

# VIRAL DISEASES

## 1. HEPATITIS

The word hepatitis means inflammation of the liver.

Hepatitis is most commonly caused by one of three viruses:

1. The Hepatitis A Virus
2. The Hepatitis B Virus
3. The Hepatitis C Virus.

### i) HEPATITIS A

#### INTRODUCTION

In children the most common form of Hepatitis is Hepatitis A (also called infectious hepatitis). This form is caused by Hepatitis A virus (HAV), which lives in the stools (feces or poop) of infected individuals. Because Hepatitis A can be a mild infection, particularly in children, it's possible for some people to be unaware that they have had the illness. Although the Hepatitis A Virus can cause prolonged illness upto 6 months, it typically only causes short-lived illness and it does not cause chronic liver disease.

# CAUSES

The Hepatitis A virus, which causes the infection, usually, is spread when a person <sup>TRANSMISSION OF HAV</sup> ingests even tiny amounts of contaminated fecal matter. The Hepatitis A virus infects liver cells and causes inflammation. The inflammation can impair liver function and cause other signs and symptoms of Hepatitis A.

Hepatitis A can be transmitted in several ways, such as:

- \* Eating food handled by someone with the virus who doesn't thoroughly wash his or her hands after using the toilet.
- \* Drinking contaminated water
- \* Being in close contact with a person who's infected - ~~if~~ even if that person has no signs or symptoms.

# SYMPTOMS

Hepatitis A causes inflammation in the liver. The symptoms are not always shown but if they are shown, they include:

1. Jaundice (Yellow eyes and skin, dark urine)
2. Pain in belly
3. Loss of appetite
4. Nausea
5. Fever
6. Diarrhea
7. Fatigue



## DIAGNOSIS

Blood tests allow doctors to diagnose this disease.

## TREATMENT

There are no medications used to treat Hepatitis A because it's a short-term infection that goes away on its own.

## INCUBATION PERIOD

(Incubation means: During a disease the time between the first infection and emergence of symptoms. OR The time it takes for a person to become infected after being exposed.)

For Hepatitis A, the incubation period is 2 to 6 weeks.

# HEPATITIS B

## INTRODUCTION

Hepatitis B (also called serum hepatitis) is caused by the Hepatitis B Virus (HBV). This virus can infect and inflame the liver. It is a DNA virus that integrates into the chromosomes (genome) of an individual. HBV is particularly dangerous bcz it can infect people without them knowing it, and, in turn, those infected can unknowingly pass the virus to others.

Sometimes the virus causes a long-term infection, called chronic hepatitis B. For those who become chronically infected, the virus can continuously attack the liver over time without being detected, causing potentially irreversible liver damage.

## MODE OF TRANSMISSION

Hepatitis B is transmitted when blood, semen, vaginal fluid, tear, saliva or urine from a person infected with the virus enters the body of someone who is not infected, whether it is through a puncture in the skin, a shared needle, or the exchange of body fluids.



This can happen through mother to baby at birth, sex with an infected partner, sharing needles, syringes, or other drug-injection equipment; or from sharing personal hygiene items such as razors or toothbrushes  
→ Hepatitis B is NOT spread through food or water, sharing eating utensils, breastfeeding, hugging, holding hands, coughing, sneezing or by means of insect bites.

The HBV can survive outside the body for at least 7 days. During this time, the virus can still cause infection if it enters the body of a person who is not protected by the vaccine.

## SYMPTOMS

Many acute Hepatitis B infections occur during infancy or childhood and are rarely diagnosed due to the lack of obvious symptoms. The average time from exposure to symptom onset is 90 days <sup>(3 weeks)</sup> after exposure to the virus has occurred.

Symptoms include:

1. Feeling very tired
2. Mild fever
3. Headache
4. Loss of appetite
5. Joint pain
6. Tan-colored bowel movements (stool)



7. Dark urine

8. Jaundice (Yellowish eyes and skin)

Jaundice usually appears only after other symptoms have started to go away.

Most people with chronic Hepatitis B have no symptoms.

## DIAGNOSIS

A blood test is available to diagnose both acute and chronic HBV infection.

## Treatment

In most cases, Hepatitis B goes away on its own. The symptoms can be relieved at home by resting, eating healthy foods, drinking plenty of water, and avoiding alcohol and drugs.

Treatment for chronic Hepatitis B depends on whether the infection is getting worse and whether the person is having a liver damage. Most people with chronic Hepatitis B can live active, full lives by taking good care of themselves and getting regular checkups.

Sometimes, chronic Hepatitis B can lead to severe liver damage and the person may need a liver transplant.



# PREVENTION

The Hepatitis B vaccine is the best way to prevent infection. The vaccine is a series of 3 or 4 shots. Adults at risk and all babies, children, and teenagers should be vaccinated.

A combination vaccine (Twinrix) that protects against both Hepatitis B and Hepatitis A is also available.

To avoid getting or spreading the virus to others:

1. Don't share needles.
2. Wear latex or plastic gloves if you have to touch blood.
3. Don't share toothbrushes or razors.

# INCUBATION PERIOD

For Hepatitis B, the incubation period is between 4 and 20 weeks.

# HEPATITIS C

## INTRODUCTION

Hepatitis C is a contagious liver disease caused by Hepatitis C Virus (HCV). It is the most common blood-borne disease in United States.

Hepatitis C is spread by blood-to-blood contact, primarily through injectable drug use. There are immunization against Hepatitis A and B, but not for C. In order to prevent becoming infected with the Hepatitis C virus it is necessary to prevent exposure.

If after being infected a person did not naturally clear the virus in six months, the infection would become chronic and only curable with medication.

The risk of untreated chronic infection is scarring, cirrhosis, cancer of liver, and in some cases, death.

## CAUSES

HCV is spread by direct contact with an infected person's blood. The Hepatic C Virus can be spread by sharing drug needles, getting a tattoo or piercing with unsterilized tools, blood transfusions.



transmission from mother to newborn and sexual contact. Hepatitis C is also a common threat in kidney dialysis centre. Rarely, people living with an infected person can contract the disease by sharing items that might contain the person's blood, such as razors or toothbrushes.

A speck of blood so small that it is not viewable to the naked eye can carry hundreds of Hepatitis C particles.

Cleaning with alcohol or rinsing with soap and water, even letting the needle and syringe air-dry for several days will not kill the virus.

Once it is injected into the body, even if on only one occasion, exposure has occurred and infection is quite possible. Around 30% of people who inject drugs are infected with HCV within the first two years of use. After five years of IDU, 90% of users will be infected.

## SYMPTOMS

Acute HCV is rarely diagnosed due to the lack of definitive symptoms. It is often referred to as silent epidemic.

During this "acute infection period" if symptoms are present - they are very similar to those of Hepatitis A and B.



Usually experienced is abdominal discomfort, nausea, fever, joint pain, fatigue, and infrequently jaundice (yellow tinge to skin and eyes), or clay colored stools.

HCV become chronic when the virus remains in the blood a year after the acute infection period. Unless treated with medication, the infection is lifelong.

Most people have no physical complaints with chronic infection, while some may have ongoing episodes of abdominal pain, persistent fatigue, and aching joints.

After a 25-30 year period, this chronic infection may result in significant scarring (fibrosis) of the liver, which can progress to cirrhosis (complete fibrosis), liver failure, and possibly liver cancer. Frequently it is not until the liver is on the verge of collapse that the damage is apparent.

## DIAGNOSIS

A blood test is used to diagnose Hepatitis C Virus.

## TREATMENT

Hepatitis C has improved significantly with the use of two medications only one of which is approved for use in children. In those adults who have not



been infected with Hepatitis C (by accidental needle injury, for instance), combination therapy with the two drugs is the treatment of choice and can eliminate the virus in about 50% of the people infected.

Hepatitis C treatments have changed a lot in recent years due to:

## ZEPATIER [Koracademy.com](http://Koracademy.com)

In January 2016, the FDA gave approval to a once-daily pill combination of elbasvir and grazoprevir called Zepatier. It has been shown to have the ability to cure the disease in almost 100% of those treated.

## HARVONI

It follows the success of another once-daily treatment called Harvoni that cures the disease in many people in 8-12 weeks.

In clinical trials, the most common side effects were fatigue and headache.

## INCUBATION PERIOD

It takes about 2 to 26 weeks.