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Chickenpox (varicella)

What is chickenpox?

Chickenpox is a highly contagious disease caused by the varicella-zoster virus (*Herpes zoster*).

Who is at risk of chickenpox?

Chickenpox occurs worldwide, affecting persons of all races, gender and age. However, it is largely a childhood disease with most cases occurring in children before 10 years of age.

Once a person has had the chickenpox infection it is unlikely he or she will get it again as for most people one infection is thought to confer lifelong immunity. However, immunocompromised individuals are susceptible to the virus at all times and measures taken to either prevent or modify the course of the disease should be taken if there has been exposure to the virus.

Although widespread chickenpox does not recur, the varicella virus remains in selected anterior horn cells of the spinal cord long term. It may be stimulated to reappear later as [shingles](#), or herpes zoster infection.

How do you get chickenpox?

Chickenpox is highly contagious and is easily spread from person to person by breathing in airborne respiratory droplets from an infected person's coughing or sneezing or through direct contact with the fluid from the open sores. A person who is not immune to the virus has a 70–80% chance of being infected with the virus if exposed in the early stages of the disease.

What are the signs and symptoms of chickenpox?

In children, chickenpox usually begins as an itchy rash of red papules (small bumps) progressing to vesicles (blisters) on the stomach, back and face, and then spreading to other parts of the body. The spread pattern can vary from person to person. Also, depending on the individual case, there may be only a scattering of vesicles or the entire body may be covered with between 250 to 500 vesicles. The vesicles tend to be very itchy and uncomfortable. Some children may also experience additional symptoms such as high fever, headache, coldlike symptoms and vomiting and diarrhoea. Most adults who get chickenpox experience prodromal symptoms for up to 48 hours before breaking out in rash. These include fever, malaise, headache, loss of appetite and abdominal pain. The condition is usually more severe in adults and can be life-threatening in complicated cases.

Varicella



How is chickenpox diagnosed?

Diagnosis of chickenpox is usually made on the presence of its characteristic rash (initial red papules that evolve into vesicles containing fluid) and that different stages of lesions are present simultaneously. A clue to the diagnosis is in knowing that the patient has been exposed to an infected contact within the 10–21 day incubation period. Patients may also have prodromal signs and symptoms.

What is the treatment for chickenpox?

For most healthy patients with chickenpox symptomatic therapy is usually all that is required.

- Trimming children's fingernails to minimize scratching.
- Paracetamol to reduce fever and pain (do not use aspirin in children as this is associated with Reye's syndrome).
- Calamine lotion and/or oral antihistamines to relieve itching.
- Consider oral [aciclovir](#) (antiviral agent) in people older than 12 years who may be at increased risk of severe varicella infections.

Immunocompromised patients with chickenpox need intravenous treatment with the antiviral [aciclovir](#). In cases of inadvertent exposure to the virus, varicella-zoster immune globulin if given within 96 hours of initial contact can reduce the severity of the disease though not prevent it.

Chickenpox can now be prevented by vaccination with live attenuated varicella vaccine. Because the disease is usually uncomplicated and self-limiting in children, debate exists as to whether it should be given on a routine basis. The vaccine is currently not part of the immunisation programme for children in New Zealand.

What are the complications from chickenpox?

In healthy children, chickenpox infection is usually an uncomplicated, self-limiting disease. Problems that may arise in more complicated cases include:

- Secondary bacterial infection of skin lesions caused from scratching
- Dehydration from vomiting and diarrhoea

- Exacerbation of asthma
- Viral pneumonia

Although the following complications may occur in healthy children with chickenpox, they are more commonly seen in immunocompromised and adult chickenpox cases.

- Disseminated primary varicella infection; carries high morbidity
- Central nervous system complications such as Reye's syndrome, Guillain-Barré syndrome and encephalitis
- Thrombocytopenia and [purpura](#) secondary to varicella infection

Exposure to varicella virus may cause severe problems in pregnant women whom have not had chickenpox before. Chickenpox during pregnancy may cause viral pneumonia, premature labour and delivery and rarely maternal death. Also, approximately 25% of fetuses become infected. Offspring may remain asymptomatic, or develop herpes zoster at a young age without previous history of primary chickenpox infection.

How to avoid spread of chickenpox

A person with chickenpox is contagious 1–2 days before the rash appears and until all the blisters have formed scabs. This may take between 5–10 days. Children should stay away from school or childcare facilities throughout this contagious period. Adults with chickenpox who work amongst children, should also remain home.

It can take from 10–21 days after contact with an infected person for someone to develop chickenpox. This is how long it takes for the virus to replicate and come out in the characteristic rash in the new host.

Because of the serious complications that may occur in immunocompromised individuals and pregnant women, these people should avoid visiting friends or family when there is a known case of chickenpox. In cases of inadvertent contact, see your doctor who may prescribe special preventive treatment.

Related information

On DermNet NZ:

- [Shingles](#)

Other websites:

- [Chickenpox](#) - World Health Organization (WHO)
- [Chickenpox](#) - emedicine dermatology, the online textbook
- [Varicella](#) - Immunisation Handbook 2002, Ministry of Health, New Zealand

Books about skin diseases:

See the [DermNet NZ bookstore](#)

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DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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