

Hepatitis C infections resulting from medical treatment occur despite clear guidelines

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Electron micrographs of hepatitis C virus purified from cell culture. Scale bar is 50 nanometers. Credit: Center for the Study of Hepatitis C, The Rockefeller University.

In a 10 year span, more than 130,000 patients were notified of medical errors that may have exposed them to blood-borne illness, including Hepatitis C. However, the majority of these notification events were discovered only after patients became acutely ill rather than through

proactive reporting of violations of health safety protocols, according to a review in *The Journal of the American Osteopathic Association*.

Between 2001 and 2011, there were 35 reports of injection safety violations, affecting more than 130,000 patients across 17 states and Washington, DC. Patients who were exposed to Hepatitis C as part of these violations and never became acutely ill may be infected, unaware of it and spread the [infection](#) to others or be at risk for long term serious infection side effects, researchers say.

Hepatitis C is a contagious liver disease that is primarily spread through the blood of an infected person or, less commonly, through sexual contact. It can be an acute, short-term illness that occurs within six months of infection or a chronic illness that can last a lifetime existing virtually asymptomatic for years.

About 63 percent of HCV infections resulting from medical treatment were discovered only after patients experienced symptoms and were diagnosed, which led to notifying and screening other patients. Only 37 percent were identified after proactive reporting of injection safety violations.

"A major problem is that two out of three times, we're not learning about unsafe medical practices until it's too late," says Charles Defendorf, DO, an internal medicine resident trained at Rowan University School of Osteopathic Medicine and lead researcher on this review. "Once a patient is diagnosed with an infection, we can go back, alert, and screen anyone else connected to that facility. But by that time there has usually been opportunity for thousands more to have been infected."

Researchers found that patient notifications were often ineffective and with large numbers of people in need of screening often many informed are not tested for infection. In one case, 4,490 patients were notified of

potential bloodborne pathogen exposure caused by reused syringes, but only 841 were screened for HCV. The thousands of patients who weren't screened could potentially be infecting others.

Dr. Defendorf says it's important that people know how to recognize the symptoms of HCV infection. While most people don't experience serious liver damage until after years of carrying the virus, many will suffer a brief bout of symptoms approximately four to six weeks after infection that can prompt treatment and avoidance of serious liver damage.

"Abdominal pain, nausea, vomiting, and jaundice are the primary symptoms," says Dr. Defendorf. "If these are experienced within four weeks after a procedure, it's a good idea to get tested." Physicians who find patients with elevated liver enzymes should have a conversation about potential infection, he added.

In addition to physician responsibility, patients are encouraged to advocate for themselves by observing their healthcare providers. The protocols for safe injection are comprehensively outlined in the Center for Disease Control's "One and Only" campaign. They include:

- Never administer medications from the same syringe to more than one patient, even if the needle is changed
- Do not enter a vial with a used syringe or needle
- Medications packaged as single-use vials should never be used for more than one patient
- Medications packaged as multi-use vials should be assigned to a single patient whenever possible
- Bags or bottles of intravenous solution should not be used as a common source of supply for more than one patient
- Absolute adherence to proper infection control practices be maintained during the preparation and administration of injected

medications

"Hepatitis C transmission in medical settings is highly preventable and there are clear guidelines and standards to keep [patients](#) safe," says Dr. Defendorf. "All healthcare workers should know and abide by them."

More information: Charles M. Defendorf et al, Iatrogenic Hepatitis C Virus Transmission and Safe Injection Practices, *The Journal of the American Osteopathic Association* (2018). [DOI: 10.7556/jaoa.2018.062](https://doi.org/10.7556/jaoa.2018.062)

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