

Chickenpox

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What is it?

Chickenpox is an extremely common, extremely contagious, childhood disease. It affects about 3 million American children each year. Although chickenpox is usually not dangerous in otherwise healthy children, it will cause discomfort for your child, and your child must stay home from school. In older children, especially adults, the symptoms are usually more severe and may cause other problems.

What causes it?

Chickenpox is caused by exposure to the *Varicella-zoster virus*, a member of the herpes family of viruses. This is the same virus that causes *herpes zoster* (shingles). Once your child recovers from chickenpox, it will usually not reappear, although this virus remains in the tissue in a dormant form that can reactivate and cause shingles later in life in 15% of people.

Who gets it?

Varicella-zoster virus spreads through the air from the skin rash or throat of the ill person. Once the virus is breathed in, illness begins about 2 weeks later. 90% of patients having this highly contagious disease are under 10 years of age with most between 5 - 9 years of age. Over 90% of family members also become infected if they have not been previously exposed. About 96% of adults in the United States are immune.

Exposed persons who have already had the disease rarely catch it again, although second attacks do occur. These are usually mild and most develop in children who first had chickenpox before they were one.

What are the symptoms?

There may be one day of feeling ill before the rash breaks out. More commonly the first sign of chickenpox is the appearance of tiny red bumps that look like insect bites. These progress over 24 hours into small water blisters, each appearing like a dew drop surrounded by a

rosy, pink halo. Typically the rash itches intensely, causing irritability during the day and restlessness during the night. They may be located anywhere on the skin but usually start on the head and back. There are usually some sores in the mouth, throat, and genital area.

The chickenpox blisters reform repeatedly for 4 - 5 days accompanied by a low grade fever. The average child gets a total of 500 sores. In addition to the rash there may be loss of energy, loss of appetite, and achy joints and muscles. Eventually the sores crust over and become less itchy.

How do you prevent it?

Chickenpox is very difficult to avoid because it is so highly contagious. The best prevention is to get immunized against varicella, the virus which causes chickenpox. Even if given up to 3 days after exposure, it can still prevent 85% of cases

The chickenpox vaccine (Varivax) is available and recommended for all children 12 months of age and older as a 2 shot series. The first dosage is recommended at 12-15 months with the booster at 4-6 years. For children under 13, the booster should be given at least 3 months after the first dose. Adolescents and adults age 13 and older are given a booster 4 weeks after the first immunization. After immunization, 85% of children will be completely protected against chickenpox. For the remaining 15% the vast majority can expect a much milder form of the disease if subsequently exposed to chickenpox.

However, some children should not receive the vaccine. Specifically, people with leukemia, lymphoma, congenital or acquired immune deficiency, febrile illness, allergy to neomycin, or those taking immune suppressant drugs like steroids. Varivax was generally well tolerated with the only common side effects being pain and redness at the injection site. Pneumonitis and febrile seizures have occurred rarely in children vaccinated with Varivax although it is not certain that the vaccination caused these illnesses. Aspirin should be strictly avoided for 6 weeks if Varivax is given because of the association between chickenpox and the development of Reye's syndrome, a serious neurologic disorder. There were also a few children who developed mild shingles and recovered without problems.

Can it be treated?

A vaccine has been developed which is effective in preventing or significantly reducing symptoms. Medications can sometimes shorten the illness or at least reduce the severity of discomfort.

- **Rest** is needed, but most children do a good job of pacing themselves. If your child doesn't feel sick enough to stay in bed, don't force the issue. Quiet activities or play are fine.

- **Relief of itching** is very important. Effects of scratching can be minimized if the patient wears mittens and keeps the finger nails very short. Daily changes of clothes and linens plus luke warm bathes containing oatmeal (Aveeno) or baking soda (1/2 cup) are not only soothing, but can also be helpful in cleansing the skin and reducing the chances of secondary bacterial infection. Applying Calamine lotion to blisters is sometimes helpful.

- **Drink plenty of fluids** such as water, juices, Kool-aid, popsicles, soup and flat soda pop. If your child doesn't want much solid food, don't worry about it. The appetite will return as the illness gets better.

- **Antihistamines** (Benadryl) taken by mouth reduce itching and can help an irritable and anxious child to sleep.

- **Acetaminophen** (Tylenol, Tempra, Panadol) can be used for temperature over 101 F (38.3C). Aspirin should not be given to children with chickenpox since it can lead to *Reye's syndrome*, which is a rare but potentially life threatening neurologic disease.

- **Lidocaine** (Xylocaine) can be applied to the genital area if urination becomes very painful due to ulcers and blisters. This ointment is available without a prescription and can be applied every 2 - 3 hours to relieve pain.

- **Antivirals** (acyclovir, valacyclovir) are drugs which can be used to treat severely ill or high risk children and adults. They may help shorten the length of illness if taken within the first 1 - 2 days of illness. Antibiotics are not effective against chickenpox, but occasionally will be prescribed to treat secondary bacterial infections.

Are there complications?

Contagiousness - Chickenpox is one of the most contagious of all diseases. People with chickenpox are infectious for 2 days before the rash appears and remain so until all the blisters have dried up. It is, therefore, virtually impossible to prevent spread in the household.

Unfortunately the second child in a family to become ill often has a more severe case of chickenpox than the first, with higher fever and more extensive rash. To avoid exposing other children, your child must stay home from school until all sores have crusted over.

Impetigo - To prevent the sores from becoming infected with bacteria, trim your child's fingernails short. Also, wash the hands with an antibacterial soap frequently during the day. For young babies who are scratching badly, you may want to cover their hands with cotton socks.

Scars - Chickenpox rarely leaves any permanent scars unless the sores become badly infected with impetigo or your child repeatedly picks off the scabs. However, normal chickenpox can leave temporary marks on the skin that takes 6 - 12 months to fade.

Immune deficiency - Chickenpox can be extremely serious in persons with poor resistance, such as those with cancer, on chemotherapy, or receiving steroids (*prednisone*). If your child is in any of these categories or if you know of such a person that has been exposed to your child, please discuss this matter with your doctor right away.

Encephalitis - A severe infection of brain which occurs rarely, but can cause permanent damage.

Pregnancy - When mothers develop chickenpox in early pregnancy, a syndrome of skin, eye, and nervous system birth defects can occur. If infected within 5 days before or after delivery, about 17% of infants develop disease; about 30% of these infants die. Therefore, pregnant women who have never had chickenpox should avoid exposure if possible.

Pneumonia - The most common serious complication in adults is varicella pneumonia.

In summary

- Chickenpox is a highly contagious common infection primarily of children less than 10.
- The illness usually begins about 2 weeks after exposure to an infected person.
- Most cases of chickenpox respond well to comfort measures at home. The prognosis is usually excellent and rare deaths are the result of severe complications.
- Children are no longer contagious and can return to school when the sores have dried and crusted over, usually about 6 - 7 days after the rash begins.
- Once a child catches chickenpox, he/she carries the virus for life. Second infections are rare.