

# What is Rabbit Hemorrhagic Disease Virus?

Rabbit Hemorrhagic Disease Virus (RHDV) is a highly contagious disease caused by a calicivirus that affects rabbits. This includes wild and domesticated European rabbits from which our own domesticated rabbits are descended. Until 2020, it had not been known to affect North American native rabbits or hares, such as cottontails, snowshoe hares, and jackrabbits. However, in the 2020-2021 United States, Mexico, and Canada outbreak, RHDV is causing death in wildlife species of rabbits as well.

RHDV was first seen in China in 1984 but was thought to have originated in Europe. There have been confirmed cases in 40 countries, including Europe, the Mediterranean, Africa, Asia, North America (Mexico, United States, Canada), Australia, and New Zealand.

RHDV2, a new virus, emerged in France in 2010, and quickly spread in Europe and the Mediterranean, and has replaced the original strain in many countries. In 2015, RHDV2 was first detected in Australia – it spread coast-to-coast in the rabbit population in 18 months (~3 million square miles, compared to United States' ~3.8 million square miles) and became the dominant strain replacing RHDV1.

Rabbit symptoms may include:

- Loss of appetite
- Lethargy
- High fever
- Seizures
- Jaundice
- Bleeding from nose, mouth, or rectum
- Difficulty breathing
- Sudden death

RHDV2 is often a very swift and sudden killer, giving little warning. Rabbits may die without showing any symptoms at all. **Any sudden rabbit death is suspicious and should be reported to your veterinarian as a possible case of RHDV2.**

## How RHDV2 is Spread:

RHDV2 is highly contagious. It can be spread by:

- **Direct contact:** A rabbit comes into contact with an infected rabbit or the urine or feces of an infected rabbit.
- **Indirect contact**
  - **Human contact:** People can spread the virus to their rabbits if they have been in contact with infected rabbits or in contact with objects contaminated by the virus, including feces from an infected rabbit.
  - **Inanimate objects:** Contact of a rabbit with objects contaminated by the virus (i.e. fomites), including clothing, shoes, and car and truck tires.
  - **Rabbit products:** Contact with fur, meat or wool from infected rabbits.
  - **Mechanical Vectors and Predators:** Insects (including flies, fleas, and mosquitoes), birds, rodents, predators, and other pets (cats and dogs) are known to spread the virus by acting as indirect hosts or mechanical vectors, transporting the virus from an infected rabbit to a healthy rabbit. In Australia, flies who have been in contact with sick or dead rabbits are believed to be a primary source of long-distance viral transmission. RHDV2 can be excreted in the feces of predators who have consumed sick rabbits.
  - **Food/Water:** Ingesting virus-contaminated water or food.



# RABBITS & RHDV2

## - WHAT YOU NEED TO KNOW -

**Rabbit Hemorrhagic Disease (RHD)** is a highly contagious and deadly disease caused by a calicivirus that affects both wild and domestic rabbits. It's not contagious to people or other animals. Rabbit hemorrhagic disease virus 2 (RHDV2) causes deaths in wild rabbits and hares native to North America and has spread throughout the United States, Mexico, and parts of Canada.

The virus is shed in urine, feces, and secretions from eyes, nose, and mouth, and remains present in fur and internal organs and tissues. The virus infects rabbits through the mucous membranes of their eyes, noses, and mouths. Sick rabbits and insects typically transmit the virus. While RHD only affects rabbits, the disease can be transmitted by people or animals through contact with contaminated objects, animals, insects, or feces. **Even if your rabbit is kept inside, they are still at risk of becoming infected with RHD.**

The virus causes death within 3-5 days of exposure, often with no symptoms. A sudden rabbit death is suspicious and should be reported to your veterinarian as a possible RHD case. Report sightings of sick and/or dead wild rabbits to your state wildlife officials; **do not touch them.**

## PROTECTING YOUR RABBIT FROM RHD

- ▶ Keep your rabbit indoors with no outdoor playtime and no playtime with other rabbits from outside your home.
- ▶ Wash your hands thoroughly before and after handling rabbits.
- ▶ After contact with other rabbits, change your clothes and wash them.
- ▶ Leave shoes outside your home.
- ▶ Disinfect objects that may be contaminated. Visit [rabbit.org/rhdv](http://rabbit.org/rhdv) for a list of disinfectants that effectively kill the virus that causes RHD.
- ▶ Keep mosquitos and flies out of your home with window and door screens.
- ▶ Know your sources of hay, feed, and greens, and avoid if located in areas where RHD is spreading among wild rabbits who may be carrying the virus.
- ▶ Quarantine any new rabbit for at least 14 days.
- ▶ Multi-pet households should take additional precautions to protect their rabbit, as the virus can be spread to a healthy, indoor-only rabbit by cats and dogs who go outside. (see reverse)
- ▶ Learn how to trim your rabbit's nails and groom them at home, not taking them to higher-risk locations like a rescue or vet's office.
- ▶ Use a monthly flea treatment for rabbits, cats, and dogs. Advantage II and Revolution are safe to use on rabbits. Never use Frontline. Visit [rabbit.org/faq-grooming](http://rabbit.org/faq-grooming) to learn more.



HOUSE RABBIT SOCIETY | FOUNDED IN 1988 | [RABBIT.ORG/RHDV](http://RABBIT.ORG/RHDV)

## GETTING YOUR RABBIT VACCINATED

Regular vaccination is required for continuous protection against RHD. Vaccination is low risk and is effective for the vast majority of rabbits. A small number of rabbits may become infected with rabbit hemorrhagic disease virus (RHDV) without showing symptoms at all; this is called an "asymptomatic infection." Another very small group of vaccinated rabbits may develop mild symptoms and recover. This means biosecurity measures should still be implemented depending on your region and vaccination status of your rabbits.

Currently, a vaccine that protects against RHD is available in most states in the United States. Medgene Labs manufactures this vaccine and supplies veterinarians in states where the vaccine has been approved for distribution. The vaccine has been given emergency use authorization and further studies are needed to determine how often the vaccine needs to be administered, but at this time it is believed that it will be annually. Contact your veterinarian about the vaccine's availability and visit [rabbit.org/faq-for-medgenes-rhdv2-vaccine](http://rabbit.org/faq-for-medgenes-rhdv2-vaccine) for more information.

## MULTI-PET HOUSEHOLDS

Those who live with non-rabbit companion animals may need to take additional biosecurity measures to protect their rabbits from RHD, as pets who roam outdoors and are then allowed inside may transmit the virus that causes RHD to your companion rabbit.

We recommend using a monthly flea treatment for rabbits, cats, and dogs, especially in regions where RHD affects wild and feral rabbits. Advantage II and Revolution flea and tick treatments are safe for use in rabbits. **Never use Frontline on a rabbit.** Keep all household pets away from all wild, feral, and unfamiliar rabbits — for example, do not feed cats or dogs rabbit meat — the meat could harbor RHDV and could be spread to your rabbit when your cat or dog licks your rabbit or drinks from their water bowl. We recommend keeping cats and dogs indoors whenever possible to reduce the risk that they could bring RHDV into your home. Leashing dogs during walks can also reduce the risk that the dog comes into contact with wild or feral rabbits. You might also consider washing your dog's feet or training them to wear booties outdoors. Keeping your rabbit's play and living spaces separate from your dogs and/or cats may also reduce the chance the rabbit comes into contact with virus tracked into your house from outside.

## LEARN MORE ABOUT RHD

House Rabbit Society continually updates [rabbit.org/rhdv](http://rabbit.org/rhdv) with the best information about RHD and protecting your rabbit from this deadly disease. Subscribe to our newsletter at [rabbit.org/signup](http://rabbit.org/signup) to ensure that you receive timely alerts about RHD.



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## **Vaccine Information:**

**The vaccine is now available in the state of Wisconsin and we have it at OAHS!**

*Rabbit Hemorrhagic Disease has quickly spread across the United States. Working with the USDA, Medgene Labs responds with a vaccine developed on its prescription platform technology.*

Medgene Labs' RHDV2 vaccine is an inactivated or killed recombinant subunit protein vaccine that builds immunity to RHDV2-specific antigenic proteins in the rabbit. The immune system sees the RHDV2 protein and learns to protect the rabbit from the virus. Production of the vaccine does not require the use of animals or live viruses in the production facility. Because the vaccine only uses protein sequences from the RHDV2 virus to build immunity, it is impossible for a rabbit that receives the vaccine to shed any virus or infect other rabbits. **The vaccine is administered through an injection and consists of a 2-dose regimen with the second dose being delivered 21 days following the initial dose.**

(You can learn more by visiting [www.medgenelabs.com/rhdv2](http://www.medgenelabs.com/rhdv2) or by calling the company's customer service line (605) 697-2600.)

**Since the vaccine is very costly, we cannot cover the vaccine cost through adoption donations only at OAHS. We are able to charge a discounted rate of \$40 per rabbit for the whole series, which is far more inexpensive versus going to an outside clinic. The vaccine fee is due at the time of the adoption.**

**\*\*If the bunny you are adopting has only received the first dose of the series by adoption time, we highly recommend scheduling an appointment to bring your bunny back to OAHS to receive the second dose so that your bunny is fully vaccinated. If you are unable to make the appointment, we cannot reschedule, since the vaccine will not be effective if it is not given 3 weeks after the first dose.**

**Please ask small mammal adoption staff if you have any questions about this!**