

## Hepatitis

### **VIRAL HEPATITIS BASICS**

The liver is one of the most important organs in your body, and weighs about three pounds. It sits in the upper right side of the abdomen, below the ribs. The functions of the liver include: Making bile. Changing food into energy. Cleaning alcohol and poisons from your system. Hepatitis is an inflammation of the liver. There are several known viruses that cause hepatitis including hepatitis A, B, C, D or E. Symptoms of viral hepatitis may be vague and are often similar to the flu. Vaccines are available for hepatitis A and B. Treatment options are available for patients with hepatitis. In addition, researchers are exploring new ways to diagnose and treat all forms of these diseases.

### **THE LIVER**

The liver is an organ that plays an important role in managing the body's functions including: Stores certain vitamins, minerals, sugars and iron. Filters and detoxifies chemicals in what you eat, breathe and absorb through the skin. Regulates fat stores and controls production and release of cholesterol. Destroys poisonous substances. Changes the food you eat into energy, clotting factors, immune factors, hormones and proteins. Breaks down drugs and medications.

### **FORMS OF VIRAL HEPATITIS**

Hepatitis is an inflammation of the liver. Inflammation usually produces swelling, tenderness and sometimes permanent damage. Hepatitis is caused by a number of things including alcohol, drugs, chemicals and viral infections. If the inflammation of the liver continues at least six months or longer, it is called chronic hepatitis. Chronic hepatitis can lead to scarring, also called fibrosis. If a lot of fibrosis develops it is called cirrhosis, which can lead to liver failure. Currently there are at least five different viruses known to cause viral hepatitis.

#### **Hepatitis A**

Sometimes called "infectious hepatitis," hepatitis A is spread by eating food or drinking water contaminated with human feces. This type of viral hepatitis is not frequently life-threatening.

#### **Hepatitis B**

Sometimes called "serum hepatitis," hepatitis B can be spread from mother to child at birth or soon after and through sexual contact, contaminated blood transfusions and needles. This form of viral hepatitis may lead to cirrhosis (scarring of the liver) and liver cancer.

#### **Hepatitis C**

Formerly known as "non-A, non-B hepatitis," hepatitis C is the most common form of viral hepatitis. While it can be spread through blood transfusions and contaminated needles, for a substantial number of patients, the cause is unknown. This form of viral hepatitis may lead to cirrhosis, or scarring, of the liver. Co-infection of hepatitis C in patients who are HIV positive is common; about one-quarter of patients infected with HIV are infected with hepatitis C. Fifty percent to 90 percent of HIV-infected injection drug users are also infected with hepatitis C. Hepatitis C virus infection is more severe in patients with HIV.

#### **Hepatitis D**

This form of viral hepatitis is found most often in intravenous (IV) drug users who are also carriers of the hepatitis B virus. Hepatitis D is spread only in the presence of the hepatitis B virus and is transmitted through the same ways. As hepatitis D occurs in people who have viral hepatitis B, it is a serious health problem, and may increase the severity of symptoms associated with hepatitis B.

#### **Hepatitis E**

This form of viral hepatitis is similar to viral hepatitis A and is found most often in people who live in countries with poor sanitation. It is rare in North America and rarely life-threatening.

### **DIFFERENCES BETWEEN ACUTE AND CHRONIC HEPATITIS**

Acute hepatitis is the initial infection. Acute hepatitis may be mild or severe. If the infection lasts for six months or longer the condition is called chronic hepatitis. Hepatitis A and E do not cause chronic hepatitis. The hepatitis viruses B, C and D can produce both an acute and chronic episode of illness. Chronic hepatitis B and C are serious health problems.

### **VIRAL HEPATITIS SYMPTOMS**

Many cases of viral hepatitis are not diagnosed because the symptoms are vague and similar to a flu-like illness. Sometimes, there are no symptoms at all. Some individuals with viral hepatitis experience or develop: Fatigue. Nausea. Vomiting. Diarrhea. Abdominal discomfort. Muscle and joint aches. Changes in the color of urine and stools. Some people with viral hepatitis may develop jaundice, when the skin and whites of the eyes turn yellow. Itching of the skin may occur with jaundice.

#### **WHAT SHOULD I DO IF I HAVE BEEN EXPOSED TO OR THINK THAT I HAVE VIRAL HEPATITIS?**

Call your doctor and schedule an urgent appointment. Your doctor will take a history, do a physical examination and order blood tests to determine your diagnosis.

#### **WHAT IS A CARRIER?**

A carrier is a person who has hepatitis B, C or D virus in his or her blood. This person may or may not have any symptoms of the disease. Because the virus is in the blood, it can be transmitted to others through intravenous drug use, high-risk sexual behavior and blood transfusions. Blood tests can determine if someone is a carrier.

### **TREATMENT FOR CHRONIC VIRAL HEPATITIS**

After the doctor has determined which type of hepatitis virus is present, treatment programs can be discussed. Some helpful hints for people with chronic viral hepatitis are listed below: Review your medical history thoroughly with your doctor. Exercise will depend on the presence and degree of fatigue present. If there is no fatigue, there are no restrictions to the amount or type of exercise that can be performed. During the acute phase of illness, all alcoholic beverages should be avoided, as should IV needle use and risky sexual behavior. A nutritious, well-balanced diet is encouraged.

#### **SHOULD I COOK MEALS?**

People with hepatitis A or E should not prepare or handle food to be eaten by others until there is clear evidence that they are not infectious (as determined by your doctor). Limitations on food handling are not necessary for people with hepatitis B, C or D.

#### **WILL I NEED A LIVER BIOPSY?**

Not always. Liver biopsy is a procedure by which a needle is used to remove a small piece of liver to be analyzed under a microscope. This procedure is done to confirm the diagnosis of viral hepatitis and to determine the degree of damage the virus has caused. A liver biopsy is usually not needed to determine the cause of hepatitis.

#### **WILL HOSPITALIZATION BE NECESSARY?**

Usually hospitalization is not required. If a person cannot keep food or liquids down over a period of time, your doctor may decide that hospitalization is needed.

## TREATMENT OF HEPATITIS B AND C

There are numerous effective anti-viral oral medications now available for hepatitis B. In May 2011, the FDA approved two new oral protease inhibitors for hepatitis C to be used in conjunction with the standard therapy of interferon and ribavirin.

## PREVENTION OF HEPATITIS

### Hepatitis A & E

Vaccines are available to protect people against hepatitis A. Good sanitation and personal hygiene will reduce the spread of hepatitis A and E. Water should be boiled if there is any question about contamination. Food should be cooked well and fruits peeled if there is any question about sanitation in the area. One should avoid eating shellfish that feed in contaminated waters. To prevent the spread of hepatitis A and E in the family or with close personal contacts, wash hands, eating utensils, bedding and clothing in soap and water.

### Hepatitis B & D

Vaccines are available to protect people against hepatitis B. Avoid exposure to blood or body fluids of an infected person. You should not have sexual contact with a hepatitis B or D infected person without the use of condoms. Do not share scissors, razors, nail files, toothbrushes or needles with hepatitis B or D infected persons. Needles used to give tattoos and body piercing can also be a means of spreading hepatitis B and D. Hepatitis B and D are frequently passed from infected mothers to newborns. It is important that all newborns of hepatitis B-infected mothers be immunized against the virus at the time of birth. A treatment plan to prevent liver damage may also be prescribed by your doctor.

### Hepatitis C

Blood banks screen blood to insure the safety of the blood supply. This has greatly reduced the number of hepatitis C cases resulting from transfusions. Avoid exposure to blood or body fluids of persons known to have or carry the hepatitis virus. Sharing needles with anyone must not be done. A treatment plan to prevent liver damage may also be prescribed by your doctor.

## HOPE FOR THE FUTURE

During the past ten years tremendous advances through research have been made in the field of viral hepatitis. While there are a number of effective treatment options available for hepatitis B and C, there is still much to be learned. Researchers are continually striving to identify new diagnostic tests and treatment options for patients with hepatitis that will help improve detection and patients' quality of life.

## HEPATITIS GLOSSARY

- **Cirrhosis:** Scar in the liver caused by prior inflammation. May lead to liver failure.
- **Viral Hepatitis:** Inflammation of the liver that can be caused by different viruses, including hepatitis A, B, C, D or E. Other viruses can also cause hepatitis. Some cases of viral hepatitis cannot be attributed to the hepatitis A, B, C, D or E viruses. This is called non-A, non-B, non-C, non-D or non-E hepatitis or hepatitis X. Scientists have identified several candidate viruses, but none have been proven to cause hepatitis.
- **Fatigue:** Feeling tired.
- **Carrier:** A person who has the hepatitis B, C or D virus in the blood. A carrier may or may not have symptoms of the disease.
- **Chronic Hepatitis:** Inflammation of the liver that lasts at least six months or longer. Acute Hepatitis: The initial episode of hepatitis by a virus or other causes.
- **Jaundice:** The skin and/or white of the eyes turns yellow; itching may or may not occur.
- **Liver Biopsy:** Liver biopsy is a procedure by which a needle is used to remove a small piece of liver to be analyzed under a microscope. This procedure may be done to confirm a diagnosis of hepatitis and the degree of damage that has occurred.
- **Vaccines:** Biological product given by mouth or by injections to prevent a particular illness.

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