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Guidance

Hepatitis E: symptoms, transmission, treatment and prevention

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Background

Hepatitis E is an illness of the liver caused by hepatitis E virus ([HEV](#)), a virus which can infect both animals and humans.

[HEV](#) infection usually produces a mild disease, hepatitis E. However, disease symptoms can vary from no apparent symptoms to liver failure. In rare cases, it can prove fatal particularly in pregnant women.

Normally, the virus infection will clear by itself. However, it has been shown that in individuals with suppressed immune systems, the virus can result in a persistent infection which in turn can cause chronic inflammation of the liver.

Public Health England ([PHE](#)) follows confirmed cases of hepatitis E. The 'hepatitis E surveillance form' (<https://www.gov.uk/government/publications/hepatitis-e-surveillance-form>) helps us improve our knowledge of the disease's natural history in the UK.

Symptoms

Symptoms of hepatitis E include:

- yellowing of the skin and eyes (jaundice)
- darkening of the urine
- pale stools

Sometimes symptoms include:

- tiredness
- fever
- nausea
- vomiting
- abdominal pain
- loss of appetite

We advise anyone with symptoms to contact their GP. The illness usually resolves within 1 to 4 weeks.

The average incubation period (the period of time you can have the infection before developing symptoms) for hepatitis E is 40 days, with a range of 15 to 60 days.

Diagnosis

[PHE](#)'s Bloodborne Virus Unit at Colindale (<https://www.gov.uk/guidance/blood-borne-viruses-unit-bbv-services>) and Birmingham Public Health Laboratory (<https://www.gov.uk/guidance/the-midlands-public-health-laboratory-services>), provide diagnostic testing of hepatitis E samples.

Local diagnostic laboratories across the UK also provide testing services for hepatitis E. [HEV](#) infection, an acute infectious hepatitis is notifiable to local authority proper officers under the Health Protection (Notification) Regulations 2010. Diagnostic laboratories must notify [PHE](#), through the Second Generation Surveillance System

([SGSS](#)), when they identify evidence of [HEV](#) infection.

A confirmed acute case is defined as either a [PCR](#) positive or [IgM](#) and [IgG](#) positive. Case definition at local diagnostic laboratories may differ and could include cases positive for [IgM](#) only.

[PHE](#)'s Emerging Infections and Zoonoses team follow up confirmed hepatitis E cases to investigate non-travel associated cases of [HEV](#) in England and Wales and identify potential risk factors.

Epidemiology

Surveillance of acute [HEV](#) infection includes data from both reference laboratories and [SGSS](#). Data from reference laboratories are reported from 2003 onwards. Since 2008 the cases reported through [SGSS](#) are also included. Reference lab and [SGSS](#) cases are combined, analysed and de-duplicated and the total number of cases per year are shown in the table.

An increase in the number of non-travel cases of hepatitis E was observed in England and Wales in 2010. An epidemiological study was carried out to investigate routes of acquisition and this case-control study implicated the consumption of processed pork products (<http://journals.cambridge.org/action/displayAbstract?fromPage=online&aid=9270300&fileId=S0950268813002318>).

A 2014 study found that more than 90% of British pigs were anti-[HEV](#) antibody positive (<http://webarchive.nationalarchives.gov.uk/20140707135733/http://www.defra.gov.uk/ahvla-en/science/bact-food-safety/2013-pig-abattoir-study/>).

A 10 year retrospective surveillance study looked at data from 2008 to 2017 (<https://academic.oup.com/jid/article/220/5/802/5479512>) and found that non-travel associated cases are likely to be older men, infected with [HEV](#) genotype 3 strain (related to the pig strain). Consumption of pork and pork products was significantly higher among patients with hepatitis E than in the general population.

| Year | Total* |
|--------|--------|
| 2003 | 124 |
| 2004 | 149 |
| 2005 | 329 |
| 2006 | 289 |
| 2007 | 162 |
| 2008** | 183 |
| 2009 | 249 |
| 2010 | 368 |
| 2011 | 536 |
| 2012 | 714 |
| 2013 | 844 |
| 2014 | 1062 |
| 2015 | 1212 |
| 2016 | 1243 |
| 2017 | 911 |
| 2018 | 1002 |
| 2019 | 1202 |

* Number of cases reported by the reference laboratories and SGSS combined after de-duplication

** SGSS cases included from 2008 onwards

Geographical distribution

Hepatitis E occurs worldwide. In regions of the world where sanitation may be poor (Asia, Africa, and Central America), the virus spreads by the consumption of sewage-contaminated food and water. The source of contamination is faeces shed from other infected people (or infected animals).

In the developed, world the virus may spread from animals to humans through the consumption of undercooked or raw pig and game meat, processed pork and shellfish.

Person to person transmission of the virus is very rare, though the virus has passed between people through blood transfusion and solid organ transplantation.

Historically, hepatitis E was considered a travel-associated infection, and the disease may have been underdiagnosed. The numbers of confirmed hepatitis E cases and infections increased significantly between 2010 and 2016.

We advise that anyone with unexplained hepatitis, regardless of travel history, should be tested for hepatitis E.

Treatment options

Most people do not require treatment, as their infections will clear naturally. While infected, we advise avoiding alcohol during the course of their illness.

Pregnant women and older people, those with weakened immune systems, and people with chronic liver disease can experience more severe infections. These patients can require closer observation in case the infection affects their liver function.

Pregnant women should seek advice from their antenatal carer.

During the first 2 weeks of hepatitis E illness:

- avoid preparing food for others
- limit contact with others if possible, especially pregnant women, or people with chronic liver disease

Close contacts should:

- wash hands thoroughly with soap and warm water and then dry properly after contact with an infected person
- wash hands after going to the toilet, before preparing, serving and eating food

Prevention of hepatitis E infection

Currently, there is no licensed vaccine for hepatitis E. Prevent infections by:

- cooking meat and meat products thoroughly
- avoid eating raw or undercooked meat and shellfish
- washing hands thoroughly before preparing, serving and eating food

When travelling to countries with poor sanitation:

- boil all drinking water, including water for brushing teeth
- avoid eating raw or undercooked meat and shellfish