



Information about zoonotic hepatitis E virus for food handlers and food product manufacturers

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.

Food handlers and those working in restaurants, shops or similar places, can be exposed to hepatitis E virus through raw pork and pig organs, if they do not work using proper hygienic practices. One can also become infected if pig's blood ends up in an open wound, for example when one cuts oneself with a contaminated knife. With Finnish foods, the risks are mainly lower than with imported foods, because pigs carry the virus in the slaughter stage only in rare cases. 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: the virus can be transferred through hands and kitchen utensils from meat to other foods.

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 meat or organs of the animal.

How can you protect yourself from zoonotic hepatitis E virus?

Those who work in a restaurant, shop or similar place can protect themselves and customers from hepatitis E virus by working hygienically. For example, when handling pork, workers should avoid touching their face, especially the mouth, with their hands, and wash their hands whenever necessary. Any wounds of the workers should be covered, and protective gloves should be worn. In addition, it should be ensured that raw meat and organs do not come in contact with other food products, such as vegetables, even via cutting boards or knives. The latter also means that they protect the consumers by preventing cross-contamination.

The operating instructions should be drawn up in such a way that they also take into account the protection of the consumer against hepatitis E virus. This can be achieved by cooking foods that contain pork in particular, but also wild boar and deer meat preferably until well-done. In Finland, for example, cooked cold cuts, wieners and grilled sausages that are sold in stores are safe to eat even without additional cooking, as



high processing temperatures have been used in the production. Exposure to hepatitis E virus cannot be completely excluded in products that are not cooked under sufficiently high temperatures (for example cold smoked sausages). The safety of raw sausages goes on the responsibility of the person cooking them in the kitchen and will depend on whether they get cooked until well-done. It would be advisable to pay attention to the product information on manufacturing process so that the consumer is sure of the heat treatment that the product has received and of possible needs for further cooking.