

Hepatitis E Virus

CDC/MMWR

NIH/PubMed

**1. Name of the
Organism:**
Hepatitis E Virus

[Hepatitis E Virus](#) (HEV) has a particle diameter of 32-34 nm, a buoyant density of 1.29 g/ml in KTar/Gly gradient, and is very labile. Serologically related smaller (27-30 nm) particles are often found in feces of patients with Hepatitis E and are presumed to represent degraded viral particles. HEV has a single-stranded polyadenylated RNA genome of approximately 8 kb. Based on its physicochemical properties it is presumed to be a [calici](#)-like virus.

**2. Name of Acute
Disease:**

The disease caused by HEV is called hepatitis E, or enterically transmitted non-A non-B hepatitis (ET-NANBH). Other names include fecal-oral non-A non-B hepatitis, and A-like non-A non-B hepatitis.

Note: This disease should not be confused with hepatitis C, also called parenterally transmitted non-A non-B hepatitis (PT-NANBH), or B-like non-A non-B hepatitis, which is a common cause of hepatitis in the U.S.

3. Nature of Disease:

Hepatitis caused by HEV is clinically indistinguishable from hepatitis A disease. Symptoms include malaise, anorexia, abdominal pain, arthralgia, and fever. The infective dose is not known.

**4. Diagnosis of
Human Illness:**

Diagnosis of HEV is based on the epidemiological characteristics of the outbreak and by exclusion of hepatitis A and B viruses by serological tests. Confirmation requires identification of the 27-34 nm virus-like particles by immune electron microscopy in feces of acutely ill patients.

5. Associated Foods:

HEV is transmitted by the fecal-oral route. Waterborne and person-to-person spread have been documented. The potential exists for foodborne transmission.

**6. Frequency of
Disease:**

Hepatitis E occurs in both epidemic and sporadic-endemic forms, usually associated with contaminated drinking water. Major waterborne epidemics have occurred in Asia and North and East Africa. To date no U.S. outbreaks have been reported.

7. Usual Course of

The incubation period for hepatitis E varies from 2 to 9 weeks. The

Disease and Some Complications:

disease usually is mild and resolves in 2 weeks, leaving no sequelae. The fatality rate is 0.1-1% except in pregnant women. This group is reported to have a fatality rate approaching 20%.

8. Target Populations:

The disease is most often seen in young to middle aged adults (15-40 years old). Pregnant women appear to be exceptionally susceptible to severe disease, and excessive mortality has been reported in this group.

9. Analysis of Foods:

HEV has not been isolated from foods. No method is currently available for routine analysis of foods.

10. History of Recent Outbreaks:

Major waterborne epidemics have occurred in India (1955 and 1975-1976), USSR (1955-1956), Nepal (1973), Burma (1976-1977), Algeria (1980-1981), Ivory Coast (1983-1984), in refugee camps in Eastern Suddan and Somalia (1985-6), and most recently in Borneo (1987). The first outbreaks reported in the American continents occurred in Mexico in late 1986. To date, no outbreak has occurred in the U.S., but imported cases were identified in Los Angeles in 1987. There is no evidence for immunity against this agent in the American population. Thus, unless other factors (such as poor sanitation or prevalence of other enteric pathogens) are important, the potential for spread to the U.S. is great. Good sanitation and personal hygiene are the best preventive measures.

For more information on recent outbreaks see the [Morbidity and Mortality Weekly Reports](#) from CDC.

CDC/MMWR

The CDC/MMWR link will provide a list of Morbidity and Mortality Weekly Reports at CDC relating to this organism or toxin. The date shown is the date the item was posted on the Web, not the date of the MMWR. The summary statement shown are the initial words of the overall document. The specific article of interest may be just one article or item within the overall report.

NIH/PubMed

The NIH/PubMed button at the top of the page will provide a list of research abstracts contained in the National Library of Medicine's MEDLINE database for this organism or toxin.

mow@cfsan.fda.gov

January 1992 with periodic updates