

Information sheet

Hand Foot and Mouth Disease (HFMD)

What is hand, foot and mouth disease?

Hand, foot and mouth disease (HFMD) is a common infectious disease of infants and children. It is characterized by fever, painful sores in the mouth, and a rash with blisters on hands, feet and also buttocks. It is prevalent in many Asian countries and has become a significant public health issue in Viet Nam.

Is it the same as foot-and-mouth disease in animals?

No, HFMD is not to be confused with foot-and-mouth (also called hoof-and-mouth) disease which is caused by a different virus and affects cattle, sheep, and pigs.

Where does HFMD occur?

Individual cases and outbreaks of HFMD occur worldwide. In tropical and subtropical countries, outbreaks often occur year-round.

Outbreaks of HFMD occur every few years in different parts of the world, but in recent years these have occurred more in Asia. Countries with recent large increases in the number of reported cases in Asia include: China, Japan, Republic of Korea, Malaysia, Singapore, Thailand, Taiwan (China) and Viet Nam.

HFMD is endemic in Viet Nam and occurs every year. In southern Viet Nam, the number of cases of HFMD tends to increase from March to May and September to December.

What causes HFMD?

Viruses from the group called enteroviruses cause HFMD. There are many different types in the group including polioviruses, coxsackieviruses, echoviruses and other enteroviruses.

HFMD is most commonly caused by coxsackievirus A16 which usually results in a mild self-limiting disease with few complications. However, HFMD is also caused by Enteroviruses, including enterovirus 71 (EV71) which has been associated with serious complications, and may be fatal.

How serious is HFMD?

Most people with HFMD recover fully after the acute illness.

- HFMD caused by coxsackievirus A16 infection is a mild disease, and nearly all patients recover in 7 to 10 days without medical treatment and complications are uncommon.
 - Dehydration is the most common complication of HFMD infection caused by coxsackieviruses; it can occur if intake of liquids is limited due to painful sores in the mouth.
 - Rarely, patients with coxsackievirus A16 infection develop "aseptic" or viral meningitis, in which the person has fever, headache, stiff neck, or back pain, and may need to be hospitalized for a few days.
- HFMD caused by EV71 has been associated with meningitis and encephalitis, and on occasion can cause severe complications, including neurological, cardiovascular and respiratory problems. Cases of fatal EV71 encephalitis have occurred during outbreaks.

How soon after exposure do symptoms appear?

- The usual period from infection to onset of symptoms is 3–7 days.
- Fever, lasting 24-48 hours, is often the first symptom of HFMD.

What are the symptoms?

The disease usually begins with a fever, poor appetite, malaise, and frequently with a sore throat.

- One or 2 days after fever onset, painful sores develop in the mouth. They begin as small red spots that blister and then often become ulcers. They are usually located on the tongue, gums, and inside of the cheeks.
- A non-itchy skin rash develops over 1–2 days with flat or raised red spots, some 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 not have symptoms, or may have only the rash or only mouth ulcers.

How do you get HFMD?

HFMD virus is contagious and infection is spread from person to person by direct contact with nose and throat discharges, saliva, fluid from blisters, or the stool of infected persons. Infected persons are most contagious during the first week of the illness, but the period of communicability can last for several weeks (as the virus persists in stool).

HFMD is not transmitted to or from pets or other animals.

Who is at risk for HFMD?

Everyone who has not already been infected is at risk of infection, but not everyone who is infected becomes ill.

HFMD occurs mainly in children under 10 years old, but most commonly in children younger than 5 years of age. Younger children tend to have worse symptoms.

Children are more likely to be susceptible to infection and illness from these viruses, because they are less likely than adults to have antibodies and be immune from previous exposures to them. Most adults are immune, but cases in adolescents and adults are not unusual.

Can you be infected with HFMD more than once?

Yes, infection only results in immunity to one specific virus, other episodes may occur following infection with a different member of the enterovirus group.

What about pregnant women?

Ideally pregnant women should avoid close contact with anyone with HFMD and pay particular attention to measures that prevent transmission.

Enterovirus infections, including HFMD are common and pregnant women are frequently exposed to them. They may cause mild or no illness in the pregnant woman and currently there is no clear evidence that maternal enterovirus infection, including HFMD, is associated with any particular adverse outcomes of pregnancy (such as abortion, stillbirth or congenital defects). However, pregnant women may pass the virus to the baby if they are infected shortly before delivery or have symptoms at the time of delivery.

Most newborns infected with an enterovirus have mild illness, but rarely may develop an overwhelming infection of many organs, including liver and heart, and die from the infection. The risk of this severe illness is higher for newborns infected during the first two weeks of life.

How is HFMD treated?

Presently, there is no specific treatment available for HFMD. Patients should drink plenty of water and may require symptomatic treatment to reduce fever and pain from ulcers.

Can HFMD be prevented?

There are no specific antiviral drugs or vaccines available against non-polio enteroviruses causing HFMD. The risk of infection can be lowered by good, hygiene practices and prompt medical attention for children showing severe symptoms.

Preventive measures include:

- frequent handwashing with soap and water especially after touching any blister or sore, before preparing food and eating, before feeding young infants, after using the toilet and after changing diapers;
- cleaning contaminated surfaces and soiled items (including toys) first with soap and water, and then disinfecting them using a dilute solution of chlorine-containing bleach;
- avoiding close contact (kissing, hugging, sharing utensils, etc.) with children with HFMD may also help to reduce of the risk of infection;
- keeping infants and sick children away from kindergarten, nursery, school or gatherings until they are well;
- monitoring the sick child's condition closely and seeking prompt medical attention if persistent high fever, decrease in alertness or deterioration in general condition occurs;
- covering mouth and nose when sneezing and coughing;
- disposing properly of used tissues and nappies into waste bins that close properly;
- maintaining cleanliness of home, child care centre, kindergartens or schools.