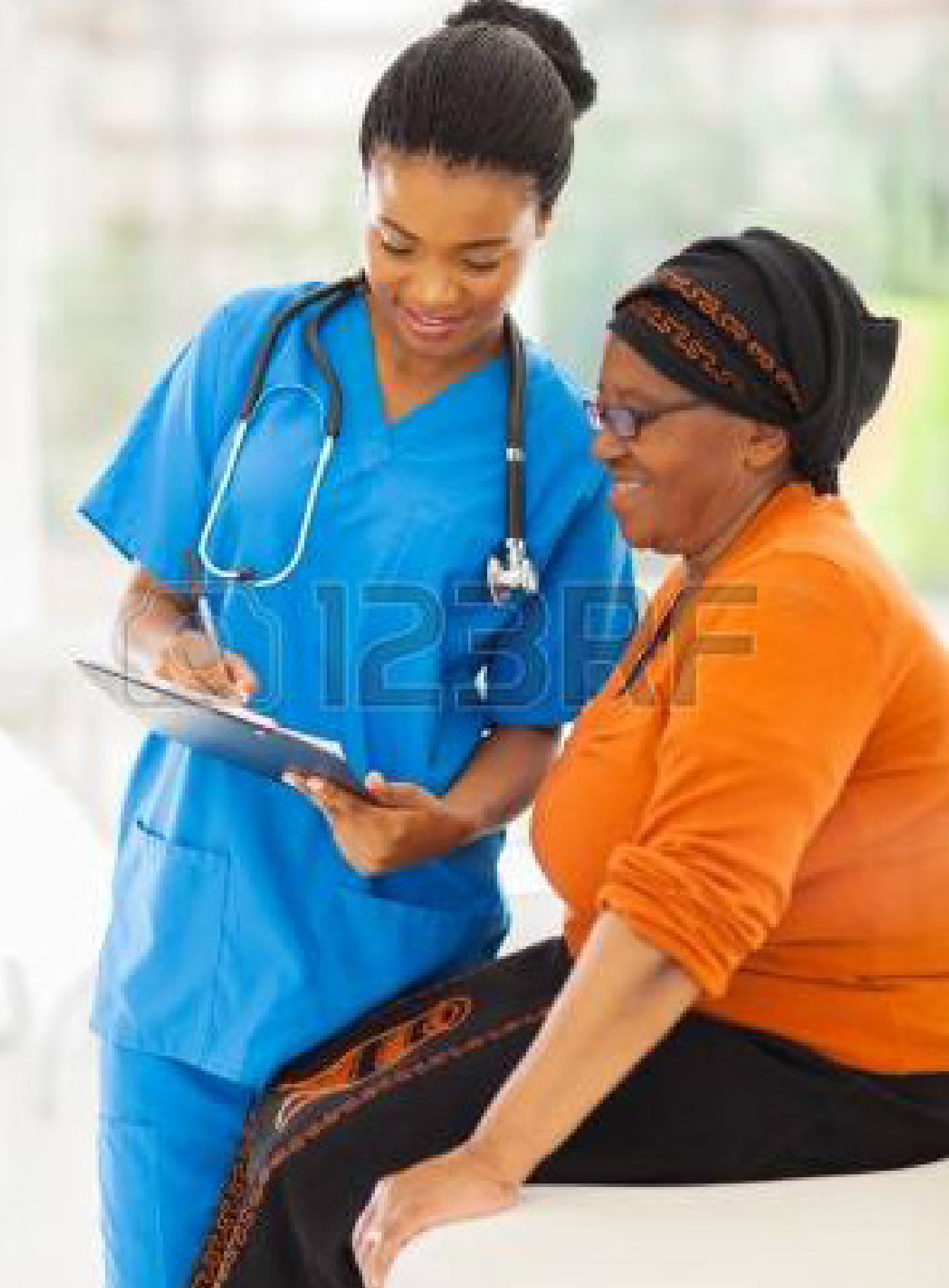


UNDERSTANDING HEPATITIS C AND KIDNEY DISEASE





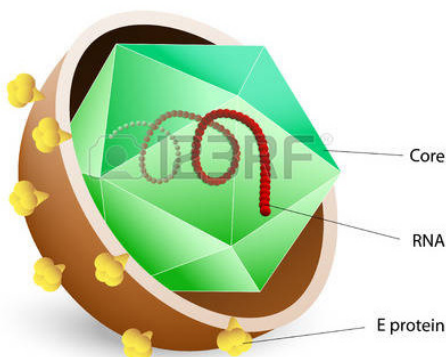
UNDERSTANDING HEPATITIS C AND KIDNEY DISEASE

GENERAL INFORMATION

What is hepatitis C?

Hepatitis C is a virus that circulates in the blood and infects the liver. Hepatitis is the medical word for inflammation of the liver. Inflammation is swelling that happens when parts of your body become infected or injured. The hepatitis C virus can cause a mild to serious infection that lasts several weeks to months (called **acute hepatitis C**), or a life-long disease (called **chronic hepatitis C**).

Hepatitis C Virus



How do I get hepatitis C?

Anyone can get infected with hepatitis C virus. It is passed from person to person through contact with infected blood. This can happen if you:

- **Share needles to inject drugs.**
Today, most people get

hepatitis C virus by sharing needles to inject drugs.

- **Had a blood transfusion or organ transplant before 1992.** You may have contacted hepatitis C from a blood transfusion or organ transplant before widespread screening began in 1992. The chances of this happening today are small because of better testing of blood donors and organs for transplant.
- **Are exposed to an outbreak.** Poor infection control can lead to outbreaks in some healthcare settings, including dialysis centers. Today, most dialysis centers follow strict health precautions; however, a few outbreaks have happened in recent years. If you are on hemodialysis, you should be tested regularly for hepatitis C.

It is also possible to get hepatitis C from:

- Needle stick injuries in healthcare settings
- Having unprotected sex with an infected person
- Sharing razors, toothbrushes, or other things that could have blood on them
- Passing from an infected mother to baby during childbirth

- Getting tattoos or body piercings with tools that have not been properly disinfected (cleaned)

What are the symptoms of hepatitis C?

When someone first gets the virus, it may simply feel like having the flu. Most people with hepatitis C do not know they have it. Symptoms may include:

- Fever
- Muscle soreness
- Upset stomach
- Tiredness
- Loss of appetite (not feeling hungry)
- Diarrhea

Other symptoms can take years to develop and are usually a sign of advanced liver disease. This may include:

- Dark-yellow urine
- Light-colored stools
- Yellowish eyes and skin (called **jaundice**)
- Swelling of the legs and abdomen (belly)

How do I know if I have hepatitis C?

The best way is to get tested for it. Your healthcare provider will use a blood test to find out if you have ever been infected with hepatitis



C. This test looks for antibodies to the hepatitis C virus. Antibodies are chemicals released into the bloodstream when someone gets infected. The test is called a **Hepatitis C Antibody Test**.

If the test is positive, it means you were infected at some point during your life. Once infected, you will always have antibodies in your blood, even if your body cleared (cured) the infection. However, having antibodies does not mean you have hepatitis C.

To learn if hepatitis C infection is still active (alive) in your body, you will be given a follow-up test. This is another blood test. It checks for a substance called

RNA, which is made by the virus itself. If you have a positive antibody test and a positive RNA test, it means you have an active hepatitis C infection.

If both tests are positive, you will be given another blood test to see which type of hepatitis C you have. Why is this important? There are six different types of hepatitis C virus (called **genotypes**). Your genotype will determine the best treatment option for you.

Is hepatitis C a serious disease?

Hepatitis C is serious for some people but not for others. Sometimes the body is able to fight off the infection on its own, and the virus goes away. For others, the hepatitis C virus stays inside the body and circulates in the blood for the rest of their life. Over time, this can cause serious health problems, including liver damage and scarring (called **cirrhosis**), liver failure, and liver cancer. Other parts of the body can be affected as well, including the kidneys.

Can hepatitis C cause kidney disease?

Yes. How this happens is not completely clear, but studies show that hepatitis C can cause some people to lose kidney function. In fact, in one recent study, people

with hepatitis C were found to have a 23% greater risk for kidney disease than people who did not have hepatitis C. Other studies have found similar results.

If I already have kidney disease, can hepatitis C make it worse?

Yes, although this depends on how much virus is in your body (called **viral load**). Having hepatitis C can make you lose kidney function faster. This can increase your risk for kidney failure. Studies suggest your risk for developing kidney failure is twice as high if you have hepatitis C.

What are my treatment options?

Today, hepatitis C can be safely treated and cured with antiviral drugs. In fact, 95 out of 100 people who receive treatment with antiviral drugs are cured.

Is treatment safe for people with kidney disease or kidney failure?

There are many antiviral drugs available today for treating hepatitis C. Certain types have been shown to be safe for people with kidney disease and kidney failure. Ask your healthcare provider about your treatment options. Your healthcare provider knows which antiviral drugs are safe for people with kidney disease.

TREATMENT OPTIONS

Factors that may affect which antiviral treatment is right for you include:

- Your genotype
- Your liver function (if you have cirrhosis or not)
- Your kidney function (if you are on or near dialysis)
- If you have ever had previous treatments for hepatitis C
- If you have ever had a kidney or liver transplant
- If your virus has any signs of being resistant to treatment

HEPATITIS C AND DIALYSIS

Can I get hepatitis C from my dialysis treatments?

The chance of getting hepatitis C from your treatment is small. Today, dialysis centers must follow strict health precautions to keep patients from getting hepatitis C or other infections. However, a few outbreaks have been reported in recent years. If you are a long-lasting hemodialysis patient, you should be tested for hepatitis

C when you have your regular blood tests.

If you are on home hemodialysis or peritoneal dialysis, the chance of getting hepatitis C is lower than in-center dialysis. Why? Because you are doing your treatments alone without being exposed to others.

What should I know about hepatitis C if I'm on dialysis?

Without treatment, hepatitis C can increase the chance of dying, especially from advanced liver disease. Since most people do not have symptoms, it is important that you:

- **Get tested for it regularly.** You can have hepatitis C and not know you have it. People on dialysis have a higher risk for hepatitis C than other people. Some studies show that 1 in 10 people on dialysis have hepatitis C.
- **Make sure your dialysis center follows good hygiene and infection control.** Your staff should wear disposable gloves, face shields or masks; change gloves after each patient contact; clean treatment areas between patients; and never share medicines or equipment between patients.

- If you have hepatitis C, talk to your healthcare provider about your treatment options. Today, there are treatments that are safe and effective for people on dialysis.



KIDNEY TRANSPLANT AND HEPATITIS C

Can I get hepatitis C from a kidney transplant?

The chances of this happening today are extremely small because all donated kidneys are carefully tested for hepatitis C before transplant surgery. Kidneys that test positive for hepatitis C infection are only used in patients who already have the hepatitis C virus.

NEW RESEARCH – USING KIDNEYS WITH HEPATITIS C INFECTION (HCV)

A few transplant centers are offering HCV-infected kidneys to people who do not have hepatitis C infection and would not otherwise qualify for a transplant, or would have a very long wait to get one. Treatment for hepatitis C with antiviral drugs follows the kidney transplant surgery. Since most people can be cured with antiviral drugs after transplant, some people may be interested in this choice. However, there is still some risk to consider, so this choice is not right for everyone. Not all centers offer this option. It is still in the research (experimental) stage.

Can I get a transplant if I have hepatitis C?

Yes, you can still get a kidney transplant. First, your healthcare provider will check to see if your liver has been damaged from your hepatitis C infection. If your liver is healthy enough, you may qualify for a kidney transplant. If the damage to your liver is serious, you may

need to get both a liver and kidney transplant.

Should I seek treatment before or after transplant?

This is an important question to ask your healthcare provider. If you have a living donor, you may wish to get treatment before your transplant. A living donor is someone who is alive and willing to donate a kidney.

If you do not have a living donor, you may be able to get a kidney from a deceased donor (person who has died) who had hepatitis C. In this case, treatment for hepatitis C with antiviral drugs will begin after your transplant surgery. This option allows you to get a transplant sooner and can shorten your time on the waitlist by a year or more. Getting a transplant sooner has many health benefits compared to staying on dialysis, but it may not be right for everyone. One important thing to consider is the condition of your liver. If your liver is not healthy enough to wait for treatment, this option may not be your best choice.

Can hepatitis C medicine affect my transplant medicine?

When you have a kidney transplant, you will take medicines every day to help keep your kidney healthy. These medicines are called **immunosuppressant drugs** or

anti-rejection drugs. Without them, your body could reject your new kidney.

Some hepatitis C medicines can cause certain types of transplant medicines to not work as well. If you are taking hepatitis C medicine, you should be checked to make sure both drugs are working well. During this time, you may need a higher or lower dose of your current transplant medicine. Or you may be switched to different transplant medicine altogether. Talk to your healthcare provider if you have questions or concerns.

Can having hepatitis C harm my transplanted kidney?

Yes, without treatment, hepatitis C could harm your new kidney. Your transplant medicines hold back your body's natural defense against infections. This can cause the virus to replicate (spread) faster than normal. Over time, your new kidney could stop working well (called **allograft failure**) or your body could reject the new kidney altogether.

Hepatitis C also increases your risk for:

- **Liver disease and liver failure.** Hepatitis C harms your liver and can cause liver failure. If this happens, you might need a liver transplant.

- **Diabetes.** Some immunosuppressant drugs you must take after transplant can increase your risk for diabetes (called **new onset diabetes**). If you also have hepatitis C, your risk is even higher.
- **Kidney disease.** Hepatitis C can cause you to get a type of kidney disease called **glomerular disease**, even if you have a healthy kidney transplant.

SUMMARY

- Hepatitis C is a virus that circulates in the blood and infects the liver.
- Most people with hepatitis C do not have symptoms and do not know they have it. The best way to know if you have it is to be tested for it.
- Hepatitis C can cause liver damage and lead to liver scarring (cirrhosis), liver failure, or liver cancer. It can even cause kidney disease – or make your kidney disease worse.
- Treatment with antiviral drugs is safe, effective, and easy to tolerate—even in people with kidney disease or kidney

failure. Today, most people who get treatment are cured.

- People with hepatitis C can still qualify for a kidney transplant.

WORDS TO KNOW

Antibodies: A substance produced by the body to fight disease.

Cirrhosis: A serious disease of the liver.

Deceased donor: Someone who has recently died and wanted to donate a kidney.

Diabetes: A disorder in which the body either cannot make insulin or cannot use it properly. Insulin is a hormone that controls how much sugar is in your blood.

Dialysis: A process that filters (cleans) your blood when your kidneys no longer do this well. It is one of the basic forms of treatment for kidney failure.

Dialysis center: A place in the hospital or community where dialysis treatments are given to kidney patients.

Genotype: Refers to the entire set of genes in a cell, an organism, or an individual.

Glomerular disease: A type of kidney damage.

Hemodialysis: One of the basic forms of dialysis treatment for

kidney failure. In hemodialysis, your blood is cleaned of waste products and extra fluid through a dialysis machine.

Hepatitis C: A virus that circulates in the blood and infects the liver.

Infection: Invasion by an organism, such as a germ or virus, which affects one or more parts of the body.

Jaundice: A yellow look to the skin and eyes that can be caused by liver disease.

Immunosuppressant drugs: Drugs that hold back your body's immune system so that a transplanted kidney can be accepted. They are also called **antirejection medicines**.

Inflammation: Swelling that happens when parts of your body become infected or injured.

Living donor: A living person who donates a kidney to someone who needs a kidney transplant.

Kidney disease: The loss of some or all of your kidney function.

Kidney failure: The stage of kidney disease at which dialysis or a transplant is needed to stay alive.

Kidney transplant: An operation that places a healthy kidney in your body. It is one of the basic

forms of treatment for kidney failure.

Peritoneal dialysis: One of the basic forms of dialysis treatment for kidney failure. In peritoneal dialysis, a solution called dialysate flows through a catheter into your abdominal cavity (belly), where it removes waste products and extra fluids from your body, and then is drained out.

Symptoms: A physical or mental change that indicates illness or disease.

Transplant center: A hospital where patients who are interested in getting a kidney transplant go for an evaluation or surgery itself.

Viral load: How much of a specific virus you have in your body.

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