

If your child gets sick

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This booklet contains information for the parents of children of pre-school age about the most common infectious diseases that may affect their child, and also about when their child can go in to pre-school or when their child should be kept at home. The booklet is based on the National Board of Health and Welfare's knowledge base "Smitta i förskolan" ["Contagious diseases in pre-school"] and it is the result of a collaboration between Smittskydd Skåne [Skåne protection against contagion], Kunskapscentrum för barnhälsovård [child healthcare knowledge centre] and the senior paediatrician, Percy Nilsson, of the Malmö Children's Clinic.

#### **Advice**

The healthcare advice line, telephone number 1177, provides 24-hour advice about health issues. You can find more to read on their website (www.1177.se). Use the search function on the page Infections in children - a guide to contagious diseases or on the subject pages Children and parents. You can also contact the health centre or child health centre (BVC) where your child is registered for advice or to book an appointment.

### **Explanation of infection terminology**

contagion - spreading an infectious agent, e.g. viruses and bacteria

**Infection** – a disease caused by an infectious agent, covering everything from mild discomfort to severe illness

Carrier – a person who carries an infectious agent without being ill

**Viruses** – infectious agents that cannot be treated using antibiotics

Bacteria – infectious agents that can be treated using antibiotics

**Antibiotic resistance** – the resistance of bacteria to antibiotics

**Incubation time** – the time from infection to outbreak of the disease

**Immunity** – once you have had a disease or you have been vaccinated, you will not develop the disease again, even if you are exposed to infection

# Infections in pre-school children

### Infections and immunological defence in children

Infections are common in children. As their immunological defences develop, they have fewer infections and they recover from them more easily. 90% of childhood infections are caused by viruses, with colds being the most common. Younger pre-school children have 6 12 colds a year, while older pre-school children have 4-6 colds a year. Children also have bacteria present in their airways. Most of these are beneficial and provide protection against more severe infections. Both having infections and being the carrier of bacteria help to strengthen the child's immunological defence.

Children react to infections in various ways. Some children have almost no discomfort at all from an infection, while others develop high fevers and appear ill. Sometimes children have to stay at home for a few days to recover properly before they can take part in the usual pre school activities.

#### **Antibiotics**

Antibiotics are sometimes needed to treat bacterial infections, but they should only be used when necessary. A child will be particularly susceptible to infections immediately after being treated with antibiotics since these also eliminate beneficial bacteria, which weakens the body's defences against new infections. The bacteria can also become resistant to antibiotics, which will then be ineffective. **Antibiotics have no effect against viruses.** 

### Reducing infection in pre-school

A lot of infections are spread via the hands. One of the best ways of reducing the spread of infection is therefore frequent hand-washing. It is a good idea to teach children to cough and to sneeze into the inside of their elbows. Outdoor activities also reduce the risk of the spread of infection. When children are outdoors they are not packed together so tightly and infectious doses are smaller. It may be important to keep a child at home in order to reduce the risk of infection.

## Advice in case of infection

#### **Fever**

A child has a fever if its temperature is over 38 degrees in the morning or after resting for half an hour. Children are very prone to fevers, especially when they have viral infections. Fevers are not dangerous, but are part of the body's defence against infection.

**Self-care/medical treatment:** See how your child is doing and leave it to your child to decide how much time he or she can spend up and about. Get your child to drink often. Fever-lowering drugs also have a painkilling effect. These can be used if your child is really ill with a fever, for example if your child is in physical pain, is whining, not eating or drinking as much as normal, sleeping poorly or having trouble settling down in the evening. Contact the health service if your child is listless, does not want to drink, appears to have a stiff neck, has febrile convulsions or a temperature over 41 degrees.

**Pre-school, or stay at home?** A child with a fever should not go to pre-school. Children react differently to fever, but a good general rule is for a child to have one fever-free day at home.

#### Fifth disease

Fifth disease starts with tiredness, physical pain and fever. After a few days the cheeks turn red and a pale, lacy rash appears. This rash may come and go over a period of 1-2 weeks. Some children do not develop any symptoms at all. Fifth disease is a mild viral disease that is common during the winter and spring. Its incubation period is 1-3 weeks. The infection may already have spread by the time the rash appears. The child may develop immunity after having the disease.

**Self-care/medical treatment:** Fever-lowering drugs and painkillers may provide relief (see the section above). Contact with the health service is rarely necessary.

**Pre-school, or stay at home?** You should keep your child at home until it is fever-free and able to take part in the usual pre school activities.

### Colds - runny nose, cough, sore throat

Common symptoms of a cold are a runny nose, a cough and a sore throat. This is the most common viral infection in children. A child of pre-school age can be expected to have 4-12 colds a year. The younger the child is, the more colds it will have. Colds last for 1-2 weeks and are more common during the winter. During these periods your child may appear to be constantly ill. Your child is contagious a few days before the disease becomes apparent and during its first few days. Viruses infect via coughs and sneezes, and also via saliva and nasal catarrh present on the hands. The risk of infection can be reduced by hand-washing and by coughing and sneezing into the inside of the elbow. The incubation period is usually 1-3 days.

### Runny nose

Nasal catarrh starts out thin and translucent. This normally thickens, becoming yellow or green. A runny nose usually goes away in 1-2 weeks. Your child does not need to be treated with anti-biotics or be kept at home from pre-school just because his or her nasal catarrh is yellow or green.

### Cough

This often begins as a dry cough, which then becomes more productive. Sometimes there is an intense pain behind the sternum. The cough is a protective reflex which helps to remove mucous from the airways, and so it should not be unnecessarily suppressed. The cough may last for 2-4 weeks, so longer than the runny nose. The cough may be aggravated if the child is boisterous and runs around.

#### Sore throat

A sore throat/tonsillitis may be caused by either a virus or a bacterium. The tonsils, which are located right at the back of the throat, swell up, turn red and develop white spots/coatings. It hurts to swallow, and eating and drinking may be difficult. Children sometimes develop a fever. Viral tonsillitis is most common in pre-school children, often accompanied by a runny nose or a cough.

Self-care/medical treatment: Alleviate a blocked nose by raising the head-end of the bed and administering saline drops nasally. Nose drops or nasal spray may be used in case of a more severe blocked nose. Mucous is easier to cough up if the child drinks plenty of fluid. Fever-lowering/pain-killing medicines can sometimes be given (see under "Fever" on page 5). Contact the health service if your child is tired and still has a cough after more than two weeks. Contact the health service immediately if your child is listless and develops rapid, shallow breathing or has such a sore throat that it cannot swallow its saliva.

**Pre-school, or stay at home?** You should keep your child at home until it is fever-free and able to take part in the usual pre school activities.

### Streptococcal tonsillitis

Streptococcal tonsillitis produces a fever and a sore throat. The tonsils become red and swollen, sometimes with white spots. It remains infectious for as long as the child is ill. It is spread by saliva droplets. The incubation period is 2-4 days. Streptococcal infection can also result in impetigo, wound infections and infections of the cuticles.

Tonsillitis can also be caused by the cold virus. In this case it will also be accompanied by a runny nose or a cough. Viral tonsillitis cannot be treated using antibiotics.

**Self-care/medical treatment:** Tonsillitis can get better by itself in a week. It can be soothed by drinking cold or hot drinks. Fever-lowering/pain-killing medicines can be given as required (see under "Fever" on page 5). If the fever has not gone down after four days, antibiotics may be required. An assessment is made at the health centre and a throat swab is taken in order to distinguish between the streptococcal and viral forms of tonsillitis. Contact the health service immediately if your child has a sore throat that is so painful that it cannot swallow its saliva.

**Pre-school, or stay at home?** You should keep your child at home for as long as it has a sore throat and a fever. If your child is given antibiotics, this treatment must have been in place for at least two days before the child can go back to pre-school. Your child must also be able to take part in the usual activities at pre-school.

#### Head lice

Head lice are found in the hair and on the scalp and usually cause itching. Anyone can get head lice. They thrive in both unwashed and recently washed hair. They are caught as a result of close head-to-head contact lasting one minute or longer. Lice rarely spread via objects, as they can only survive for a few days away from the scalp.

**Self-care/medical treatment:** Only those with head lice need to be treated. Over-the-counter remedies can be bought at pharmacies, and it is important that the instructions are followed. Comb the child's hair thoroughly using a lice comb for two weeks to check that the treatment has helped. Using hair balsam makes the lice easier to see. Check everyone in the family. Contact with the health service is rarely necessary.

**Pre-school, or stay at home?** Once treatment has been started, your child can go back to pre-school. To prevent the continued spread of lice, it is important to let the pre-school know so that other children and staff can be checked for head lice.

### Hand, foot and mouth disease

Hand, foot and mouth disease causes fever and blisters in the mouth, which can give rise to painful ulcers, and also a rash on the palms and soles. Some children do not exhibit any symptoms at all. The infection goes away by itself in 7-10 days. Hand, foot and mouth disease is a viral disease that is common in late summer and autumn. The incubation time is 3–7 days. It is at its most contagious in the first few days. Children who have had the disease are usually immune.

**Self-care:** The pain in the mouth can be uncomfortable. Cold drinks and ice-cream can be soothing. Over-the-counter painkillers can be given if required. Contact with the health service is rarely necessary.

**Pre-school, or stay at home?** You should keep your child at home until it is fever-free and able to take part in the usual pre school activities.

### **Impetigo**

Impetigo is a skin infection. It starts out as fluid-filled blisters that grow in size, burst and then develop a yellowish crust surrounded by red skin. The rash is often located around the nose and mouth, but it can also occur on other parts of the body. Impetigo is caused by streptococcal or staphylococcal bacteria and it is very contagious. It usually gets better in one week. The incubation time is 2–3 days.-

**Self-care/medical treatment:** It gets better faster if you wash of the crusts. Soften them using a wet face cloth and then wash using soap and water. Wash your hands thoroughly afterwards. Make sure your child washes its hands frequently and does not scratch or touch the sores. It may be necessary to wash bedding and any soft toys. Contact the health service if large blisters develop, if the rash spreads to the body or if it does not get better in one week.

**Pre-school, or stay at home?** Your child must stay at home until the rash has stopped weeping and is completely dry. If your child is given antibiotics, this treatment must have been in place for at least two days and the rash must be dry before your child can go back to pre-school.

### Stomach flu

Stomach flu viruses are very infectious, the most common being rotavirus and winter vomiting disease. It often starts suddenly with vomiting and/or diarrhoea. Sometimes the child also has a fever and stomach ache. The vomiting passes in a day, while the diarrhoea lasts for a few more days. The incubation period is usually 1-3 days.

Stomach flu may also be caused by bacteria such as salmonella, campylobacter or EHEC. It is particularly common during the summer. The child has diarrhoea, sometimes accompanied by vomiting, fever and stomach ache. The health centre is responsible for investigation and for taking samples. You should contact the health centre if your child falls ill during a trip abroad or within one week after returning home. You should provide a sample of your child's stools and keep your child at home until the sample results are ready.

**Self-care/medical treatment:** Plenty of fluids, ideally in small amounts and often. Fluid replacement formulae are available for purchase or they can be made up at home (add ½ teaspoon salt and 2 tablespoons of sugar to 1 litre of water, plus flavouring if required). Contact the health service in case of violent or bloody diarrhoea, severe stomach pain or if your child is showing any of the signs of dehydration, sudden tiredness and listlessness, and passes water in small quantities or infrequently.

**Pre-school, or stay at home?** You should keep your child at home for at least one and ideally two days after the last episode of vomiting/diarrhoea. If there is a widespread and hard-to-eradicate outbreak of the stomach flu virus at the pre-school, it may also be necessary to keep all of your children at home.

### Molluscum contagiosum

Molluscum contagiosum is characterised by small, harmless, skin-coloured papules with small depressions at their centres. They do not usually cause any discomfort. It may take a few months or years for them to disappear. They are caused by a virus and are moderately contagious. Contact with the health service is rarely necessary.

**Pre-school, or stay at home?** Your child should remain in pre-school and participate in all activities.

#### Measles

Measles starts with a high fever, a dry cough and irritation of the eyes. After a few days a rash appears, starting on the face before spreading onto the body. The child becomes really ill. The incubation period is 10-14 days. The measles virus is highly contagious. Worldwide outbreaks occur occasionally.



Child vaccinations include a measles vaccine. Once vaccinated, a child is immune and will not fall ill. If someone has been exposed to infection but has not become ill or has not been vaccinated, illness can be prevented if measures are taken in time.

**Self-care/medical treatment:** Fever-lowering/pain-killing medicines may provide relief (see under "Fever" on page 5). Always contact the health service, but ring first in order to receive the right care.

**Pre-school, or stay at home?** You should keep your child at home until both the fever and the rash have gone and your child is able to take part in the usual activities at pre-school.

#### Scarlet fever

Scarlet fever produces a fever and a sore throat. The tonsils become swollen and red and develop white spots, as with tonsillitis. Sometimes the tongue turns red and a coating develops (strawberry tongue). The rash on the body is lacy with tiny bumps. After a few weeks the skin might peel on the palms and soles. It is caused by streptococcal bacteria with a special agent/toxin that causes the rashes. The incubation period is 2-4 days. Children who have had the disease are immune.

**Self-care/medical treatment:** Alleviated by cold or hot drinks. Fever-lowering/pain-killing medicines can be given as required (see under "Fever" on page 5). Usually treated with antibiotics. Contact the health centre.

**Pre-school, or stay at home?** You should keep your child at home until it is fever-free and able to take part in the usual pre school activities. If your child is given antibiotics, this treatment must have been in place for at least two days before the child can go back to pre-school.

#### Scabies

Scabies causes severe itching, usually on the inside of the wrists, between the fingers and around the navel, where the skin is thin and delicate. It leads to reddish small bumps or blisters and can at times resemble eczema. Scabies is caused by a small animal, a mite, which only infects humans. It is transmitted via close physical contact between individuals, but also via clothes and bedding, in which the scabies mite can survive for 2-3 days. Itching may start up to 2-10 weeks from infection.

**Self-care/medical treatment:** It is recommended that you have your child examined by a doctor as it is very hard to diagnose. Both the person with scabies and everyone else in the family/household should be treated at the same time. Wash clothing and bedding. Over-the-counter remedies are available from pharmacies. The itching may take some time to go away.

**Pre-school, or stay at home?** You should keep your child at home for one day during treatment, after which he or she can be allowed to return to pre-school. Inform the pre-school, as other children and adults may also need to be examined.

#### **Threadworm**

Threadworms are 10 mm long and as thin as a needle, and they are a common and harmless complaint. Infection begins with severe itching, primarily in the evenings and nights, when the worm emerges to lay its eggs around the anus. Children often have repeated infections from the eggs. Itching may start up to 3-7 weeks from infection.

**Self-care/medical treatment:** Treat using over-the-counter medication – ask at the pharmacy. Make sure your child has clean hands with trimmed nails, put on clean underwear every day and change the bedding frequently. Contact the child health centre or the regular health centre if the symptoms do not get better.

**Pre-school, or stay at home?** Your child does not have to be kept home during the treatment.

### Chicken pox

Chicken pox starts with a fever and itching blisters/pustules which then dry out. The chicken pox virus is highly contagious. It is present in the mucous membranes of the nose and throat and is contagious even before the pustules become visible. The incubation period is 10-20 days. It is often better to catch chicken pox at pre-school age rather than later in life. Following a chicken pox infection, the virus remains dormant in the body. Shingles, which occurs mainly in elderly people, is caused by re-activation of the body's dormant chicken pox virus. Chicken pox cannot cause a shingles infection, though shingles can cause a chicken pox infection.

**Self-care/medical treatment:** Keep your child in a cool room and cool the child down to alleviate the itching. Fever-lowering/pain-killing medicines can sometimes be given (see under "Fever" on page 5). Contact the health centre if the pustules become smeared or if the area around them becomes red as a sign of bacterial infection.

**Pre-school, or stay at home?** You should keep your child at home until it is fever-free and able to take part in the usual pre school activities. Chicken pox is highly contagious. It is contagious even before the patient falls ill and remains so up until the pustules have dried out. Infection at pre-school cannot be prevented by keeping your child at home.

### **Eye inflammation**

With eye inflammation, the eyes become red and mucus/secretion is formed in the eyes. Eye inflammation may be caused by the cold virus, bacteria or by an allergy. When some children catch a cold, the virus sometimes gets into the airways, while others also get it in their eyes. It causes reddening of the eyes, with small amounts of mucus/secretion in the corners of the eyes after sleep. It goes away in a week without requiring treatment. With bacterial infections, the eyelids are completely stuck together after sleep and the eye often also secretes thick mucus/secretion when the child is awake. It can be remedied by washing the eye, but sometimes antibiotic treatment is required. Allergies may cause itching, both eyes are red and the mucus/secretion is translucent and viscous.

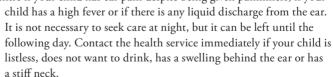
**Self-care/medical treatment:** Clean the eyes using ordinary water as often as is required. Use a soft compress or cotton wool to wash from the outside corner of the eye inwards. Wash your hands thoroughly afterwards. Replace towels and pillowcases frequently. Contact the health centre if your child has a lot of problems with the eye or if its eye is painful, or if the infection has not cleared up after a week.

**Pre-school, or stay at home?** You can leave your child in pre-school if there is only a small amount of mucus/secretion in its eyes on waking up. You should keep your child at home if its eyes are suppurating or if they stick together and have to be washed several times a day.

#### Ear catarrh and otitis

Ear catarrh is a milder variant of otitis which can occur in connection with a cold. Translucent fluid is produced behind the eardrum, causing a sensation of pressure and blockage of the ear. With otitis the fluid is suppurating and the child may be in extreme pain from its ear. Fever is common.

**Self-care/medical treatment:** Raising the head-end of the bed reduces the swelling in the nose and ears and therefore reducing the pain. Fever-lowering/pain-killing medicines can be given as required (see under "Fever" on page 5). Ear catarrh gets better without treatment. Otitis can also get better by itself in otherwise healthy pre-school children. Contact the health centre if your child has ear pain despite being given painkillers, if your



**Pre-school, or stay at home?** You should keep your child at home until it is fever-free and able to take part in the usual pre school activities.



Utgiven av Smittskydd Skåne

7:e upplagan, juni 2012 Broschyren kan laddas ner samt beställas på www.skane.se/smittskydd

> Layout & original: Ann-Christin Jönsson Omslagsbild: colourbox.com Tryckeri: Danagård Litho, Ödeshög