

HEALTH EFFECTS OF HEPATITIS C OUTSIDE OF THE LIVER

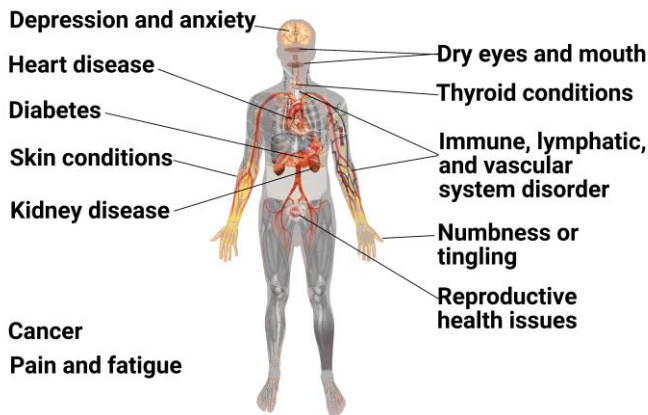
Hepatitis C: It's About More than Liver Disease

The effects of the hepatitis C virus (HCV) on the liver are well-known. For example, chronic HCV infection can lead to long-term liver damage and increased risk of liver cancer.

But up to **74%** of HCV-infected patients have symptoms outside the liver.¹

It is important to recognize these health effects because they may play a role in diagnosis, treatment, and the overall wellbeing of an infected individual.

WHAT ARE SOME COMMON EFFECTS OF HCV OUTSIDE OF THE LIVER?



Health effects of HCV can appear in many parts of the body.

Some have distinct features that are easy to identify, while others are hard to diagnose and often get overlooked.

It can be difficult to recognize that these symptoms are associated with HCV.

HOW DOES HCV AFFECT OTHER PARTS OF THE BODY?

HCV can live in the body for many years, causing long-term inflammation and constant stress on the immune system. Over time, this produces problems across multiple body systems.

The virus invades cells in the body other than liver cells. Even though HCV usually infects liver cells, there is also evidence that it attacks other cell types including those found in the brain and immune system.²⁻³

Some health conditions are associated with HCV, but the reasons are unknown. For example, the risk of heart disease is higher among HCV patients than the general population, and researchers are still working to understand why.⁴⁻⁵

WHY IS THIS IMPORTANT?

HCV-related effects on other parts of the body can be an early indicator of HCV infection.

Chronic HCV infection may not have noticeable impacts on the liver for many years. However, patients may experience earlier symptoms in other parts of the body that could be related to HCV.

HCV treatment improves many health conditions. Clearing HCV from the body can relieve health conditions affecting multiple parts of the body, in addition to the liver.⁶⁻⁷

WHAT ACTIONS SHOULD I TAKE?



Patients

- ✓ **ASK** your healthcare provider if HCV could be related to other health conditions you may have, and any new conditions that may develop.
- ✓ **TALK** to your doctor about the need for HCV treatment, even if you don't have severe liver damage.
- ✓ **LEARN** about the symptoms associated with HCV health conditions that may appear outside the liver.



Providers

- ✓ **RECOGNIZE** that HCV is a systemic disease that affects the whole body.
- ✓ **LEARN** the clinical signs of HCV that occur outside the liver.
- ✓ **UNDERSTAND** that conditions occurring outside the liver can be a serious cause of disease for HCV patients.
- ✓ **REMEMBER** that certain health conditions outside the liver can lead to early HCV diagnosis and may be indications for HCV treatment.
- ✓ **COORDINATE** care so that providers across specialties can work together.



Advocates

- ✓ **EDUCATE** others about the effects of HCV beyond the liver.
- ✓ **URGE** policymakers to endorse strategies that increase access to HCV treatment.
- ✓ **INCREASE** awareness about the wide-ranging clinical needs of HCV patients.
- ✓ **DEMAND** that HCV be recognized as a systemic health condition deserving of more attention and resources.

¹ Cacoub, Patrice, et al. "Extrahepatic manifestations of chronic hepatitis C. MULTIVIRC Group. Multidepartment virus C." *Arthritis & Rheumatology*, vol. 42, 1999, pp.2204–2212.

² Wilkinson, Jeffrey, et al. "Hepatitis C virus neuroinvasion: identification of infected cells." *Journal of Virology*, vol. 83, no.3, 2009, pp. 1312-9.

³ Inokuchi, Momoko, et al. "Infection of B cells with hepatitis C virus for the development of lymphoproliferative disorders in patients with chronic hepatitis C." *Journal of Medical Virology*, vol. 81, no. 4, 2009, pp. 619-27.

⁴ Katsi, Vasiliki, et al. "Cardiovascular disease and hepatitis C virus infection: an irrelevant statement or a hot relationship?" *Cardiology in Review*, vol. 23, no. 1, 2015, pp. 11-7.

⁵ Ampuero, Javier and Manuel Romero-Gomez. "Assessing cardiovascular risk in hepatitis C: an unmet need." *World Journal of Hepatology*, vol. 7, no. 19, 2015, pp. 2214-9.

⁶ Ramos-Casals, Manuel, et al. "Evidence-based recommendations on the management of extrahepatic manifestations of chronic hepatitis C virus infection." *Journal of Hepatology*, vol. 66, 2017, pp. 1282-99.

⁷ Degasperin, Elisabetta, et al. "Treatment of Extrahepatic Manifestations of Hepatitis C Virus." *Clinics in Liver Disease*, vol. 21, no. 3, 2017, pp. 631-43.