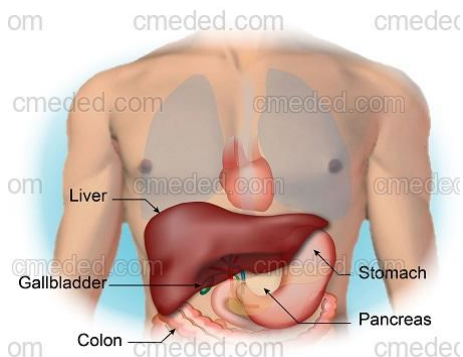


Understanding Viral Hepatitis

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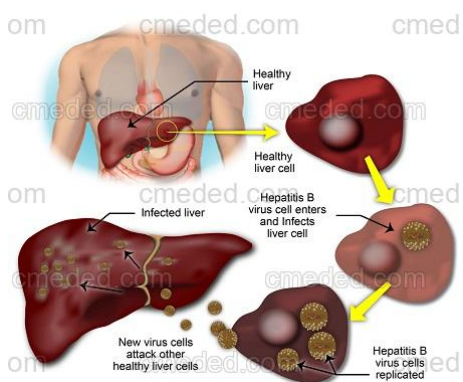
What is the Liver?

To understand hepatitis, it helps to first understand the liver and its functions. The liver helps the body absorb nutrients into the bloodstream, and filter out harmful substances from the bloodstream. Certain substances and diseases (such as alcohol and viral hepatitis) can damage the liver and prevent it from carrying out these functions. **Chronic** hepatitis can destroy the cells of the liver, causing excessive scarring of the liver (cirrhosis), which can increase the risk of developing liver cancer and/or liver failure.



What is Viral Hepatitis?

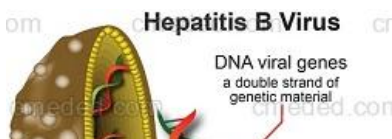
The word "hepatitis" means "inflammation of the liver". **Inflammation** of the liver may be caused by a number of things, including metabolic causes (alcohol and non alcoholic fatty liver disease (i.e, NAFLD)), viruses, **genetic** disorders, autoimmune disease, drugs, medications, ischemia or decreased blood flow to the liver, certain nutritional supplements, and toxins such as industrial chemicals and pollutants. Viral hepatitis remains a common cause of a hepatitis, which is caused by a virus that directly attacks the cells of the liver (i.e, hepatocyte). A virus is much smaller than a cell, and can contain **genetic** information that allows the virus to take control of the cells and reproduce. Once a virus has invaded a hepatocyte, it can interfere with the cell's normal functions, replicate, and invade more cells. The virus can destroy many healthy liver cells in the process, which can further increase liver **inflammation**. The **inflammation** can eventually lead to scar tissue and even cirrhosis with subsequent liver failure. The virus can also damage the **DNA** of the cells, which can also increase the risk of developing a liver cancer.



Types of Viral Hepatitis

There are different types of a viral hepatitis, depending on the specific virus that causes the disease. This document will focus primarily on Hepatitis B and C, the most common forms of **chronic** viral hepatitis.

⊕ Hepatitis B

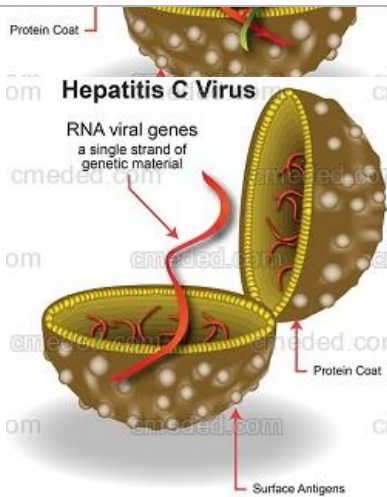


➤ **Hepatitis B:** Hepatitis B is caused by a **DNA** virus (**HBV**). Hepatitis B virus is present in the blood and bodily fluids of an infected person. It can be transmitted in a number of ways, including sexual intercourse, used needles, or from mother to newborn. Hepatitis B starts off as an acute illness, usually



or from mother to newborn. Hepatitis B starts off as an acute illness, usually with mild-moderate symptoms lasting weeks to months. Most adults can fight off the disease on their own, but approximately 10% will go on to

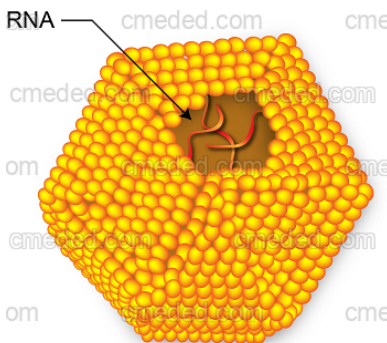
+ Hepatitis C



eventually lead to liver cancer and even cirrhosis with liver failure. Cirrhosis is not always caused by alcohol abuse. The younger the patient is exposed, the greater the chance of the disease progressing to **chronic hepatitis B**.

> **Hepatitis C:** Hepatitis C is caused by a RNA virus (HCV). Exposure of hepatitis C occurs most commonly from the blood of an infected person. It may be transmitted by drug users who share needles, accidental needle sticks, tattoos, body piercings, or from mother to newborn. Hepatitis C starts off as an acute infection, but approximately 60-80% of patients can go on to develop a **chronic** condition with potential serious long-term health implications. Most people with **chronic** hepatitis C will develop mild to moderate liver damage over time, but approximately 20-30% of these chronically infected patients can develop cirrhosis over a longer time period (i.e., 20-30 years). There is no vaccine for hepatitis C and the best way to prevent the disease is to avoid exposure to the virus. However, there are now potent antiviral therapies available that can suppress the virus once you are infected.

+ Hepatitis A



> **Hepatitis A:** Hepatitis A is caused by a RNA virus (HAV). Hepatitis A is present in the fecal matter of an infected person, and most commonly spreads through the ingestion of food or water that has been contaminated by human waste containing the virus. It is most common in countries with lower socioeconomic and education levels, that are more likely to have unsanitary conditions. Hepatitis A is an acute disease that does not have the potential to become a long-term, **chronic** condition. The disease may last anywhere from a few weeks to a few months, and symptoms can range from mild to severe. Hepatitis A can be diagnosed through blood tests (i.e., Hepatitis A IgM serology), and can be prevented with **vaccination**. Treatment is supportive, and is meant to relieve symptoms, reduce side-effects, and improve quality of life, as there are no antiviral therapies available for Hepatitis A.

+ Hepatitis D, E, and G

> **Hepatitis D, E, and G:** Hepatitis D, E, and G are less common forms of the disease that are caused by the hepatitis D, E, and G viruses, respectively. In order to contract Hepatitis D, a person must first be infected with the hepatitis B virus. Hepatitis D requires a protein produced by the hepatitis B virus in order to survive. It is transmitted in the same ways as hepatitis B. A person can get hepatitis B first, or both at the same time. Hepatitis E is similar to hepatitis A, and is most prevalent and widespread in Asia, where it is spread through contaminated water. There are now some reports that hepatitis E can lead to a **chronic** infection particularly in **immunocompromised** individuals. GB Virus C (GBV-C) resembles hepatitis C, and there is still disagreement over whether it is a type of hepatitis (hepatitis G) or not. This virus is still under investigation.

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