Disease: Diabetes

Diabetes

Causes

Insulin is a hormone produced by the pancreas to control blood sugar. Diabetes can be caused by too little insulin, resistance to the action of insulin, or both.

To understand diabetes, it is important to first understand the normal process by which food is broken down and used by the body for energy. Several things happen when food is digested and absorbed:

A sugar called glucose enters the bloodstream. Glucose is a source of fuel for the body.

An organ in the upper abdomen, below and behind the stomach, called the pancreas makes insulin.

The role of insulin is to move glucose from the bloodstream into muscle, fat, and other cells, where it can be stored or used as fuel.

People with diabetes have high blood sugar because their body cannot move sugar from the blood into muscle and fat cells to be burned or stored for energy, and/or because their liver makes too much glucose and releases it into the blood. This is because either:

Their pancreas does not make enough insulin

Their cells do not respond to insulin normally (also called insulin resistance)

Both of the above

There are two major types of diabetes. The causes and risk factors are different for each type:

Type 1 diabetes

is less common, accounting for 5% to 10% of people with diabetes in the United States. It can occur at any age, but it is most often diagnosed in children, teens, or young adults. In this disease, the body makes little or no insulin. This is because the pancreas cells that make insulin are damaged by an immune process and stop working. Daily injections of insulin are needed. The exact cause of the immune process is unknown.

Type 2 diabetes

is more common, accounting for 90% to 95% of people with diabetes in the United States. It most often occurs in adulthood, but because of high obesity rates, children and teens are now being diagnosed with this disease. Some people with type 2 diabetes do not know they have it. With type 2 diabetes, the body is resistant to insulin and doesn't use insulin as well as it should. Not all people with type 2 diabetes are overweight or obese.

There are other causes of diabetes, and some people cannot be classified as type 1 or type 2. Examples include LADA (latent autoimmune diabetes in adults, a variant of type 1 diabetes), MODY (maturity-onset diabetes of the young), and diabetes due to other illnesses.

Gestational diabetes

is high blood sugar that develops at any time during pregnancy in a woman who does not already have diabetes.

If your parent, brother, or sister has diabetes, you are more likely to develop the disease.

Symptoms

A high blood sugar level can cause several symptoms, including:

Blurry vision

Excess thirst

Fatigue

Frequent urination

Hunger

Weight loss

Because type 2 diabetes develops slowly, some people with high blood sugar have no symptoms.

Symptoms of type 1 diabetes typically develop over a short period, usually weeks to months. People may be very sick by the time they are diagnosed.

After many years, diabetes can lead to other serious problems. These problems are known as diabetes complications, and include:

Eye problems

, including trouble seeing (especially at night), light sensitivity, cataracts, and blindness

Sores and infections of the leg or foot, which if untreated, can lead to amputation of the leg or foot

Damage to nerves in the body

, causing pain, tingling, a loss of feeling, problems digesting food, and erectile dysfunction

Kidney problems

, which can lead to

kidney failure

Weakened immune system, which can lead to more frequent infections

Increased chance of having a

heart attack

or

stroke

Exams and Tests

A

urine analysis

may show high urine sugar. But a urine test alone does not diagnose diabetes.

Your health care provider may suspect that you have diabetes if your blood sugar level is 200 mg/dL or higher (11.1 mmol/L). To confirm the diagnosis, one or more of the following tests must be done.

Blood tests:

Fasting blood glucose level

. Diabetes is diagnosed if the fasting glucose level is 126 mg/dL (7.0 mmol/L) or higher on two different tests, when the person is in their usual state of health. Levels from 100 mg/dL to 125 mg/dL (5.6 mmol/L to 7.0 mmol/L) are called impaired fasting glucose or prediabetes. These levels are risk factors for developing type 2 diabetes.

Hemoglobin A1C

(A1C) test. Normal is less than 5.7%; prediabetes is 5.7% to 6.4%; and diabetes is 6.5% or higher.

Oral glucose tolerance test

. Diabetes is diagnosed if the glucose level is 200 mg/dL (11.1 mmol/L) or higher 2 hours after drinking a special 75 gram sugar drink (this test is used most often for type 2 diabetes and is rarely needed for type 1 diabetes).

Screening for type 2 diabetes in people who have no symptoms is recommended for:

Overweight

or obese adults (BMI of 25 kilograms per square meter or higher) starting at age 35 repeated every 3 years

Overweight women who have other risk factors such as

high blood pressure

who are planning to become pregnant

All adults age 35 or older, repeated every 3 years or at a younger age if the person has risk factors such as high blood pressure, or having a mother, father, sister, or brother with diabetes

In 2022, the US Preventive Services Task Force concluded that there was not enough evidence to recommend screening for type 2 diabetes in people 18 years old or younger. Some experts do advocate such screening for overweight children. Ask your childâ€™s provider what is best for them.

Treatment

Type 2 diabetes can sometimes be reversed with lifestyle changes, especially losing weight with exercise and by eating different foods. Some cases of type 2 diabetes can also be improved with weight loss surgery.

There is no cure for type 1 diabetes (except for a pancreas or islet cell transplant).

Treating either type 1 diabetes or type 2 diabetes involves nutrition, activity and medicines to control blood sugar level.

Everyone with diabetes should receive proper education and support about the best ways to

manage their diabetes. Ask your provider about seeing a certified diabetes care and education specialist (CDCES).

Getting better control over your blood sugar, cholesterol, and blood pressure levels helps reduce the risk for kidney disease, eye disease, nervous system disease, heart attack, and stroke.

To minimize diabetes complications, visit your provider at least 2 to 4 times a year. Talk about any problems you are having. Follow your provider's instructions on managing your diabetes.

Support Groups

Many

resources

can help you understand more about diabetes. If you have diabetes, you can also learn ways to manage your condition and prevent diabetes complications.

More information and support for people with diabetes and their families can be found at :

American Diabetes Association --

www.diabetes.org

National Institute of Diabetes and Digestive and Kidney Diseases --

www.niddk.nih.gov/health-information/diabetes

Outlook (Prognosis)

Diabetes is a lifelong disease for most people who have it.

Tight control of blood glucose can prevent or delay diabetes complications. But these problems can occur, even in people with good diabetes control.

Possible Complications

After many years, diabetes can lead to serious health problems:

You could have eye problems, including trouble seeing (especially at night), cataracts, and light sensitivity. You could become blind.

Your feet and skin can develop sores and infections. After a long time, your foot or leg may need to be amputated. Infection can also cause pain and itching in other parts of the body.

Diabetes may make it harder to control your blood pressure and cholesterol. This can lead to a heart attack, stroke, and other problems. It can become harder for blood to flow to your legs and feet.

Nerves in your body can get damaged, causing pain, tingling, and numbness.

Because of nerve damage, you could have problems digesting the food you eat. You could feel weakness or have trouble going to the bathroom. Nerve damage can make it harder for men to have an erection.

High blood sugar and other problems can lead to kidney damage. Your kidneys may not work as well as they used to. They may even stop working so that you need dialysis or a kidney transplant.

Your immune system can weaken, which can lead to frequent infections.

Prevention

Keeping an ideal body weight and an active lifestyle may prevent or delay the start of type 2 diabetes. If you're overweight, losing just 5% of your body weight can reduce your risk. Some medicines can also be used to delay or prevent the start of type 2 diabetes.

At this time, type 1 diabetes cannot be prevented. But there is promising research that shows type 1 diabetes may be delayed in some high risk people.

Alternative Names

Diabetes - type 1; Diabetes - type 2; Diabetes - gestational; Type 1 diabetes; Type 2 diabetes; Gestational diabetes; Diabetes mellitus

Patient Instructions

Diabetes - foot ulcers

Diabetes - taking care of your feet

Diabetes - when you are sick

Images

Endocrine glands

Diabetic retinopathy

Islets of Langerhans

Pancreas

Insulin pump

Type I diabetes

Diabetic blood circulation in foot

Food and insulin release

Insulin production and diabetes

Monitoring blood glucose - Series

Necrobiosis lipoidica diabeticorum - abdomen

Necrobiosis lipoidica diabeticorum - leg

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Test Your Knowledge

Type 2 Diabetes Facts Quiz

Review Date 2/10/2023

Updated by: Sandeep K. Dhaliwal, MD, board-certified in Diabetes, Endocrinology, and Metabolism, Springfield, VA. Internal review and update on 02/20/2024 by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

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Related MedlinePlus Health Topics

Diabetes

Diabetes in Children and Teens

Disease: Hypertension

High blood pressure in adults â€“ hypertension

Causes

Many factors can affect blood pressure, including:

The amount of water and salt you have in your body

The condition of your kidneys, nervous system, or blood vessels

Your hormone levels

You are more likely to be told your blood pressure is too high as you get older. This is because your blood vessels become stiffer as you age. When that happens, your blood pressure goes up. High blood pressure increases your chance of having a stroke, heart attack, heart failure, kidney disease, or early death.

You have a higher risk for high blood pressure if you:

Are African American

Are obese

Are often stressed or anxious

Drink too much alcohol (more than 1 drink per day for women and more than 2 drinks per day for men)

Eat too much salt

Have a family history of high blood pressure

Have

diabetes

Smoke or use tobacco

Most of the time, no cause of high blood pressure is found. This is called essential hypertension.

High blood pressure that is caused by another medical condition or medicine you are taking is called secondary hypertension. Secondary hypertension may be due to:

Chronic kidney disease

Disorders of the adrenal gland (such as

pheochromocytoma

or

Cushing syndrome

)

Hyperparathyroidism

Pregnancy or

preeclampsia

Medicines such as birth control pills, diet pills, some cold medicines, migraine medicines, corticosteroids, some antipsychotics, and certain medicines used to treat cancer

Narrowed artery that supplies blood to the kidney (

renal artery stenosis

)

Obstructive sleep apnea

(OSA)

Symptoms

Most of the time, there are no symptoms. For most people, high blood pressure is found when they visit their provider or have it checked elsewhere.

Because there are no symptoms, people can develop heart disease and kidney problems without knowing they have high blood pressure.

Malignant hypertension

is a dangerous form of very high blood pressure. Symptoms may include:

Severe

headache

Nausea and vomiting

Confusion

Vision changes

Nosebleeds

Exams and Tests

Diagnosing high blood pressure early can help prevent heart disease, stroke, eye problems, and chronic kidney disease.

Your provider will

measure your blood pressure

Â several times before diagnosing you with high blood pressure. It is normal for your blood pressure to be different based on the time of day.

All adults over the age of 18 should have their blood pressure checked every year. More frequent measurements may be needed for those with a history of high blood pressure readings or those with risk factors for high blood pressure.

Blood pressure readings taken at home may be a better measure of your current blood pressure than those taken at your provider's office.

Make sure you get a good quality, well-fitting

home blood pressure monitor

. It should have a properly sized cuff and a digital readout.

Practice with your provider to make sure you are taking your blood pressure correctly.

You should be relaxed and seated for five or more minutes prior to taking a reading.

Bring your home monitor to your appointments so your provider can make sure it is working correctly.

Your provider will do a physical exam to look for signs of heart disease, damage to your eyes, and other changes in your body.

Tests may also be done to look for:

High cholesterol level

Heart disease, using tests such as an

echocardiogram

or

electrocardiogram

Kidney disease, using tests such as a

basic metabolic panel

and

urinalysis

or ultrasound of the kidneys

Treatment

The goal of treatment is to reduce your blood pressure so that you have a lower risk of health problems caused by high blood pressure. You and your provider should set a blood pressure goal for you.

Whenever thinking about the best treatment for high blood pressure, you and your provider must consider other factors such as:

Your age

The medicines you take

Your risk of side effects from possible medicines

Other medical conditions you may have, such as a history of heart disease, stroke, kidney problems, or diabetes

If the top blood pressure number is from 120 to 129 mm Hg, and the bottom blood pressure number is less than 80 mm Hg, you have what is called elevated blood pressure.

Your provider will recommend lifestyle changes to bring your blood pressure down to a normal range.

Medicines are rarely used at this stage.

If your blood pressure is 130/80 or higher, but lower than 140/90 mm Hg, you have Stage 1 high

blood pressure. When thinking about the best treatment, you and your provider must consider:

If you have no other diseases or risk factors for heart or kidney disease, your provider may recommend lifestyle changes and repeat the measurements after a few months.

If your blood pressure remains 130/80 or above, but lower than 140/90 mm Hg, your provider may recommend medicines to treat high blood pressure.

If you have other diseases or risk factors for heart or kidney disease, your provider may be more likely to recommend medicines at the same time as lifestyle changes.

If your blood pressure is 140/90 mm Hg or higher, you have Stage 2 high blood pressure. Your provider will most likely recommend medicines and lifestyle changes together.

Before making a final diagnosis of either elevated blood pressure or high blood pressure, your provider should ask you to have your blood pressure measured at home, at your pharmacy, or somewhere else besides their office or a hospital.

LIFESTYLE CHANGES

You can do many things to help control your blood pressure, including:

Eat a

heart-healthy diet

, including potassium and fiber.

Drink plenty of water.

Get at least 40 minutes of moderate to vigorous aerobic exercise at least 3 to 4 days a week.

If you smoke or use tobacco, quit.

Limit how much alcohol you drink to 1 drink a day for women, and 2 drinks a day for men or less and consider quitting entirely.

Limit the amount of sodium (salt) you eat. Aim for less than 1,500 mg per day of sodium.

Reduce stress. Try to avoid things that cause you stress, and try meditation or yoga to de-stress.

Stay at a healthy body weight.

Your provider can help you find programs for losing weight, stopping smoking, and exercising.

You can also get a referral to a dietitian, who can help you plan a diet that is healthy for you.

How low your blood pressure should be and at what level you need to start treatment is individualized, based on your age and any medical problems you have.

MEDICINES FOR HYPERTENSION

Most of the time, your provider will suggest you try lifestyle changes first, and check your blood pressure two or more times. Medicines will likely be recommended if your blood pressure readings remain at or above these levels:

Top number (systolic pressure) of 130 or more

Bottom number (diastolic pressure) of 80 or more

If you have diabetes, heart problems, or a history of a stroke, medicines may be started at lower blood pressure reading. The most commonly used blood pressure targets for people with these medical problems are below 120 to 130/80 mm Hg.

There are many different

medicines to treat high blood pressure

.

Often, a single blood pressure medicine may not be enough to control your blood pressure, and you may need to take two or more medicines.

It is very important that you take the medicines prescribed to you.

If you have side effects, your provider can substitute a different medicine.

Outlook (Prognosis)

Most of the time, high blood pressure can be controlled with medicine and lifestyle changes.

When blood pressure is not well-controlled, you are at risk for:

Bleeding from the aorta, the large blood vessel that supplies blood to the abdomen, pelvis, and legs

Chronic kidney disease

Heart attack and

heart failure

Poor blood supply to the legs

Problems with your vision

Stroke

When to Contact a Medical Professional

If you have high blood pressure, you should have regular checkups with your provider.

Even if you have not been diagnosed with high blood pressure, it is important to have your blood pressure checked during your regular check-up, especially if someone in your family has or had high blood pressure.

Contact your provider right away if home monitoring shows that your blood pressure is still high.

Prevention

Many people can prevent or delay high blood pressure from occurring by following lifestyle changes designed to bring blood pressure down.

Alternative Names

Hypertension; HBP; High blood pressure

Patient Instructions

ACE inhibitors

Angioplasty and stent - heart - discharge

Antiplatelet drugs - P2Y12 inhibitors

Aspirin and heart disease

Butter, margarine, and cooking oils

Cholesterol and lifestyle

Controlling your high blood pressure

Diabetes eye care

Diabetes - preventing heart attack and stroke

Diabetes - taking care of your feet

Diabetes tests and checkups

Dietary fats explained

Fast food tips

Heart attack â€“ discharge

Heart disease - risk factors

Heart failure - discharge

Heart failure - fluids and diuretics

Heart failure - home monitoring

Heart failure - what to ask your doctor

High blood pressure - what to ask your doctor

How to read food labels

Implantable cardioverter defibrillator - discharge

Kidney removal - discharge

Low-salt diet

Mediterranean diet

Type 2 diabetes - what to ask your doctor

Images

Monitoring blood pressure

Untreated hypertension

Lifestyle changes

DASH diet

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Test Your Knowledge

Is High Blood Pressure Affecting Your Health?

Review Date 1/1/2023

Updated by: Michael A. Chen, MD, PhD, Associate Professor of Medicine, Division of Cardiology, Harborview Medical Center, University of Washington Medical School, Seattle, WA. Internal review and update on 02/19/2024 by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

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Related MedlinePlus Health Topics

High Blood Pressure

Disease: Hepatitis A

Hepatitis A

Causes

The hepatitis A virus is found mostly in the stool and blood of an infected person. The virus is present about 15 to 45 days before symptoms occur and during the first week of illness.

You can catch hepatitis A if:

You eat or drink food or water that has been contaminated by stools (feces) containing the hepatitis A virus. Unpeeled and uncooked fruits and vegetables, shellfish, ice, and water are common sources of the disease.

You come in contact with the stool or blood of a person who currently has the disease.

A person with hepatitis A passes the virus to an object or food due to poor hand-washing after using the toilet.

You take part in sexual practices that involve oral-anal contact.

Not everyone has symptoms with hepatitis A infection. Therefore, many more people are infected than are diagnosed or reported.

Risk factors include:

Overseas travel, especially to Asia, South or Central America, Africa and the Middle East

Injection drug use

Living in a nursing home

Working in a health care, food, or sewage industry

Eating raw shellfish such as oysters and clams

Other common hepatitis virus infections include hepatitis B and hepatitis C. Hepatitis A is the least serious and mildest of these diseases, but can still be a dangerous illness.

Symptoms

Symptoms most often show up 2 to 6 weeks after being exposed to the hepatitis A virus. They are most often mild, but may last for up to several months, especially in adults.

Symptoms include:

Dark urine

Fatigue

Itching

Loss of appetite

Low-grade fever

Nausea and vomiting

Pale or clay-colored stools

Yellow skin (jaundice)

Exams and Tests

The health care provider will perform a physical exam, which may show that your liver is enlarged and tender.

A series of blood tests, called the hepatitis viral panel, is done for suspected hepatitis. It can help detect:

New infection

Older infection that is no longer active

Blood tests may show:

Raised IgM and IgG antibodies to hepatitis A (IgM is positive before IgG)

IgM antibodies to hepatitis A which appear during the acute infection

Elevated liver enzymes (liver function tests), especially transaminase enzyme levels

Treatment

There is no specific treatment for hepatitis A.

You should rest and stay well hydrated when the symptoms are the worst.

People with acute hepatitis should avoid alcohol and medicines that are toxic to the liver, including acetaminophen (Tylenol) during the acute illness and for several months after recovery.

Fatty foods may cause vomiting and are best avoided during the acute phase of the illness.

Outlook (Prognosis)

The virus does not remain in the body after the infection is gone.

Most people with hepatitis A recover within 3 months. Nearly all people get better within 6 months. There is no lasting damage once you've recovered. Also, you can't get the disease again. There is a low risk for death. The risk is higher among older adults and people with

chronic liver disease

.

When to Contact a Medical Professional

Contact your provider if you have symptoms of hepatitis.

Prevention

The following tips can help reduce your risk for spreading or catching the virus:

Always wash your hands well after using the restroom, and when you come in contact with an infected person's blood, stools, or other bodily fluid.

Avoid unclean food and water.

The virus may spread more rapidly through day care centers and other places where people are in close contact. Thorough hand washing before and after each diaper change, before serving food, and after using the toilet may help prevent such outbreaks.

Ask your provider about getting either immune globulin or the hepatitis A vaccine if you are exposed to the disease and have not had hepatitis A or the hepatitis A vaccine.

Common reasons for getting one or both of these treatments include:

You have hepatitis B or C or any form of chronic liver disease.

You live with someone who has hepatitis A.

You recently had sexual contact with someone who has hepatitis A.

You recently shared illegal drugs, either injected or noninjected, with someone who has hepatitis A.

You have had close personal contact over a period of time with someone who has hepatitis A.

You have eaten in a restaurant where food or food handlers were found to be contaminated or infected with hepatitis.

You are planning to travel to places where hepatitis A is common.

Vaccines that protect against hepatitis A

infection are available. The vaccine begins to protect 4 weeks after you get the first dose. You will need to get a booster shot 6 to 12 months later for long-term protection.

Travelers should take the following steps to protect against getting the disease:

Avoid dairy products.

Avoid raw or undercooked meat and fish.

Beware of sliced fruit that may have been washed in unclean water. Travelers should peel all fresh fruits and vegetables themselves.

DO NOT buy food from street vendors.

Get vaccinated against hepatitis A (and possibly hepatitis B) if traveling to countries where outbreaks of the disease occur.

Use only carbonated bottled water for brushing teeth and drinking. (Remember that ice cubes can carry infection.)

If bottled water is not available, boiling water is the best way to get rid of hepatitis A. Bring the water to a full boil for at least 1 minute to make it safe to drink.

Heated food should be hot to the touch and eaten right away.

Alternative Names

Viral hepatitis; Infectious hepatitis

Images

Digestive system

Hepatitis A

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Updated by: Michael M. Phillips, MD, Emeritus Professor of Medicine, The George Washington University School of Medicine, Washington, DC. Internal review and update on 02/10/2024 by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

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Related MedlinePlus Health Topics

Hepatitis A

Disease: Migraine

Migraine

Causes

A migraine headache is caused by abnormal brain activity. This activity can be triggered by many things. But the exact chain of events remains unclear. Most medical experts believe the attack begins in the brain and involves nerve pathways and chemicals. The changes affect blood flow in the brain and surrounding tissues.

Migraine headaches tend to first appear between the ages of 10 and 45. Sometimes, they begin earlier or later. Migraines may run in families. Migraines occur more often in women than men. Some women, but not all, have fewer migraines when they are pregnant.

Migraine attacks may be triggered by any of the following:

Caffeine withdrawal

Changes in hormone levels during a woman's menstrual cycle or with the use of birth control pills

Changes in sleep patterns, such as not getting enough sleep

Drinking alcohol

Exercise or other physical stress

Loud noises or bright lights

Missed meals

Odors or perfumes

Smoking or exposure to smoke

Stress and anxiety

Migraines can also be triggered by certain foods. Most common are:

Chocolate

Dairy foods, especially certain cheeses

Foods with monosodium glutamate (MSG)

Foods with tyramine, which includes red wine, aged cheese, smoked fish, chicken livers, figs, and certain beans

Fruits (avocado, banana, citrus fruit)

Meats containing nitrates (bacon, hot dogs, salami, cured meats)

Onions

Peanuts and other nuts and seeds

Processed, fermented, pickled, or marinated foods

True migraine headaches are not a result of a brain tumor or other serious medical problem. Only a health care provider can determine if your symptoms are due to a migraine disorder or other condition.

Symptoms

There are two main types of migraines:

Migraine with aura (classic migraine)

Migraine without aura (common migraine)

An aura is a group of nervous system (neurologic) symptoms. These symptoms are considered a warning sign that a migraine is coming. Most often, the vision is affected and can include any or all of the following:

Temporary blind spots or colored spots

Blurred vision

Eye pain

Seeing stars, zigzag lines, or flashing lights

Tunnel vision (only able to see objects close to the center of the field of view)

Other nervous system symptoms include yawning, difficulty concentrating, nausea, trouble finding the right words, dizziness, weakness, numbness, and tingling. Some of these symptoms are much less common with migraine headaches. If you have any of these symptoms, your provider will likely order tests to find the cause.

An aura often occurs 10 to 15 minutes before the headache, but can occur just a few minutes to 24 hours before. A headache does not always follow an aura.

The headaches usually:

Start as a dull ache and get worse within minutes to hours

Are throbbing, pounding, or pulsating

Are worse on one side of the head with pain behind the eye or in the back of the head and neck

Last 4 to 72 hours

Other symptoms that may occur with the headache include:

Chills

Increased urination

Fatigue

Loss of appetite

Nausea and vomiting

Sensitivity to light or sound

Sweating

Symptoms may linger, even after the migraine goes away. This is called a migraine hangover. Symptoms can include:

Feeling mentally dull, like your thinking is not clear or sharp

Needing more sleep

Neck pain

Exams and Tests

Your provider can diagnose migraine headache by asking about your symptoms and family history of migraines. A complete physical and neurological exam will be done to determine if your headaches are due to muscle tension, sinus problems, or a brain disorder.

There is no specific test to prove that your headache is actually a migraine. In most cases, no special tests are needed. Your provider may order a

brain CT

or

MRI

scan if you have never had one before. The test may also be ordered if you have unusual symptoms with your migraine, including weakness, memory problems, or loss of alertness.

An

electroencephalogram

(EEG) may be needed to check for seizures. A

lumbar puncture

(spinal tap) might be done.

Treatment

There is no specific cure for migraine headaches. The goal is to treat your migraine symptoms right away and to prevent symptoms by avoiding or changing your triggers.

A key step is learning how to

manage your migraines at home

. A headache diary can help you identify your headache triggers. Then you and your provider can plan how to avoid these triggers.

Lifestyle changes include:

Healthier sleep habits, such as getting enough sleep and going to bed at the same time each night

Healthier eating habits, including not skipping meals and avoiding your food triggers

Managing stress

Losing weight, if you're overweight

If you have frequent migraines, your provider may prescribe medicine to reduce the number of attacks. You need to take the medicine every day for it to be effective. Medicines may include:

Antidepressants

Blood pressure medicines, such as beta blockers

Anti-seizure medicines

Calcitonin gene-related peptide (CGRP) agents

Botulinum toxin type A (Botox) injections may also help reduce migraine attacks if they occur more than 15 days a month.

Some people find relief with minerals and vitamins. Check with your provider to see if riboflavin or magnesium is right for you. Some of these medicines may not be safe for a pregnant or breast-feeding woman to take.

TREATING AN ATTACK

Hydration with fluids is often helpful, with or without the use of medicines. Other medicines are taken at the first sign of a migraine attack. Over-the-counter (OTC) pain medicines, such as acetaminophen, naproxen, ibuprofen, or aspirin are often helpful when your migraine is mild. Be aware that:

Taking medicines more than 3 days a week may lead to rebound headaches. These are headaches that keep coming back due to overuse of pain medicine.

Taking too much acetaminophen can damage your liver.

Too much naproxen, ibuprofen or aspirin can irritate your stomach or damage your kidneys.

If these treatments do not help, ask your provider about prescription medicines. These include nasal sprays, suppositories, or injections. The group of medicines most often used is called triptans.

Some migraine medicines narrow the blood vessels. If you are at risk for having a heart attack or have heart disease, talk with your provider before using these medicines. Some migraine medicines should not be used by pregnant women. Talk with your provider about which medicine is right for you if you are pregnant or planning to become pregnant.

Other medicines treat symptoms of migraine, such as nausea and vomiting. They may be used alone or along with the other medicines that treat the migraine itself.

Feverfew is an herb for migraines. It can be effective for some people. Before using feverfew, make sure your provider approves. Herbal remedies sold in drugstores and health food stores are not regulated. Work with a trained herbalist when selecting herbs.

PREVENTING MIGRAINE HEADACHES

If your migraines occur more than twice a week, your provider may recommend medicines to take every day, which may help prevent your migraines. The goal is to reduce how often migraines occur and how severe the headache is. These types of medicines may help prevent or reduce migraine headaches:

Medicines commonly used for high blood pressure (such as beta-blockers, angiotensin blockade agents, and calcium channel blockers)

Certain medicines used to treat depression

Certain medicines used to treat seizures, called anticonvulsants

Botulinum toxin type A injections for select people

Medicines that block calcitonin gene-related peptide (CGRP)

Newer devices that provide different kinds of nerve stimulation or magnetic stimulation are also being evaluated for treatment of migraine headaches. Their exact role in treating migraines remains unclear.

Outlook (Prognosis)

Each person responds differently to treatment. Some people have migraines only rarely and need little to no treatment. Others need to take several medicines or even go to the hospital sometimes.

Migraine headache is a risk factor for stroke. The risk is higher in people who smoke, more so in women who have migraines that occur with aura. In addition to not smoking, people with migraines should avoid other risk factors for stroke. These include:

Taking estrogen containing birth control pills

Eating unhealthy foods, which can cause high cholesterol or high blood pressure

When to Contact a Medical Professional

Call 911 or the local emergency number if:

You are experiencing "the worst headache of your life."

You have speech, vision, or movement problems or loss of balance, especially if you have not had these symptoms with a migraine before.

A headache starts suddenly.

Schedule an appointment or contact your provider if:

Your headache pattern or pain changes.

Treatments that once worked no longer help.

You have side effects from your medicine.

You are taking birth control pills and have migraine headaches.

Your headaches are more severe when lying down.

Alternative Names

Headache - migraine; Vascular headache - migraine

Patient Instructions

Headache - what to ask your doctor

Images

Migraine headache

Migraine cause

CT scan of the brain

Central nervous system and peripheral nervous system

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Learn how to cite this page

Related MedlinePlus Health Topics

Migraine

Disease: Jaundice

Jaundice

Causes

A small number of red blood cells in your body die each day, and are replaced by new ones. The liver removes the old blood cells. This creates bilirubin. The liver helps break down bilirubin so that it can be removed by the body through the stool.

Jaundice can occur when too much bilirubin builds up in the body.

Jaundice can occur if:

Too many red blood cells are dying or breaking down and going to the liver.

The liver is overloaded or damaged.

The bilirubin from the liver is unable to move normally into the digestive tract.

Jaundice is often a sign of a problem with the liver, gallbladder, or pancreas. Things that can cause jaundice include:

Infections, most commonly viral

Use of certain drugs

Cancer of the liver, bile ducts or pancreas

Blood disorders, gallstones, birth defects and a number of other medical conditions

Symptoms

Jaundice may appear suddenly or develop slowly over time. Symptoms of jaundice commonly include:

Yellow skin and the white part of the eyes (sclera) -- when jaundice is more severe, these areas may look brown

Yellow color inside the mouth

Dark or brown-colored urine

Pale or clay-colored stools

Itching (pruritis) usually occurs with jaundice

Note: If your skin is yellow and the whites of your eyes are not yellow, you may not have jaundice. Your skin can turn a yellow-to-orange color if you eat a lot of beta carotene, the orange pigment in carrots.

Other symptoms depend on the disorder causing the jaundice:

Cancers may produce no symptoms, or there may be fatigue, weight loss, or other symptoms.

Hepatitis may produce nausea, vomiting, fatigue, or other symptoms.

Exams and Tests

The health care provider will perform a physical exam. This may show liver swelling.

A

bilirubin blood test

will be done. Other tests may include:

Hepatitis virus panel

to look for infection of the liver

Liver function tests

to determine how well the liver is working

Complete blood count

to check for low blood count or anemia

Abdominal ultrasound

Abdominal CT scan

Magnetic resonance cholangiopancreatography (MRCP)

Endoscopic retrograde cholangiopancreatography (

ERCP

)

Percutaneous transhepatic cholangiogram (

PTCA

)

Liver biopsy

Cholesterol level

Prothrombin time

Treatment

Treatment depends on the cause of the jaundice.

When to Contact a Medical Professional

Contact your provider if you develop jaundice.

Alternative Names

Conditions associated with jaundice; Yellow skin and eyes; Skin - yellow; Icterus; Eyes - yellow; Yellow jaundice

Images

Jaundice

Jaundiced infant

Cirrhosis of the liver

Bili lights

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Related MedlinePlus Health Topics

Jaundice

Disease: Chicken Pox

Chickenpox

Causes

Chickenpox is caused by the varicella-zoster virus. It is a member of the herpesvirus family. The same virus also causes

shingles

in adults.

Chickenpox can be spread very easily to others from 1 to 2 days before blisters appear until all the blisters have crusted over. You may get chickenpox:

From touching the fluids from a chickenpox blister

If someone with the disease coughs or sneezes near you

Most cases of chickenpox occur in children younger than age 10. The disease is most often mild, although serious complications may occur. Adults and older children get sicker than younger children in most cases.

Children whose mothers have had chickenpox or have received the chickenpox vaccine are not very likely to catch it before they are 1 year old. If they do catch chickenpox, they often have mild cases. This is because antibodies from their mothers' blood help protect them. Children under 1 year old whose mothers have not had chickenpox or the vaccine can get severe chickenpox.

Severe chickenpox symptoms are more common in children whose immune system does not work well.

Symptoms

Most children with chickenpox have the following symptoms before the rash appears:

Fever

Headache

Stomach ache

The chickenpox rash occurs about 10 to 21 days after coming into contact with someone who had the disease. In most cases, a child will develop 250 to 500 small, itchy, fluid-filled blisters over red spots on the skin.

The blisters are most often first seen on the face, middle of the body, or scalp.

After a day or two, the blisters become cloudy and then scab. Meanwhile, new blisters form in groups. They often appear in the mouth, in the vagina, and on the eyelids.

Children with skin problems, such as eczema, may get thousands of blisters.

Most pox will not leave scars unless they become infected with bacteria that is made more likely by scratching.

Some children who have had the vaccine will still develop a mild case of chickenpox. In most cases, they recover much more quickly and have only a few poxes (fewer than 30). These cases are often harder to diagnose. However, these children can still spread chickenpox to others.

Exams and Tests

Your health care provider can most often diagnose chickenpox by looking at the rash and asking questions about the person's medical history. Small blisters on the scalp confirm the diagnosis in most cases.

Lab tests can help confirm the diagnosis, if needed.

Treatment

Treatment involves keeping the person as comfortable as possible. Here are things to try:

Avoid scratching or rubbing the itchy areas. Keep fingernails short to avoid damaging the skin from scratching.

Wear cool, light, loose bedclothes. Avoid wearing rough clothing, particularly wool, over an itchy area.

Take lukewarm baths using little soap and rinse thoroughly. Try a skin-soothing oatmeal or

cornstarch bath.

Apply a soothing moisturizer after bathing to soften and cool the skin.

Avoid prolonged exposure to excessive heat and humidity.

Try over-the-counter oral antihistamines such as diphenhydramine (Benadryl), but be aware of possible side effects, such as drowsiness.

Try over-the-counter hydrocortisone cream on itchy areas.

Medicines that fight the chickenpox virus are available, but not given to everyone. To work well, the medicine should be started within the first 24 hours of the rash.

Antiviral medicines are not very often prescribed to otherwise healthy children who do not have severe symptoms. Adults and teens, who are at risk for more severe symptoms, may benefit from antiviral medicine if it is given early.

Antiviral medicine may be very important for those who have skin conditions (such as eczema or recent sunburn), lung conditions (such as asthma), or who have recently taken steroids.

Some providers also give antiviral medicines to people in the same household who also develop chickenpox, because they will most often develop more severe symptoms.

DO NOT give aspirin or ibuprofen to someone who may have chickenpox. Use of aspirin has been associated with a serious condition called

Reye syndrome

. Ibuprofen has been associated with more severe secondary infections. Acetaminophen (Tylenol) may be used.

A child with chickenpox should not return to school or play with other children until all chickenpox sores have crusted over or dried out. Adults should follow this same rule while considering when to return to work or be around others.

Outlook (Prognosis)

In most cases, a person recovers without complications.

Once you have had chickenpox, the virus often remains dormant or asleep in your body for your

lifetime. About 1 in 10 adults will have shingles when the virus re-emerges during a period of stress.

Possible Complications

Rarely, infection of the brain has occurred. Other problems may include:

Reye syndrome

Infection of the heart muscle

Pneumonia

Joint pain or swelling

Cerebellar ataxia

may appear during the recovery phase or later. This involves a very unsteady walk.

Women who get chickenpox during pregnancy can pass the infection to the developing baby. Newborns are at risk for severe infection.

When to Contact a Medical Professional

Contact your provider if you think that your child has chickenpox or if your child is over 12 months of age and has not been vaccinated against chickenpox.

Prevention

Because chickenpox is airborne and spreads very easily, even before the rash appears, it is hard to avoid.

A vaccine to prevent chickenpox is part of a child's routine vaccine schedule.

The vaccine often prevents the chickenpox disease completely or makes the illness very mild.

Talk to your provider if you think your child might be at high risk for complications and might have been exposed. Taking preventive steps right away may be important. Giving the vaccine early after exposure may still reduce the severity of the disease.

Alternative Names

Varicella; Chicken pox

Images

Chickenpox - lesion on the leg

Chickenpox

Chickenpox - lesions on the chest

Chickenpox, acute pneumonia - chest x-ray

Chickenpox - close-up

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Related MedlinePlus Health Topics

Chickenpox

Disease: Acne

Acne

Causes

Acne occurs when tiny holes on the surface of the skin become clogged. These holes are called pores.

Each pore opens to a follicle. A follicle contains a hair and an oil gland. The oil released by the gland helps remove old skin cells and keeps your skin soft.

The glands can become blocked with a mixture of oil and skin cells. The blockage is called a plug or comedone. If the top of the plug is white, it is called a

whitehead

. It is called a

blackhead

if the top of the plug is dark.

If bacteria become trapped in the plug, the body's immune system may react to it, causing pimples.

Acne that is deep in your skin can cause hard, painful

cysts

. This is called nodulocystic acne.

Acne is most common in teenagers, but anyone can get acne, even babies. The problem tends to run in families.

Some things that may trigger acne include:

Hormonal changes that make the skin oilier. These may be related to puberty, menstrual periods, pregnancy,

birth control pills

, or stress.

Greasy or oily cosmetic and hair products.

Certain drugs (such as steroids,

testosterone

, estrogen, and phenytoin). Birth control devices, such as some drug-containing IUDs, can make acne worse.

Heavy sweating and humidity.

Excessively touching, resting on, or rubbing the skin.

Research does not show that chocolate, nuts, and greasy foods cause acne. However, diets high in refined sugars or dairy products may be related to acne in some people, but this connection is controversial.

Symptoms

Acne commonly appears on the face and shoulders. It may also occur on the trunk, arms, legs, and buttocks. Skin changes include:

Crusting of skin bumps

Cysts

Papules (small red bumps)

Pustules

(small red bumps containing white or yellow pus)

Redness around the skin eruptions

Scarring of the skin

Whiteheads

Blackheads

Exams and Tests

Your health care provider can diagnose acne by looking at your skin. Testing is not needed in most cases. Bacterial culture may be performed with certain patterns of acne or to check for infection if large pus bumps persist.

Treatment

SELF-CARE

Steps you can take to help your

acne

:

Clean your skin gently with a mild, nondrying soap (such as Dove, Neutrogena, Cetaphil, CeraVe, or Basics).

Look for water-based or "noncomedogenic" formulas for cosmetics and skin creams. (Noncomedogenic products have been tested and proven not to clog pores and cause acne in most people.)

Remove all dirt or make-up. Wash once or twice a day, including after exercising.

Avoid scrubbing or repeated skin washing.

Shampoo your hair daily, especially if it is oily.

Comb or pull your hair back to keep the hair out of your face.

What NOT to do:

Try not to aggressively squeeze, scratch, pick, or rub the pimples. This can lead to skin infections, slower healing, and scarring.

Avoid wearing tight headbands, baseball caps, and other hats.

Avoid touching your face with your hands or fingers.

Avoid greasy cosmetics or creams.

DO NOT leave make-up on overnight.

If these steps do not clear up the blemishes, try over-the-counter acne medicines that you apply to your skin. Follow the directions carefully and apply these products sparingly.

These products may contain benzoyl peroxide, sulfur, resorcinol, adapalene, or salicylic acid.

They work by killing bacteria, drying up skin oils, or causing the top layer of your skin to peel.

They may cause redness, drying, or excessive peeling of the skin.

Be aware that benzoyl peroxide containing preparations can bleach or discolor towels and clothing.

A small amount of sun exposure may improve acne slightly, but tanning mostly hides the acne. Too much exposure to sunlight or ultraviolet rays is not recommended because it increases the risk for wrinkles and skin cancer.

MEDICINES FROM YOUR PROVIDER

If pimples are still a problem, your provider can prescribe stronger medicines and discuss other options with you.

Antibiotics may help some people with acne:

Oral antibiotics (taken by mouth) such as tetracycline, doxycycline, minocycline, erythromycin, trimethoprim-sulfamethoxazole, and amoxicillin

Topical antibiotics (applied to the skin) such as clindamycin, erythromycin, or dapsone

Creams or gels applied to the skin may be prescribed:

Derivatives of vitamin A such as retinoic acid cream or gel (tretinoin, tazarotene)

Prescription formulas of benzoyl peroxide, sulfur, resorcinol, or salicylic acid

Topical azelaic acid

For women whose acne is caused or made worse by hormones:

A pill called spironolactone may help.

Birth control pills may help in some cases, though they may make acne worse in some women.

Minor procedures or treatments may also be helpful:

Photodynamic therapy may be used. This is a treatment where a chemical that is activated by blue light is applied to the skin, followed by exposure to the light.

Your provider may also suggest chemical skin peeling; removal of scars by

dermabrasion

; or removal, drainage, or injection of

cysts

with cortisone.

People who have cystic acne and scarring may try a medicine called isotretinoin. You will be

watched closely when taking this medicine because of its side effects.

Pregnant women should NOT take isotretinoin, because it causes severe birth defects.

Women taking isotretinoin must use 2 forms of birth control before starting the drug and enroll in the iPledge program.

Men also need to be enrolled in the iPledge program.

Your provider will follow you on this drug and you will have regular blood tests.

Outlook (Prognosis)

Most of the time, acne goes away after the teenage years, but it may last into middle age. The condition often responds well to treatment, but responses may take 6 to 8 weeks, and acne may flare up from time to time.

Scarring may occur if severe acne is not treated. Some people become very depressed if acne is not treated.

When to Contact a Medical Professional

Contact your provider if:

Self-care steps and over-the-counter medicine do not help after several months.

Your acne is very bad (for example, you have a lot of redness around the pimples, or you have cysts).

Your acne is getting worse.

You develop scars as your acne clears up.

Acne is causing emotional stress.

If your baby has acne, contact the baby's provider if acne does not clear up on its own within 3 months.

Alternative Names

Acne vulgaris; Cystic acne; Pimples; Zits

Images

Hair follicle sebaceous gland

Baby acne

Acne - close-up of pustular lesions

Blackheads (comedones)

Acne - cystic on the chest

Acne - cystic on the face

Acne - vulgaris on the back

Acne on the back

Acne

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Related MedlinePlus Health Topics

Acne

Disease: Malaria

Malaria

Causes

Malaria is caused by a parasite. It is passed to humans by the bite of infected Anopheles mosquitoes. After infection, the parasites (called sporozoites) travel through the bloodstream to the liver. There, they mature and release another form of parasites, called merozoites. The parasites enter the bloodstream and infect red blood cells (RBCs).

The parasites multiply inside the red blood cells. The cells then break open within 48 to 72 hours and infect more red blood cells. The first symptoms usually occur 2 to 4 weeks after infection, though they can appear as early as 8 days or as long as a year after infection. The symptoms occur in cycles of 48 to 72 hours.

Most symptoms are caused by:

The release of merozoites into the bloodstream

Anemia resulting from the destruction of the red blood cells

Large amounts of free hemoglobin being released into circulation after red blood cells break open, which can damage other organs such as the kidneys

Malaria can also be transmitted from a mother to her unborn baby (congenitally) and by blood transfusions. Malaria can be carried by mosquitoes in temperate climates, but the parasite disappears over the winter.

The disease is a major health problem in much of the tropics and subtropics. The Centers for Disease Control and Prevention reported that in 2020 there were about 241 million cases of malaria. About 627,000 people died of it. Malaria is a major disease hazard for travelers to warm climates.

In some areas of the world, mosquitoes that carry malaria have developed resistance to insecticides. In addition, the parasites have developed resistance to some antibiotics. These conditions have made it hard to control both the rate of infection and spread of this disease.

Symptoms

Symptoms include:

Anemia

(condition in which the body doesn't have enough healthy red blood cells)

Bloody stools

Chills, fever, sweating

Coma

Convulsions

Headache

Jaundice

Muscle pain

Nausea and vomiting

Exams and Tests

During a physical examination, the health care provider may find an

enlarged liver

or

enlarged spleen

.

Tests that are done include:

Rapid diagnostic tests, which are becoming more common because they are easier to use and require less training by laboratory technicians

Malaria blood smears taken at 6 to 12 hour intervals to confirm the diagnosis

A

complete blood count

(CBC) will identify anemia if it is present

Treatment

Malaria, especially falciparum malaria, is a medical emergency that requires a hospital stay. Chloroquine is often used as an anti-malarial medicine. But chloroquine-resistant infections are common in some parts of the world.

Possible treatments for chloroquine-resistant infections include:

Artemisinin derivative combinations, including artemether and lumefantrine

Atovaquone-proguanil

Quinine-based regimen, in combination with doxycycline or clindamycin

Mefloquine, in combination with artesunate or doxycycline

The choice of medicine depends, in part, on where you got the infection.

Medical care, including fluids through a vein (IV) and other medicines and breathing (respiratory) support may be needed.

Outlook (Prognosis)

Outcome is expected to be good in most cases of malaria with treatment, but poor in falciparum infection with complications.

Possible Complications

Health problems that may result from malaria include:

Brain infection (cerebritis)

Destruction of blood cells (

hemolytic anemia

)

Kidney failure

Liver failure

Meningitis

Respiratory failure from fluid in the lungs (

pulmonary edema

)

Rupture of the spleen leading to massive internal bleeding (hemorrhage)

When to Contact a Medical Professional

Contact your health care provider if you develop fever and headache after visiting any foreign country.

Prevention

Most people who live in areas where malaria is common have developed some

immunity

to the disease. Visitors will not have immunity and should take preventive medicines.

It is important to see your provider well before your trip. This is because treatment may need to begin as long as 2 weeks before travel to the area, and continue for a month after you leave the area. Most travelers from the United States who contract malaria fail to take the right precautions.

The types of anti-malarial medicines prescribed depend on the area you visit. Travelers to South America, Africa, the Indian subcontinent, Asia, and the South Pacific should take one of the following medicines:

Mefloquine

Doxycycline

Chloroquine

Hydroxychloroquine

Atovaquone-proguanil

Even pregnant women should consider taking preventive medicines because the risk to the fetus from the medicine is less than the risk of catching this infection.

Chloroquine has been the medicine of choice for protecting against malaria. But because of

resistance, it is now only suggested for use in areas where

Plasmodium vivax

,

P oval

, and

P malariae

are present.

Falciparum malaria is becoming increasingly resistant to anti-malarial medicines. Recommended medicines include mefloquine, atovaquone/proguanil (Malarone), and doxycycline.

Prevent mosquito bites by:

Wearing protective clothing over your arms and legs

Using mosquito netting while sleeping

Using insect repellent

For information on malaria and preventive medicines, visit the CDC website:

www.cdc.gov/malaria/prevention/index.html

.

Alternative Names

Quartan malaria; Falciparum malaria; Biduoterian fever; Blackwater fever; Tertian malaria; Plasmodium

Images

Malaria - microscopic view of cellular parasites

Mosquito, adult feeding on the skin

Mosquito, egg raft

Mosquito - larvae

Mosquito, pupa

Malaria, microscopic view of cellular parasites

Malaria, photomicrograph of cellular parasites

Malaria

Digestive system organs

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Related MedlinePlus Health Topics

Malaria

Disease: Pneumonia

Pneumonia - weakened immune system

Causes

People whose immune system is not working well are less able to fight off germs. This makes them prone to infections from germs that do not often cause disease in healthy people. They are also more vulnerable to regular causes of

pneumonia

, which can affect anyone.

Your immune system may be weakened or not work well because of:

Bone marrow transplant

Chemotherapy

HIV infection

Leukemia

, lymphoma, and other conditions that harm your bone marrow

Autoimmune disorders

Medicines (including steroids, and those used to treat cancer and control autoimmune diseases)

Organ transplant (including kidney, heart, and lung)

Symptoms

Symptoms may include:

Cough

(may be dry or produce mucus-like, greenish, or pus-like sputum)

Chills

with shaking

Fatigue

Fever

General discomfort, uneasiness, or ill feeling (

malaise

)

Headache

Loss of appetite

Nausea and vomiting

Sharp or stabbing

chest pain

that gets worse with deep breathing or coughing

Shortness of breath

Other symptoms that may occur:

Heavy sweating or night sweats

Stiff joints (rare)

Stiff muscles (rare)

Exams and Tests

Your health care provider may hear crackles or other abnormal breath sounds when listening to your chest with a stethoscope. Decreased volume of breath sounds is a key sign. This finding may mean there is a buildup of fluid between the chest wall and lung (

pleural effusion

).

Tests may include:

Arterial blood gases

Blood chemistries

Blood culture

Bronchoscopy

(in certain cases)

Chest CT scan

(in certain cases)

Chest x-ray

Complete blood count

COVID test

Lung biopsy

(in certain cases)

Serum cryptococcus antigen test

Serum galactomannan test

Galactomannan test from bronchial alveolar fluid

Sputum culture

Sputum Gram stain

Sputum immunofluorescence tests

(or other immune tests)

Urine tests (to diagnose

Legionnaire's disease

or Histoplasmosis)

Treatment

Antibiotics or antifungal medicines may be used, depending on the type of germ that is causing the infection. Antibiotics are not helpful for viral infections, but newer medicines may treat some viral infections for example COVID-19. You may need to stay in the hospital during the early stages of the illness.

Oxygen and treatments to remove fluid and mucus from the respiratory system are often needed.

Outlook (Prognosis)

Factors that may lead to a worse outcome include:

The pneumonia that is caused by a fungus.

The person has a very weak immune system.

Possible Complications

Complications may include:

Respiratory failure (a condition in which a patient can't take in oxygen and get rid of carbon dioxide without the use of a machine to deliver breaths.)

Sepsis

Spread of the infection

Death

When to Contact a Medical Professional

Contact your provider if you have a weakened immune system and you have symptoms of pneumonia.

Prevention

If you have a weakened immune system, you may receive daily antibiotics to prevent some types of pneumonia.

Ask your provider if you should receive the influenza (flu), pneumococcal (pneumonia), and COVID-19 vaccines.

Practice good hygiene. Thoroughly wash your hands with soap and water:

After being outdoors

After changing a diaper

After doing housework

After going to the bathroom

After touching body fluids, such as mucus or blood

After using the telephone

Before handling food or eating

Other things you can do to reduce your exposure to germs include:

Consider wearing a face mask when outside of your house.

Keep your house clean.

Stay away from crowds.

Ask visitors who have a cold to wear a mask or not to visit.

Do not do yard work or handle plants or flowers (they can carry germs).

Alternative Names

Pneumonia in immunodeficient patient; Pneumonia - immunocompromised host; Cancer - pneumonia; Chemotherapy - pneumonia; HIV - pneumonia

Images

Pneumococci organism

Lungs

Respiratory system

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Related MedlinePlus Health Topics

Pneumonia

Disease: Dengue

Dengue fever

Causes

Dengue fever is caused by 1 of 4 different but related viruses. It is spread by the bite of mosquitoes, most commonly the mosquito

Aedes aegypti

, which is found in tropic and subtropic regions. This area includes parts of:

The Indonesian archipelago into northeastern Australia

South and Central America

Southeast Asia

Sub-Saharan Africa

The Caribbean (including Puerto Rico and US Virgin Islands)

Dengue fever is rare in the US mainland, but has been found in Hawaii, Florida, and Texas.

Symptoms

Dengue fever begins with a sudden high fever, often as high as 105Â°F (40.5Â°C), 4 to 7 days after the infection.

A flat, red rash may appear over most of the body 2Â to 5 days after the fever starts. A second rash, which looks like the

measles

, appears later in the disease. Infected people may have increased skin sensitivity and are very uncomfortable.

Other symptoms include:

Fatigue

Headache (especially behind the eyes)

Joint aches

(often severe)

Muscle aches

(often severe)

Nausea and vomiting

Swollen lymph nodes

Cough

Sore throat

Nasal stuffiness

Symptoms of severe dengue can occur 24 to 48 hours after fever has gone away. Severe symptoms include:

Severe stomach pain and tenderness

Vomiting often (at least 3 times in 24 hours)

Bleeding from the nose or gums

Vomiting blood or passing blood in the stools or urine

Bleeding under the skin (looks like bruises)

Difficulty breathing, rapid breathing

Feeling tired, restless, or irritable

If you or anyone you know has symptoms of severe dengue, call 911 or the local emergency number right away.

Exams and Tests

Tests that may be done to diagnose this condition include:

Antibody titer

for dengue virus types

Complete blood count (

CBC

)

Polymerase chain reaction (PCR) test for dengue virus types

Liver function tests

Treatment

There is no specific treatment for dengue fever. Fluids are given if there are signs of dehydration

. Acetaminophen (Tylenol) is used to treat a high fever.

Avoid taking aspirin, ibuprofen (Advil, Motrin), and naproxen (Aleve). They may increase bleeding problems.

Severe dengue is a medical emergency. It must be treated immediately at a hospital. Treatment for severe dengue is supportive and may include:

Fluids given through a vein (IV)

Oxygen

Blood pressure management

Blood transfusions

Outlook (Prognosis)

Mild cases of dengue generally last a week or more. Although uncomfortable, mild dengue fever is not deadly. People with the condition should fully recover. In some Latin American and Asian countries, severe dengue is a leading cause of death and severe illness. Early detection and treatment of severe dengue can greatly reduce the risk of death.

Possible Complications

Untreated, dengue fever may cause the following health problems:

Febrile

convulsions

Severe dehydration

Death

When to Contact a Medical Professional

Contact your health care provider if you have traveled in an area where dengue fever is known to occur and you have symptoms of the disease.

Prevention

Clothing, mosquito repellent, and netting can help reduce the risk for mosquito bites that can spread dengue fever and other infections. Limit outdoor activity during mosquito season, especially when they are most active, at dawn and dusk.

Alternative Names

O'nyong-nyong fever; Dengue-like disease; Breakbone fever; Dengue hemorrhagic fever

Images

Mosquito, adult feeding on the skin

Dengue fever

Mosquito, adult

Mosquito, egg raft

Mosquito - larvae

Mosquito, pupa

Antibodies

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Related MedlinePlus Health Topics

Dengue