

Chickenpox and shingles

Chickenpox (varicella) is a viral infection caused by the varicella-zoster virus. Shingles (herpes zoster infection) is caused by re-activation of the chicken-pox virus.



Chickenpox and shingles are notifiable conditions¹

How chickenpox and shingles are spread

Chickenpox is spread when an infected person talks, breathes, coughs or sneezes tiny particles containing infectious agents into the air. These are called small particle aerosols. Due to their tiny size, small particle aerosols can travel long distances on air currents and remain suspended in the air for minutes to hours. These small particle aerosols may be breathed in by another person. Chickenpox is also spread by contact with or breathing in blister fluid.

Following infection, the virus will remain dormant (resting) in nerve cells near the spinal cord for the rest of the person's life. Reactivation of this virus causes shingles (herpes zoster) rather than a second attack of chickenpox.

Direct contact with the blister fluid in shingles can cause chickenpox in a non-immune person. There is no spread through the air from people with shingles, except perhaps in some very severe cases of disseminated (widespread) shingles. Contact with chickenpox or shingles cannot lead to shingles in the exposed person since shingles can only follow the reactivation of a previous chickenpox infection.

Signs and symptoms

Chickenpox

Symptoms of chickenpox may include:

- > Slight fever and cold-like symptoms, followed by a rash (see image).
- > A rash appears as blisters which crust to form scabs and is usually itchy.
- > Crops of blisters may appear over several days and various stages of blisters may be present. The rash is usually more noticeable on the trunk than on the limbs. It may affect the scalp and the inside of the mouth, nose, and throat.
- > In childhood, chickenpox is usually a mild illness and can be so mild it might not be noticed. Infection in adults is uncommon, since more than 95% of unimmunised Australians get the infection in childhood. Chickenpox in adults is more severe and may be complicated by pneumonia (lung infection or inflammation).
- > Chickenpox may be particularly severe in children with leukaemia, pregnant women and young babies. Congenital malformation of the fetus may occur in up to 2 % of pregnancies where chickenpox occurs in early pregnancy. If chickenpox occurs around the time of delivery, the baby may become infected and up to 30% of newborns will become severely ill.



Image courtesy of Public Health Image Library (PHIL), Department of Health and Human Services, Centers for Disease Control and Prevention (CDC-USA)

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Shingles

- > Shingles follows a previous chickenpox infection, usually several decades later. Shingles occurs when the body's immunity to the virus drops and the virus, which has been resting near the spinal cord, becomes active again. The elderly, children and adults being treated for cancer, and people with advanced HIV infection are at greater risk of developing shingles.
- > A blistering rash with band-like distribution (see image), usually associated with severe pain, occurs in the skin supplied by the spinal nerves carrying the reactivated virus. The rash may be followed by persistent pain in the area, lasting for weeks.



Image courtesy of Public Health Image Library (PHIL), Department of Health and Human Services, Centers for Disease Control and Prevention (CDC-USA)

Diagnosis

Chickenpox and shingles have a typical appearance and are usually diagnosed by clinical presentation. This can be confirmed by a swab test of the rash detecting the varicella-zoster virus. A blood test can detect if someone has protection from chickenpox infection in the past, but the test may not be helpful in determining if there is adequate immunity to varicella-zoster virus following vaccination.

Incubation period

(time between becoming infected and developing symptoms)

For chickenpox, 10 to 21 days, commonly 14 to 16 days, but may vary in people whose immune system is suppressed.

Infectious period

(time during which an infected person can infect others)

For chickenpox, from 2 days before the rash appears until at least 5 days after the rash first appears and all blisters have crusted over.

For shingles, a person is infectious from when the rash appears until all blisters have dried up.

Treatment

Specific antiviral treatment for both chickenpox and shingles is available. Treatment is usually only given to those with severe disease or at risk of severe disease. To be effective, treatment must be commenced early, usually within 24 hours of onset of the rash.

For all cases, calamine lotion or promethazine [Phenergan] (available from pharmacies) may be useful for the itch. If treatment to reduce temperature or discomfort is necessary, paracetamol is recommended. Aspirin should not be given to children or adolescents who have chickenpox or shingles.

When to seek medical advice

Seek medical advice if there are any of the following:

- > a child or adult with chickenpox has a high fever, cough, shortness of breath, or chest pain
- > a pregnant woman has chickenpox
- > a newborn baby (up to 1 month of age) is exposed to chickenpox
- > a person over 50 years of age has shingles
- > chickenpox develops in a child or adult with an immune deficiency (including a history of leukaemia, even if in remission).

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Prevention

- > People with chickenpox or shingles should not attend childcare, preschool or work until all blisters have dried (usually about 5 days). Some remaining scabs are not a reason for continued exclusion.
 - > Any person with an immune deficiency (for example, leukaemia) or receiving chemotherapy should be excluded from contact with a case of chickenpox or shingles for their own protection.
 - > Immunisation against chickenpox is recommended in the National Immunisation Program. In South Australia this is given as the combined measles, mumps, rubella, varicella (MMRV) vaccine. A chickenpox only vaccine is also available for children and adults who did not receive the combined measles, mumps, rubella and varicella vaccine as children.
 - > Wash hands after contact with soiled articles (for example, tissues). Keeping areas clean, especially where articles have been soiled with nose and throat discharges, will limit the spread of infection. Dispose of tissues appropriately.
 - > People with shingles should cover the rash with a dry bandage or clothing to ensure that others are not exposed to the blisters.
 - > Varicella-zoster immunoglobulin (VZIG) is made from blood products and contains antibodies to the varicella-zoster virus. Antibodies are proteins produced by the body as part of the immune response which help the body to fight infections.
- VZIG is effective in preventing or reducing the severity of chickenpox if given to non-immune people within 96 hours of exposure to a person with chickenpox or shingles. Only people without a history of chickenpox, and with no evidence of immunity on blood testing, need to receive VZIG. VZIG is only of value if given before chickenpox occurs. VZIG is of no use in treatment of chickenpox or shingles.
- > People at high risk of complications from chickenpox infection (for example, people with leukaemia, young babies or pregnant women) should seek medical advice regarding VZIG if they have been exposed to a person with chickenpox or shingles.
 - > Antiviral medicines may also sometimes be used to prevent chickenpox after exposure.
 - > Several studies have shown that chickenpox vaccine is effective in preventing chickenpox infection, particularly moderate to severe disease, following exposure. This is generally successful when given within 3 days, and up to 5 days after exposure, with earlier administration preferable.
 - > A vaccine to prevent shingles is licensed in Australia for use in adults 50 years of age and older who have not previously received a dose of zoster (shingles) vaccine. The vaccine is free for people aged 70 years as part of the National Immunisation Program. From 1 November 2016 the vaccine is also free for a five-year catch up for people aged 71-79 years. Speak to your doctor for further information on receiving this vaccine if you are aged 50-69 years of age. Since the vaccine contains a small amount of live attenuated (weakened) virus, some people with conditions affecting the immune system, or on medications that lower the immune system, may not be able to receive the vaccine for medical reasons.

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Useful links

Immunisation www.sahealth.sa.gov.au/immunisation

- > Get immunised
- > Immunisation programs
- > Vaccines

SA Health website www.sahealth.sa.gov.au

- > Exclusion periods from childcare, preschool, school and work
- > Hand hygiene
- > Keeping areas clean
- > When you have a notifiable condition

¹ In South Australia the law requires doctors and laboratories to report some infections or diseases to SA Health. These infections or diseases are commonly referred to as 'notifiable conditions'.

You've Got What? 5th Edition

Communicable Disease Control Branch

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The SA Health Disclaimer for this resource is located at www.sahealth.sa.gov.au/youvegotwhat



This document has been reviewed and endorsed by SQCAG* for consumers and the community FEBRUARY 2016.

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Interpreter



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