Cancer:

What is cancer?

Cancer is not just one disease but many diseases. Cancer begins in your cells, which are the building blocks of your body. Usually, your body forms new cells as needed, replacing old cells that die. Sometimes this process goes wrong. New cells grow even when you don't need them, and old cells don't die when they should. These extra cells can form a mass called a tumor.

Tumors can be benign or malignant. Benign tumors aren't cancer, while malignant ones are. Cells from malignant tumors can invade nearby tissues. They can also break away and spread to other parts of your body. The spread of cancer from one part of the body to another is called metastasis. Symptoms and treatment depend on the type of cancer and how advanced it is.

What are the types of cancer?

There are more than 100 different types of cancer. Cancer can start almost anywhere in your body. Most cancers are named for where they start. For example, lung cancer starts in the lung, and breast cancer starts in the breast.

Cancer may also be described by the type of cell that formed it, such as sarcoma if cancer begins in your bone and soft tissue. Carcinoma is the most common type of cancer. It is formed by epithelial cells, the cells that cover the inside and outside surfaces of your body.

How does cancer develop?

Cancer is a genetic disease. That means changes in your genes cause it. Changes in your genes are also called gene variants or mutations. Genes are parts of DNA in your cells that you inherit from your parents. However, only some cancers are caused by genes passed down from your parents.

Genetic changes can occur to your genes over your lifetime that affect how your cells function. Usually, your body gets rid of damaged cells before they turn cancerous, but this ability goes down as you age. Other factors that may affect your risk of developing cancer can include:

- Exposure to ultraviolet (UV) rays from the sun
- Smoking
- Your diet
- Physical inactivity

What are the symptoms of cancer?

Cancer symptoms depend on the type of cancer. For example, some of the symptoms that cancer may cause can include:

- A lump in your breast
- Blood in your urine (pee) or stool (poop)
- Bleeding or bruising for no known reason
- A sore that doesn't heal
- Trouble swallowing
- A new mole or a change to a mole you already have

Cancer may cause various symptoms but often doesn't cause pain. Don't wait until you're having pain before seeing your health care provider. See your provider if you have symptoms that don't get better in a few weeks.

How is cancer diagnosed?

There is no single test that can diagnose cancer. The tests ordered are usually based on your symptoms. Your provider may:

- Ask about your medical history
- Ask about your family health history, including relatives who have had cancer
- Do a physical exam
- Do a screening test such as a mammogram, colonoscopy, or a Pap test
- Order blood tests or imaging tests

To find out if you have cancer, your provider may order a biopsy. A biopsy is the procedure of removing and examining tissue, cells, or fluids from your body.

What are the treatments for cancer?

Treatment depends on the type of cancer and how advanced it is. Most treatment plans may include surgery, radiation, and/or chemotherapy. Some may involve hormone therapy, immunotherapy or other types of biological therapy, or stem cell transplantation.

Can cancer be prevented?

It's usually not possible to know exactly why cancer develops in some people but not others. There are some things that you can't control which may increase or decrease your risk of getting

cancer, such as inheriting certain genes or your age. But some lifestyle habits may increase your risk of certain types of cancer. Avoid or reduce lifestyle habits such as:

- Smoking and tobacco use
- Having too much sun exposure
- Drinking too much alcohol
- Not getting enough physical activity
- Having obesity

OSTEOPOROSIS:

What is osteoporosis?

Osteoporosis is a disease in which your bones become weak and are likely to fracture (break). The disease can develop when your bone mineral density and bone mass decrease. It can also happen if the structure and strength of your bones change.

Osteoporosis is called a "silent" disease because it doesn't usually cause symptoms. You may not even know you have the disease until you break a bone. This could happen with any bone, but it's most common in the bones of your hip, vertebrae in the spine, and wrist.

What causes osteoporosis?

Your bones are made of living tissue. To keep them strong, your body breaks down old bone and replaces it with new bone. Osteoporosis develops when more bone is broken down than replaced. You lose bone mass and changes happen in the structure of your bone tissue. This can happen as you get older. Other risk factors can also lead to the development of osteoporosis or increase your chance of developing the disease.

Who is more likely to develop osteoporosis?

Anyone can develop osteoporosis, but you are more likely to develop it if you have one or more of risk factors:

- Your sex. Osteoporosis is more common in women.
- Your age. Your risk increases as you get older. It is most common in people over age 50.
- Your body size. It is more common in people who are slim and thin boned.

- Your race:
    - White and Asian women are at highest risk.
    - African American and Mexican American women have a lower risk.
    - White men are at higher risk than African American and Mexican American men.
- Family history. Your risk of osteoporosis may be higher if one of your parents has osteoporosis or broke their hip.
- Changes to hormones. Low levels of certain hormones can increase your chance of developing osteoporosis.
- Diet. A diet that is low in calcium and/or vitamin D or does not include enough protein can raise your risk.
- Long-term use of certain medicines, such as:
    - Corticosteroids
    - Proton pump inhibitors (which treat GERD)
    - Medicines to treat epilepsy
- Having other medical conditions, such as:
    - Endocrine diseases
    - Certain digestive diseases
    - Rheumatoid arthritis
    - Certain types of cancer
    - HIV
    - Anorexia nervosa, a type of eating disorder
- Your lifestyle. Certain lifestyle factors can contribute to bone loss, such as:
    - Smoking tobacco
    - Long term heavy alcohol use
    - Physical inactivity or prolonged periods of bedrest

What are the symptoms of osteoporosis?

Osteoporosis usually doesn't cause symptoms. You may not know that you have it until you break a bone.

How is osteoporosis diagnosed?

Health care providers usually diagnose osteoporosis during routine screening for the disease. The U.S. Preventive Services Task Force recommends screening for:

- Women over age 65
- Women of any age who have factors that increase the chance of developing osteoporosis

The Task Force does not recommend regular screening for men.

To find out if you have osteoporosis, your provider:

- Will ask about your medical history and whether you have ever broken a bone
- May do a physical exam, which could include checking for:
    - A loss of height and/or weight
    - Changes in your posture
    - Balance and gait (the way you walk)
    - Your muscle strength
- Will likely order a bone density scan

What are the treatments for osteoporosis?

The goals for treating osteoporosis are to slow or stop bone loss and to prevent fractures. Your provider may recommend:

- A healthy, balanced diet that includes enough calcium, vitamin D, and protein
- Lifestyle changes such as quitting smoking and limiting alcohol
- Regular physical activity
- Fall prevention to help prevent fractures
- Medicines, such as:
    - Medicines that slow down bone loss
    - Medicines that help rebuild bone

In addition to managing your osteoporosis, it's important to avoid activities that may cause a fracture. These can include movements that involve:

- Twisting your spine, like swinging a golf club
- Bending forward from the waist, like sit ups and toe touches

You can also help reduce the risk of breaking a bone by preventing falls.

Can osteoporosis be prevented?

To help keep bones strong and help prevent osteoporosis, the best thing to do is to eat a healthy diet rich in calcium and vitamin D. Getting regular physical activity, limiting alcohol, and not smoking can also help.

Alzheimer's

What is Alzheimer's disease?
Alzheimer's disease (AD) is the most common form of dementia among older people. Dementia is a brain disorder that seriously affects thinking and memory skills. If you have AD, it can impair your ability to reason or learn new skills until it becomes difficult to complete daily activities.

AD begins slowly over many years. It first involves the parts of the brain that control thought, memory, and language. It may be mistaken for normal memory changes with aging. However, AD is not a normal part of aging. The brain changes from the disease lead to symptoms that get worse over time.

What are the symptoms of Alzheimer's disease?
People with AD may have trouble remembering recent events or the names of people they know. Behavior may vary from person to person and day to day. AD progresses in stages. Late-onset AD occurs in adults aged 65 and older, which is when most people develop the disease. Early-onset AD happens before age 65, which is not common.

Some symptoms of AD can include:

- Getting lost in familiar places
- Repeating the same question
- Not recognizing family members
- Having trouble speaking, reading, or writing
- Not taking care of yourself, such as not bathing or eating poorly

In AD, over time, symptoms get worse. Later on, people with AD may become anxious or aggressive or wander away from home. Eventually, they need total care. This can cause great stress for family members who must care for them.

Who is more likely to develop Alzheimer's disease?
Researchers don't fully understand what causes AD. Age is the biggest risk factor. Your risk is also higher if a family member has had the disease. Although people who develop Alzheimer's don't always have a history of the disease in their families.

Researchers believe the causes of AD may be a combination of age-related changes in the brain, along with genetic, health, and lifestyle factors. Some medical conditions that are associated with a higher risk of AD include:

- Hearing loss
- Depression
- Mild cognitive impairment
- Concussion or other traumatic brain injury (TBI)

A related problem, mild cognitive impairment (MCI), causes more memory problems than normal for people of the same age. Many, but not all, people with MCI will develop AD.

How is Alzheimer's disease diagnosed?
Some health conditions can cause memory loss or symptoms like AD. Talk with your health care provider if you're having noticeable changes in your memory. To determine if your symptoms are related to AD and not normal aging or another health condition, your provider may:

- Review your medical history and any medicines you're taking
- Conduct tests to check your memory, thinking, and problem-solving skills
- Ask about changes in behavior or personality
- Do tests to rule out any medical or mental health conditions
- Refer you to a provider that specializes in caring for older adults
- Recommend a neurologist, a doctor who specializes in treating diseases of the brain and nervous system

What are the treatments for Alzheimer's disease?
No treatment can stop the disease. However, some medicines may help keep symptoms from getting worse for a limited time.

Can Alzheimer's disease be prevented?
You can't change some risk factors, like your age. But changing certain lifestyle factors may promote your brain health and help you live a healthier lifestyle overall. This can include to:

- Manage chronic health issues such as high blood pressure or hearing loss
- Get regular physical activity
- Eat a healthy diet
- Quit smoking (or don't start)
- Get enough sleep

- Develop strong social connections
-

Congestive Heart Failure

What is heart failure?
Heart failure means that your heart can't pump enough oxygen-rich blood to meet your body's needs. Heart failure doesn't mean that your heart has stopped or is about to stop beating. But without enough blood flow, your organs may not work well, which can cause serious problems.

Heart failure can affect one or both sides of your heart:

- With right-sided heart failure, your heart is too weak to pump enough blood to your lungs to get oxygen.
- With left-sided heart failure, your heart can't pump enough oxygen-rich blood out to your body. This happens when the left side of your heart becomes either:
  - Too weak to pump enough blood.
  - Too thick or stiff to relax and fill with enough blood.

Left-sided heart failure is more common than right-sided heart failure.

What causes heart failure?
Heart failure can start suddenly after a medical condition or injury damages your heart muscle. But in most cases, heart failure develops slowly from long-term medical conditions.

Conditions that can cause heart failure include:

- Arrhythmia (a problem with the rate or rhythm of your heartbeat)
- Cardiomyopathy
- Congenital heart defects or other types of heart diseases that you are born with
- Coronary artery disease
- Endocarditis
- Heart attack
- Heart valve diseases
- High blood pressure
- A blood clot in your lung
- Diabetes
- Certain severe lung diseases, such as COPD (chronic obstructive pulmonary disease)
- Obesity

Over time, left-sided heart failure can lead to right-sided heart failure.

Who is more likely to develop heart failure?

Heart failure can happen at any age. It happens to both men and women, but men often develop it at a younger age than women. Your chance of developing heart failure increases if:

- You're 65 years old or older. Aging can weaken and stiffen your heart muscle.
- Your family health history includes relatives who have or have had heart failure.
- You have changes in your genes that affect your heart tissue.
- You have habits that can harm your heart, including:
  - Smoking
  - Eating foods high in fat, cholesterol, and sodium (salt)
  - Having an inactive lifestyle
  - Alcohol use disorder (AUD)
  - Illegal drug use
- You have other medical conditions that can affect your heart, including:
  - Any heart or blood vessel conditions, including high blood pressure
  - Serious lung diseases
  - Infection, such as HIV or COVID-19
  - Obesity
  - Diabetes
  - Sleep apnea
  - Chronic kidney disease
  - Anemia
  - Thyroid disease
  - Iron overload disease
  - Cancer treatments that can harm your heart, such as radiation and chemotherapy
- You are African American. African Americans are more likely to develop heart failure and have more serious cases at younger ages than people of other races. Factors such as stigma, discrimination, income, education, and geographic region can also affect their risk of heart failure.

What are the symptoms of heart failure?

The symptoms of heart failure depend on which side of your heart is affected and how serious your condition has become. Most symptoms are caused by reduced blood flow to your organs and fluid buildup in your body.

Fluid buildup happens because the flow of blood through your heart is too slow. As a result, blood backs up in the vessels that return the blood to your heart. Fluid may leak from the blood vessels and collect in the tissues of your body, causing swelling (edema) and other problems.

Symptoms of heart failure may include:

- Feeling short of breath (like you can't get enough air) when you do things like climbing stairs. This may be one of the first symptoms you notice.
- Fatigue or weakness even after rest.
- Coughing.
- Swelling and weight gain from fluid in your ankles, lower legs, or abdomen (belly).
- Difficulty sleeping when lying flat.
- Nausea and loss of appetite.
- Swelling in the veins of your neck.
- Needing to urinate (pee) often.

At first you may have no symptoms or mild symptoms. As the disease gets worse, your symptoms will usually bother you more.

What other problems does heart failure cause?
Fluid buildup and reduced blood flow to your organs can lead to serious problems, including:

- Breathing problems from fluid in and around your lungs (also called congestive heart failure)
- Kidney or liver damage, including cirrhosis
- Malnutrition if fluid buildup makes eating uncomfortable or if your stomach doesn't get enough blood flow to digest food properly
- Other heart conditions, such as irregular heartbeat and sudden cardiac arrest
- Pulmonary hypertension

How is heart failure diagnosed?
To find out if you have heart failure, your health care provider will

- Ask about your medical history, including your symptoms
- Ask about your family health history, including relatives who have had heart failure
- Do a physical exam
- Likely run heart tests and blood tests, including a brain natriuretic peptide (BNP) test

In some cases, your provider may refer you to a cardiologist (a doctor who specializes in heart diseases) for tests, diagnosis, and care.

What are the treatments for heart failure?
Your treatment will depend on the type of heart failure you have and how serious it is. There's no cure for heart failure. But treatment can help you live longer with fewer symptoms.

Even with treatment, heart failure usually gets worse over time, so you'll likely need treatment for the rest of your life.

Most treatment plans include:

- Taking medicine
- Eating less sodium and drinking less liquid to control fluid buildup
- Making other changes, such as quitting smoking, managing stress, and getting as much physical activity as your provider recommends
- Treating any conditions that may make heart failure worse

You may need heart surgery if:

- You have a congenital heart defect or damage to your heart that can be fixed.
- The left side of your heart is getting weaker and putting a device in your chest could help. Devices include:
  - An implantable cardioverter defibrillator.
  - A biventricular pacemaker (cardiac resynchronization therapy).
  - A mechanical heart pump (a ventricular assist device (VAD) or a total artificial heart).
- Your heart doctor recommends a heart transplant because your heart failure is life-threatening and nothing else is helping.

As part of your treatment, you'll need to pay close attention to your symptoms, because heart failure can worsen suddenly. Your provider may suggest a cardiac rehabilitation program to help you learn how to manage your condition.

Can heart failure be prevented?
You may be able to prevent or delay heart failure if you:

- Work with your provider to manage any health conditions that increase your risk of developing heart failure
- Make healthy changes in your eating, exercise, and other daily habits to help prevent heart disease.

## Chronic kidney disease

Chronic kidney disease is the slow loss of kidney function over time. The main job of the kidneys is to remove wastes and excess water from the body.

### Causes

Chronic kidney disease (CKD) slowly gets worse over months or years. You may not notice any symptoms for some time. The loss of function may be so slow that you do not have symptoms until your kidneys have almost stopped working.

The final stage of CKD is called end-stage renal disease (ESRD). At this stage, the kidneys are no longer able to remove enough wastes and excess fluids from the body. At this point, you would need dialysis or a kidney transplant.

Diabetes and high blood pressure are the 2 most common causes and account for most cases.

Many other diseases and conditions can damage the kidneys, including:

- Autoimmune disorders (such as systemic lupus erythematosus and scleroderma)
- Birth defects of the kidneys (such as polycystic kidney disease)
- Some toxic chemicals
- Injury to the kidney
- Kidney stones and infection
- Problems with the arteries feeding the kidneys
- Some medicines, such as antibiotics, and pain and cancer medicines
- Backward flow of urine into the kidneys (reflux nephropathy)

CKD leads to a buildup of fluid and waste products in the body. This condition affects most body systems and functions, including:

- High blood pressure
- Low blood cell count
- Vitamin D and bone health

## Symptoms

The early symptoms of CKD are the same as for many other illnesses. These symptoms may be the only sign of a problem in the early stages.

Symptoms may include:

- Appetite loss
- General ill feeling and fatigue
- Headaches
- Itching (pruritus) and dry skin
- Nausea
- Weight loss without trying to lose weight

Symptoms that may occur when kidney function has gotten worse include:

- Abnormally dark or light skin

- Bone pain
- Drowsiness or problems concentrating or thinking
- Numbness in the hands and feet
- Muscle twitching or cramps
- Breath odor
- Easy bruising, or blood in the stool
- Excessive thirst
- Frequent hiccups
- Problems with sexual function
- Menstrual periods stop (amenorrhea)
- Shortness of breath
- Sleep problems
- Swelling in the hands and feet
- Vomiting

## Exams and Tests

Most people will have high blood pressure at all stages of CKD. During an exam, your health care provider may also hear abnormal heart or lung sounds in your chest. You may have signs of nerve damage during a nervous system exam.

A urinalysis may show protein or other changes in your urine. These changes may appear months to years before symptoms appear.

Tests that check how well the kidneys are working include:

- Creatinine clearance
- Creatinine levels
- Blood urea nitrogen (BUN)

CKD changes the results of several other tests. You may need to have the following blood tests as often as every 2 to 3 months when kidney disease gets worse:

- Albumin
- Calcium

- Cholesterol
- Complete blood count (CBC)
- Electrolytes
- Magnesium
- Phosphorous
- Potassium
- Sodium

Other tests that may be done to look for the cause or type of kidney disease include:

- CT scan of the abdomen
- MRI of the abdomen
- Ultrasound of the abdomen
- Kidney biopsy
- Kidney scan
- Kidney ultrasound
- Urine protein

This disease may also change the results of the following tests:

- Erythropoietin
- Parathyroid hormone (PTH)
- Bone density test
- Vitamin D level

## Treatment

Blood pressure control will slow further kidney damage.

- Angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) are used most often.
- The goal is to keep blood pressure at or below 130/80 mm Hg.

Making lifestyle changes can help protect the kidneys, and prevent heart disease and stroke, such as:

- DO NOT smoke.
- Eat meals that are low in fat and cholesterol.
- Get regular exercise (talk to your provider or nurse before starting to exercise).
- Take medicines to lower your cholesterol, if needed.
- Keep your blood sugar under control.
- Avoid eating too much salt or potassium.

Always talk to your provider before taking any over-the-counter medicine. This includes vitamins, herbs and supplements. Make sure all of the providers you visit know you have CKD. Other treatments may include:

- Medicines called phosphate binders, to help prevent high phosphorous levels
- Extra iron in the diet, iron pills, iron given through a vein (intravenous iron) special shots of a medicine called erythropoietin, and blood transfusions to treat anemia
- Extra calcium and vitamin D (always talk to your provider before taking)

Your provider may have you follow a special diet for CKD.

- Limiting fluids
- Eating less protein
- Restricting phosphorous and other electrolytes
- Getting enough calories to prevent weight loss

All people with CKD should be up-to-date on the following vaccinations:

- Hepatitis A vaccine
- Hepatitis B vaccine
- Flu vaccine
- Pneumococcal vaccine (also called "pneumonia vaccine")
- COVID-19

## Support Groups

More information and support for people with CKD and their families can be found at a kidney disease support group.

## Outlook (Prognosis)

Many people are not diagnosed with CKD until they have lost most of their kidney function.

There is no cure for CKD. Whether it worsens to ESRD, and how quickly, depends on:

- The cause of kidney damage
- How well you take care of yourself

Kidney failure is the last stage of CKD. This is when your kidneys can no longer support our body's needs.

Your provider will discuss dialysis with you before you need it. Dialysis removes waste from your blood when your kidneys can no longer do their job.

In most cases, you will go to dialysis when you have only 10 to 15% of your kidney function left.

Even people who are waiting for a kidney transplant may need dialysis while waiting.

### Possible Complications

Complications may include:

- Anemia
- Bleeding from the stomach or intestines
- Bone, joint, and muscle pain
- Changes in blood sugar
- Damage to nerves of the legs and arms (peripheral neuropathy)
- Dementia
- Fluid buildup around the lungs (pleural effusion)
- Heart and blood vessel complications
- High blood phosphorous levels
- High blood potassium levels
- Hyperparathyroidism
- Increased risk of infections
- Liver damage or failure
- Malnutrition

- Miscarriages and infertility
- Seizures
- Swelling (edema)
- Weakening of the bones and increased risk of fractures

Prevention

Treating the condition that is causing the problem may help prevent or delay CKD. People who have diabetes should control their blood sugar and blood pressure levels and should not smoke.

Chronic Obstructive Pulmonary Disease.

What is COPD (chronic obstructive pulmonary disease)?
COPD (chronic obstructive pulmonary disease) is a group of lung diseases that make it hard to breathe and get worse over time.

Normally, the airways and air sacs in your lungs are elastic or stretchy. When you breathe in, the airways bring air to the air sacs. The air sacs fill up with air, like a small balloon. When you breathe out, the air sacs deflate, and the air goes out. If you have COPD, less air flows in and out of your airways because of one or more problems:

- The airways and air sacs in your lungs become less elastic
- The walls between many of the air sacs are destroyed
- The walls of the airways become thick and inflamed
- The airways make more mucus than usual and can become clogged

What are the types of COPD (chronic obstructive pulmonary disease)?
COPD includes two main types:

- Emphysema affects the air sacs in your lungs, as well as the walls between them. They become damaged and are less elastic.
- Chronic bronchitis, in which the lining of your airways is constantly irritated and inflamed. This causes the lining to swell and make mucus.

Most people with COPD have both emphysema and chronic bronchitis, but how severe each type is can be different from person to person.

What causes COPD (chronic obstructive pulmonary disease)?
The cause of COPD is usually long-term exposure to irritants that damage your lungs and airways. In the United States, cigarette smoke is the main cause. Pipe, cigar, and other types of tobacco smoke can also cause COPD, especially if you inhale them.

Exposure to other inhaled irritants can contribute to COPD. These include secondhand smoke, air pollution, and chemical fumes or dusts from the environment or workplace.

Rarely, a genetic condition called alpha-1 antitrypsin deficiency can play a role in causing COPD.

Who is at risk for COPD (chronic obstructive pulmonary disease)?
The risk factors for COPD include:

- Smoking. This is the main risk factor. Up to 75% of people who have COPD smoke or used to smoke.
- Long-term exposure to other lung irritants, such as secondhand smoke, air pollution, and chemical fumes and dusts from the environment or workplace
- Age. Most people who have COPD are at least 40 years old when their symptoms begin.
- Genetics. This includes alpha-1 antitrypsin deficiency, which is a genetic condition. Also, smokers who get COPD are more likely to get it if they have a family history of COPD.
- Asthma. People who have asthma have more risk of developing COPD than people who don't have asthma. But most people with asthma will not get COPD.

What are the symptoms of COPD (chronic obstructive pulmonary disease)?
At first, you may have no symptoms or only mild symptoms. As the disease gets worse, your symptoms usually become more severe. They can include:

- Frequent coughing or a cough that produces a lot of mucus
- Wheezing
- A whistling or squeaky sound when you breathe
- Shortness of breath, especially with physical activity
- Tightness in your chest

Some people with COPD get frequent respiratory infections such as colds and the flu. In severe cases, COPD can cause weight loss, weakness in your lower muscles, and swelling in your ankles, feet, or legs.

How is COPD (chronic obstructive pulmonary disease) diagnosed?
Your health care provider may use many tools to make a diagnosis:

- A medical history, which includes asking about your symptoms
- A family history
- Various tests, such as lung function tests, a chest x-ray or CT scan, and blood tests

Your doctor will diagnose COPD based on your signs and symptoms, your medical and family histories, and test results.

What are the treatments for COPD (chronic obstructive pulmonary disease)?

There is no cure for COPD. However, treatments can help with symptoms, slow the progress of the disease, and improve your ability to stay active. There are also treatments to prevent or treat complications of the disease. Treatments include:

- Lifestyle changes, such as
  - Quitting smoking are a smoker. This is the most important step you can take to treat COPD.
  - Avoiding secondhand smoke and places where you might breathe in other lung irritants
  - Ask your health care provider for an eating plan that will meet your nutritional needs. Also ask about how much physical activity you can do. Physical activity can strengthen the muscles that help you breathe and improve your overall wellness.
- Medicines, such as
  - Bronchodilators, which relax the muscles around your airways. This helps open your airways and makes breathing easier. Most bronchodilators are taken through an inhaler. In more severe cases, the inhaler may also contain steriods to reduce inflammation.
  - Vaccines for the flu and pneumococcal pneumonia, since people with COPD are at higher risk for serious problems from these diseases
  - Antoboitics if you get a bacterial lung infection
- Oxygen Therapy if you have severe COPD and low levels of oxygen in your blood. Oxygen therapy can help you breathe better. You may need extra oxygen all the time or only at certain times.
- Pulmonary rehabilitation, which is a program that helps improve the well-being of people who have chronic breathing problems. It may include
  - An exercise program
  - Disease management training
  - Nutritional counseling
  - Psychological counseling
- Surgery, usually as a last resort for people who have severe symptoms that have not gotten better with medicines:
  - For COPD that is mainly related to emphysema, there are surgeries that:
    - Remove damaged lung tissue
    - Remove large air spaces (bullae) that can form when air sacs are destroyed. The bullae can interfere with breathing.
  - For severe COPD, some people may need lung transplant

If you have COPD, it's important to know when and where to get help for your symptoms. You should get emergency care if you have severe symptoms, such as trouble catching your breath or talking. Call your health care provider if your symptoms are getting worse or if you have signs of an infection, such as a fever.

Can COPD (chronic obstructive pulmonary disease) be prevented?

Since smoking causes most cases of COPD, the best way to prevent it is to not smoke. It's also important to try to avoid lung irritants such as secondhand smoke, air pollution, chemical fumes, and dusts.

## Depression:

What is depression?
Depression is more than a feeling of being sad or irritable for a few days. It's a serious mood disorder. As one of the most common mental disorders in the United States, depression can affect how you think, feel, and your everyday life. You may not know why you feel this way, but even basic daily activities such as sleeping, eating, or working may become difficult. Depression often needs long-term treatment but getting help at the earliest sign of a problem can help manage your symptoms.

What are the different types of depression?
The most common types of depression are major depression and persistent depressive disorder.

- Major depression symptoms include a depressed mood or a loss of interest. Symptoms affect your daily activities and last for at least two weeks.
- Persistent depressive disorder (also called dysthymia or dysthymic disorder) has less severe depressive symptoms, but they last longer, usually for at least two years.

Other types of depression can include:

- Seasonal affective disordercomes and goes with the seasons. It usually starts in late fall and early winter and goes away during the spring and summer.
- Bipolar disorder is sometimes called manic depression. This mood disorder can cause intense mood swings.
- Depression with symptoms of psychosis is a severe form of depression that also has delusions (false beliefs) or hallucinations (seeing, hearing, or feeling something that isn't there).

What causes depression?
There are a variety of things that may cause depression, including genetic, biological, environmental, and psychological factors. Depression can happen at any age and can affect anyone, but it's more common in women. This is often due to the physical and hormonal changes that women have during menstruation, pregnancy, the postpartum period, and menopause. Other mental disorders or chronic medical conditions such as diabetes, cancer,
or heart disease may occur with depression. This may make the chronic condition or depression worse.

In some cases, there is no clear cause for depression.

Who is at risk of depression?
You may be at a higher risk of depression if you have a close relative who has it or another mental health disorder. Going through trauma or stressful life events may raise your risk even more.

What are the symptoms of depression?
Depression doesn't look the same on everyone. The type and number of symptoms of depression can vary and don't always appear like sadness. Depression may affect you differently based on your:

- Age. The symptoms of depression may be different in a child, who may appear more irritable than sad.
- Sex. Men often show symptoms and coping behaviors differently than women. Rather than sad, men may appear angry or irritable.
- Medical conditions. Some medicines and medical conditions may cause symptoms that look like depression. Chronic conditions may make depression worse.

Symptoms of depression are ongoing and affect your day-to-day life. They can include:

- Feeling sad or "empty"
- Losing interest in favorite activities
- Overeating, or not wanting to eat at all
- Sleeping too much, or not enough
- Feeling very tired
- Feeling hopeless, irritable, anxious, or guilty
- Having aches and pains, headaches, cramps, or digestive problems
- Having thoughts of death and suicide
- Changing moods or behaviors
- Increasing use of alcohol or drugs
- Isolating from family and friends

How is depression diagnosed?
If you think you have depression, talk to your health care provider or a mental health provider. To be diagnosed with depression, your provider may use many tools:

- A medical history will include asking about your symptoms and family history. To be diagnosed with depression, your symptoms must occur most of the day, nearly every day, for at least two weeks. One of the symptoms must be a depressed mood or a loss of interest in most activities.
- Medical tests may be done to rule out other medical conditions. Certain medicines and medical conditions (such as viruses or thyroid disorders) may cause symptoms like depression.
- A physical exam to make sure another issue isn't causing your symptoms.

A mental health evaluation by your provider or a mental health provider..

What are the treatments for depression?
Depression may need long-term treatment. Most treatments include medicines and/or psychotherapy (talk therapy):

- Medicines such as antidepressants may help control your symptoms.. You may need to try several medicines to find which works best for you. Medicine may take time to work and can have side effects. Don't stop taking your medicine without first talking with your provider. Contact your provider if you have any concerns about side effects from the medicine.
- Psychotherapy (talk therapy) under the care of a mental health provider can help you recognize and change troubling emotions, thoughts, and behaviors. This may be done one-on-one or in a group setting. It can give you and your family support, education, skills, and coping strategies.
- Light therapy has been shown to be effective for seasonal affective disorder (SAD).
- Other treatments options may be considered if treatment isn't working or if depression is severe. These may include:
  - Electroconvulsive therapy (ECT) is a brain stimulation procedure that uses a mild electric current when you are under general anesthesia. ECT is most often used for severe depression that is not getting better with other treatments.
  - Repetitive transcranial magnetic stimulation (rTMS) is a brain stimulation procedure that uses magnetic waves to relieve depression. It's not as powerful as ECT, but with rTMS, you don't need anesthesia. It also has a low risk of negative effects on your memory and thinking.

Can depression be prevented?
Most cases of depression can't be prevented, but healthy lifestyle changes can have long-term benefits for your mental health. These can include:

- Getting regular exercise
- Having a consistent sleep schedule
- Controlling stress

If you, or someone you love is depressed, see your provider or a mental health provider. It's important to get treatment at the earliest sign of a problem.

If you or someone you know has thoughts of hurting themselves or attempting suicide, get help right away. If it is an emergency, dial 911.

Diabetes:

What is diabetes?
Diabetes, also known as diabetes mellitus, is a disease in which your blood glucose, or blood sugar, levels are too high. Glucose is your body's main source of energy. Your body can make glucose, but it also comes from the food you eat. Insulin is a hormone made by your pancreas.

Insulin helps move glucose from your bloodstream into your cells, where it can be used for energy.

If you have diabetes, your body can't make insulin, can't use insulin as well as it should, or both. Too much glucose stays in your blood and doesn't reach your cells. This can cause glucose levels to get too high. Over time, high blood glucose levels can lead to serious health condition.. But you can take steps to manage your diabetes and try to prevent these health problems.

What are the types of diabetes?
There are different types of diabetes:

- Type 1 diabetes If you have type 1 diabetes, your body makes little or no insulin. It happens when your immune system attacks and destroys the cells that produce insulin.
- Type 2 diabetes This is the most common form of diabetes. If you have type 2 diabetes, your body may still be able to make insulin, but your cells don't respond well to insulin. They can't easily take up enough glucose from your blood.
- Gestational diabetes. This is a form of diabetes that develops during pregnancy. It happens when your body can't make the extra insulin it needs during pregnancy.

What causes diabetes?
The different types of diabetes have different causes:

- Researchers think type 1 diabetes is caused by genes and factors in the environment that might trigger the disease.
- Type 2 diabetes is caused by several factors, including lifestyle factors and genes. The lifestyle factors include not being physical active and being overweight or having obesity
- Researchers think gestational diabetes is caused by the hormonal changes of pregnancy along with genetic and lifestyle factors.

Who is more likely to develop diabetes?
The different types of diabetes have different risk factors:

- You can develop type 1 diabetes at any age, but it most often starts in childhood. Having a parent or sibling with type 1 diabetes may increase your chance of developing it.
- You are at higher risk of developing type 2 diabetes if you:
  - Are overweight or have obesity.
  - Are over age 35.children, teenagers and younger adults can get diabetes, but it is more common in middle-aged and older adults.
  - Have a family history of diabetes.
  - Have prediabetes, This means that your blood glucose is higher than normal, but it's not high enough to be called diabetes.
  - Had gestational diabetes.
  - Have given birth to a baby weighing 9 pounds or more.

- Are African American, American Indian, Asian American, Hispanic/Latino, or Pacific Islander.
- Are not physically active.

- Have certain other health conditions, such as high blood pressure or polycystic ovary syndrome (PCOS).
- You are at higher risk of developing gestational diabetes if you:
  - Are overweight or have obesity.
  - Have a family history of diabetes.
  - Had gestational diabetes in a previous pregnancy.
  - Have given birth to a baby weighing 9 pounds or more.
  - Have polycystic ovary syndrome (PCOS).
  - Are African American, Hispanic/Latino, American Indian, Alaska Native, Native Hawaiian, or Pacific Islander.

What are the symptoms of diabetes?
The symptoms of diabetes may include:

- Feeling very thirsty
- Feeling very hungry
- Urinating (peeing) more often, including at night
- Fatigue
- Blurry vision
- Numbness or tingling in the feet or hands
- Sores that do not heal
- Losing weight without trying

But it's important to know that your symptoms may vary, depending on which type you have:

- The symptoms of type 1 diabetes usually come on quickly and can be severe.
- With type 2 diabetes, the symptoms often develop slowly, over several years. The symptoms can be so mild that you might not even notice them.
- Gestational diabetes often has no symptoms. If you do have symptoms, they may be mild. If you are pregnant, you will usually be screened for this condition between 24 and 28 weeks of pregnancy.

How is diabetes diagnosed?
To find out if you have diabetes, your health care provider will use one or more glucose blood tests.. There are several types, including the A1C tests.

What are the treatments for diabetes?
Treatment for diabetes involves managing your blood glucose levels:

IIf you have type 1 diabetes, you will need to take daily doses of insulin, either by injection or through a special pump. Some people also need to take another type of diabetes medicine that works with insulin.

If you have type 2 diabetes, you may be able to manage or even reverse it by making lifestyle changes. These include eating a healthy diet, staying at healthy weight, and getting regular physical activity.

Some people also need to take diabetes medicines to manage their diabetes.

If you have gestational diabetes, you may be able to lower your glucose levels by eating a healthy diet and getting regular exercise. But be sure to talk to your provider about your treatment options.

Gestational diabetes usually goes away after you give birth. But you will have a higher risk of developing type 2 diabetes later.

Checking your blood glucose levels is also an important part of managing your diabetes. Ask your provider about the best way to check your blood glucose level and how often you should check it.

Can diabetes be prevented?
Type 1 diabetes can't be prevented.

You may be able to delay or prevent type 2 diabetes through the same lifestyle changes that are used to manage diabetes (eating a healthy diet, staying at a healthy weight, and getting regular physical activity). These lifestyle changes may also help prevent gestational diabetes.

Ischemic Heart Disease:

Coronary heart disease

Coronary heart disease is a narrowing of the blood vessels that supply blood and oxygen to the heart. Coronary heart disease (CHD) is also called coronary artery disease.

Causes

CHD is the leading cause of death in the United States for men and women.

CHD is caused by the buildup of plaque in the arteries to your heart. This may also be called hardening of the arteries or atherosclerosis.

- Fatty material and other substances form a plaque buildup on the walls of your coronary arteries. The coronary arteries bring blood and oxygen to your heart.
- This buildup causes the arteries to get narrow.
- As a result, blood flow to the heart can slow down or stop.

A risk factor for heart disease is something that increases your chance of getting it. You cannot change some risk factors for heart disease, but you can change others.

Symptoms

In some cases, symptoms may be very noticeable. But, you can have the disease and not have any symptoms. This is more often true in the early stages of CHD.

Chest pain or discomfort (aging)is the most common symptom. You feel this pain when the heart is not getting enough blood or oxygen. The pain may feel different from person to person.

- It may feel heavy or like someone is squeezing your heart. You may feel it under your breast bone (sternum). You may also feel it in your neck, arms, stomach, or upper back.
- The pain most often occurs with activity or emotion. It goes away with rest or a medicine called nitroglycerin.
- Other symptoms can include shortness of breath and fatigue with activity (exertion), or even feeling lightheaded or passing out with exertion.

Some people have symptoms other than chest pain, such as:

- Fatigue
- Shortness of breath
- General weakness

Exams and Tests

Your health care provider will examine you. You will often need one or more tests before getting a diagnosis.

Tests to evaluate for CHD may include:

- Coronary angiography -- an invasive test that evaluates the heart arteries under x-ray.
- Echotrocardiogram (ECG).
- stress test.
- Electrocardiogram (ECG).
- Electron-beam computed tomography (EBCT) to look for calcium in the lining of the arteries. The more calcium, the higher your chance for CHD.
- Excersie stress test
- Heart CT scan
- Nuclear stress test

Treatment

You may be asked to take one or more medicines to treat blood pressure , diabetes, or high cholesterol levels. Follow your provider's directions closely to help prevent CHD from getting worse.

Goals for treating these conditions in people who have CHD:

- The most commonly used blood pressure target for people with heart disease is less than 130/80, but your provider may recommend a different blood pressure target.
- If you have diabetes, your HbA1c (glycohemoglobin A1c) blood levels will be monitored and brought down to the level your provider recommends.
- Your LDL cholesterol level will be lowered with statin or other medicines.

Treatment depends on your symptoms and how severe the disease is. You should know about:

Other medicines used to treat angina.

What to do when you have chest pain.

Being active when you have heart disease.

Eating a heart-healthy diet.

Never stop taking your medicines without first talking to your provider. Stopping heart medicines suddenly can make your angina worse or cause a heart attack.

You may be referred to a cardiac rehabilitation program to help improve your heart's fitness.

Procedures and surgeries used to treat CHD include:

Angioplasty and stent placement, called percutaneous coronary interventions (PCIs)

Coronary artery bypass surgery

Minimally invasive heart surgery

Outlook (Prognosis)

Everyone recovers differently. Some people can stay healthy by changing their diet, stopping smoking, and taking their medicines as prescribed. Others may need medical procedures such as angioplasty or surgery.

In general, early detection of CHD generally leads to a better outcome.

When to Contact a Medical Professional

If you have any risk factors for CHD, talk to your provider about prevention and possible treatment steps.

Call your provider, call the local emergency number (such as 911), or go to the emergency room right away if you have:

Angina or chest pain
Shortness of breath
Symptoms of a heart attack
Sudden loss of consciousness

Prevention
Take these steps to help prevent heart disease.

If you smoke or use tobacco, stop. There are many resources available to help you stop smoking or using tobacco.

Learn how to eat a heart-healthy diet by making simple substitutions. For example, choose heart-healthy fats over butter and other saturated fats.

Get regular exercise, ideally at least 30 minutes five days per week. If you have heart disease, talk with your provider about starting an exercise routine.

Maintain a healthy body weight.
Lower high cholesterol with lifestyle changes, and if needed, statin or other medicines.
Lower high blood pressure using diet and medicines.
Talk with your provider about aspirin therapy.

If you have diabetes, keep it well-managed to help prevent heart attack and stroke.
Even if you already have heart disease, taking these steps will help protect your heart and prevent further damage.

Alternative Names
Heart disease, Coronary heart disease, Coronary artery disease; Arteriosclerotic heart disease; CHD; CAD

Rheumatoid Arthritis / Osteoarthritis :

What Are Rheumatoid Arthritis and Osteoarthritis?

Rheumatoid arthritis (RA) and osteoarthritis (OA) are common types of arthritis. Both cause pain and joint damage, but they're different diseases.

RA is an autoimmune disease. It happens when your immune system doesn't work the way it should. When you're healthy, your immune system attacks invaders like bacteria and viruses.

lubricates and protects joints.

These may be the most important differences between RA and OA. But there are many others that can

help doctors find out which type you have and how to treat it.

Osteoarthritis happens because the cartilage in joints breaks down. Rheumatoid arthritis happens when your immune system attacks the protective lining of joints, called the synovial membrane.

## Osteoarthritis vs. Rheumatoid Arthritis Symptoms

When you see a doctor about your joint pain, you should offer as much detail as possible: which joints hurt, when they hurt, and whether you have any other symptoms. These can offer clues about whether you have RA or OA.

## Rheumatoid arthritis symptoms

RA tends to cause morning stiffness that can last an hour or more. That's one of the things that sets it apart from OA. Rheumatoid arthritis also can develop and progress quickly. And it tendsto affect both sides of the body at once. It can develop at any age, though most often shows up in midlife.

Other RA symptoms that set it apart from OA include:

Fatigue

Low fevers

Low appetite

Joints that get forced into bent positions over time Lumps called rheumatoid nodules that grow under your skin (These aren't common.)

## Osteoarthritis symptoms

OA tends to develop slowly over many years and is most common in older adults. You might notice it in a single joint or on one side of your body. Your joints might swell, but not as much as with RA. With OA, your main issues are:

Pain

Stiffness -- with briefer morning symptoms than in RA and stiffness that might come back after you're active

Noises (cracking, grinding) when you move the joint

Joints that don't feel as stable or strong as they once were

Osteoarthritis vs. rheumatoid arthritis in the hands

Both OA and RA can cause hand symptoms, but they're different.

RA in the hands is common and it's usually in both hands. It most often affects the wrists and the knuckles.

In RA, swollen joints might make your fingers look like sausages. Over time, the position of your fingers can change, too. RA can even damage and break the tendons that allow your fingers to bend and straighten. In some cases, you might develop numbness and tingling in your fingers.

OA is more likely to affect a single hand at first, though it might affect both. That's because OA attacks joints you use the most. OA in your hands is most likely to affect the base of your thumb or the finger joints closest to your fingernails. It can also affect the wrist.

Osteoarthritis sometimes causes bony bumps over finger joints.

Rheumatoid Arthritis vs. Osteoarthritis: Risk Factors

RA and OA share at least a couple of risk factors. You may be more likely to get RA if you have a family member who has it. The same goes for OA. Excess weight also seems to play a role in both diseases.

Other things that raise your risk of OA include:

- Older age
- Joint injury
- Overuse of a joint
- Deformed joints, like knocked knees or legs of different lengths

The things that make RA more likely include:

- Being a woman
- Smoking
- Being around dangerous chemicals like asbestos or silica
- Having gum disease -- possibly because the same bacteria might trigger joint and gum inflammation

Most Common Joints Affected

OA can affect any joint, but it tends to happen in joints you've injured or use over and over. Think knees, hips, back, neck, thumbs, and big toes.

RA can also cause joints problem throughout your body. The disease is especially common in the small joints of your hands and feet. It also strikes shoulders, elbows, knees, and ankles. Unlike OA, RA tends to leave your back alone.

Rheumatoid Arthritis vs. Osteoarthritis: Treatments

There's no cure for either RA or OA, and no way to reverse joint damage. Treatments for both diseases aim to reduce pain and help the joints work better. But with RA, the main goal of treatment is to slow or stop disease activity -- to make your body stop attacking itself.

With both RA and OA, you might work with physical therapists to learn helpful exercises and with occupational therapists to learn techniques that help you function better in daily life. You might use heat and cold to soothe sore joints. Surgeries, including joint replacements, also can be part of treatment.

But medications are mainstays of treatment for both conditions.

Drugs for RA

- Nonsteroidal anti-inflammatory drugs (NSAIDs), which reduce pain and inflammation
- Corticosteroids, which are powerful anti-inflammatories that can also help regulate your immune system
- Disease-modifying drugs (traditional disease-modifying antirheumatic drugs, or DMARDs, and biologic drugs), which slow the course of the disease
- Acetaminophen, which reduces pain but not inflammation

Drugs for OA

- Rub-on creams or gels that reduce pain
- NSAIDs
- Pain-relieving drugs like acetaminophen
- The antidepressant drug duloxetine (Cymbalta), which can ease chronic pain
- Joint injections of corticosteroids or lubricants

You may notice that opioid drugs, also known as narcotics, aren't on either list. They're not typically prescribed for RA and OA due to the risk of side effects over time, such as extreme tiredness, constipation, and dependency.

Weight Loss for Arthritis

In an ideal world, we'd all be at our healthiest weight. When you have RA or OA, reaching that health goal becomes even more important. Think of it as a kind of drug-free pain relief that just happens to have many other health benefits.

When you have OA: Extra weight puts extra stress on your joints, especially your knees, hips, and low back. Losing weight gives those joints some relief.

When you have RA: In addition to taking pressure off your joints, weight loss has other benefits. Research shows it can reduce disease activity -- another way of saying it slows the attack on your joints.

Diet alone may help you shed pounds, but don't neglect gentle exercise. It can help improve your muscle strength, reduce joint pain, ease stiffness, and thus lower your disease-related disability.

Before you go on a trendy diet or join a gym, ask your doctor for advice on the best ways to approach diet and exercise when you have RA or OA. They might suggest you work with a physical Therapy or trainer to exercise safely and effectively. A nutrition counselor might help you make changes in your diet that you can stick with and enjoy.

Takeaways

Osteoarthritis and rheumatoid arthritis can both make your joints hurt, but they are different diseases with different root causes and treatments. OA, the most common type, is caused by wear and tear on your joints. RA is an immune disorder that causes joint inflammation and damage. If you have joint pain, it's important to get a diagnosis so you get the right treatment.

Rheumatoid Arthritis vs. Osteoarthritis

What are the seven diagnostic criteria for RA?

That refers to an older way of diagnosing rheumatoid arthritis based on seven characteristics. To be diagnosed, you had to have at least four. They included morning stiffness that lasted at least an hour, joint swelling on both sides of your body, swelling in three or more joint areas.

example, you could be diagnosed if you have just one inflamed joint if you also have enough additional symptoms and certain test results.

What is the difference between arthritis and rheumatism?

Rheumatism isn't a specific diagnosis, but it's a term some people might use to describe their rheumatoid arthritis or to mean rheumatic disease, which is a broad category that includes all

kinds of arthritis, plus many other conditions.Rheumatic diseases may cause joint pain, stiffness, and swelling, but can also affect muscles, tendons, ligaments, bones and, in some cases, internal organs. Some, like rheumatoid arthritis, are autoimmune disorders. Lupus, scleroderma, and fibromyalgia are some other rheumatic diseases. All these conditions can be treated by a rheumatologist.

Can you live a long life with rheumatoid arthritis?

Yes. In the past, studies showed that people with rheumatoid arthritis lived an average of 10 years less than expected -- possibly because of complications such as heart and lung damage. But more recent data suggests that people are living longer, partly due to modern drug treatments that slow the damage caused by RA.

What foods are bad for rheumatoid arthritis?

Some people believe food allergies or intolerances cause or worsen their RA, but there's no evidence for that. Another myth is that avoiding so-called nightshade vegetables, such as tomatoes, potatoes, peppers, and eggplant, will ease inflammation.

There's no specific best diet for rheumatoid arthritis, but it's a good idea to aim for a generally healthy diet -- like the Mediterranean diet -- that includes plenty of fruits and vegetables and not too much saturated fat (like the kind in red meat). Omega-3 fats, found in salmon and some other fish, might be particularly helpful.

Stroke / Transient Ischemic Attack:

What is a transient ischemic attack?

A transient ischemic attack is like a temporary stroke. It means there's a temporary (transient) lack of blood flow to part of your brain. Without blood flow, the brain cells malfunction and start to die (ischemia).

Often shortened to TIA, a transient ischemic attack is a medical emergency that's very similar to an ischemic stroke. The symptoms of the two are the same, but TIA symptoms go away within 24 hours (most go away in minutes).

IMPORTANT: A transient ischemic attack is a medical emergency just like a stroke is. That's because there's no way to predict how long a TIA will last, and every minute counts. Seek immediate medical help if you have signs of stroke, including balance issues, vision changes, face and arm drooping, and speech difficulties.

If you or someone you're with has TIA or stroke symptoms, you should immediately call 911 (or the local emergency services number in your area). Don't wait to see if the symptoms will subside, and don't avoid calling if the symptoms get better after a few minutes of resting. A TIA can be the precursor to a stroke, so get medical attention right away!

TIA vs. mini-stroke — which is the correct name?

A common nickname for TIAs is "mini-strokes." But that's not an accurate name. A TIA isn't necessarily "mini" or smaller, and TIAs can easily affect large brain areas. Importantly, a stroke may occur after a TIA, within a matter of minutes, hours or days.

There are also two critical differences between strokes and TIAs. The first is that a TIA stops on its own. A stroke doesn't, and it needs treatment to stop and reverse the effects. A stroke also leaves behind evidence on a magnetic resonance imaging (MRI) scan. The changes remain even if your symptoms go away.

Symptoms and Causes

What are the symptoms of a TIA?

The possible symptoms of a TIA are nearly identical to the possible symptoms of a stroke.

The symptoms of an ischemic stroke can involve one or more of the following:

One-sided weakness or paralysis (hemiplegia).

Difficulty with or loss of speaking ability (aphasia).

Slurred or garbled speaking (dysarthria).

Loss of muscle control on one side of your face or facial droop.

Sudden loss — either partial or total — of one or more senses (vision, hearing, smell, taste and touch).

Blurred or double vision (diplopia).

Loss of coordination or clumsiness (ataxia).

Dizziness or vertigo.

Nausea and vomiting.

Neck stiffness.

Emotional instability and personality changes.

Confusion or agitation.

Memory loss (amnesia).

Headaches (usually sudden and severe).

Passing out or fainting.

What causes a TIA?

Transient ischemic attacks and ischemic strokes happen for the same reasons. Those reasons include:

Formation of a clot in your brain (thrombosis).

A fragment of a clot that formed elsewhere in your body that breaks free and travels through your blood vessels until it gets stuck in your brain (thromboembolism).

Small vessel blockage (lacunar stroke).

Cryptogenic TIA (the word “cryptogenic” means “hidden origin,” so these are TIAs that happen with an unknown cause).

What are the risk factors for this condition?

Many factors can contribute to a TIA or make one more likely to happen. Risk factors include:

High blood pressure (hypertension). This is the most significant of all risk factors for TIA. It’s one of the reasons why managing blood pressure is so essential.

Type 2 diabetes.

Tobacco use (especially smoking or vaping).

Atrial fibrillation (Afib). This irregular heart rhythm (arrhythmia) can cause blood to swirl and pool in one of your heart’s chambers rather than smoothly flow through. That can allow clots to form, and these can then travel through your carotid arteries and into your brain.

A history of stroke or TIA. Having a previous stroke or TIA raises the risk of having a TIA.

Other risk factors that can contribute to a TIA include:

Heart disease and a previous heart attack (especially a recent one).

High cholesterol (hyperlipidemia).

Having excess weight or obesity.

Nonmedical drug use (including recreational drugs) and alcohol overuse.

Age. As people age, their blood vessels become less flexible for several reasons. That can contribute to atherosclerosis, narrowed blood vessels and other concerns that can contribute to a TIA.

What are the complications of a transient ischemic attack?

The main reason that a TIA is a medical emergency is because it’s often a warning that a stroke is possible or even imminent. Up to 20% of people who have a TIA have a stroke within 90 days, and half of those strokes happen within the first two days after a TIA.

## Diagnosis and Tests

### How is a transient ischemic attack diagnosed?

A healthcare provider can diagnose a TIA using a combination of methods, including:

Medical history. This involves asking you questions about your health history and symptoms.

Physical and neurological exam. These help a provider learn more about your symptoms, especially if you’re still experiencing them at the time of the exam.

Imaging scans. Healthcare providers can get a computed tomography (CT) scan in only a few minutes. It helps them to quickly see if you’re having a brain bleed or not and, if so, provide treatment immediately. An MRI scan helps your care team tell if you had a stroke or a TIA. If there's visible damage (even though your symptoms are completely gone), it was a stroke, not a TIA.

Other tests may also be possible, depending on your symptoms and if your healthcare provider suspects another health issue is causing or contributing to the TIA and its symptoms. Your healthcare provider can tell you more about the tests they recommend and why those tests could be helpful.

## Management and Treatment

### How is a transient ischemic attack treated?

A TIA, by definition, is a temporary issue. But it indicates that a stroke — which isn’t temporary — could happen. That means treating the condition(s) that caused the TIA can help prevent a stroke.

Healthcare providers often recommend treating these conditions aggressively. That’s because a stroke is a much more serious — and dangerous — condition. Strokes are also often more

difficult to treat. It's also because even with treatment, strokes can cause permanent damage or death.

The most common treatments to prevent a stroke after a TIA include:

Medications.

Catheter-based procedures.

Surgery.

Medications for post-TIA stroke prevention

Many types of medications can help treat the conditions that cause or contribute to a TIA and prevent TIA or stroke from happening in the future. They include:

Aspirin. This is one of the most common medications that healthcare providers recommend. It helps prevent stroke by reducing your risk of blood clots. Other alternatives include clopidogrel (Plavix®), ticagrelor (Brilinta®) and Aggrenox (a combination pill of aspirin and dipyridamole).

Blood pressure medications. These help reduce pressure strain on your blood vessels from the inside. Common medications for this include calcium channel blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), diuretics and more.

Statins. Statins are cholesterol-lowering medications. They generally reduce low-density lipoprotein (LDL) cholesterol levels in your blood. That's the cholesterol that can build up inside blood vessels, narrowing them and causing atherosclerosis. Atorvastatin (Lipitor®) and rosuvastatin (Crestor®) are effective and likely the best-known of these medications.

Blood thinners. These medications make it harder for your blood to clot, which can lower the risk of a clot forming and getting stuck in a blood vessel in your brain. These include anticoagulants like warfarin (Coumadin®), apixaban (Eliquis®), rivaroxaban (Xarelto®) or dabigatran (Pradaxa®). These medications are often recommended if you have atrial fibrillation or blood clots in your heart.

Catheter-based procedures

"Endovascular procedures" is the blanket term for all procedures that use thin, tube-like devices threaded into your blood vessels through very small incisions in your skin. Endovascular means "inside a blood vessel," and these procedures treat problems from the inside without full surgery.

These usually involve your carotid arteries, the main vessels that carry blood from your heart to your brain. Narrowing (stenosis) in your carotid arteries can lead to a TIA or a stroke.

Some examples of endovascular procedures that can help prevent a stroke after a TIA include:

Endovascular thrombectomy. This is a procedure to remove the blood clot. It opens up the artery, restoring blood flow to your brain.

Stenting. This involves placing a stent, a mesh scaffold-like device, inside a blood vessel. The stent helps hold open narrowed blood vessel sections so blood can flow through.

Angioplasty. This involves a catheter with a balloon attachment at its tip. Inflating the balloon can widen narrowed arteries.

Endarterectomy

When catheter-based procedures aren't possible, surgery may be an option to widen blood vessels. That can prevent another TIA or stroke. An example of a surgery like this is carotid endarterectomy to clean up the plaque and create a wider space for blood to flow through into your brain.

Procedures for other conditions that can contribute to a TIA

Other procedures are also possible, depending on what conditions you have. For example, your cardiovascular or cerebrovascular care team may determine that your TIA or stroke is due to conditions like patent foramen ovale (PFO), a hole in the wall that separates the lower two chambers of your heart. PFO can allow blood clots to travel to your brain. Your provider may recommend closing the hole to reduce the odds of having a stroke.

Prevention

Can a transient ischemic attack be prevented?

Sometimes, but not always. Many TIAs happen for preventable reasons. But a TIA can also happen for unpredictable or unexpected reasons.

You can do many things to reduce your risk of having an ischemic stroke. While this doesn't mean you can prevent a stroke, it can lower your risk. Actions you can take include:

See a primary care provider yearly for a checkup (this can detect symptomless concerns like high blood pressure and Type 2 diabetes sooner).

Reach and maintain a weight that's healthy for you.

Manage what you eat (your primary care provider can guide you on this).

Stop using tobacco products (or don't start using them in the first place).

Use alcohol only in moderation and avoid nonmedical drug use.

Take prescription medications exactly as instructed.

Manage any chronic conditions you have (such as high blood pressure, Type 2 diabetes and high cholesterol).

Living With

How do I take care of myself after a TIA?

Once you receive care, it's essential for you to follow your healthcare provider's guidance. The closer you follow it, the better the odds that you won't have another TIA or stroke. Because TIAs can happen for different reasons, what you should do to take care of yourself may vary.

In general, the same actions or precautions that prevent TIAs or lower your risk of having one are also what you should do after you have a TIA. Your healthcare provider can also guide you specifically on what you can and should do.

When should I see my healthcare provider?

After emergency treatment for a TIA, you should see a provider for follow-up care. They can recommend a schedule for follow-up visits as needed and help you monitor for any changes in symptoms and how well treatment is working..

A note from Cleveland Clinic

A transient ischemic attack (TIA) can happen suddenly and be gone in minutes, leaving behind confusion and worry. If you experience stroke symptoms that only last minutes, don't ignore them! They're still a sign that you need medical attention right away.

A TIA greatly increases your risk of having a stroke in the next 90 days, and half of the strokes that do follow a TIA happen within the next two days. Getting immediate care can help you avoid a much more serious stroke, potentially saving your life and preventing permanent damage and loss of abilities.

Care at Cleveland Clinic

After a stroke, it’s essential to get treated right away. Cleveland Clinic’s stroke care specialists can help you manage recovery and improve your quality of life.