



# General Information

## Introduction

Chickenpox is an acute, infectious disease caused by the varicella-zoster virus and is most commonly seen in children under 10 years old. This virus, if re-activated in a person who has had chickenpox previously, can also cause shingles (herpes zoster). Shingles tends to be more prevalent in adults.

It is not possible to develop shingles from exposure to a person with chickenpox. It is possible however, to develop chickenpox as a result of exposure to a person with shingles.

## Transmission

Chickenpox is highly contagious, infecting up to 90% of people who come into contact with the disease<sup>1</sup>. Transmission is through direct person to person contact, airborne droplet infection or through contact with infected articles such as clothing and bedding. The incubation period (time from becoming infected to when symptoms first appear) is from 10 to 21 days.

The most infectious period is from 1 to 2 days before the rash appears but infectivity continues until all the lesions have crusted over (commonly about 5 to 6 days after onset of illness).

## Symptoms of Chickenpox

Chickenpox may initially begin with cold-like symptoms followed by a high temperature and an intensely itchy, vesicular (fluid-filled blister-like) rash. Clusters of vesicular spots appear over 3 to 5 days, mostly over the trunk and more sparsely over the limbs.

The severity of infection varies and it is possible to be infected but show no symptoms.

## Shingles (Herpes Zoster)

Following chickenpox infection, the virus can lay dormant in the nervous tissue for several years but may reappear following reactivation of the virus as shingles (also

called herpes zoster). It is not known what causes the virus to reactivate but reactivation is usually associated with conditions that depress the immune system such as old age, immunosuppressive therapy and HIV infection <sup>2</sup>.

The first sign of herpes zoster is usually pain in the area of the affected nerve - most commonly in the chest. A rash of fluid-filled blisters then appears in the affected area, typically only on one side of the body. This rash is usually present for about 7 days but the pain may persist for longer. Persistent pain is more common in elderly people and is termed 'postherpetic neuralgia'. On average this lasts for 3 to 6 months although it can continue for years.

As mentioned above, people with shingles are contagious to those people who have not had chickenpox. However, it is not possible to catch shingles from a person who has chickenpox.

### **Possible Complications and High Risk Groups**

Chickenpox is usually a mild illness and most healthy children recover with no complications <sup>3</sup>.

Certain groups of people however, such as neonates (infants within the first four weeks of life), adults, pregnant women and those who are immunocompromised due to illness or treatments such as chemotherapy or high-dose steroids, may experience more serious complications. These include viral pneumonia, secondary bacterial infections and encephalitis <sup>2</sup>.

Varicella infection in pregnant women can cause severe chickenpox with increased risks for the mother from varicella pneumonia and other complications. It also carries the risk of congenital varicella syndrome for the foetus. Congenital varicella syndrome can cause a range of problems including shortened limbs, skin scarring, cataracts and growth retardation <sup>4</sup>.

The risk of this occurring within the first 20 weeks of pregnancy has been estimated to be less than 1% in the first 12 weeks and around 2% between 13 and 20 weeks of pregnancy <sup>5</sup>.

Occasional cases of fetal damage following maternal varicella infection between 20 to 28 weeks gestation have been reported <sup>6</sup> but the risk is likely to be substantially lower than that of the typical congenital varicella syndrome that can occur in the first 20 weeks gestation.

Infection with varicella in the later stages of pregnancy can cause premature delivery or neonatal chickenpox infection. This is particularly serious if the mother becomes infected 7 days before birth.

For these reasons, pregnant women are offered immunoglobulin - a specially prepared vaccine containing preformed antibodies to help fight the infection.

## Epidemiology

Chickenpox occurs throughout the year but is most common in winter and spring.

The majority of people are infected in childhood and remain immune for life. However, current epidemiological data shows an increasing trend in the number of first infections affecting older age groups<sup>7</sup>. The reason for this is not known but this has important consequences as the infection is more serious in adults and pregnant women.

## Treatment

There is no specific treatment for chickenpox. It is a viral infection that will therefore not respond to antibiotics. Treatment should be based on reducing symptoms such as fever and itchiness.

Shingles can be treated with oral antiviral drugs such as acyclovir.

People at higher risk of developing serious complications from chickenpox or shingles may be given antiviral drugs such as acyclovir and/or immunoglobulin (a specialised preparation of antibodies taken from the plasma of blood donors), which may prevent severe illness developing.

## References

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