

# **Hand, Foot, and Mouth Disease**

## **What is hand, foot, and mouth disease?**

Hand, foot, and mouth disease is an infection caused by a virus. It's common in young children under the age of 5 years but older children and adults may also get it. This disease is not the same as hoof and mouth disease in animals.

## **What is the cause?**

Hand, foot, and mouth disease is usually caused by the coxsackievirus. When someone is infected, the virus lives in mucus and saliva and can spread from person to person through coughing and sneezing. It can also be spread by unwashed hands or contact with fluid from skin blisters or bowel movements.

A child is most likely to spread the virus to others during the first week that they have symptoms. However, the virus may be spread for days or even weeks after symptoms go away. Children can spread the virus in their bowel movements for several weeks.

## **What are the symptoms?**

Symptoms start about 1 week after a child comes into contact with the virus. At first, symptoms may include:

- Fever
- Sore throat
- Stomach pain
- Headache

After 1 or 2 days, your child may have:

- Small red spots in the mouth that can turn into blisters or sores. Because of the sores, your child may drool or may not want to eat or drink because the sores make it painful to swallow.
- A skin rash that looks like flat or raised red spots, sometimes with small blisters. The rash may appear on the palms of the hands and soles of the feet, between the fingers and toes, or on the buttocks.

Some children have blisters or sores in their mouth but don't get a rash on their hands or feet. When the infection affects just the mouth, the illness is called herpangina or stomatitis.

The fever and illness may last up to 5 days but the mouth and skin blisters may last up to 10 days.

## **How is it diagnosed?**

Your child's healthcare provider will ask about your child's symptoms and medical history and examine your child. Lab tests are usually not needed.

## How is it treated?

There is no specific treatment for hand, foot, and mouth disease. Since it is caused by a virus, antibiotics do not help. However, there are some things you can do to help your child feel better:

Your child's healthcare provider may recommend medicines, such as:

- Acetaminophen or ibuprofen for fever and discomfort.
  - Nonsteroidal anti-inflammatory medicines (NSAIDs), such as ibuprofen and aspirin, may cause stomach bleeding and other problems. Read the label and give as directed. Unless recommended by your healthcare provider, your child should not take the medicine for more than 10 days.
  - Do not give any medicine that contains aspirin or salicylates to a child or teen. This includes medicines like baby aspirin, some cold medicines, and Pepto-Bismol. Children and teens who take aspirin are at risk for a serious illness called Reye's syndrome.
- Prescription mouthwash to coat and soothe your child's mouth
- Nonprescription numbing spray to help your child's mouth feel better.

Some other things you can do for pain caused by sores in the mouth include:

- Give your child frequent sips of cool liquids. Avoid sodas and citrus drinks like orange juice that might irritate the sores.
- Give your child cold foods like ice cream and ice pops.
- If your baby does not want to breastfeed or suck on a bottle, feed your child with a dropper, spoon, or sippy cup.
- Offer soft, bland foods like mashed potatoes, pudding, applesauce, and macaroni and cheese. Avoid acidic, salty, or spicy foods like tomatoes, pretzels, and tacos.

If your child has blisters on the skin:

- Keep the blisters clean, dry, and uncovered. You may wash them with mild soap and water.
- If blisters open, put a small amount of antibiotic ointment on them.
- Wear latex or rubber gloves when you are caring for the blisters. Wash your hands well when you are done.

Ask your child's healthcare provider:

- How long it will take to recover.
- What activities your child should avoid and when your child can return to normal activities.
- How to take care of your child at home.
- What symptoms or problems you should watch for and what to do if your child has them.

Make sure you know when your child should come back for a checkup.

## How can I help prevent hand, foot, and mouth disease?

There is no shot that can prevent this disease. To prevent spread of the infection to others, keep your child home while he or she is ill. Your healthcare provider can tell you when your child can go back to daycare or school. This is usually when your child has no fever or open skin blisters and your child feels better.

Other things you can do to help prevent the spread of the infection include:

- Wash your child's hands often with soap and water.
- Make sure everyone who cares for your child washes their hands. This is especially important after changing diapers or touching the blisters.
- Clean toys and surfaces that your child touches with soap and water. Then clean them again with a solution of 1 tablespoon of bleach mixed with 4 cups of water.
- Teach your child to cough and sneeze into a tissue or into the bend in his elbow. Throw away used tissues right away.
- Don't let your child share items like toys, cups, and spoons.
- Keep your child from hugging, kissing, or having close contact with others.

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## Acetaminophen Dosing Chart

Acetaminophen (Tylenol) is available without a prescription. Determine the correct dosage by finding your child's weight in the table. You may repeat the dosage every 4 to 6 hours as needed. Do not give acetaminophen more than 5 times a day. Do not use acetaminophen in children under 3 months of age. If your infant has a fever during the first 12 weeks of life, see your child's healthcare provider immediately.

Weight	6 to 11 lb	12 to 17 lb	18 to 23 lb	24 to 35 lb	36 to 55 lb	56 to 83 lb	84 to 111 lb	112+ lb
Milligram dosage	40 mg	80 mg	120 mg	160 mg	240 mg	325 mg	480 mg	650 mg
Liquid 160 mg / 5 mL	1.25 mL	2.5 mL	3.75 mL	5 mL	7.5 mL			
Chewable tablets 80 mg each			1 ½ tablets	2 tablets	3 tablets	4 tablets	6 tablets	8 tablets
Junior strength tablets 160 mg each				1 tablet	1 ½ tablets	2 tablets	3 tablets	4 tablets
Adult strength tablets 325 mg each						1 tablet	1 ½ tablets	2 tablets

**MEASURING the DOSAGE:** Syringes and droppers are more accurate than teaspoons. If possible, use the syringe or dropper that comes with the medicine. If not, medicine syringes are available at pharmacies. If you use a teaspoon, it should be a measuring spoon. Regular spoons are not reliable. Remember that 1 level teaspoon equals 5 mL and that ½ teaspoon equals 2.5 mL.

**Suppositories:** Acetaminophen is also available as a rectal suppository in 120-mg, 325-mg, and 650-mg dosages. Suppositories are useful if a child with a fever is vomiting often or having seizures caused by the fever. Use the same dose as listed above for the suppository. Most suppositories can be cut (for example, cut in half) to supply the right dose for your child's weight.

**Alternating Acetaminophen and Ibuprofen:** Alternating acetaminophen and ibuprofen is generally not recommended. It can lead to dosage errors and poisoning. If instructed by your healthcare provider to alternate ibuprofen and acetaminophen, alternate doses of ibuprofen and acetaminophen every 4 hours (not every 3 hours). Alternate medicines for only 24 hours or less, then return to giving a single product.

**Avoid Aspirin:** Children (through age 21 years) should not take aspirin, especially if they have chickenpox or influenza (any cold, cough, or sore throat symptoms) because of the link to Reye's syndrome, a severe encephalitis-like illness.

## Ibuprofen Dosing Chart

Determine the correct dosage by finding your child's weight in the table. You may repeat the dosage every 6 to 8 hours as needed. Do not give ibuprofen to children under 6 months of age.

Weight	12 to 17 lb	18 to 23 lb	24 to 35 lb	36 to 47 lb	48 to 59 lb	60 to 71 lb	72 to 95 lb	96+ lb
Milligram dosage	50 mg	75 mg	100 mg	150 mg	200 mg	250 mg	300 mg	400 mg
Drops 50 mg / 1.25 mL	1.25 mL	1.875 mL	2.5 mL	3.75 mL	5 mL			
Children's liquid 100 mg/5mL	2.5 mL	3.75 mL	5 mL	7.5 mL	10 mL	12.5 mL	15 mL	20 mL
Chewable tablets			2 tablets	3 tablets	4 tablets	5 tablets	6 tablets	8 tablets
Junior strength tablets 100 mg each					2 tablets	2 ½ tablets	3 tablets	4 tablets
Adult strength tablets 200 mg each					1 tablet	1 tablet	1 ½ tablets	2 tablets

**MEASURING the DOSAGE:** Syringes and droppers are more accurate than teaspoons. If possible, use the syringe or dropper that comes with the medicine. If not, medicine syringes are available at pharmacies. If you use a teaspoon, it should be a measuring spoon. Regular spoons are not reliable. Remember that 1 level teaspoon equals 5 mL and that ½ teaspoon equals 2.5 mL. Always read and follow the label. Never give adult medicines to children. Use only the dosing device that comes with the product.

**Alternating Acetaminophen and Ibuprofen:** Alternating acetaminophen and ibuprofen is generally not recommended. It can lead to dosage errors and poisoning. If instructed by your healthcare provider to alternate ibuprofen and acetaminophen, alternate doses of ibuprofen and acetaminophen every 4 hours (not every 3 hours). Alternate medicines for only 24 hours or less, then return to giving a single product.

**Avoid Aspirin:** Children (through age 21 years) should not take aspirin, especially if they have chickenpox or influenza (any cold, cough, or sore throat symptoms) because of the link to Reye's syndrome, a severe encephalitis-like illness.

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