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Hand, Foot and Mouth Disease

Hand, foot and mouth disease (HFMD) is usually a short mild illness that mainly affects children. Most children fully recover within ten days, and usually less. Serious complications occur rarely. This disease is **not** related to the disease with a similar name which affects animals.

What is hand, foot and mouth disease (HFMD) and what causes it?

HFMD is due to an infection that usually causes a typical illness, including a typical rash. It is most commonly caused by the Coxsackie A16 virus. Some cases are caused by a different but related virus called enterovirus 71. Rarely, the same illness is caused by other strains of Coxsackievirus.

What are the symptoms of hand, foot and mouth disease (HFMD)?

HFMD most commonly affects children under 10 years of age. Older children and adults are sometimes affected. Adults and older children with HFMD tend to develop a milder form of the illness compared with younger children. But adults can sometimes have quite severe symptoms.

Like many viral infections, the illness often starts with a feeling of being unwell for a day or so. This might include a high temperature (fever). After this, a sore throat commonly occurs, quickly followed by small spots that develop inside the mouth. These soon progress into small mouth ulcers. Spots may appear on the lips or around the mouth as well or instead of inside the mouth.



In many cases, spots also develop on the skin. This is typically a day or so after the mouth ulcers develop. The spots are small lumps that are a few millimetres in diameter and usually appear on the hands and feet. Spots sometimes also appear on the buttocks, legs and genitals. They rarely develop on other parts of the body. The spots are similar to chickenpox but are smaller. Unlike chickenpox, they are not usually itchy but sometimes they can be a little bit sore.



By Grook Da Oger, via Wikimedia Commons

Is hand, foot and mouth disease (HFMD) serious?

Usually not. The high temperature (fever) and spots usually clear within a few days. The mouth ulcers can be painful and may last up to a week. The sore mouth may make a child miserable for a few days. In a very small number of cases, the virus affects the heart, lung or brain to cause a serious inflammation of the heart, lung or brain, which is fatal in some cases. But it has to be stressed - these serious complications are very rare.

What is the treatment for hand, foot and mouth disease (HFMD)?

There is no treatment that will take away the virus. The aim is to ease symptoms and make the person as comfortable as possible until the illness goes away. Treatment is the same for children and adults.

Keep the temperature down

A high temperature (fever) can make anyone feel uncomfortable and irritable. The following are things that you can do that may bring the temperature down and make the person with HFMD feel more comfortable:

- You can give **paracetamol** or **ibuprofen**. Both of these medicines can lower a temperature. Because these are painkillers, they will also help the soreness in the mouth. For children you can buy these medicines in liquid form or flavoured tablets that melt in the mouth. They come in various brand names. The dose for each age is given with the medicine packet. You do not need to use these medicines if the person is comfortable or does not have a fever.
- Keep the person or child cool. Remove clothes or use light cotton clothes or bedding. Open windows or use a fan in the room where appropriate. Do not cold-sponge a child who has a fever. This used to be popular but it is now not advised. This is because the blood vessels under the skin become narrower (constrict) if the water is too cold. This reduces heat loss and can trap heat in deeper parts of the body. The child may then become worse. Many children also find cold-sponging uncomfortable.

Give plenty to drink

Give the person plenty to drink. This helps to prevent lack of fluid in the body (dehydration). They might find this easier if their mouth is less sore, and if their temperature is down. So, if they are not keen to drink, it may help to give some paracetamol or ibuprofen first. Then, try them with drinks half an hour or so later when the medication has started to work. If breast-feeding a child then keep breast-feeding, as breast milk is the best fluid. However, you can offer feeds more often to increase the amount of fluid.

Treatments for a sore mouth

Soft foods may be easier to eat with a sore mouth, so try foods such as soups, ice cream, smoothies and mashed potato.

There are a few treatments available for ulcers in the mouth. However, it is not known how effective they are. Also not all of them can be used for children. If other measures are not helping, here are some of the possible treatments:

- Lidocaine gel. This is a local anaesthetic, which means it numbs the area. This can be used in children.
- Benzylamine mouthwash or spray. The spray can be used from 5 years of age, the mouthwash from 12.
- Choline salicylate gel. This cannot be used in children under the age of 16. Pregnant women should also not use it.
- Warm salty mouthwashes. A mouthwash with a warm solution of salt and water may help. It should only be used if you are certain your child is old enough to spit it out and not swallow it.
- As mentioned above, paracetamol or ibuprofen may also help with soreness in the mouth.

Tell a doctor if a child stops drinking due to a sore mouth as, rarely, dehydration may develop. Also, see a doctor promptly if you are concerned about any unusual symptoms that develop.

Is hand, foot and mouth disease (HFMD) infectious?

Yes. The incubation period is 3-5 days. This means it takes 3-5 days to develop symptoms after being infected from another person. Most cases are passed on by coughing and sneezing which transmits the virus into the air. It can also be passed on by touching the fluid in the blisters. The virus can also be passed in stools (faeces). So if a person with the virus goes to the toilet and doesn't wash their hands well, they can pass it on to someone else. It is mainly infectious until the spots and mouth ulcers have gone. Sometimes small outbreaks occur in nurseries and schools.

However, children can still be mildly infectious for several weeks longer, as the virus may be passed out with the faeces for several weeks after the symptoms have gone. Therefore, it is sensible to maintain good hygiene to reduce the chance of passing on the virus. For example:

- Make sure that children wash their hands thoroughly after using the toilet.
- Aim to keep mouth and nose covered when coughing and sneezing. Wipe the nose and mouth with disposable tissues.
- Adults should take particular care when handling nappies and tissues. Wash hands thoroughly after handling nappies and tissues.
- Soiled clothes, bedding and towels should be washed on a hot cycle of the washing machine.
- It is best not to share cups, eating utensils, towels, etc, whilst ill with this infection and for several weeks afterwards.
- Do not deliberately pierce blisters, as the fluid is infectious.

What about going to school?

Guidance from Public Health England is that children should not routinely be kept from school if they have hand, foot and mouth disease, if they are well enough in themselves to attend. Although there is a risk of passing it on to others, the illness is usually mild. If your child feels unwell or miserable, however, you may wish to keep them off school until they feel well enough to attend.

What about pregnant women?

There does not seem to be a risk to the developing baby if a pregnant woman contracts HFMD. It does not appear to cause miscarriages or abnormalities in the developing baby. However, if you have symptoms of HFMD close to your delivery date (within three weeks), see your doctor. This is because there is a possibility you may pass the infection to your baby when it is born. Usually newborn babies have a very mild illness if they get HFMD. However, occasionally it can be very severe at this age.

Further reading & references

- Hand foot and mouth disease; NICE CKS, March 2010 (UK access only)
- Hand foot and mouth disease; DermNet NZ
- A Guide to Clinical Management and Public Health Response for Hand, Foot and Mouth Disease (HFMD); World Health Organization (WHO) 2011

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