

Chickenpox

Backgrounder

Description

- Chickenpox, also known as varicella, is one of the most contagious childhood infectious diseases, caused by the varicella-zoster virus, a member of the herpes virus family.
- The disease is spread by airborne droplets of moisture containing the varicella-zoster virus. It is also easily spread by directly touching another person's blisters.
- Symptoms appear after an incubation period of 10 to 21 days, in most cases 14 to 16 days, following exposure to the virus.

Symptoms

- A case of chickenpox usually involves a mild fever which often precedes the outbreak of a generalized skin rash of 30 to 500 blister-like lesions. Onset of the rash usually occurs 12 to 48 hours after experiencing the first symptoms.
- Clusters of small, red, itchy spots that become fluid-filled blisters, two to three millimetres in diameter, appear behind the ears, in the armpits, on the trunk/torso, upper arms and legs, inside the mouth and sometimes in the trachea and bronchial tubes, causing a dry cough.
- Stomach pains and moodiness often accompany the fever. Other common symptoms include loss of appetite and headaches. The disease can also cause scarring of the skin where lesions have appeared.
- Outbreaks generally last seven to 10 days in children and longer in adults. A person with chickenpox is most contagious one to two days before blisters appear and remains contagious until the last blisters crust over, a period lasting approximately six to seven days.

Prevalence

- Chickenpox affects nearly 350,000 Canadians each year.
- It is estimated that chickenpox ultimately infects 95 per cent of the Canadian population, with most cases occurring between the ages of one and 15 years.

Complications

- Although the majority of childhood chickenpox cases are mild and relatively uneventful, in some cases, the disease can lead to serious complications which may require hospitalization. In rare instances, complications from chickenpox can lead to death.
- Serious complications can include bacteremia (bacterial infection in the blood), osteomyelitis (bone infection), septic arthritis (infection in the fluid and tissues of a joint), endocarditis (infection of the inner lining of the heart and its valves), otitis media (middle-ear infection) and scarring.
- Chickenpox has been proven to be a significant risk factor for serious invasive Group A streptococcal infections, otherwise known as flesh-eating disease.
- In adults with chickenpox, complications are 25 times more likely to occur than in children, with viral pneumonia occurring in 15 per cent of adult cases.
- Complications associated with chickenpox occur in one patient out of 2,000. A child is three to four times as likely to be hospitalized with complications due to chickenpox than from a fall down the stairs.
- People most likely to suffer severe effects from chickenpox include adults as well as certain groups of children, particularly those with the following conditions:
 - Cancer requiring chemotherapy or radiotherapy
 - Asthma that requires high doses of systemic corticosteroids
 - HIV/AIDS
 - A weakened immune system (from birth).

Immune System Reaction

- Although an episode of chickenpox generally leads to lifelong immunity, once the outbreak of blisters has cleared up, the virus that causes chickenpox remains dormant in the infected person's sensory nerve roots for life.
- The reactivation of the varicella-zoster virus, which usually occurs in adulthood, will result in herpes zoster, or shingles as it is commonly known. It is estimated that 10 to 20 per cent of all individuals who have had chickenpox will develop shingles in their lifetime.

- In Canada, that represents approximately 35,000 to 70,000 cases annually. Although shingles can affect people of all ages, there appears to be a direct correlation between increasing age and the incidence of the disease, with complications affecting 50 per cent of individuals over the age of 50. It is not yet known if VARIVAX® has an impact on the incidence of shingles.

Prevention and Treatment

- The Canadian National Advisory Committee on Immunization (NACI) recommends varicella vaccination for healthy individuals 12 months of age and older. VARIVAX® III is the third-generation version of VARIVAX®, originally launched in Canada December 1998. Like its predecessors, VARIVAX® III is a live, attenuated virus vaccine, a lyophilized preparation of the Oka/Merck strain of varicella. A recently published study of the Oka/Merck strain of varicella in clinical practice found the effectiveness of the vaccine to be 85 per cent and 97 per cent against moderately severe and severe disease respectively.
- It provides protection against severe disease for at least seven years after vaccination.
- Treatment of chickenpox is largely limited to relieving the symptoms. If required, medications such as antihistamines to relieve itching or antibiotics if a bacterial infection has developed, may be used. In severe cases, antiviral treatments may also be prescribed. Treating herpes zoster or shingles will require much the same approach depending on the severity of the disease.