



What is Hand-Foot and Mouth Disease?

This is an infectious disease caused by a family of viruses called Enteroviruses -- the commonest being the Coxsackie virus and Enterovirus. It can occur in people from various age groups, especially pre-schoolers. It is a very common disease in Singapore and has been in existence for many years. It is not a rare or new disease.

HFMD is present all year round in Singapore. Outbreaks occur in childcare centres, kindergartens and schools.

What are the Symptoms?

- The disease usually begins with a fever, poor appetite, malaise (feeling vaguely unwell), and often with a sore throat.
- 1 or 2 days after fever onset, painful sores usually develop in the mouth. They begin as small red spots that blister and then often become ulcers. The sores are usually located on the tongue, gums, and inside of the cheeks.
- A non-itchy skin rash develops over 1–2 days. The rash has flat or raised red spots, sometimes with blisters. The rash is usually located on the palms of the hands and soles of the feet; it may also appear on the buttocks and/or genitalia.
- A person with HFMD may have only the rash or only the mouth sores.

How Is HFMD Spread?

- Infection is spread from person to person by direct contact with infectious virus. Infectious virus is found in the nose and throat secretions, saliva, blister fluid, and stool of infected persons. The virus is most often spread by persons with unwashed, virus-contaminated hands and by contact with virus-contaminated surfaces.
- Infected persons are most contagious during the first week of the illness.
- The viruses that cause HFMD can remain in the body for weeks after a patient's symptoms have gone away. This means that the infected person can still pass the infection to other people even though he/she appears well. Also, some persons who are infected and excreting the virus, including most adults, may have no symptoms.
- HFMD is not transmitted to or from pets or other animals.



Factors That Increase the Chance for Infection or Disease

Everyone who has not already been infected with an enterovirus that causes HFMD is at risk of infection, but not everyone who is infected with an enterovirus becomes ill with HFMD.

Children are more likely to be at risk for infection and illness because they are less likely than adults to have antibodies to protect them.

Infection results in immunity to (protection against) the specific virus that caused HFMD. A second case of HFMD may occur following infection with a different member of the enterovirus group.

Diagnosis

- HFMD is one of many infections that result in mouth sores. However, health care providers can usually tell the difference between HFMD and other causes of mouth sores by considering the patient's age, the symptoms reported by the patient or parent, and the appearance of the rash and sores.
- Samples from the throat or stool may be sent to a laboratory to test for virus and to find out which enterovirus caused the illness. However, it can take 2–4 weeks to obtain test results, so health care providers usually do not order tests.

Is there any treatment for HFMD?

- There is no specific treatment for HFMD.
- Symptoms can be treated to provide relief from pain from mouth sores and from fever and aches:
 - Fever and pain can be treated with paracetamol and ibuprofen.
 - Mouthwashes or gels that numb pain can be used to lessen mouth pain.
- Adequate fluid intake should be ensured to prevent dehydration.

How can one prevent HFMD?

- Specific preventive measures for HFMD is not available, but the risk of infection can be lowered by following good hygiene practices.
- Good hygiene practices that can lower the risk of infection include

- Washing hands frequently and properly, especially after changing diapers and after using the toilet
- Cleaning dirty surfaces and soiled items, including toys, first with soap and water and then disinfecting them by cleansing with a solution of chlorine bleach (made by adding 1 tablespoon of bleach to 4 cups of water)
- Avoiding close contact (kissing, hugging, sharing eating utensils or cups, etc.) with persons with HFMD

Are there any vaccination for HFMD?

No vaccine is available to protect against the enteroviruses that cause HFMD.

Complications

- Complications from the virus infections that cause HFMD are not common, but if they do occur, medical care should be sought.
- Viral or “aseptic” meningitis can rarely occur with HFMD. Viral meningitis causes fever, headache, stiff neck, or back pain. Patients may need to be hospitalized for a short time.
- Other more serious diseases, such as encephalitis (swelling of the brain) or a polio-like paralysis may very rarely occur, and they can be fatal.

Advice for parents

- Children should be kept away from crowded public places (such as schools, preschools, play groups, markets and public transport) if they show signs of infection.
- Parents are advised to consult a doctor early if their child has symptoms of HFMD.
- Parents should be alert to any changes in their child's normal behaviour, e.g. irritation and sleepiness. Parents should bring their child immediately to hospital should they refuse to eat or drink, develop persistent vomiting or drowsiness.