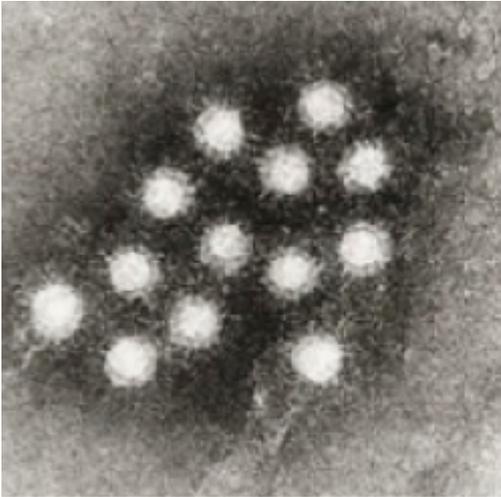


Hepatitis Alphabet Soup - An Outbreak Of Confusion



By *Josh Bloom* — August 6, 2019



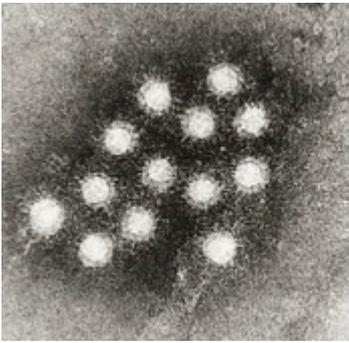
An electron microscopy image of the hepatitis A virus. Credit: Wikipedia Commons

Florida recently declared a [statewide emergency](#) ^[1] because of an inordinately large number of hepatitis A infections. There are more than 2,000 confirmed cases of the viral infection this year - almost four-times that for all of 2018. And it's not just Florida that is being hit. As of August 2nd, the [CDC has reported](#) ^[2] more than 23,000 cases nationwide resulting in 14,000 hospitalizations and 233 deaths. You do not want to catch hep A; it can make you very sick.

The virus is bad enough, but the system to name it might be worse. This is because there are [five](#) ^[3] known types of hepatitis – A, B, C, D, and E. Of these five only the first three present a significant health risk to humans. I will be discussing only these three.

Someone without expertise in virology or medicine would conclude that hepatitis A, B, and C were similar strains of the same virus. They are not; all these three pathogens have in common is the site of infection – the liver. The three have far more differences.

HEPATITIS A



An electron microscopy image of the hepatitis A virus. Credit: Wikipedia Commons

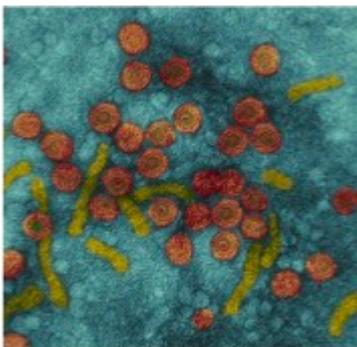
Hepatitis A is a short-term, highly contagious infection that is typically spread by food handlers. It can also be spread by contaminated surfaces or handshakes. Although the infection is usually self-limiting in normally healthy people it can be severe, even deadly, in the elderly and those with compromised immune systems. [Symptoms include](#) ^[4] "fever, malaise, loss of appetite, diarrhea, nausea, abdominal discomfort, dark-colored urine and jaundice (yellowing of the skin and whites of the eyes)."

Hepatitis A is similar to norovirus in certain ways, especially its high infectivity, gastrointestinal symptoms, and means of transmission **(1)** but there are also differences:

- There is an effective vaccine available for hep A, but not for norovirus.
- Hep A infects the liver while norovirus infects the small intestine.
- The incubation period is about two weeks for hep A and about two days for norovirus.
- Hep A can be spread sexually. Norovirus is not.

Hepatitis A belongs to the *picornaviridae* family of viruses. Other members of this family include rhinovirus (common cold) and polio.

HEPATITIS B



An electron microscopy image of the hepatitis B virus. Credit: [MedicineNet.com](#) ^[5]

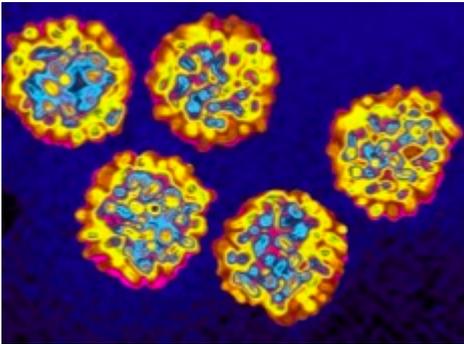
Hepatitis B could not be more different than hepatitis A. It is transmitted by blood and sexual contact. While symptoms of hepatitis A begin 2-4 weeks following infection, hepatitis B infects the liver and does slow, relentless damage over the course of decades, resulting in cirrhosis, liver failure, and hepatocellular cancer.

Unlike hepatitis A, there are direct-acting antiviral drugs for the infection. There is also a vaccine, which was first approved in 1981. The [CDC recommends](#) ^[6] that children receive three

vaccinations: at birth, between 1-2 months, and between 6-15 months.

Hepatitis B belongs to the *hepadnavirus* family of viruses. It is the [only member](#) [7] of this family to infect humans.

HEPATITIS C



An electron microscopy image of the hepatitis C virus. Credit: [Kuow.com](#) [8]

As with hepatitis B, hepatitis C has virtually nothing in common with hepatitis A except for the site of infection. There are similarities between B and C:

- Blood (and sexual) transmission
- Irreversible liver damage over a long period of time.
- Causes cirrhosis and liver cancer

And differences:

- Blood transmission only.
- No vaccine exists
- Highly effective antiviral drugs have been developed that can cure ~95% of infection.

Hepatitis C belongs to the *flaviviridae* family of viruses. other members of this class include yellow fever and West Nile.

The following table provides a summary of the text above.

Virus	Class/family	Related viruses	Onset of symptoms	Vaccine?	Principle means of transmission	Therapy	Consequences of infection
Hep A	Picornavirus	Cold, polio	Acute	Yes	Multiple	Vaccine	Usually self-limiting but can cause liver failure
Hep B	Hepadnavirus	Not much else	Decades*	Yes	Sexual contact, blood	Vaccine, antiviral drugs	Cirrhosis liver cancer
Hep C	Hepatovirus	Yellow fever, West Nile	Decades*	No	Blood	Antiviral drugs	Cirrhosis liver cancer

* A small number of people will develop acute symptoms. Most will not.

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Source URL: <https://www.acsh.org/news/2019/08/06/hepatitis-alphabet-soup-outbreak-confusion-14204>
Links

- [1] <https://wsvn.com/news/local/florida-latest-place-to-declare-emergency-over-hepatitis-a/>
- [2] <https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm>
- [3] <https://www.who.int/features/qa/76/en/>
- [4] <https://www.who.int/news-room/fact-sheets/detail/hepatitis-a>
- [5] https://www.medicinenet.com/image-collection/hepatitis_b_picture/picture.htm
- [6] <https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html>
- [7] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2144742/>
- [8] <http://kuow.org/post/sponge-drug-shows-promise-treating-hepatitis-c>