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**18/MHS07/006**

**PHARMACOLOGY**

**ANA 202**

1. **The** portal vein or hepatic portal vein (HPV) is a blood vessel that carries blood from the gastrointestinal tract, gallbladder, pancreas and spleen to the liver. This blood contains nutrients and toxins extracted from digested contents. Approximately 75% of total liver blood flow is through the portal vein, with the remainder coming from the hepatic artery proper. The blood leaves the liver to the heart in the hepatic veins.

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|  ***Portal vein*** |
| The **portal vein** and its tributaries. It is formed by the [superior mesenteric vein](https://en.m.wikipedia.org/wiki/Superior_mesenteric_vein), inferior mesenteric vein, and [splenic vein](https://en.m.wikipedia.org/wiki/Splenic_vein). *Lienal vein* is an old term for *splenic vein*. |

The portal vein is not a true [vein](https://en.m.wikipedia.org/wiki/Vein), because it conducts blood to [capillary](https://en.m.wikipedia.org/wiki/Capillary) beds in the liver and not directly to the heart. It is a major component of the [hepatic portal system](https://en.m.wikipedia.org/wiki/Hepatic_portal_system), one of only two [portal venous systems](https://en.m.wikipedia.org/wiki/Portal_venous_system) in the body – with the [hypophyseal portal system](https://en.m.wikipedia.org/wiki/Hypophyseal_portal_system%22%20%5Co%20%22Hypophyseal%20portal%20system) being the other.

The portal vein is usually formed by the confluence of the [superior mesenteric](https://en.m.wikipedia.org/wiki/Superior_mesenteric_vein) and [splenic veins](https://en.m.wikipedia.org/wiki/Splenic_vein) and also receives blood from the [inferior mesenteric](https://en.m.wikipedia.org/wiki/Inferior_mesenteric_vein), [left](https://en.m.wikipedia.org/wiki/Left_gastric_vein) and [right gastric veins](https://en.m.wikipedia.org/wiki/Right_gastric_vein), and [cystic veins](https://en.m.wikipedia.org/wiki/Cystic_vein).

Conditions involving the portal vein cause considerable illness and death. An important example of such a condition is elevated [blood pressure](https://en.m.wikipedia.org/wiki/Blood_pressure) in the portal vein. This condition, called [portal hypertension](https://en.m.wikipedia.org/wiki/Portal_hypertension), is a major complication of [cirrhosis](https://en.m.wikipedia.org/wiki/Cirrhosis).

1. **Hepatitis A** is a liver disease caused by the hepatitis A virus (HAV). The virus is primarily spread when an uninfected (and unvaccinated) person ingests food or water that is contaminated with the faeces of an infected person. The disease is closely associated with unsafe water or food, inadequate sanitation, poor personal hygiene and oral-anal sex. Hepatitis A occurs sporadically and in epidemics worldwide, with a tendency for cyclic recurrences. The hepatitis A virus is one of the most frequent causes of foodborne infection. Epidemics related to contaminated food or water can erupt explosively, such as the epidemic in Shanghai in 1988 that affected about 300 000 people1. They can be also prolonged, affecting communities for months through person-to-person transmission. Hepatitis A viruses persist in the environment and can withstand food-production processes routinely used to inactivate and/or control bacterial pathogens.

The disease can lead to significant economic and social consequences in communities. It can take weeks or months for people recovering from the illness to return to work, school, or daily life. The impact on food establishments identified with the virus, and local productivity in general, can be substantial.

**HEPATITIS B** Hepatitis B is an infection of your [liver](https://www.webmd.com/digestive-disorders/picture-of-the-liver). It can cause scarring of the organ, liver failure, and cancer. It can be fatal if it isn’t treated.

It’s spread when people come in contact with the blood, open sores, or body fluids of someone who has the hepatitis B virus.

It's serious, but if you get the disease as an adult, it shouldn’t last a long time. Your body fights it off within a few months, and you’re immune for the rest of your life. That means you can't get it again. But if you get it at birth, it’ unlikely to go away.

**HEPATITIS C** Hepatitis C is a liver disease caused by the hepatitis C virus (HCV): the virus can cause both acute and chronic hepatitis, ranging in severity from a mild illness lasting a few weeks to a serious, lifelong illness. Hepatitis C is a major cause of liver cancer. Hepatitis C is a viral infection that causes liver inflammation, sometimes leading to serious liver damage. The hepatitis C virus (HCV) spreads through contaminated blood. [Hepatitis](https://medlineplus.gov/hepatitis.html) is inflammation of the liver. Inflammation is swelling that happens when tissues of the body are injured or infected. Inflammation can damage organs.

There are different types of hepatitis. One type, hepatitis C, is caused by the hepatitis C virus (HCV). Hepatitis C can range from a mild illness lasting a few weeks to a serious, lifelong illness.

## What Is Fatty Liver?

## Fatty liver occurs when too much [fat](https://www.healthline.com/nutrition/how-much-fat-to-eat) builds up in liver cells. Although it is normal to have a tiny amount of fat in these cells, the liver is considered fatty if more than 5% of it is fat ([2Trusted Source](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4462685/)).While drinking too much [alcohol](https://www.healthline.com/nutrition/alcohol-good-or-bad) can lead to fatty liver, in many cases it does not play a role.A number of fatty liver conditions fall under the broad category of non-alcoholic liver disease (NAFLD), which is the most common liver disease in adults and children in Western countries ([2Trusted Source](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4462685/), [3Trusted Source](https://www.ncbi.nlm.nih.gov/pubmed/27086005)).

Non-alcoholic fatty liver (NAFL) is the initial, reversible stage of liver disease. Unfortunately, it often goes undiagnosed. Over time, NAFL may lead to a more serious liver condition known as non-alcoholic steatohepatitis, or NASH.NASH involves greater fat accumulation and inflammation that damages the liver cells. This can lead to fibrosis, or scar tissue, as liver cells are repeatedly injured and die off.Unfortunately, it is difficult to predict whether fatty liver will progress to NASH, which greatly increases the risk of cirrhosis (severe scarring that impairs liver function) and liver cancer ([4Trusted Source](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5086374/), [5Trusted Source](https://www.ncbi.nlm.nih.gov/pubmed/27729736)).

NAFLD is also linked to an increased risk of other diseases, including heart disease, diabetes and kidney disease ([6Trusted Source](https://www.ncbi.nlm.nih.gov/pubmed/27697419), [7Trusted Source](https://www.ncbi.nlm.nih.gov/pubmed/27580368), [8Trusted Source](https://www.ncbi.nlm.nih.gov/pubmed/25920090)).

### **What is cirrhosis?**

Cirrhosis is a complication of many liver diseases characterized by abnormal structure and function of the liver. The diseases that lead to cirrhosis do so because they injure and kill liver cells, after which the inflammation and repair that is associated with the dying liver cells causes [scar tissue](https://www.medicinenet.com/abdominal_adhesions_scar_tissue/article.htm) to form. The liver cells that do not die multiply in an attempt to replace the cells that have died. This results in clusters of newly formed liver cells (regenerative nodules) within the [scar](https://www.medicinenet.com/scars/article.htm) tissue. There are many causes of cirrhosis including chemicals (such as alcohol, fat, and certain medications),