CONDITION

Chickenpox

Learn how chickenpox spreads, what its rash looks like, how symptoms are managed, and when children or adults need medical care.

WHAT IT IS
Highly contagious viral infection

BODY SYSTEM
Skin and immune system

MAIN SYMPTOMS
Itchy blistering rash, fever, tiredness, poor appetite

WHAT CAUSES IT
Varicella-zoster virus infection

HOW IT IS DIAGNOSED
PCR from a skin lesion or scab

MAIN TREATMENT
Supportive care and antiviral medicines

CAN IT BE CURED?
No, virus remains inactive in body

IS IT AN EMERGENCY?
Sometimes, with severe trouble breathing

LONG-TERM OUTLOOK
Most healthy children recover without lasting problems

Overview

Chickenpox, also called varicella, is a highly contagious infection caused by the varicella-zoster virus. It usually causes fever and an itchy rash that turns into fluid-filled blisters and then scabs.

Chickenpox was once very common in childhood. Vaccination has made it much less common in countries with routine varicella vaccination. A vaccinated person can still develop chickenpox, but the illness is often milder, with fewer skin lesions and little or no fever.

Most otherwise healthy children recover without lasting problems. However, chickenpox can sometimes cause serious complications. Adults, pregnant people, newborns, and people with weakened immune systems are more likely to become very ill.

The virus remains inactive in the body after recovery. Years later, it can reactivate and cause

shingles, a painful blistering rash. A person with shingles cannot give someone else shingles, but direct contact with shingles blisters can cause chickenpox in a person who is not immune.

Because chickenpox spreads easily, call a healthcare office before arriving if you think you or your child may have it. The office may arrange precautions to protect other patients, especially pregnant people and those with weakened immune systems.

Symptoms

Symptoms usually begin 10 to 21 days after exposure to the virus. A person may have fever, tiredness, poor appetite, or headache a day or two before the rash appears. In some children, the rash is the first noticeable symptom.

The rash often starts on the chest, back, face, or scalp. It may then spread across the body, including inside the mouth, on the eyelids, or around the genitals. New spots can continue appearing for several days.

Chickenpox lesions commonly pass through several stages:

Different stages may be present at the same time. This pattern can help a clinician distinguish chickenpox from some other rashes.

Vaccinated people who develop chickenpox may have fewer lesions. Their spots may stay flat or raised rather than forming obvious blisters. This is called breakthrough chickenpox. It can be harder to recognize, but the person may still spread the virus.

Contact a healthcare professional promptly if chickenpox is suspected in a pregnant person, a newborn, an adult, or anyone with a weakened immune system. Early medical advice is also important after exposure in these groups, even before symptoms begin.

Seek same-day medical advice if there are signs of dehydration, persistent vomiting, a worsening cough, severe abdominal pain, difficulty walking, a stiff neck, unusual sleepiness, or a rash that becomes very red, warm, painful, or drains pus. These symptoms can point to a complication.

Call emergency services for severe trouble breathing, a seizure, inability to wake the person, severe confusion, bluish or gray skin, or another rapidly worsening symptom.

- Flat or slightly raised red spots
- Very itchy, fluid-filled blisters
- Open or cloudy blisters
- Dry, crusted scabs

Causes and risk factors

Chickenpox is caused by the varicella-zoster virus. It spreads through the air when an infected person breathes, coughs, or sneezes. It can also spread through direct contact with fluid from chickenpox or shingles blisters.

A person with chickenpox is generally contagious from one to two days before the rash appears until every blister has crusted. Vaccinated people whose lesions do not crust are considered contagious until no new lesions have appeared for 24 hours.

Someone without immunity is at greater risk after close contact with a person who has chickenpox. Immunity usually comes from vaccination, a previous infection confirmed by a clinician, or other accepted evidence of immunity. A blood test is not routinely needed for every person.

Chickenpox can be more severe in:

A pregnant person can pass the virus to the fetus. The possible effects depend partly on when infection occurs. Infection earlier in pregnancy can rarely affect fetal development. Chickenpox around the time of delivery can cause severe illness in the newborn. Anyone who is pregnant and may have been exposed should contact an obstetric clinician promptly rather than waiting for a rash.

Vaccination is the main way to prevent chickenpox. In the United States, routine vaccination uses two doses. People who do not have evidence of immunity may also need catch-up vaccination. A clinician can review vaccination records and determine what is appropriate.

The chickenpox vaccine contains a weakened live virus, so it is not appropriate for everyone. Pregnant people and some people with weakened immune systems should not receive it. After an exposure, a clinician may recommend vaccination or varicella-zoster immune globulin, which supplies temporary antibodies, depending on the person's health, immunity, and timing of exposure.

- Adolescents and adults
- Pregnant people who are not immune
- Newborns exposed around the time of birth
- People with weakened immune systems
- People taking medicines that suppress immune function
- People with certain long-term skin or lung conditions

Diagnosis

A healthcare professional can often diagnose chickenpox from the appearance and progression of the rash, along with symptoms, vaccination history, and possible exposure. Because several infections and skin conditions can look similar, appearance alone is not always enough.

Laboratory testing is especially useful when the rash is unusual, the person was vaccinated, severe illness is possible, or confirming the diagnosis will affect infection-control decisions. Polymerase chain reaction, usually called PCR, is the preferred test. It looks for the virus's genetic material in a sample from a blister, skin lesion, or scab.

Blood antibody tests have limitations. They may help assess past immunity in some situations, but they are less useful for confirming a new case than PCR from a skin lesion.

Do not deliberately open blisters to collect a sample at home. If testing is needed, a clinician or public health professional can explain how it should be done.

Treatment and management

Treatment depends on age, overall health, symptom severity, and the risk of complications. Most healthy children need supportive care, meaning treatment focused on comfort and hydration while the immune system clears the infection.

Offer fluids regularly. Cool or lukewarm baths, calamine lotion, or colloidal oatmeal products may ease itching. Keep fingernails short and clean to reduce skin damage from scratching. For young children, soft mittens at night may help. Gently wash the skin and avoid picking at blisters or scabs.

A clinician or pharmacist can advise whether an antihistamine like cetirizine or loratadine is appropriate for itching. Some antihistamines cause drowsiness or may not be suitable for young children, so follow professional advice and the product label.

Acetaminophen may be used for fever or discomfort when it is appropriate for the person. Follow the package instructions or a clinician's directions. Never give aspirin or an aspirin-containing medicine to a child or teenager with chickenpox because of the risk of Reye syndrome, a rare but serious condition affecting the brain and liver.

The American Academy of Pediatrics recommends avoiding ibuprofen when possible during chickenpox because studies have found an association with severe bacterial skin infections. Ask a healthcare professional before using ibuprofen or another nonsteroidal anti-inflammatory drug.

Antiviral medicines, such as acyclovir or valacyclovir, may be considered for people more likely to develop severe disease. They work best when started early, usually near the beginning of the rash. People with severe illness or major immune suppression may require antiviral treatment in a hospital. The choice of medicine, route, and treatment length must be made by a clinician.

Antibiotics like amoxicillin or doxycycline do not treat chickenpox because it is caused by a virus. They may be needed if bacteria infect damaged skin or cause another complication.

While contagious, the person should stay away from school, childcare, work, public gatherings, and people at high risk of severe disease. Avoid contact with pregnant people, newborns, and anyone with a weakened immune system. Do not share towels, bedding, or clothing. Wash hands regularly and cover coughs and sneezes.

Complications

The most common complications involve the skin. Scratching can break the skin and allow bacteria to enter. Warning signs include increasing redness, warmth, swelling, tenderness, or pus. A skin infection can occasionally spread into deeper tissues or the bloodstream.

Other possible complications include dehydration and pneumonia. Pneumonia is a particular concern in adults, pregnant people, and people who smoke or have weakened immune systems.

The virus can rarely affect the brain or nervous system. Possible signs include severe headache, confusion, unusual sleepiness, balance problems, difficulty walking, a stiff neck, or seizures. These symptoms need urgent assessment.

Chickenpox can also rarely cause bleeding problems, liver inflammation, bloodstream infection, or failure of more than one organ. Severe complications are not typical in healthy children, but they can develop even when the initial rash seems mild.

After chickenpox resolves, the virus remains inactive in nerve tissue. If it later reactivates, it causes shingles rather than a second typical case of chickenpox.

Follow up

Routine follow-up is not always needed when an otherwise healthy person is recovering normally. Fever and discomfort should improve, new spots should stop appearing, and the blisters should gradually crust. The scabs usually fall off without treatment. Temporary light or dark marks can remain, while permanent scars are more likely after deep scratching or a skin

infection.

Contact a clinician if fever lasts more than four days, rises above 102°F or 38.9°C, returns after improving, or occurs with worsening symptoms. Medical review is also appropriate if the rash is not healing as expected or if there are signs of infection or dehydration.

A child can usually return to school or childcare after every lesion has crusted. If breakthrough chickenpox caused spots that never formed crusts, return is generally delayed until no new lesions have appeared for at least 24 hours. Local public health, school, or childcare rules may differ.

After recovery or exposure, ask whether household members have evidence of immunity. A clinician may recommend vaccination for eligible people. Those at high risk of severe illness may need a different preventive approach and should receive prompt medical advice.

Sources

- Centers for Disease Control and Prevention. "About Chickenpox." National Center for Immunization and Respiratory Diseases, 2024.
- Centers for Disease Control and Prevention. "Clinical Overview of Chickenpox (Varicella)." National Center for Immunization and Respiratory Diseases, 2024.
- Centers for Disease Control and Prevention. "Clinical Guidance for People at Risk for Severe Varicella." National Center for Immunization and Respiratory Diseases, 2024.
- Centers for Disease Control and Prevention. "Laboratory Testing for Varicella-Zoster Virus." National Center for Immunization and Respiratory Diseases, 2024.
- Centers for Disease Control and Prevention. "Varicella Vaccine Recommendations." National Center for Immunization and Respiratory Diseases, 2024.
- American Academy of Pediatrics. "Varicella-Zoster Virus Infections." Red Book: 2024-2027 Report of the Committee on Infectious Diseases . 33rd edition. American Academy of Pediatrics, 2024.