



Information about zoonotic hepatitis E virus for hunters

What is zoonotic hepatitis E virus?

Zoonotic hepatitis E virus, abbreviated HEV, causes hepatitis, i.e. liver inflammation. The virus can spread between humans and animals, either directly or via food. Zoonotic hepatitis E virus is mainly found in pigs, but it has also been found in wild boars and cervids, such as moose and white-tailed deer. The virus occurs widely around the world, including Finland. The prevalence of infections in wild animals and pigs for slaughter is mainly lower in Finland than in other countries. Therefore, the risk of contracting zoonotic hepatitis E virus is not high, and in Finland only a low number of cases are recorded each year. Some hepatitis E viruses are zoonotic, while some can spread only from person to person or only among certain animal species. This text focuses only on zoonotic hepatitis E virus.

Where can you get infected with zoonotic hepatitis E virus?

Zoonotic hepatitis E virus is excreted in the faeces of an infected animal. For humans to be infected, viruses must end up in the mouth, for example via one's hands, when working with pigs. The virus can be present in the blood and organs of pigs or game animals, so the infection can be obtained through contaminated food made from pig products.

Hunters can be exposed to hepatitis E virus when hunting wild boars and deer. In Finland, the virus seems to occur less often in game animals than for example in Sweden, and the virus is not as common in game as in pigs.

Hunters can be exposed to hepatitis E virus especially when handling carcasses and offal or when preparing and eating game meat. Since the virus is not only present on the surface of the meat and organs of an infected animal but also inside them, one can get infected by eating them if they are not cooked until well-done. Freezing does not destroy hepatitis E virus, and the virus survives for a long time even at room temperature. When preparing food, cross-contamination can also occur: viruses can be transferred through hands and kitchen utensils from meat to other foods.

HEV infection can also be obtained from animal feces. During disemboweling and other carcass handlings, the blood of wild boars and deer is also a possible source of infection if it ends up in the hunter's mouth or on mucous membranes. It is also possible for the virus to be transmitted via an open wound.

Hunters should handle food of the hunting dogs hygienically, as hepatitis E infection can also be contracted from raw foods intended for dogs if they contain pig, wild boar, or deer.

What symptoms does zoonotic hepatitis E virus cause?

In humans, the intensity of symptoms varies in zoonotic hepatitis E infection, but most often the infection is asymptomatic or mild. The virus can cause liver inflammation. In mild cases, the symptoms may resemble flu, accompanied by yellowing of the eyes and skin, i.e. jaundice, as signs of a liver infection. The patient usually recovers without treatment, but the symptoms can be alleviated with supportive care if necessary. However, people with reduced immunity, such as the elderly, transplant patients and those with liver disease, can become seriously ill. In such cases, the infection can also persist for a long time, leading to liver failure and, in the most severe case, even death. The hepatitis vaccines that are currently used in Finland or elsewhere in the Western world are not targeted against hepatitis E virus.

In animals, hepatitis E virus infection is asymptomatic, and infection cannot be diagnosed visually in a living or dead animal.

How can you protect yourself from zoonotic hepatitis E virus?

Since game animals that carry hepatitis E virus cannot be distinguished from healthy animals, hunters cannot avoid infected animals. Therefore, hunters can protect themselves primarily by ensuring hygienic working practices during carcass processing and while working in the slaughter shed. It is good to wear protective gloves, and if possible wash hands, especially before eating. During the handling of the carcass, hunters should avoid touching their face, especially the mouth, with their hands. It is also advisable to wear

work clothes dedicated for the handling of the carcass, and the gear should be washed at least at +60 °C to keep it clean. Any wounds of the handlers should be covered, and protective gloves should be worn. When preparing food, hunters can protect themselves from hepatitis E virus by cooking foods that contain wild boar and deer meat and organs until well-done. Therefore, it is not necessary to avoid foods containing meat or organs of wild boar and deer. If sufficient cooking cannot be ensured, the hunters who belong to the risk groups need to be aware of the risk-taking.

For hunters, it is important to work hygienically when handling raw game and preparing the food. This means washing hands whenever necessary, for example after touching raw game meat. In addition, hygienic handling practices involve ensuring that raw meat and organs do not come into contact with other food products, such as vegetables, even via cutting boards or knives. If raw wild boar or deer meat is fed to hunting dogs, those foods should be handled hygienically, and the dogs' food should be kept separate from human foods and their handling equipment.