

Rabbit Hemorrhagic Disease Information Sheet for Animal Shelters, Rescues and Sanctuaries

What is Rabbit Hemorrhagic Disease?

Rabbit Hemorrhagic Disease (RHD) is caused by a virus in the calicivirus family. RHD was first reported in B.C. in February 2018 in the Nanaimo area of Vancouver Island. Follow-up laboratory work identified an RHD virus. Since then, the disease was confirmed in BC in 2018 and 2019 (limited to the Island and Lower Mainland) in feral European or domestic rabbits. In 2020, a different strain of RHD began spreading rapidly across the United States and Mexico. In addition to domestic rabbits, this strain can also infect wild rabbits, such as cottontails. RHD was not reported in BC in 2021 or 2022, but it was reported in AB in May and September of 2022. The September outbreak affected wild rabbit as well as several colonies of feral rabbits. In February 2023, RHD was confirmed as the cause for a mass mortality event of feral rabbits in Courtenay, B.C. RHD is a serious and extremely contagious disease with high mortality rates. Most infected rabbits will die. The disease does not affect humans or other species including dogs and cats. The virus can persist in the environment for several weeks and may survive both heat and freezing.



How does RHD virus spread?

RHD virus spreads easily between rabbits through direct contact with bedding, feed and water as well as feces and body fluids. It can also spread between areas through contaminated materials (food, bedding, water, surfaces, human clothing/hands, vehicles), dead rabbits, insects and wildlife (flies, birds, mammals) that have contacted or fed on infected rabbits.

What are the symptoms of RHD?

The virus causes hemorrhages by affecting the blood vessels and attacks the liver and other organs. Most affected rabbits die suddenly, but can show signs of listlessness, lack of co-ordination, behavioural changes, or trouble breathing before death. There is often bleeding from the nose at the time of death. Once infected, signs of illness usually occur within 1-9 days.

Rabbit management in animal shelters

Many shelters are obligated under municipal bylaws or the Prevention of Cruelty to Animals Act to accept domestic rabbits. There is significant risk to any resident rabbits from contact with rabbits of uncertain origin. Strict incoming quarantine is advised for those shelters in areas where the virus has been recognized.

Tips for protecting resident rabbits from new rabbits:

- Vaccinate all new rabbits at intake.
- Quarantine all incoming rabbits for at least 14 days from intake in an area separate from the rest of the population that has the ability to apply strict biosecurity and monitor daily for signs of illness. Use Personal Protective Equipment (PPE- see below) in quarantine areas. Decision to quarantine should be based on regional risk.
 - Strict incoming quarantine (if rabbits must be accepted) is recommended for all shelters on Vancouver Island and in the Lower Mainland/ Fraser Valley.
 - Minimize the number of rabbits in care at any time:
 - Rabbits that have completed a quarantine period should be placed into homes as quickly as possible.
 - If in-care numbers are high, defer new intakes by placing them directly into foster or running a managed waiting list.
- Daily care:
 - Care for and handle healthy rabbits in adoptions first, then rabbits in other areas and finally, any rabbits in quarantine areas.
- Shelters in other regions of BC may wish to implement quarantine periods if the virus spreads eastward.

Rabbit management in rescues and sanctuaries

Rescues and sanctuaries generally do not have municipal or legislative obligations to accept domestic rabbits. It is recommended that these populations be absolutely closed to new intakes in affected areas, especially if a large resident population is present in a single facility.

- Vaccination is recommended for all rabbits in affected areas, but it is not known whether it is fully protective.
- Carry out strict quarantine on the facility as a whole. If rabbits require homing, use foster homes with no other rabbits.
- In a home, farm, or sanctuary setting where areas cannot be fully cleaned and there is a small number of caretakers, the disease if introduced is likely to spread between areas despite quarantine procedures.

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All facilities: Reducing exposure risk via rabbits and humans

- Limit human visitors who have been in areas where the disease was reported or unexplained rabbit deaths have occurred.
- If staff or volunteers visit these areas, or the disease is present in your area, ensure separate clothing and footwear is dedicated for use inside the facility.
- All staff, volunteers, and visitors must wash their hands before and in between handling rabbits.
- Do not take rabbits away from the facility or host events involving rabbits.
- Do not transfer rabbits between facilities unless they are vaccinated, have completed quarantine, and are in an area that is not directly affected.
- Weigh the cost: benefit of allowing public access to areas.
 - Allowing adopters to meet rabbits and take them home likely reduces overall risk by removing animals from your facility as long as above precautions are taken.
 - Consider limiting this to serious adopters rather than allowing unlimited public access to rabbit adoption areas.
 - Do not allow public access to quarantine areas; consider creative options for viewing if needed such as video.

All facilities: Biosecurity of rabbit areas

- Use PPE in all quarantine areas:
 - Use dedicated disposable gowns, gloves, caps, and shoe or boot covers.
 - Use new gloves between animals within the area and change other PPE as needed between animals.
- If you are in an affected area consider requiring PPE for all visiting and handling of rabbits even once they've completed their quarantine period.
- Footbaths are not required and are no longer recommended in shelter medicine:
 - Multiple studies have shown them to be ineffective particularly in “real world” conditions where contact time may not be adequate and the baths easily become contaminated.
 - Do not rely on footbaths as a sole means of shoe/boot biosecurity.
 - The use of disposable shoe/boot covers for visitors is mandatory.
- Do not accept used donated rabbit supplies, food, etc.
- Use only high-quality commercial feed and hay grown in areas free of contamination.
- Do not use wild plants or vegetables or grass grown in areas accessed by feral rabbits or other wildlife as a food source.
- Remove or tightly secure anything outside (feed, garbage) that could attract feral rabbits, wildlife, or flies.

All facilities: Recommended sanitation protocols

Areas should be cleansed of organic material (feces, urine, hay), then disinfected with a disinfectant effective against caliciviruses following manufacturer instructions, including virucidal contact time. Most household cleaners and many quaternary ammonium based shelter disinfectants are not effective against this type of virus. Likely to be effective: bleach (1:10 dilution), potassium peroxymonosulfate (Virkon), accelerated hydrogen peroxide (AHP [Prevail, Accel, Peroxigard]). The use of an AHP-based product is strongly recommended. Virkon and Prevail may be obtained from your veterinarian or in some cases directly from the manufacturer.

Disposal and Testing: Carcass pickup and management

If your organization or facility has a municipal contract for carcass collection and disposal, be vigilant for the following signs of possible RHDV in your community and notify the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) (see bottom of document) if RHDV is not known to be present in your area. Signs of RHDV:

- Multiple rabbits die within days, in the same area
- Rabbits appear to be in good body condition
- Rabbits have no other obvious cause of death (i.e. trauma) but may have blood from orifices, especially nose

Contact FLNRORD for directions on further testing if this is a new suspect location for RHDV. Wear full PPE for body collection. Freeze up to three recently deceased rabbits and hold for possible testing. Double bag all remains and dispose by incineration or deep burial depending on municipal requirements.



Veterinarian communication

Establish a relationship with a veterinarian/veterinarians comfortable seeing rabbits and prepared to advise on RHDV. Monitor rabbits daily for signs of illness and contact the veterinarian immediately with any concerns. Vaccination is the best way to protect rabbits. Vaccines were imported in 2018 from Europe on a special permit, and this process will occur again in April 2019. Discuss vaccination with your veterinarian. The College of Veterinarians of BC has put out an alert and there are several BC RHDV discussion groups available to veterinarians on the Society of BC Veterinarians website, the Veterinary Information Network, and Facebook that they can find by searching (must be a veterinarian and member to access).

Who do I contact with questions?

The lead agency for RHDV is FLNRORD. If you suspect the disease is newly present in your area, see above notes and contact Dr. Caeley Thacker, Wildlife Veterinarian, Fish and Wildlife Branch, at caeley.thacker@gov.bc.ca for advice and assistance on disease testing. If you have questions about individual pet rabbits or your facility's population of rabbits, contact your veterinarian. To join an e-mail list of shelters, rescues, and rabbitries sharing peer information, please contact: info@spca.bc.ca.

