

RVHD 2 – FAQ – updated January 2017

We are pleased to note that it is now possible to order Filavac VHD K C + V from 3 UK wholesalers, NVS, Centaur and Henry Schein Animal Health. Although there have been some teething problems with establishing the supply chain and there are currently some shortages, everything is now in place and the high demand from rabbit owners ought to be able to be met in the next few weeks. There was a lot of media activity following an interview that I did with The Telegraph in July 2016, and lots of vets are reporting an increase in demand for this new vaccine.

We are being asked by rabbit owners many times every day which vets stock the vaccine as their own doesn't. Obviously we don't know the answer to this, but it indicates that some practices may be losing rabbit owning clients if they don't, so if you are one of those practices we urge you to consider stocking it. If you have confirmed RVHD2 cases, or cases that are suspected of being RVHD in rabbits up to date with their Nobivac vaccination, as well as informing MSD, we'd be grateful if you would let us know please, and ask the owner to contact one or both of the two Facebook groups tracking the spread of reported cases of RVHD. These are <https://www.facebook.com/groups/MyxomatosismapfortheUK/> which is using a map to show where reported cases have occurred and a newer group <https://www.facebook.com/groups/1744958082388756/> - you can also post there if you have the vaccine in stock to let owners know.

Because we have received a large volume of questions from vets about both the vaccine and the illness below is information from a document compiled by our Specialist Veterinary Adviser Mr Richard Saunders BSc (Hons), BVSc, MSB, CBiol, DZooMed (Mammalian), MRCVS, RCVS Specialist in Zoo and Wildlife Medicine. Questions from clients may be covered in this webinar given by Mr Saunders <http://therabbitvet.com/webinar/vhd-rhd-2-update-rabbit-haemorrhagic-disease>

You are invited also to join our Facebook group for vets and VNs. This is a closed group and you will be asked for your registration number with RCVS in order to gain membership. <https://www.facebook.com/groups/115492551808078/>

Our next RWA Veterinary Conference will be at the Royal (Dick) School of Veterinary Studies in Edinburgh. We will send further details in future emails. We also intend to begin a programme of roadshows where we will send experts to various parts of the country to work hands-on with vets and VNs on identified topics. We have been asked already about airways management and dental treatment of rabbits and also about CT scanning. These sessions will be with small groups of approximately 10 professionals so that they can be given proper attention and will they will receive CPD certification. We may invite a group of practices to send vets or VNs, or we may work with a single practice, depending on demand. We will be able to give fuller details soon.

FAQ on Rabbit Viral Haemorrhagic Disease 1 and 2

Background:

For background, whilst the "classic" RVHD has been present in the UK for decades, variant RHVD (also known as RHVD2 or RHDV variant) was first noted in 2010 in France, and has subsequently been identified in the UK (OIE Technical Disease Cards, updated July 2015; Abrantes et al, 2012; Dalton et al, 2012; Westcott and Choudry, 2014).

This virus has some differences from the classic RVHD. In particular it may affect rabbits of any age, as opposed to RVHD1, which is rarely if ever seen in rabbits under 8-10 weeks of age. It has also been reported that the variant gives rise to lower mortalities than classical RVHD, this is not necessarily borne out by reports (Abrantes et al, 2013), and this may be thought to be due to be the case due to its phylogenetic placement alongside non-pathogenic strains. Mortality may vary from collection to collection, and possibly from breed to breed.

The only vaccine for rabbits currently available with a UK License is Nobivac Myxo-RHD (MSD Animal Health), which was made available in 2012. Not long after that, the other 3 vaccines against RHVD on the UK market ceased to be available.

This vaccine does not appear to offer protection against RVHD2, and neither do the previous vaccine brands available in the UK. However, RHD1 and Myxo remain the most significant health threats which can be vaccinated against, and so coverage with this product remains a priority.

Work from Italy and France, however, suggests that, with our reservoir of wild rabbits, we can expect to see RHD2 starting to predominate over RHD1 in the next 5 years or so.

However, there are now 4 vaccines available in the EU which have been licensed or are undergoing licensing for efficacy against RVHD2.

Three of these vaccines (Filavac VHD K C+V, Cunivak RHD and Cunipravic RHD-2 Variant) now have a Special Import or Special Treatment Certificate from the Veterinary Medicines Directorate, on the basis of a clear need to do so given the current disease status.

In particular, Filavac VHD K C+V is available through a UK wholesaler, precluding the need to order it directly from France, but note that the veterinary practice ordering it still needs to obtain an SIC from the VMD. At present, stocks are available through three wholesalers, NVS, Henry Schein, and Centaur, but availability is very variable, and practices are advised to contact wholesalers directly for information on stock availability. There is no reason why other wholesalers cannot stock this product, and practices tied to a specific wholesaler may want to consider encouraging them to stock it.

The Cunivak RHD is no longer available, and we do not anticipate re-ordering this product.

The Cunipravic may be obtained by ordering directly from the manufacturers. However, it is only available in relatively large vial sizes, making it impractical for practice use.

I would still be interested in any other practitioners findings regarding this situation, in particular whether they have seen dead or dying rabbits with suspected RVHD1 and/or 2, especially if they have gross PM, histopathology and, especially differential testing as performed by the Moredun Institute, Edinburgh.

This webinar may be of interest:

<http://therabbitvet.com/webinar/vhd-rhd-2-update-rabbit-haemorrhagic-disease>

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Refs:

Joana Abrantes, Wessel van der Loo, Jacques Le Pendu and Pedro J Esteves (2012)
Rabbit haemorrhagic disease (RHD) and rabbit haemorrhagic disease virus (RHDV): a review
Veterinary Research 2012, 43:12 doi:10.1186/1297-9716-43-12

Kevin P. Dalton, Inés Nicieza, Ana Balseiro, María A. Muguerza, Joan M. Rosell, Rosa Casais, Ángel L. Álvarez, and Francisco Parra(2012)
Variant Rabbit Hemorrhagic Disease Virus in Young Rabbits, Spain
Emerg Infect Dis. 2012 Dec; 18(12): 2009–2012.
doi: 10.3201/eid1812.120341

D. G. Westcott and B. Choudhury
Rabbit haemorrhagic disease virus 2-like variant in Great Britain

Veterinary Record doi:10.1136/vr.102830

Joana Abrantes, Ana M. Lopes, Kevin P. Dalton, Pedro Melo, Jorge J. Correia, Margarida Ramada, Paulo C. Alves, Francisco Parra, and Pedro J. Esteves
New Variant of Rabbit Hemorrhagic Disease Virus, Portugal, 2012–2013
Emerg Infect Dis. 2013 Nov; 19(11): 1900–1902.
doi: 10.3201/eid1911.130908

Detection of a new variant of rabbit haemorrhagic disease virus in France
G. Le Gall-Reculé et al
February 5, 2011 | Veterinary Record | 137-138
doi: 10.1136/vr.d697

Emergence of a new lagovirus related to Rabbit Haemorrhagic Disease Virus
Ghislaine Le Gall-Reculé et al (2013)
Veterinary Research 2013 44:81
DOI: 10.1186/1297-9716-44-81

Other useful sources of information:

<http://journals.plos.org/plospathogens/article?id=10.1371/journal.ppat.1005087>

<http://www.iucn-whsg.org/RabbitHemorrhagicDiseaseInEurope>

<https://www.harcourt-brown.co.uk/articles/infectious-disease/rabbit-haemorrhagic-disease>

Webinar: <http://therabbitvet.com/webinar/vhd-rhd-2-update-rabbit-haemorrhagic-disease>

FAQs

Is vaccination necessary?

This will obviously involve a risk assessment of the individual rabbit(s), but the wide geographical range of the disease, and the reported losses of several hundred rabbits throughout the UK, as well as molecular testing confirmation of cause of death in many sampled, suggests that vaccination is strongly advisable. Moredun Institute has advised RWA that cases have been confirmed throughout the UK, so you cannot assume you are in a 'safe' area. Additionally we believe that RVHD2 will be significantly under reported. Because RHD2 doesn't always look like classic RHD1, a rabbit could be taken into hospital looking ill, but nobody would necessarily think to treat that potentially infectious case for RHD2

Do existing RHD1 vaccines work?

Because the mortality rate is lower with RHD2, any test using a small number of rabbits could easily show protection just because none of them were going to die anyway. There is some anecdotal evidence that RHD1 vaccines have some short term effect, but nothing peer reviewed. Le Gall-Reculé (2013) showed that cross immunity between RHD1 and 2 was, at best, partial.

Do RHD2 vaccines work?

Le Minor et al (2013) showed that Filavac produced good immunity (full protection) against RHD2 in challenge studies. (15èmes Journées de la Recherche Cunicole, 19-20 novembre 2013, Le Mans, France)

How will you get it from your vet?

Please only go through your vets, rather than contacting wholesalers directly. The wholesalers will be overwhelmed with requests for information otherwise, and it cannot be obtained directly from them in any case.

Your vets will need their own licence, which, now all the info is on the VMD site and is approved, should be straightforward to do. However, this is not as simple as writing a prescription, and your vet may not see enough rabbits for this to be a practical option for them.

What dose regime is suggested?

Please remember that the use of these products is both off licence (although under the Cascade), and subject to the VMD's directions on importation of immunological products. As a result, although the manufacturers of the Filavac product suggest that vaccination can be at the same time as the Nobivac RHD-Myxo, as long as it is not in the same site or the same syringe, standard advice with immunological products not licensed for simultaneous administration is to space them out by at least 2 weeks.

The duration of immunity has been established at at least 12 months, in laboratory conditions in healthy rabbits.

The manufacturer's advice is to administer a single dose of the vaccine, followed by annual boosters in low risk situations, and 6 monthly in the case of breeding does at high risk. In the UK, I would suggest that high risk situations include rescue centres and breeders, unless they have a strict quarantine policy, and those rabbits which have greater contact with wild rabbits, as well as any geographical location where cases have been reported recently. All other rabbits are likely to fall into the lower risk category, requiring annual re-vaccination.

What does the vaccine cost?

Here at the RWAf we are not able to monitor or affect the prices charged by veterinary practices. It's worth pointing out that the price of the vaccine may vary widely between practices due to pricing structures, and due to the caseload of rabbits that they see. If they are able to make use of larger vaccine vials, the cost may be shared across more rabbits and reduced, but this is not often possible, as it requires enough rabbits to be seen in a 2 hour window during which the vial may be used.

What if I buried my pet rabbit and now wonder if it was RVHD 2, will the ground be infected and a risk to my other rabbits? (How should bodies be disposed of?)

There is not enough information out there to know the correct answer to this. We know it can live for 200 days in ideal conditions, so there is in theory a potential risk but we are speculating here. The best way to dispose of the body of any rabbit that died a sudden or unexplained death is to ask your vet to get it cremated for you. Double wrap them in plastic, and disinfect the outside, before taking to your vet, to reduce the risk of disease spread.

Once rabbits have recovered from RVHD2 do they still carry it? Do they still shed? Can I bond to another rabbit safely without risking them?

There is not enough information known about RVHD2 to know the correct answer to this with any certainty. In theory they should be safe to bond after 200 days, in practice it may be safe sooner than this, but we really don't know.

Can you recommend a cleaning protocol?

90% of any disinfection is cleaning, that is the most important aspect. After thorough cleaning of the area to remove any scale or residue, use Ark-Klens, which is a benzalkonium chloride disinfectant and as such it should be effective against EC and myxi, to routinely disinfect the housing. Periodically use Virkon (as an inorganic peroxygen compound) to kill any other viruses.

Anigene HLD4V has been confirmed as effective against RVHD2 at a dilution of 1:50. It is important that the correct dilution is used.

Note: Other benzalkonium chloride disinfectants and inorganic peroxygen compounds may be available, in addition to those named above.

Other than vaccination can I prevent my rabbit getting RHD? Will they get it from hay?

They are very unlikely to get RHD (1 or 2) or Myxomatosis from hay or barn dried grass. Risk / benefit analysis would be in the favour of feeding these foods. Foraged foods may potentially carry RVHD. Try to obtain plants from areas out of the reach of wild rabbits, and do not collect forage from areas of known wild rabbit RVHD infection.

Biosecurity advice was given in the webinar (link above) but summarised here:

Use foot dips or change footwear between going outside, especially into areas frequented by wild rabbits

Quarantine new animals, feed them last, use new equipment such as bottles / bowls for them.

Barrier nurse any suspicious cases

Try to exclude wild rabbits and unless they can be excluded from the garden consider stopping the practice of moving pens around the garden and even consider a double fence round rabbit runs.

What are the risks of “over-vaccination” and vaccine ingredients?

Vaccinating with an RHD 1 and 2 vaccine (Filavac), 1-2 times per year, on top of an existing RVHD1 and Myxomatosis vaccine (Nobivac), obviously increases the vaccine frequency and amount given to each rabbit. This is not perfect, but the alternative is missing out one of these vaccines, and the risk of “over-vaccination” is considered lower than the risk of insufficient protection.

Filavac is an inactivated, adjuvanted vaccine, and so cannot lead to clinical RVHD in the animal.

Concerns are often raised about vaccine ingredients (adjuvants and excipients) such as aluminium hydroxide and sodium metabisulphite. This is too large a topic to discuss here, but, without dismissing these concerns out of hand, and after weighing the risks against the benefits, vaccination has a strongly net positive benefit against the diseases discussed here.

There are known vaccine side effects discussed in the data sheets for these vaccines. They are usually limited to small local transient skin reactions, and transient mild lethargy. Oil based vaccines such as Cunipravic RHD2 Variant carry a known risk of significant skin and subcutaneous tissue damage, and great care must be taken to ensure no vaccine enters the intradermal route, to minimise this risk.

The frequency of vaccination, and a risk:benefit analysis for each individual, should be discussed between client and veterinary surgeon before deciding on an appropriate regime and vaccination plan. There is a risk to any animal (or person) to having any vaccination, which is why animals (or people) should only be vaccinated if they are healthy.

For further general details on companion animals, the BSAVA and WSAVA vaccine guidelines should be consulted. Note that under their definitions, in the UK and mainland Europe, RHD2 would be considered a “core” vaccination.

<https://www.bsava.com/Resources/Positionstatements/Vaccination.aspx>

<http://www.wsava.org/guidelines/vaccination-guidelines>

Titre testing against this strain is not commercially available, at least at present in the UK.

It's also worth being aware that other countries are slightly ahead of us in arranging vaccine importation and use for domestic rabbits. In Holland, vaccination has been underway with Filavac for several months before its use in the UK, and they also use the Nobivac Myxo-RHD vaccine.

Where can I send samples to get RVHD2 confirmed?

The following labs currently offer testing for RHD1 and 2. The OIE (World Organisation for Animal Health) guidelines suggest that liver is the best sample by far, but that spleen and blood are also good tissues to sample, as the virus becomes widespread throughout the body via the blood. The use of swabs to obtain samples from the tissues is possible, but to avoid false results, plain swabs (ie NOT in bacteriology medium such as agar gel or charcoal based material), with metal or plastic handles, not wood, should be used.

The use of faeces or urine samples or conjunctival swabs is less well evaluated, and we would not currently recommend testing via these methods when a test that is validated in the live animal (blood) is available

<http://www.moredun.org.uk/.../rabbit-haemorrhagic-disease-vir...>

<http://www.battlab.com/PCRTests.pdf>

<http://www.palsvetlab.co.uk>"

Batt Laboratories, University of Warwick Science Park, The Venture Centre
Sir William Lyons Road, Coventry, CV4 7EZ
Tel: 0247 6323275 Fax: 0871 7505323

Testing on tissue samples for Rabbit Haemorrhagic Disease. The PCR has a price of £45 and includes differentiation between RHDV1 and RHDV2. For live animals we recommend conjunctival swabs, urine and/or faeces. Blood is also possible, but mainly in case of suspect viraemia. For dead animals liver sample can also be submitted (without formalin). Turnaround time is 2-4 working days.

We offer RHDV test (conventional PCR) followed by sequencing for RHDV1/RHDV2 discrimination.

We run the test whenever is required, we don't have specified turnaround time, however there is the option to run it with urgency if you (or another clinician) suspects an outbreak. In this case the best option is to e-mail or phone me directly, so I can confirm the likely test date.

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In case of an outbreak they should be able to confirm presence/absence of RHDV within 3-4 days, however they might require an additional week to confirm the type

They are happy to accept samples from private vets as well as from APHA (or SAC in Scotland. Accepted samples are liver (validated) spleen and blood (appropriate organs according to OIE, however we have not validated it for these). Fresh tissues should be sent in virus transport media if possible. Frozen samples also accepted. There is written confirmation from the HSE that we are not required to have a SAPO licence if we handle these samples for diagnostic purposes, however I would recommend to send them as biological substance category B at minimum.

The PCR costs £ 39.60/sample plus VAT (price will change on the 1st of April to £40.39+VAT). They can invoice the practices directly if we are given all the relevant information with the submission form. The most important information is a contact e-mail where I can send the test report (or a fax number if an e-mail is not available).

What about Epravac?

"The recent licensing of EPRAVAC RHD2 vaccine for use in the UK is important in that it further recognises the concerns of the regulatory authorities and drug companies that RHD2 is a serious health and welfare concern to UK rabbits. However, there are a few caveats here, related to its origin as a vaccine for meat rabbits. The vaccine duration of action has not been determined, as meat rabbits are typically slaughtered very early in life. In fact, the product characteristics state: "Vaccinate only fattening rabbits. No information is available on the safety and efficacy in other categories such as breeding or pet rabbits."

In addition, the vaccine is oil adjuvanted, necessitating the following user warning:

Eravac is an emulsion containing mineral oil. Accidental injection may cause severe pain and swelling, particularly if injected into a joint or finger – this could result in the loss of the finger if prompt medical attention is not given. If someone is accidentally injected with this product, they must seek medical attention immediately even if only a very small amount is injected. The package leaflet should be shown to the doctor. If pain persists for more than 12 hours after medical examination, the doctor should be contacted again.

For these reasons, we feel that other vaccines, such as Filavac, covering RHD2 are preferable for the pet and rabbit population in the UK. As ever, rabbit owners are urged to discuss the specifics of their rabbit's care with their own vets, and those vets are welcome to contact RAAF for further discussion should they wish to."