

# faq: Frequently Asked Questions About Sore Mouth (orf virus)

## What is “sore mouth” (contagious ecthyma, orf)?

“Sore mouth,” also known as “scabby mouth,” or contagious ecthyma, is a viral infection caused by a member of the poxvirus group and is an infection primarily of sheep and goats. Geographically, “sore mouth” infection is commonly found throughout the world. According to the United States Department of Agriculture Animal and Plant Health Inspection Service's National Animal Health Monitoring System (USDA APHIS NAHMS) 2001 sheep survey, 40 percent of U.S. operations reported sore mouth infecting their flocks in the previous three years.

## What are the clinical signs for sore mouth?

- Early in the infection sores appear as blisters and then become crusty scabs.
- Sores are typically found on the lips, muzzle, and in the mouth (see photos below).
- Sheep and goats may get similar sores/scabs on the lower legs and the teats, especially when ewes or does are nursing infected lambs or kids.
- Except in rare cases, animals recover completely from sore mouth infections within a month.
- Young animals may have difficulty nursing/feeding and may require bottle or tube feeding. Nursing ewes may abandon their lambs, and older animals may also require nutritional support.
- Particular breeds (e.g. Boer goats) may be especially susceptible and have severe infections.



The images above show examples of sore mouth in goats and sheep. (Photos are courtesy of Edith Lederman, MD)

## What causes sore mouth?

Sore mouth is caused by a poxvirus (specifically orf virus) and is found all over the world. The scabs of infected animals contain virus, can fall off, remain in the environment and serve as a source of infection to susceptible animals. A flock can become infected through contaminated bedding, feed or trucks, or by direct contact with infected animals (e.g. replacements brought onto the operation or at shows).

Animals may become infected with sore mouth more than once in their lifetime although infections are likely to occur years apart. Young animals will have the most visible disease because they have not likely been exposed to the virus before and because their immune systems are still developing.

## Which animals can get sore mouth?

Sore mouth is generally found only in sheep and goats. Other ruminants that are occasionally infected include musk oxen and gazelles.

## Are there other diseases of concern in sheep that could look like sore mouth?

Yes. Foot-and-mouth disease (FMD) is a serious disease that does resemble sore mouth and can affect sheep, goats, cattle, swine, and other "cloven-hoofed" animals. Although FMD has not occurred in the United States since 1929, if there are symptoms you observe in your animals that appear more serious than sore mouth, immediately report it to your veterinarian, to State or Federal animal disease control officials, or to your county agricultural agent.

## What can I do to protect my animals from sore mouth?

There are measures that may help lessen the risk of infection; these include:

- Reduce the likelihood of mouth/muzzle cuts (e.g. remove thistle or harsh brush from grazing areas)
- Quarantine new animals until sore mouth can be ruled out
- Avoid bringing animals with sore mouth to public events such as fairs and shows

The sore mouth virus survives in soil, and carrier animals may not show symptoms; as a result it is difficult to prevent infection, but using the measures above may assist in prevention.

Sore mouth may be transmitted through saliva. Some owners choose to assist the judges at shows by opening their own animal's mouth. While there is no evidence to prove that this will prevent sore mouth, it is a logical measure to decrease the spread of sore mouth by indirect contact (i.e. from infected animal to judge's hand to uninfected animal).

## Is there a vaccination for sore mouth?

Currently, there are commercially available preparations of live virus marketed as vaccines. According to the 2001 NAHMS sheep survey, approximately 5 percent of operators reported using a vaccination for sore mouth in replacement or breeding ewes. More operators (14.0 percent) reported vaccinating their nursing lambs for orf.

## What should I keep in mind when using a vaccine?

Producers considering using an orf vaccine product in their flock should consult a veterinarian. Vaccination practices vary depending on breed and geographic location. Use of a vaccine is only suggested for previously infected flocks since the vaccination will cause an orf infection in the animals and lead to contamination of the operation with virus-containing scabs. Studies conducted by experts in Scotland suggest that if a vaccine product is used in a flock, it may decrease the severity of illness.

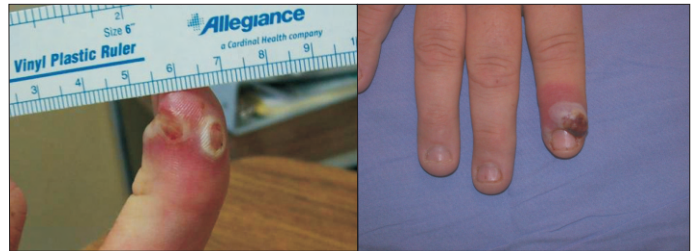
**NOTE: All sore "mouth" vaccines contain live virus which, if proper protective measures are not taken, can cause infection in humans.**

## Can an animal become infected with sore mouth more than once?

Yes, animals may become infected more than once in their lifetime but repeat infections usually occur after a year's time and are usually less severe.

## Can people become infected with sore mouth?

Yes, people can become infected with the virus that causes sore mouth. A person who comes into contact with virus from an infected animal or equipment (such as a harness that has rubbed the animal's sores) can potentially get infected. People often develop sores on their hands (see photos). The sore may be painful and can last for 2 months. People do not infect other people. Sores usually heal without scarring.



The above are examples of sore mouth in sheep farmers. (Photos courtesy of Debbie Knoll, MSN (left) and Sue Meidl, MD (right).

## Which activities are associated with the greatest risk of becoming infected with sore mouth?

Since sore mouth is primarily an illness of sheep or goats, people who handle these animals are at greatest risk of infection. Specific activities that may put you at risk of infection include:

- Bottle feeding, tube feeding, or shearing animals (i.e., sheep or goats)
- Petting or having casual contact with infected animals
- Handling infected equipment
- Working with animals when you have an open cut or skin sore
- Being bitten by an infected animal

## What should I do if I think I have become infected with sore mouth?

Currently there is no approved treatment for sore mouth. However, the sores may be painful and may become infected with bacteria if not properly managed. If you are experiencing pain, fever, or notice that the sore is becoming rapidly larger or spreading, you should see your primary care provider. A laboratory test for sore mouth in people is available at the Centers for Disease Control and Prevention (CDC). Contact your county health department for more information.

## How can I protect myself and others from getting sore mouth?

The virus that causes sore mouth is spread to people by touching infected animals and their equipment. Some animals may or may not have visible sores but may still be able to spread the virus. The two ways to protect yourself and others include:

1. Wear non-porous (i.e. rubber or latex) gloves when handling sheep or goats, especially when you have an open cut or sore and are handling the animals mouth/muzzle area.
2. Practice good hand hygiene by washing with clean, warm water and soap for at least 20 seconds (or use a waterless alcohol-based hand rub when soap is not available and hands are not visibly soiled). (<http://www.cdc.gov/cleanhands/>).

## Should people with medical conditions work with animals infected with sore mouth?

That depends. Most medical conditions do not affect the immune system enough to prevent your body from fighting off the sore mouth virus on its own. However, if you have an autoimmune disease (e.g. Lupus (SLE), rheumatoid arthritis), a transplanted organ, are taking chemotherapy for cancer or are taking corticosteroids (e.g. prednisone), you should talk to your primary care provider about potentially avoiding animal contact. People with these medical conditions have weakened immune systems and the sore mouth virus can cause a serious infection (see photos).



These images are examples of "sore mouth" in a person with a weak immune system. (Photos courtesy of Henry A. DeGroot, MD).

For more information on sore mouth in animals, please contact your veterinarian or the veterinary extension service in your state or go to the animal health information online: NAHMS Sheep 2001 at <http://www.aphis.usda.gov/vs/ceah/ncahs/nahms/sheep/>

For more information on sore mouth in people, please contact your physician or your county or state health department. In addition, the CDC has tools to help with diagnosis; for further information, please call (404) 639-4129.



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
CENTERS FOR DISEASE CONTROL AND PREVENTION



United States Department of Agriculture  
Animal and Plant Health Inspection Service

