrheic dermatitis (on the scalp), psoriasis, cold sores, impetigo, scabies, hives, and warts.

Injuries

Because the skin is the part of our bodies that meet the world most directly, it is especially vulnerable to injury. Injuries include burns and wounds, as well as scars and calluses.

They can be caused by sharp objects, heat, or excessive pressure or friction to the skin.

Burns

A burn results when the skin is damaged by intense heat, radiation, electricity, or chemicals. The damage results in the death of skin cells, which can lead to a massive loss of fluid.

Burns are sometimes measured in terms of the size of the total surface area affected.

Burns are also classified by the degree of their severity.

A first-degree burn is a superficial burn that affects only the epidermis. Although the skin may be painful and swollen, these burns typically heal on their own within a few days.

Mild sunburn fits into the category of a first-degree burn.

A second-degree burn goes deeper and affects both the epidermis and a portion of the dermis. These burns result in swelling and painful blistering of the skin.

It is important to keep the burn site clean and sterile to prevent infection. If this is done, the burn will heal within several weeks.

A third-degree burn fully extends into the epidermis and dermis, destroying the tissue and affecting the nerve endings and sensory function.

These are serious burns that may appear white, red, or black; they require medical attention and will heal slowly without it.

A fourth-degree burn is even more severe, affecting the underlying muscle and bone.

Oddly, third and fourth-degree burns are usually not as painful because the nerve endings themselves are damaged.

Full-thickness burns cannot be repaired by the body, because the local tissues used for repair are damaged and require excision (debridement), or amputation in severe cases, followed by grafting of the skin from an unaffected part of the body, or from skin grown in tissue culture for grafting purposes.

Lymphatic System Diseases

Lymphatic Filariasis

The black flies, mosquitoes and other blood-feeding arthropods serve as carriers of the disease and transmit it from one individual to another.

Elephantiasis

Caused by the microscopic, thread-like parasitic worms, elephantiasis affects different organs of the body, especially the legs and male genitals.

Lymphangiosarcoma

Occurring in the long-standing cases of primary or secondary lymphedema, it is a rare disorder that is characterized by the growth of a malignant tumor.

Lymphangiomatosis

The congenital errors of the lymphatic development occurring before the 20th week of gestation lead to this lymphatic malformation.

Muscular System Diseases

The Muscular Dystrophies

The muscular dystrophies are a group of muscle diseases, each caused by a specific gene abnormality, with progressive muscle wasting, weakness, and contractures.

Inflammatory Muscle Diseases

When the patient's immune system damages the body's own muscle tissues, the result is an inflammatory muscle disease.

Three main types of inflammatory muscle diseases are identified:

- Polymyositis
- Dermatomyositis
- Inclusion body myositis.

Myasthenia Gravis

In myasthenia gravis, the body's immune system inappropriately injures a specialized muscle structure called the acetylcholine receptor.

Damage to these receptors leads to the typical symptom of this disease, namely easy fatigue and increased weakness on exertion.

Nervous System Diseases

The nervous system is vulnerable to various disorders. It can be damaged by the following:

- Trauma
- Infections
- Degeneration
- Structural defects
- Tumors
- Blood flow disruption
- Autoimmune disorders

Disorders of the nervous system may involve the following:

Vascular disorders, such as stroke, transient ischemic attack (TIA), subarachnoid hemorrhage, subdural hemorrhage and hematoma, and extradural hemorrhage

Infections, such as meningitis, encephalitis, polio, and epidural abscess

Structural disorders, such as brain or spinal cord injury, Bell's palsy, cervical spondylosis, carpal tunnel syndrome, brain or spinal cord tumors, peripheral neuropathy, and Guillain-Barré syndrome

Functional disorders, such as a headache, epilepsy, dizziness, and neuralgia

Degeneration, such as Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis (ALS), Huntington chorea, and Alzheimer's disease.

Reproductive System Diseases

Female reproductive system

Many parts of the male and female reproductive systems can be affected by cancer. In females, cancer can attack the uterus, ovaries, breast, and cervix.

Both genders can develop sexually transmitted diseases, including genital herpes, gonorrhea, and syphilis.

HIV/AIDS is a disease of the immune system and it is not exclusively transmitted through sexual contact, although sexual activity is one of the ways that the HIV virus is spread.

For females, severe menstrual cramping, or dysmenorrhea, is the most common disease of the reproductive system that occurs with a woman's monthly menstrual period.

Another common disorder of the female reproductive system is a vaginal yeast infection.

Endometriosis is a condition where that normally lines the inside of your uterus — the endometrium — ends up outside of the uterus, most commonly in the ovaries, bowel or the tissue lining

your pelvis. The endometrial tissue becomes trapped, causing pain.

Pelvic inflammatory disease can involve an infection of any of the female reproductive organs, including the uterus and ovaries.

Sexually transmitted diseases, such as gonorrhea and chlamydia, are typical causes of pelvic inflammatory disease

Any of these STIs can cause serious and potentially long-term reproductive problems that include chronic pelvic pain and infertility.

Diseases of the male reproductive system

Of male-specific diseases of the reproductive system, prostate cancer is the most common, but men can also suffer from testicular and penile cancer.

Erectile dysfunction is a common condition that affects about one in 10 males on a long-term basis. It can be linked to vascular disease, neurological disorders such as Multiple Sclerosis, trauma and psychological episodes.

Prostatitis typically involves swelling or inflammation of the prostate gland and can cause painful or difficult urination and ejaculation.

Defining and treating infertility

Infertility is defined as a couple's inability to conceive after one year of unprotected intercourse.

Respiratory System Diseases

Lung Diseases Affecting the Airways

The trachea (windpipe) branches into tubes called bronchi, which in turn branch to become progressively smaller tubes throughout the lungs.

Diseases that affect the airways include:

Asthma: The airways are persistently inflamed, and may occasionally spasm, causing wheezing and shortness of breath.

Allergies, infections, or pollution can trigger asthma symptoms.

Chronic obstructive pulmonary disease (COPD): Lung conditions defined by an inability to exhale normally, which causes difficulty breathing.

Chronic bronchitis: A form of COPD characterized by a chronic productive cough.

Emphysema: Lung damage allows air to be trapped in the lungs in this form of COPD. Difficulty blowing air out is its hallmark.

Acute bronchitis: A sudden infection of the airways, usually by a virus.

Cystic fibrosis: A genetic condition causing poor clearance of mucus from the bronchi. The accumulated mucus results in repeated lung infections.

Lung Diseases Affecting the Air Sacs (Alveoli)

The airways eventually branch into tiny tubes (bronchioles) that dead-end into clusters of air sacs called alveoli. These air sacs make up most of the lung tissue.

Lung diseases affecting the alveoli include:

Pneumonia: An infection of the alveoli, usually by bacteria.

Tuberculosis: A slowly progressive pneumonia caused by the bacteria *Mycobacterium tuberculosis*.

Emphysema results from damage to the fragile connections between alveoli. Smoking is the usual cause. (Emphysema also limits airflow, affecting the airways as well.)

Pulmonary edema: Fluid leaks out of the small blood vessels of the lung into the air sacs and the surrounding area.

One form is caused by heart failure and backpressure in the lungs' blood vessels; in another form, direct injury to the lung causes the leak of fluid.

Lung cancer has many forms and may develop in any part of the lungs. Most often this is in the main part of the lung, in or near the air sacs. The type, location, and spread of lung cancer determine the treatment options.

Acute respiratory distress syndrome (ARDS): Severe, sudden injury to the lungs caused by a serious illness.

Life support with mechanical ventilation is usually needed to survive until the lungs recover.

Pneumoconiosis: A category of conditions caused by inhalation of a substance that injures the lungs. Examples include black lung disease from inhaled coal dust and asbestosis from inhaled asbestos dust.

Lung Diseases Affecting the Interstitium

The interstitium is the microscopically thin, delicate lining between the lungs' air sacs (alveoli).

Tiny blood vessels run through the interstitium and allow gas exchange between the alveoli and the blood.

Various lung diseases affect interstitium:

Interstitial lung disease (ILD): A broad collection of lung conditions affecting the interstitium.

Sarcoidosis, idiopathic pulmonary fibrosis, and autoimmune disease are among the many types of ILD.

Pneumonia and pulmonary edemas can also affect the interstitium.

Lung Diseases Affecting Blood Vessels

The right side of the heart receives low-oxygen blood from the veins. It pumps blood into the lungs through the pulmonary arteries. These blood vessels can suffer from the disease, as well.

Pulmonary embolism (PE): A blood clot (usually in a deep leg vein, deep vein thrombosis) breaks off, travels to the heart, and is pumped into the lungs.

The clot lodges in a pulmonary artery, often causing shortness of breath and low blood oxygen levels.

Pulmonary hypertension: Various conditions can lead to high blood pressure in the pulmonary arteries.

This can cause shortness of breath and chest pain.

When no cause is identified, the condition is called idiopathic pulmonary arterial hypertension.

Lung Diseases Affecting the Pleura

The pleura is a thin lining that surrounds the lung and lines the inside of the chest wall. A tiny layer of fluid allows the pleura on the lung's surface to slide along the chest wall with each breath.

Lung diseases of the pleura include:

Pleurisy: Pleurisy, also known as pleuritis, is inflammation of the membranes that surround the lungs and line the chest cavity (pleurae).

This can result in sharp chest pain with breathing. Other symptoms may include shortness of breath, cough, fever or weight loss, depending on the underlying cause.

Pleural effusion: Fluid collects in the normally tiny pleura space between the lung and the chest wall. Pneumonia or heart failure is usually responsible. If large, pleural effusions can impair breathing and should be drained.

Pneumothorax: Air may enter the space between the chest wall and the lung, collapsing the lung. To remove the air, a tube is typically inserted through the chest wall.

Mesothelioma: A rare form of cancer that forms on the pleura. exposure.

Lung Diseases Affecting the Chest Wall

The chest wall also plays an important role in breathing. Muscles connect the ribs to each other, helping the chest to expand. The diaphragm descends with each breath in, also causing chest expansion.

Neuromuscular disorders: Poor function in the nerves controlling the respiratory muscles causes difficulty breathing.

Amyotrophic lateral sclerosis and myasthenia gravis are examples of neuromuscular lung disease.

Skeletal System Diseases

Osteoporosis

Osteoporosis is a disease where increased bone weakness increases the risk of a broken bone.

It is a prevalent disease, targeting elderly people due to aging bones.

There is no cure for osteoporosis.

Osteomalacia

Osteomalacia is softening of the bones caused by impaired bone metabolism.

The difference is that osteomalacia results from a defect in the bone-building process, while osteoporosis develops in previously constructed bones.

Arthritis

Arthritis can damage joints and surrounding structures.

The disease can attack joint capsules, joints, surrounding tissue, and throughout the entire body. In most cases, it appears on the neck, shoulders, lower back, hip, hands, and knees.

Scoliosis

A side-to-side curve in the back or spine, scoliosis will create a pronounced "C" or "S" shape when viewed on an X-ray.

Cancer

Bone cancer can develop within the bones, or spread to the bones from another part of the body.

The malignancy arises in the bones and supporting structures, including the bone cartilage.

Kidney and Urinary System Diseases

Diseases and conditions affecting the kidney

Any disease that affects the blood vessels, including diabetes, high blood pressure and atherosclerosis (hardening of the arteries), can impair the kidneys' ability to filter blood and regulate fluids in the body.

Disease and infection in other parts of the body can also trigger a kidney disorder. Because kidney impairment can be life-threatening, disorders and diseases that may affect the kidney deserve prompt attention.

Conditions that can lead to progressive destruction of the kidneys.

Obstruction — The urinary tract can become partially obstructed (for example, by a kidney stone, tumor, expanding uterus during pregnancy, or enlarged prostate gland). The build-up of pressure can lead to infection and injury of the kidney.

Infection — Urinary tract infections, such as cystitis (an infection of the bladder), can lead to more serious infections further up the urinary tract.

Pyelonephritis is the name for an infection of kidney tissue; most often, it is the result of cystitis that has spread to the kidney.

An obstruction in the urinary tract can make a kidney infection more likely.

Infections elsewhere in the body, including, for example, streptococcal infections, the skin infection impetigo or a bacterial infection in the heart can also be carried through the bloodstream to the kidney and cause a problem there.

Glomerular diseases — Glomerular diseases are those that attack the blood filtering units of the kidneys which are called glomeruli.

Diabetes and high blood pressure can lead to glomerular disease.

Diseases of this type cause more cases of chronic kidney failure than any other cause.

Often, a glomerular disease is triggered by an abnormal reaction of the immune system.

Glomerulonephritis (also called nephritis), the glomeruli become inflamed. As blood filtering becomes impaired, urine output decreases, water, and waste products accumulate in the blood, and blood appears in the urine.

Any situation in which there is severe blood loss or reduced blood flow may prevent the kidneys from working correctly.

Severe dehydration, some aortic and heart surgeries, a severe infection in the blood or heart, and severe heart failure are examples of events that can lead to sudden kidney problems.

The damage is usually reversible; although with shock or severe infection, the damage may be permanent. Some medications and diagnostic agents can have toxic effects.

Acute (sudden) kidney failure may result, a condition that requires emergency medical treatment to prevent death.

Some of the more common problems of the urinary system include:

- Bladder infections - (cystitis) usually caused by bacteria.
- Enlarged prostate - in men, this can make it difficult to empty the bladder.
- Incontinence - when urine leaks out of the urethra.

- Kidney infections - when a bladder infection 'backs up' the ureters.
- Kidney stones - caused by infection and high blood levels of calcium.

Cancers involving the urinary system are not as common as those in other parts of the body.

Bladder cancers are more common, and often present with painless, bloody urine.