



HCSP FACT SHEET

HCV ADVOCATE

• HCV DISEASE PROGRESSION •

The Kidneys

Written by: Alan Franciscus, Editor-in-Chief

Forward

This fact sheet will discuss the Kidneys—the functions, diseases, treatments and how to keep these small but important organs healthy.

The kidneys are two bean-shaped organs. Each kidney is about the size of a fist located behind opposite ends of the stomach. Although most people are born with two kidneys, some people are born with one. Also, some people may lose one kidney due to a disease or accident, or they may donate a kidney to someone else. In these cases, a healthy and well-functioning single kidney can perform as well as two kidneys and can keep a person healthy for life.

Kidney Functions

The kidneys take blood—about 200 quarts a day—and filter out the waste material and extra water to produce urine. The urine flows from the bladder and is excreted out of the body through tubes called ureters.

In addition to the toxins removed from the blood, the kidneys also take chemicals that your body can use and send them back into the bloodstream. Some of the chemicals help to stimulate hormones such as EPO that in turn stimulate bone marrow to make more red blood cells, renin, to regulate blood pressure, and vitamin D to help maintain bone health.

Kidney Disease

One of the most common diseases among Americans—the Centers for Disease Control and Prevention (CDC) estimates that more than 10% of

—CONTINUED

HCSP FACT SHEET

*A publication of the
Hepatitis C Support Project*

**EXECUTIVE DIRECTOR,
EDITOR-IN-CHIEF,
HCSP PUBLICATIONS**

Alan Franciscus

DESIGN

*Leslie Hoex,
Blue Kangaroo Design*

PRODUCTION

Leslie Hoex

CONTACT INFORMATION

Hepatitis C Support Project
PO Box 15144
Sacramento, CA 95813
alanfranciscus@hcvadvocate.org

The information in this fact sheet is designed to help you understand and manage HCV and is not intended as medical advice. All persons with HCV should consult a medical practitioner for diagnosis and treatment of HCV.

This information is provided by the Hepatitis C Support Project a nonprofit organization for HCV education, support and advocacy

**Reprint permission is
granted and encouraged
with credit to the
Hepatitis C Support Project.**

The Kidneys —CONTINUED FROM PAGE 1

adult Americans (20 million people) have kidney disease. The most common causes of kidney disease include:

- **Type 2 Diabetes** – uncontrolled diabetes can cause kidney damage. Over time, the kidneys can stop functioning. Hemodialysis (filtering of the blood) or a kidney transplant is required. Controlling blood sugar with diabetes medications combined with diet and exercise can prevent the damage to the kidneys.
- **High Blood Pressure** – uncontrolled high blood pressure can contribute to kidney disease, heart disease, and stroke.
- **Glomerulonephritis** – a disease that damages the kidneys’ filtering units. There are different types of glomerulonephritis. One particular type is caused by hepatitis C (hepatitis C-related cryoglobulinemia).
- **Kidney stones, polycystic kidney disease** – a genetic disorder that causes numerous cysts to grow in the kidneys and various types of infections of the kidneys.
- **Alcohol, Drugs, Herbs, and Supplements** – long-term use of alcohol, cocaine, heroin, prescription, street drugs, herbs and supplements can also cause severe damage to the kidneys.

Diagnosing Kidney Disease – kidney disease can be a silent disease—just like liver disease—and may be so for many months or years. The common symptoms of kidney disease are back or

side aches and pain, stomach aches, and vomiting. Kidney diseases are typically diagnosed using a variety of blood and urine tests. Imaging and biopsy tests may also be utilized for certain types of kidney diseases.

Treatment – if the kidneys are no longer able to effectively filter the blood there are only two options available – dialysis and a kidney transplant.

- **Dialysis** – there are two forms of dialysis—hemodialysis and peritoneal. Dialysis can cost up to \$70,000 a year. It is estimated that 600,000 Americans are on dialysis. Hemodialysis is when the blood is sent through a machine to filter out the waste, and the clean blood is sent back to the body. It is performed in a hemodialysis center. The procedure is performed 3 times a week for 3 or 4 hours at a time. Infection control is critical—anyone who receives hemodialysis should be checked for blood-borne pathogens on a regular basis. Peritoneal dialysis is a procedure where a fluid (dialysate) is inserted into the stomach via a catheter than it is drained back out via the same catheter. At first, the procedure is conducted in a doctor’s office. After a time, a patient can learn the procedure, and it can be done at home. This is a significant lifestyle improvement since the dialysis and liquid have to be performed/changed 4 times a day.
- **Kidney Transplant** – there are approximately 101,000 people in the United States waiting for a kidney transplant. In 2014, 17,107 kidney trans-

—CONTINUED

The Kidneys – CONTINUED FROM PAGE 1

plants were performed—11,570 from deceased donors and 5,537 from living donors. In the first of its kind kidney transplant an hepatitis C-negative person received a hepatitis C-positive kidney. After the transplant, the person was treated with HCV medications and cured.

For someone to receive a kidney transplant the following measures will have to be addressed in the person who will receive a donated kidney:

- Free of infections and cancer
- Free of drugs, nicotine, and alcohol
- The person will have to take all medications prescribed
- Make sure to keep all appointments as needed

A ray of hope for all transplanted organs: A recent breakthrough in medicine may greatly expand the donor pool by altering a patients' immune system.

The results of a clinical trial in patients to receive incompatible kidney transplants were recently in the news. It is a procedure called desensitization. The procedure destroys white blood cells that would make antibodies to attack a newly transplanted kidney. The procedure is conducted before the transplant procedure.

The clinical trial consisted of 1,025 patients whose white blood cells were desensitized before an incompatible kidney was transplanted. The patients were followed for 8 years. After the 8 year period, 76.5% of the incompatible transplanted kidneys were still functioning.

Keeping the Kidneys Healthy – almost everything that is recommended to maintain liver health is

in some respects the same to keep the kidneys healthy! Here are some simple tips to keep the kidneys healthy:

- Eat a healthy diet – follow www.choosemyplate.gov. If you have diabetes be sure to keep your blood sugar numbers in check. Diabetes is one of the most common reasons for kidney disease.
- Blood pressure – keep an eye on your blood pressure – another common reason for kidney disease. Lose the salt shaker and check food labels for sodium content.
- Sleep – try for 7 hours of sleep every night. Lack of sleep is responsible for overeating, depression, high blood pressure and many other negative health consequences.
- Exercise – try to get 150 minutes of exercise every week – break it down into small increments that work for you. It does not have to be all at once – in fact, you should not get all your exercise at once. Spread it out throughout the day and week. It is also important that you do not sit for more than an hour at a time. Get on up and walk around. Sitting for long periods of time is unhealthy.
- Medicines/Drugs/Nicotine – don't take any unnecessary drugs – this includes prescribed, over-the-counter, street, herbs or supplements. These all have to be processed by the kidneys and/or the liver. Consult your doctor, nurse or pharmacist.

–CONTINUED

The Kidneys – CONTINUED FROM PAGE 2

The Liver / Kidney Connection

The health of the kidneys is directly related to the health of the liver. If the liver is severely scarred (cirrhosis) the kidneys can also become damaged. This is called hepatorenal syndrome—hepa for liver and renal for kidney. One in 10 people who are hospitalized for liver failure also has kidney failure. The cause of liver cirrhosis can be caused by viral hepatitis, alcoholic liver disease, or any other disorder that causes cirrhosis. When liver failure and kidney failure occur together the result can be death. As a result, people with cirrhosis and kidney disease should be medically monitored on a regular basis.

Related publications:

An Overview of HCV Diagnostic Tests

www.hcvadvocate.org/hepatitis/factsheets_pdf/diagnostic.pdf

Extrahepatic Manifestations Glossary

<http://hcvadvocate.org/resources/glossaries/extrahepaticglossary/>

An Overview of the Liver

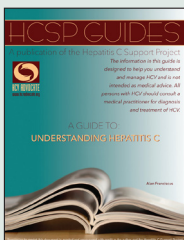
http://hcvadvocate.org/hepatitis/factsheets_pdf/The_Liver.pdf

National Kidney Foundation

<https://www.kidney.org/>

For more information

- **Centers for Disease Control and Prevention**
www.cdc.gov/Hepatitis
- **Mayo Clinic:**
www.mayoclinic.com/health/liver-biopsy/MY00949
- **MedlinePlus:**
www.nlm.nih.gov/medlineplus/ency/article/003895.htm
- **National Digestive Diseases Information Clearinghouse (NDDIC)**
<http://digestive.niddk.nih.gov/ddiseases/pubs/liverbiopsy/>



A GUIDE TO UNDERSTANDING HCV

We have updated our most popular publication. Please feel free to download, read, print and distribute.

DOWNLOAD

http://hcvadvocate.org/hepatitis/factsheets_pdf/HCV_Guide.pdf

**GET TESTED
GET TREATED
GET CURED**

HCV Disease Progression