



Please call 911 if you think you have a medical emergency.

B a c t e r i a l a n d V i r a l R a s h e s

Many childhood diseases have bacterial or viral causes and include a rash of some type. As study continues and more and more vaccines become available, these diseases become less of a threat to your child's long-term health. A rash of any kind should be taken seriously, however, and may require a trip to the doctor's office for evaluation.

C h i c k e n p o x (v a r i c e l l a)

A virus called varicella-zoster causes this very contagious disease. Although it is not a serious disease to otherwise healthy children, the symptoms last about 2 weeks and can make the child very uncomfortable. In addition, chickenpox can be a serious illness in people with weak immune systems such as newborns, people on chemotherapy for cancer, people taking steroids, pregnant women, or those with HIV. A safe and effective vaccine is now available to children aged 1 year or older to prevent chickenpox. It takes 10-20 days to develop chickenpox after being exposed to the virus via inhalation of infected droplets or contact with the lesions on an infected person.

- Symptoms
 - The symptoms of chickenpox often begins with a very itchy rash, which first appears on the scalp, armpits, or groin area and progresses, in waves, to spread over the entire body.
 - The rash begins as an area of redness with a small, superficial blister in the center. The blister eventually ruptures, and the lesion will form a crust.
 - Other associated symptoms include low-grade fever, malaise, sore throat, and red eyes. Fever and malaise may precede the rash in some cases.
- Treatment
 - The virus is spread primarily from the nose and mouth of the child, but the rash itself is also contagious. The child remains contagious and cannot go to school or day care until the last lesion to appear fully crusts over.
 - No therapy treats chickenpox once it has begun, but your doctor can provide prescriptions and advice to help with the discomfort and the itching.

- Never give aspirin to a child with chickenpox. A deadly disease called Reye syndrome has been associated with children taking aspirin, especially if they have chickenpox. Be sure to check any other over-the-counter medications for aspirin or salicylates because these are often found mixed with over-the-counter cold medications.
- Chickenpox can occasionally affect the cornea, the clear front portion of the eye. If your child develops chickenpox on the tip of the nose or in the eyes, see your doctor immediately.

M e a s l e s

A paramyxovirus causes the measles. A safe and effective vaccine is available to prevent this disease, but outbreaks in people who have not been adequately vaccinated still happen.

- Symptoms
 - The disease usually begins with nasal congestion, eye redness, swelling and tearing, cough, lethargy, and high fever.
 - On the third or fourth day of the illness, the child will develop a red rash on the face, which spreads rapidly and lasts about 7 days.
 - Another rash, white spots on the gums in the mouth, may also develop.
- Treatment
 - Once the disease begins, no medication treats measles. However, your doctor may offer treatments to care for cough, eye symptoms, and fever. Aspirin and aspirin-like products cannot be used as they can cause a life-threatening condition called Reye's syndrome.
 - Some children develop secondary bacterial infections of the middle ear, sinuses, lung and neck lymph nodes. These can be treated with antibiotics.
 - Children who have measles appear quite ill and are miserable, but the illness usually gets better without lasting ill effects within 7-10 days after symptoms started.
 - You can prevent your child from getting measles by making sure they receive the recommended vaccinations. The measles vaccine is part of the MMR (measles-mumps-rubella) vaccine given at age 12-15 months and repeated at age 4-6 or 11-12 years.

R u b e l l a (G e r m a n m e a s l e s)

Rubella is a much milder disease in children also caused by a virus (Rubivirus). If contracted during gestation, rubella is a much more serious disease, causing deafness, heart abnormalities, eye problems, retardation, and other conditions)

- Symptoms in children
 - Rubella begins with a pink/red rash on the face (a slapped cheek appearance) then spreads to the rest of the body and gets better in about 4 days.
 - Your child does not appear to be very ill but may develop swollen lymph nodes in the neck, especially behind the ears.
- Treatment
 - Rubella is also easily prevented with an effective vaccine (the MMR).
 - Rubella can be very serious to an unborn child if the mother develops rubella early in her pregnancy. All women of childbearing age should have their immune status verified.

Scarlet fever (scarlatina)

Scarlet fever is simply strep throat with a rash. The throat infection is caused by a streptococcal bacteria. It is most commonly seen in school-aged children in the winter and early spring, but it can occur in individuals of any age and in any season. It is very contagious, and the risk of transmission can be decreased with good hand washing. The rash is not serious, but serious complications can occur from the underlying infection, strep throat. The most worrisome of these is rheumatic fever, a serious disease that can damage the heart valves and cause long-term heart disease.

- Symptoms
 - The child's symptoms begin with sore throat (which can be mild), fever, headache, abdominal pain, and swollen glands in the neck.
 - After 1-2 days of these symptoms, the child develops a rash on the body that is red and has a sandpaper texture. After 7-14 days, the rash sloughs off.
 - The face may look very flushed, but the skin around the mouth appears normal.
- Treatment
 - Streptococcal bacteria can be treated with antibiotics.
 - Have your child seen by your doctor immediately if you suspect he or she has strep throat or scarlet fever.
 - Your child will require a full course of antibiotics, which should be finished even if your child is better before completion.
 - Your child may return to school in 24 hours if the fever has resolved and he or she is feeling better.

Fifth disease

Fifth disease, also known as erythema infectiosum or "slapped cheeks" disease, is caused by a virus (parvovirus B19). This disease tends to occur in the winter and spring but can happen year-round.

- Symptoms
 - The child initially feels ill and tired; then a rash appears. The rash is characterized by bright red cheeks (the symptom inspiring the name slapped cheeks disease). The rash is warm, nontender, and sometimes itchy.
 - In 1-2 days a lacy rash spreads throughout the body. The rash appears to fade when the skin is cool, but with a warm bath or with activity, the rash becomes more pronounced. Once the rash appears, the child is no longer contagious.
- Treatment
 - Fifth disease is not serious in otherwise healthy children but can pose a serious problem for children with sickle cell anemia, leukemia, or AIDS.
 - The disease can also cause problems for pregnant women.
 - Because the child is contagious only before the rash appears, children who develop the rash are free to return to day care.

Roseola infantum

Roseola is also called exanthem subitum and is a common childhood virus caused by the human herpesvirus 6 or 7. The disease usually occurs in children younger than 4 years.

- Symptoms
 - The symptoms are a high, spiking fever for up to 8 days followed by the onset of a rash.
 - The rash is small, pink, flat, or slightly raised lesions that appear on the trunk and spread to the extremities.
- Treatment
 - Despite the worrisome fever, the disease is not harmful and gets better without specific therapy. Fever can be managed with acetaminophen. Aspirin and aspirin-like products should ALWAYS be avoided in children as it can cause a life-threatening condition called Reye's syndrome.
 - The fever associated with roseola can cause a seizure.

Coxsackieviruses and other enteroviruses

The enteroviruses, including the coxsackieviruses, are a very common cause of fever and rash in children. Two diseases are caused by coxsackieviruses, called hand-foot-and-mouth disease and herpangina. Coxsackievirus infections are more common in the summer and autumn.

- Symptoms
 - In hand-foot-and-mouth disease, the children develop fever and rash. The rash includes blisters to the mouth and tongue and to the hands and the feet.
 - Herpangina causes a fever, sore throat, and painful blisters or ulcers on the back of the mouth that cause difficulty swallowing. Children may also have loss of appetite, abdominal pain, and rarely vaginal ulcers.
- Treatment
 - No specific treatment is available except acetaminophen (Tylenol) or ibuprofen (Advil) for fever. Aspirin and aspirin-like products should ALWAYS be avoided in children as it can cause a life-threatening condition called Reye's syndrome.
 - The diseases are not harmful but can be prevented with good hand washing and not eating off someone else's plate or sharing straws.

Impetigo

Impetigo is a superficial skin infection with streptococcal or staphylococcal bacteria. It is often found around the nose and mouth but can occur anywhere. The rash is more common in the warmer months. It can also be an additional infection to skin that has been damaged, such as in scabies, poison ivy, eczema, or drug reactions.

- Symptoms
 - Impetigo begins as small superficial blisters that rupture leaving red, open patches of skin.
 - Often a honey-colored crust forms over this rash.
 - The rash is very itchy.
 - Impetigo is also highly contagious. A child can spread the infection to other parts of the body or to other people.
- Treatment
 - This infection of the skin is easily treated with topical or oral antibiotics.
 - Your child usually is no longer contagious after 2-3 days of therapy, and the rash begins to heal in 3-5 days.
 - If the rash does not show signs of healing by the third day of treatment, your child needs to be seen by your doctor.

- When the impetigo occurs in addition to poison ivy or scabies, your child may benefit from an anti-itch medication while the antibiotics are taking effect.

Life-Threatening Rashes

Life-threatening rashes are uncommon, and your child usually appears quite ill if he or she has a life-threatening rash. If you suspect your child may have a life-threatening rash, you should go to your hospital's emergency department immediately.

Fever and petechiae

These two symptoms are present with many rashes and are often signs of a more serious condition. Children can develop petechiae from a number of causes. It is not unusual for forceful coughing or vomiting to cause petechiae on the face and chest. Petechia with fever is more concerning, although most of these children have a viral illness that does not require any therapy. A small percentage (2-7%) may have diseases that need immediate evaluation. Any child with a fever and petechiae should be seen by a doctor immediately.

- Symptoms
 - Petechiae are red dots on the skin that do not fade when pressure is applied. The dots represent bleeding from the capillaries leaving a small, temporary blood blister in the skin.
 - Children with petechiae may appear healthy or very ill.
- Treatment
 - Petechiae resolve completely without any treatment. However, a doctor should evaluate your child to determine that a serious disease process is not present.
 - Your child may need blood tests and x-rays to find the cause of the petechiae and fever.
 - Occasionally, a child also requires a lumbar puncture (spinal tap) to be sure meningitis is not the cause.

Meningococemia

Also called, meningococcal sepsis, meningococemia is a life-threatening bacterial invasion of the blood by bacteria called *Neisseria meningitidis*. This disease is seen primarily in the winter and spring in children younger than 2 years. Meningococemia is spread from the nose and mouth of other people. Good hygiene and hand washing can help decrease the risk of transmission. Children exposed to people with this disease need to be evaluated by their doctor and possibly be put on antibiotics to protect them from getting the disease. (Other bacteria such as *Haemophilus influenzae*,

Streptococcus pneumoniae, and *Staphylococcus aureus* can cause similar syndromes.)

- Symptoms
 - Fever and a petechial rash are present.
 - Headache, congestion, nausea, vomiting, and muscle aches may also occur.
 - The rash may start out as small bumps or raised blisters but develop into petechiae.
 - Petechiae are broken capillaries in the skin that cause red dots that do not disappear when pressure is applied to the skin.
- Treatment
 - Take a child with the symptoms of meningococemia to your hospital's emergency department immediately.
 - Blood tests, including blood cultures, may be needed, as may x-rays and a spinal tap, to fully evaluate your child
 - Meningococemia is treated in the hospital with IV antibiotics. Intensive care therapy may also be required.
 - Meningococcus can be fatal even with appropriate antibiotic therapy. Early treatment and close observation are needed.

Rocky Mountain spotted fever

Rocky Mountain spotted fever (RMSF) is a disease spread by tick bites, but often the child and parent may not remember any bite. The ticks carry infection with the bacteria *Rickettsia rickettsii*. In spite of its name, it is more common in the Southeast than in the Rocky Mountains. It tends to occur in the warmer months of April through September when ticks are more active and outdoor exposures are more likely to occur. Rocky Mountain spotted fever can be fatal, but with early use of antibiotics, this is much less common today.

- Symptoms
 - About 2-14 days after the tick bite, the child develops a sudden high temperature (103°F or more), headache, muscle aches, and rash.
 - The rash usually appears on the second or third day of the illness.
 - The rash begins as red spots on the wrists and ankles and spreads inward to the trunk.
 - It may involve the palms of the hands and soles of the feet but usually does not involve the face.
 - As the rash progresses, it becomes petechial with red dots or even small bruises.
- Treatment
 - Go to the hospital if you suspect your child has RMSF or with any tick bite.

- RMSF treatment must be started early, even before the blood tests become available. It may take several days to confirm the diagnosis.
- Most children are put in the hospital and given antibiotics.
- Prevention
 - The most effective means to prevent Rocky Mountain spotted fever and many other tick-transmitted diseases (such as Lyme disease or ehrlichiosis) is to keep from getting bitten by ticks.
 - When outdoors, dress in light colors that make it easier to see ticks if they attach themselves.
 - Wear long sleeves and long pants, tucking the pant legs into the socks.
 - Check for ticks on your body periodically, paying special attention to the scalp, underarms, and genital areas.
 - Use an insect repellent that is effective against ticks.
 - Never use a concentration of DEET (N, N-diethyltoluamide) higher than 10%, and never apply it to the skin.
 - Apply the insect repellent to the shirt collar, sleeves, and pants.
 - Once a tick has attached itself to you or your child, it should be promptly removed.
 - Gently grab the tick close to the skin (to include the head) and apply a gentle tug.
 - Hold this gentle tension until the tick releases. This may take several minutes.
 - Cleanse the bite area with alcohol and call your doctor immediately.
 - Avoid the old home remedies of applying lighter fluid, petroleum jelly, gasoline, or a lit match to kill a tick. Once the tick is dead, the mouth parts may stay in the wound and greatly increase the risk of disease.
 - Ticks can also be brought into your home by your pets, so be sure to have your veterinarian check your pet regularly and ask about products to reduce the risk.

Lyme disease

Lyme disease is also caused by an organism spread by deer tick bites. Avoiding tick bites is the best defense. The disease has been reported in the Northeast, Mid-Atlantic, North Central, and Pacific coastal regions of the United States and in Europe. It is most prevalent in the northeastern states of the United States, with about half of all cases clustered in New York and Connecticut.

- Symptoms
 - Lyme disease starts with a flu-like illness or a characteristic target-like red rash several days to a few weeks following a tick bite.

- The illness consists of a fever, which can range from 100–104°F, headache, muscle and joint aches, a mild sore throat, a cough, stomach upset, neck pain and stiffness, and Bell palsy (a paralysis of the facial nerve that causes your face muscles to be uneven).
- The rash is red and grows in size daily.
 - The Centers for Disease Control and Prevention defines the rash to be a minimum of 3.5 cm (1.5 inches) across to distinguish it from a tick bite, which usually is about the size of a dime or smaller.
 - The rash occurs at the site of the tick bite and can grow from the size of a silver dollar to the size of a football.
 - Its shape can be circular or oval.
 - As it grows, the rash can remain red throughout, although it often can develop a clear area and may take on the appearance of a target with concentric circles of red then clear.
- The early symptoms are not as threatening as what occurs later if the infection is not treated. The organs affected later include the following: the heart (heart rhythm complications), the musculoskeletal system (a chronic arthritis), and the neurological system (brain swelling that causes learning difficulties, confusion, or coma).
- Treatment
 - Lyme disease should be treated promptly. If you cannot see your doctor quickly, go to a hospital's emergency department immediately.
 - Your doctor treats early Lyme disease with a long course of oral antibiotics. When treated early, nearly all people with Lyme disease experience rapid improvement and minimal complications from the disease.
 - A vaccine has been approved for people older than 15 years to prevent Lyme disease (LYMERix), but it is given only to people with significant occupational exposures to Lyme disease.

Kawasaki disease

Kawasaki disease is of unknown cause, although it is suspected to be caused by a bacteria or virus. It usually affects children younger than 5 years. It can have serious effects on your child's heart if not diagnosed and treated correctly. With treatment, only 2% of children die from this disease. Call your doctor or go to the hospital's emergency department immediately if you suspect your child may have Kawasaki disease.

- Symptoms
 - The disease is defined by the following 5 diagnostic criteria:
 - Fever for more than 5 days
 - Redness of the eyes (painless conjunctivitis)

- Swollen lymph nodes in the neck
- Red throat, tongue, or cracked lips
- Redness or swelling of the hands and feet
- Rash with flat red lesions, raised red lesions, blisters, or any combination of these.
- The child appears quite ill and may also have vomiting, diarrhea, cough, and arthritis.
- Treatment
 - No test diagnoses this disease. The diagnosis is made by looking for all of the diagnostic criteria. Children with this disease may also have an elevated platelet count. Saclike dilatation of the coronary arteries called aneurysms also may be noted.
 - Children with Kawasaki disease are admitted to the hospital and given IV gamma globulin and high-dose aspirin.

Toxic shock syndrome

Toxic shock syndrome is a life-threatening disease in which many body systems are acutely affected. It can be similar to RMSF, measles, and several other diseases. This disease is caused by a toxin produced by *S aureus* or a streptococcal bacteria. When the causative organism is *Streptococcus*, the disease is called streptococcal toxic shock syndrome (STSS). This disease can be fatal even with the maximum intensive treatment. If you suspect that your child may have TSS or STSS, go to your hospital's emergency department immediately.

- Symptoms
 - Toxic shock syndrome is very serious and begins with a high fever, sore throat, and body aches and may include vomiting or diarrhea.
 - Your child may also have a low blood pressure, disorientation, or liver and kidney failure.
 - The rash looks like a mild sunburn but will be found in areas normally covered by clothes when outdoors.
 - Children with this disease appear very ill, and the disease can progress rapidly to life threatening.
- Treatment
 - The source of the infection must be found and adequately treated, but the mainstay of therapy involves supporting the circulation.
 - Children with this disease are often admitted to the hospital for close observation and therapy in an intensive care setting.

Fungal and Parasitic Rashes

Because children often share many things and are less likely to take cleanliness precautions than adults, parasites and fungal infections can spread quickly through a

day care or your child's class at school. Pay attention to any prolonged itching or hair loss your child might experience.

Scabies

Scabies is an itchy rash that is often worsened with bathing or at night. It is caused by a mite, a very small insect (*Sarcoptes scabiei*) that burrows beneath the top layer of skin. It is spread by close bodily contact such as sleeping together or sharing of clothing. It can also be sexually transmitted. Mites can survive for several days in clothes, bedding, and dust.

- Symptoms
 - The rash starts about 2 weeks after your child has come into contact with the mite.
 - The itchy rash of scabies tends to be found between the fingers, in the armpits, and on the inner wrists and arms. It tends to spare the head, palms, and soles except in infants and with severe infestations.
 - Sometimes you can see the wavy pattern where the mite has burrowed.
- Treatment
 - To prevent scabies, good hygiene, frequent hand washing, and not sharing clothing with friends is important.
 - If your child has an itchy rash that lasts for more than 2-3 days, he or she should be checked by a doctor.
 - Prescription medications are available to kill the mites and to decrease the allergic skin reactions of swelling and itch.
 - Once anyone in the family is diagnosed with scabies, everyone in the home should be treated for mite infestation.
 - All clothing and bedding must be washed in hot water and the mattresses vacuumed.

Ringworm

Ringworm is a local infection of the skin with a fungus, usually *Microsporum canis*, *Microsporum audouinii*, or *Trichophyton tonsurans*. Doctors refer to these infections as "tinea" with several forms such as tinea corporis (ringworm on the body) and tinea capitis (ringworm of the scalp). Although the 2 are caused by the same organisms, they are treated differently. Ringworm can be caught from friends (exchanging combs, brushes, or hats) or from household pets. If you think your child may have ringworm, you should see your doctor.

- Symptoms

- With tinea corporis, the lesion starts as a red, slightly scaly, oval that gets bigger over time.
- The rash may be slightly itchy.
- The center of the rash may clear and appear to be normal skin.
- Tinea capitis usually starts with a round to oval area on the scalp that loses its hair.
- Sometimes, the area of the scalp will swell and may ooze. This is called a kerion and is a reaction of the body to the tinea fungus.
- Tinea capitis may also present as normal-to-severe dandruff without hairless patches on the scalp.
- Treatment
 - Tinea corporis can easily be treated with topical medications available from your doctor.
 - Unfortunately, it can be easily spread among family members and friends, making multiple unwanted return visits.
 - Good hygiene combined with appropriate therapy can break this cycle.
 - Tinea capitis requires an oral medication from your doctor.

Athlete's foot

Athlete's foot is also caused by a fungal infection of the skin.

- Symptoms
 - A very itchy rash between the toes is usually caused by athlete's foot.
- Treatment
 - Although athlete's foot can be treated with over-the-counter medications, other causes of rash can appear similar. It is best to have your child checked by the doctor if you suspect athlete's foot.

Rashes in the Newborn

When you first bring your baby home from the hospital, every little bump or red patch causes alarm. It is normal for your baby to have some skin rashes. Diaper rash and cradle cap are par for the course with newborns. If you suspect that your child has more than a simple skin irritation, it is best to see a doctor.

Milia

- Symptoms
 - Small yellow to white dots on the face and the gums occur in healthy newborns.
 - A small cyst of skin cells is the cause.

- Treatment
 - Milia go away by themselves and require no therapy.
 - These dots are not contagious.

Seborrheic dermatitis (cradle cap)

- Symptoms
 - Cradle cap is a greasy, scaly, red, bumpy rash that can occur on the scalp, behind the ears, in the armpits, and the diaper area.
- Treatment
 - This rash is not harmful and can be easily treated by your doctor. No emergency care is required.

Infantile acne

Acne is a disorder that will go away on its own and that occurs primarily in male babies in the first 6 weeks of life. Although treatment is not required, you can discuss options with your doctor.

Erythema toxicum

This rash has a scary name but should really be called "the normal newborn rash" because it occurs in about half of all newborns.

- Symptoms
 - The rash starts with small blisters on a red base.
 - Sometimes only the blotchy red base shows, and sometimes the blisters have a white or yellow material inside.
 - The rash starts the second or third day of life and usually gets better in 1-2 weeks.
- Treatment
 - The rash is not serious, is not contagious, and does not require treatment.
 - The rash can look similar to other types of rash, so see your doctor with any questions or concerns.

Miliaria (prickly heat)

This rash includes small, clear blisters usually on the nose. It is caused by the production of sweat in a warm environment and plugged sweat glands. This rash is more common when the child is dressed too warmly. It gets better on its own.

Candidal rash (yeast infection)

This diaper rash is a fungal or yeast infection of the skin by *Candida albicans*. This is the same organism that causes thrush, the white plaques in the mouth of infants. The combination of the moist diaper environment and the presence of *C. albicans* in the normal gastrointestinal tract of children causes a candidal rash.

- Symptoms
 - An intensely red, raised rash with discreet borders is found. The borders may have a ring of fine scales.
 - Surrounding the main area of rash there may be smaller lesions, called satellite lesions, which are characteristic of candidal diaper rashes.
 - The rash tends to involve the creases and folds because of the warm, moist environment.
- Treatment
 - This rash is easily treated by medications available from your doctor, but it tends to recur.

Seborrheic dermatitis

A greasy, scaly, red diaper rash, seborrheic dermatitis tends to occur in the creases and folds just as in candidal rashes. Unlike candidal rashes, the rash is usually not intensely red or scaly but instead is usually moist and greasy in appearance. This rash is not harmful and can be easily treated by your doctor.

Irritant diaper rash

The effects of urine and feces on the sensitive skin of the newborn cause this rash. The creases and folds are spared in this rash, unlike seborrhea or candidal diaper rash.

- Treatment
 - To prevent diaper rash, change soiled or wet diapers as soon as possible.
 - Make sure that baby clothing is well rinsed, and do not use fabric softeners because this may irritate delicate skin.
 - Many doctors suggest allowing the bottom to go bare for several hours a day, especially to help heal a diaper rash.
 - Topical ointments with zinc oxide also provide a barrier and may help with healing of a diaper rash.

For more information, read the complete article, Skin Rashes in Children

(<http://www.emedicinehealth.com/script/main/art.asp?articlekey=58639>) on <http://www.emedicinehealth.com>.

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