Three Phases of Hep C Treatment
Diagnosis, Testing and Prepare for Treatment,
Post Treatment Recovery
-Updated February 2019-

Your Guidebook from Diagnosis through Recovery

Connie M. Welch LLC
Life Beyond Hep C
Table of Contents:

1st Phase: Diagnosis, Testing and Prepare for Treatment
The First Steps toward Your Goal—Your Cure for Hep C

What to Know about Hep C and your Diagnosis.................................4
Liver Facts and Hep C........................................................................5
Terms and Information you will see often.........................................5
What is the Function of the Liver.......................................................6
What is Hepatitis C & How it is transmitted.......................................7
Talk to your Doctor and know your Risk Factors for Hep C.........8-9
Vaccines ..........................................................................................9
What are the symptoms of Hep C .....................................................9
The Importance of Getting Tested and Moving Forward with Treatment...10
Don’t assume you’re Doctor or Hospital are testing you for Hep C...10
The Truth about how Hep C is NOT spread.................................11
Facts about transmitting Hep C sexually......................................11
Facts about transmitting Hep C to your baby through pregnancy or breast feeding .............................................................12
Steps to prevent transmitting Hep C..............................................13
Avoid Drinking Alcohol.................................................................14
Is there a Special Diet for Hep C....................................................15-16
Exercise and Hep C........................................................................17
Manage Your Medications..............................................................17-18
Avoid Environmental Pollutants/Toxins and Smoking....................18
Prepare for your Doctor’s Appointment: Questions to Consider Asking...19-20

Testing..............................................................................................21
What Tests Need to be Done?..........................................................21-22
Important to Know..........................................................................22

Preparing for Hep C Treatment.........................................................23-25
The Importance of Support ...............................................................26-27

2nd Phase: Hep C Treatment..............................................................28
1st Phase: Diagnosis, Testing and Prepare for Treatment
The First Steps Toward Your Goal- Your Cure for Hep C

What to Know about Hepatitis C and your Diagnosis

Being tested for Hepatitis C is a vital proactive step. If you have received a diagnosis of Hepatitis C, your journey begins. The goal for each patient is to be cured. We’re here to help you reach your goal.

Being diagnosed with Hepatitis C can be overwhelming. It brings a lot of questions and concerns for the patient, and family. Knowledge and good information is a powerful proactive approach to equip you with hope and tools so that you can achieve your goal of being cured and live beyond Hep C.

www.lifebeyondhepc.com
Liver Facts and Hep C

Terms and Information you will see often in reference to Hepatitis C.

*Hepatitis C is often referred to as Hep C or HCV (hepatitis c virus).

*Over 4 million Americans have Hepatitis C and over 175 million globally.

*Hepatitis C is treatable and beatable. With practicing good healthy habits and treatment for Hepatitis C, you can help your liver function better. Cure rates with medical treatment are now 90% to 99%.

*Genotype describes the type of virus strain of Hep C. The World Health Organization reports there are 11 genotypes of Hep C with distinct subtypes identified throughout the world. Certain genotypes are prevalent in certain countries and some specific to certain countries. There are 6 different genotypes of Hep C with multiple subtypes which are in most parts of the world. 75% of Hep C patients from the U.S. have genotype 1a or b. Genotypes 2, 3 and 4 are less common in the U.S.

*Liver specialists are physicians who specialize in liver disease. These are Hepatologists, Gastroenterologists, and Infectious Disease physicians.
What is the function of the liver?
The liver is a vital organ, meaning you need it in order to sustain life. It is the second largest organ in your body. It is located under the rib cage on the right side of your abdomen. It weighs about three pounds and is shaped like a football that is flat on one side.

The liver performs many functions in your body. Its primary function is to process everything you eat, drink, breathe and absorb through your skin. It serves your body like an engine, filter, refinery plant, and storage house. It converts nutrients from your food for vital functions for muscles, energy, hormones, clotting factors and immune factors.

It stores certain vitamins, minerals (including iron) and sugars, regulates fat stores, and controls the production and excretion of cholesterol. It also produces bile which helps you digest food and absorb nutrients.

It detoxifies poisonous substances and metabolizes alcohol. It aids your immune system by helping you resist infection and removes bacteria from your blood. It’s your body’s power house.
What is Hepatitis C? How is it transmitted?
The term Hepatitis means inflammatory or infection of the liver which can be caused by chemicals, drugs or viruses.

There are five Hepatitis viruses labeled A through E. Viruses A and E can be contracted from feces due to poor hygiene, or contaminated water or food. Hepatitis B and D are transmitted by bodily fluids including blood exposure into the bloodstream. Hepatitis C is transmitted when blood infected with Hep C comes in contact to the bloodstream of a un-infected person.

Heavy alcohol use, toxins, and certain medical conditions can also cause hepatitis. Hepatitis C is caused by a virus that attacks the liver causing damage and function impairment.

When first infected a person can develop what is known as an “acute” infection, which can range in severity from very mild with few or no symptoms to a serious condition. Acute means a short term illness that lasts within a short amount of time, normally 6 months or less.

According to the Center of Disease Control and Prevention, 15%-25% of people “clear” the virus without treatment. Approximately 75% to 85% of people who become infected with the Hepatitis C virus develop “chronic” or long term infection.

Chronic Hepatitis C can lead to serious liver damage including liver function impairment, liver scarring (from fibrosis to severe scarring, cirrhosis), liver cancer or liver failure. It is estimated over 4 million Americans have Chronic Hepatitis C (HCV).

Worldwide, approximately 175 million people have HCV. Most people do not know they are infected. It is known as the “silent killer” due to symptoms not appearing for some time and often mask other conditions. Hepatitis C virus is one of the highest causes of chronic liver disease and liver transplants in the United States.

www.lifebeyondhepc.com
**Talk to your Doctor and Know your Risk Factors:**

The American Liver Foundation states these are the highest risk factors for HCV:

* Anyone born between 1945 and 1965
* If you have ever had a blood transfusion or organ transplant prior to July 1992
* Received a clotting factor made before 1987
* Have ever had hemodialysis
* HCV contaminated needle stick or blood in a hospital or healthcare environment
* Shared needles or other equipment to inject drugs or inhaled drugs (even once)
* Have ever worked or been housed in prison
* Have HIV (human immunodeficiency virus)
* Hepatitis C is usually spread when blood from a person with HCV enters the body of someone who is not infected
* Anyone with unexplained liver problems or inflammation, including abnormal liver tests
* Borrowed razors, toothbrushes, nail clippers with someone who has Hep C
* Born to an HCV infected mother
* Tattoos or body piercing with reused unsterile tools
* Multiple sex partners or sex with partners who have other sexually transmitted disease, or rough sex
* Some people may never know where they contracted HCV.
How you got Hep C is not as important as getting tested, diagnosed and move on toward treatment and a cure.

**Vaccines**
There are vaccines for Hepatitis A and B which are a series of shots, but there is NO vaccine for Hepatitis C. The Hep C virus mutates and replicates in the body making it difficult to come up with a vaccine.

**What are the symptoms of Hepatitis C?**
Symptoms of Hepatitis C can mask other conditions. Symptoms of Hepatitis C can occur as early as 6 to 12 weeks of contact with the virus or may not appear for many years.

The most common symptoms are:
* mild flu like fatigue
* poor appetite
* nausea
* fever
* chills
* headaches
* abdominal pain
* dark urine
* itchy skin
* muscle and joint pain
* Some but not all Hepatitis patients turn jaundice (yellowing of the skin and eyes).

Fatigue and overall not feeling well are the most common symptoms and can very easy be dismissed for being overworked, not getting enough rest, stress, etc… But many patients have no symptoms.
The Importance of Getting Tested and Move Forward with Treatment

Don’t assume your Doctor or Hospital is testing you for Hep C
A Hepatitis C test is NOT part of a routine physical exam or routine blood work, you must ask to be tested. A doctor would need to order this test specifically. Since 1992, blood donation centers in the U.S. are required to screen all blood prior to use, you may have been notified if you have given blood or possibly through an insurance company blood test if they were screening for Hep C.

If you know you have had exposure to any of the above risk factors, or you develop any of these symptoms, consult your doctor and ask to be tested.

Be safe, get tested. Practice good health habits, and get treatment. Don’t put off getting tested or getting treatment, even if you have done treatment in the past and did not receive a cure, improved treatments with higher cure rates with less side effects are now available.
Don’t forget about your Hep C. Hep C doesn’t forget about you and is actively doing damage while you wait. Don’t compromise your life and future. Don’t wait; be proactive with testing and treatment so you can get cured.

The truth about how Hep C is NOT spread
Hep C cannot be spread by kissing, hugging, cooking, sharing eating utensils, holding hands, coughing or sneezing, close contact with someone with Hep C or taking care of someone with Hep C unless blood contact directly. It is also not spread through food or water.

Facts about transmitting Hep C sexually
The Center for Disease Control and Prevention states that the Hepatitis C virus can be passed during sexual contact, yet it is a low risk if a person has one, long-term steady sexual partner. However, having multiple sex partners, or HIV, or engaging in rough sex can increase the risk of spreading the virus during sex. Prevent transmitting Hep C sexually by practicing safe sex.

www.lifebeyondhepc.com
Facts about transmitting Hep C to your baby through pregnancy or breast feeding

It is possible to transmit Hep C to your baby though the risk of transmission is believed to be low, with 3 to 5% risk according to World Journal of Gastroenterology. About 4 out of 100 infants born to mothers with HCV become infected with Hep C. If a Mother has HIV and HCV they have a 20% higher risk of transmitting to their baby.

Hep C is not transmitted by breastfeeding. However, women who have cracked or bleeding nipples are advised to stop breastfeeding until the nipple is healed and no longer bleeding. Be sure to be examined by your physician and be advised on when to resume breastfeeding.
Steps to prevent transmitting Hep C

* Do not share personal items with others like razors, toothbrushes, nail clippers or other personal items.
* Wear latex gloves when you are helping someone dress an open wound.
* Use recommended safety measures if you are exposed to blood or needle sticks.
* Do not share needles
* Practice safe sex
* Use clean needles and equipment for tattoos or body piercings.
* Cover a cut, wound or sore with a clean sterile bandage immediately. It’s a good idea to keep Band-Aids in your wallet or purse in case you get cut away from home.
* Clean all surfaces thoroughly after they have come in contact with blood. The CDC recommends for any blood spills, including dried blood, which can still be infectious, should be cleaned using a dilution of one part household bleach to 10 parts water. Gloves should be worn with cleaning up blood spills. The Hep C virus can survive outside the body at room temperature, on environmental surfaces, for up to 3 weeks.
Avoiding Drinking Alcohol

The American Liver Foundation states that alcohol can damage or destroy liver cells. Liver damage can lead to the buildup of fat in your liver (fatty liver), inflammation or swelling of your liver (alcoholic hepatitis), and/or scarring of your liver (cirrhosis). For people with liver disease, even a small amount of alcohol can make the disease worse. A good analogy is to think of hepatitis as a smoldering fire. Alcohol is like gasoline. Don’t throw gasoline on the fire. It’s not worth it.
Is there a Special Diet for Hep C

* Eat a diet low in saturated and no trans-fat.
* Avoid fried foods.
* Eat lean (low fat) protein such as fish, white meat chicken, and white meat turkey without the skin. Limit red meat due to these are generally higher fat and harder for the body to break down.
* Eat lots of fresh vegetables and fruits, choose organic if possible.
* Eat complex carbohydrates made with whole grains and high fiber.
* Drink 8 to 12 eight ounces of water daily, filtered water if possible.
* Stay away from processed foods as much as possible. Fresh or frozen is best!
* Reduce sugar and high sodium foods.
* Choose low fat or non-fat dairy products. Eat Healthy Fats like, avocados, nuts, and olive oil.
* Avoid sugar substitutes like aspartame (Nutra Sweet, Equal, Splenda, Sweet N Low and others) these are toxic for your liver. Use real sugar if you must, but very low amounts.

* For patients who have been diagnosed with cirrhosis, a low sodium, protein balanced diet is recommended. Talk to a license dietitian and your doctor about your specific dietary needs if you have been diagnosed with cirrhosis. A low sodium, protein balanced diet will help patients with cirrhosis help liver function and keep ammonia levels down. High ammonia levels cause brain confusion due
to the excess toxins cannot be filtered out of the blood properly. See article at lifebeyondhepc.com, “4 Key Dietary Steps for Hep C and Liver Disease.”

Mindfulness on living a healthy lifestyle helps your liver work better. Make a Healthy Plan and Work the Plan. Nutrition is one area of disease a person has control and can actively help in the recovery of liver damage and minimize further damage. Help your Liver with Good Nutrition.

What you put in your body matters! An unhealthy diet can lead to liver disease and compromise the function of your liver. The American Liver Foundation states, “eating high fatty foods will put you at risk of being overweight and having non-alcoholic fatty liver disease.”

It adds stress to your liver and compromises your immune system. Think in terms of a highly efficient engine and filter. You’re liver and immune system is your body’s engine and filter. You need to take in the right fuel in order to operate effectively. Help your body help your liver.

Medical professionals recommend following a generalized healthy diet as stated above. The closer you are to your healthy weight the less stress this puts on your liver. Talk to your doctor or a registered dietitian for dietary guidelines and amounts that are right for you.

www.lifebeyondhepc.com
**Exercise and Hep C**

Exercise plays an important role in liver health and boosts the immune system. Regular exercise will increase energy levels, decrease stress on the liver, and in many cases even delay the onset of certain complications associated with liver disease.

Your energy levels can be boosted by even 10 minute walks or other exercise. Start with small blocks of time and continue to add extra minutes when you can. Small changes make big differences!

**Manage Your Medications**

Medications, vitamins, and supplements you take pass through your liver. Your liver is responsible for processing all of these substances. According to the American Liver Foundation it is important to understand exactly how you should be taking your medications in order to avoid putting undue stress on your liver.

Be discerning when taking vitamins, minerals, and supplements. A good rule of thumb to remember, everything you take has an effect on your liver and immune system.
Vitamins, minerals and supplements if taken correctly can play a part in good health, but when taken incorrectly can harm your liver. Be especially careful with herbal and alternative liver treatments.

Certain herbs can be dangerous and toxic to your liver and can increase your liver damage. Just because something says its natural doesn’t mean it’s safe. Talk to your doctor before taking anything.

**Avoid Environmental Pollutants/Toxins and Smoking**

Toxins can injure your liver cells. Avoid direct contact with chemicals from cleaning products, insecticides, fumes from paint thinners and aerosol sprays. DO NOT Smoke. And avoid second hand smoke.
Prepare for your Doctor’s Appointment: Questions to ask your Doctor

A helpful tool in preparing for your doctor’s appointment is making a list of questions ahead of time. Take your list of questions with you to your appointment and if possible, take someone with you who can help ask questions and keep notes.

If seeing your primary care physician, you need to ask to see a liver specialist like a hepatologist or gastroenterologist. They specialize in liver disease.

Questions you may consider asking your doctor:

1. What type of tests do I need and why?
2. Do I have acute or chronic hepatitis C?
3. What are my liver enzyme levels and what does this mean for my liver condition?
4. What is my genotype (the type of Hep C virus strain I have) and what treatment is available for my genotype?
5. Will I need a liver biopsy or Fibroscan to assess damage to my liver?
6. Do I have liver damage? If so, how much liver damage is present?
7. Do you recommend treatment? If not, why? If you recommend treatment, which treatment is best suited for my genotype and liver condition? What do I need to know about this treatment? Side Effects, Length of Treatment? What tests will be run during treatment and after treatment?
8. How will this treatment interact with my other medications I am currently taking?
9. Will this treatment interfere with any medical condition I already have?
10. How will you know if the treatment is working for me? When will I get results?
11. What should I do if I have side effects? How can I manage side effects?
12. What symptoms should I pay attention to and look out for?
13. Will I be able to work and continue with my normal activities while on this treatment?
14. Do I need to be vaccinated for Hepatitis A and Hepatitis B and annual Flu shot prior to treatment? Do those living in the house with me need to be vaccinated as well?
15. How likely is it that I will develop cirrhosis or liver cancer?
16. How often do I need to come in for physical check up’s, blood work and other tests?
17. What medications or other substances should I avoid?
18. Depending on my liver condition, do I need to lose weight, or be on a special diet?
19. Does my family need to be tested for hepatitis C?
20. We would like to start a family, do you recommend we wait until after treatment, if so, how long? How will Hep C or treatment affect us getting pregnant?
21. What do you recommend for safe sex practice to prevent transmitting Hep C?
22. How do I talk to my spouse, family, friends, boss, and co-workers about my Hep C and treatment?
23. When can I start treatment?

www.lifebeyondhepc.com
Testing

What tests need to be done?
Your doctor will do a physical exam to evaluate your overall health and do additional tests to check your liver. According to the Center of Disease Control and Prevention there are several different tests your doctor may order:

*Two blood tests are done to confirm if you have Hepatitis C. The first blood test looks for “antibodies” to the Hepatitis C virus. Antibodies are released into your bloodstream when a person becomes infected. If the test comes back positive for HCV antibodies then a second blood test is done to confirm by looking for the presence of the Hepatitis C virus. If this test comes back positive it means the Hepatitis C virus is currently in the blood.

*Liver Function tests, also called a liver panel which is a specific blood test to determine if your liver enzyme levels are elevated, this shows how well your liver is working.

*A genotype test that determines the type of Hepatitis C virus strain you have.

*A viral load test (RNA) is done to determine the amount of virus present in your body.
*An ultrasound exam that shows a visual image of your liver.

*A liver biopsy, which is removal of a tiny bit of your liver, to see if there is structural damage. A Fibroscan, which is, transient elastography, is a non-invasive procedure. No needles or IV’s are used. Both ways help determine damage or scarring in the liver, which help stage the liver’s condition.

*MRI and/or CAT scans may also be done depending on your physician’s recommendations.

**Important to Know**

The Center for Disease Control and Prevention as well as other credible medical resources, recommend a second confirmatory blood test be done. Antibody levels of the HCV virus may not yet be detectable in the first 4 weeks of infection.

75% to 85% of patients develop chronic Hepatitis C which can lead to liver function impairment, liver scarring (cirrhosis), or cancer and liver failure. Hepatitis C is the leading cause of liver cancer and liver transplants in the United States. Patients need to be aware of how to manage the disease, prevention measures to take from spreading HCV and treatment.
Preparing for Hep C Treatment

*After diagnosis is confirmed with your doctor and all testing has been done, as a patient, you have the right to receive copies of all your medical tests and records. You may wish to keep a file for reference to track your progress.

*Depending on your genotype, liver condition, and any past Hep C treatment history, your doctor will discuss which Hep C treatment is best suited for you.

*Discuss with your doctor all your current medications and ask if there are any drug interactions relating to the Hep C treatment recommended for you. Reference the pharmaceutical company or other credible medical resources about drug interactions you are currently taking in relation to treatment medications. If you are not sure, ask your pharmacist or call the pharmaceutical support line to verify. Explain which medications you are taking and any medical conditions you have.
*Discuss with your doctor any medical conditions you have and concerns relating to treatment. Refer to questions listed and any other questions you have.

*Be proactive and find out ahead what side effects there are for your treatment. It’s best to be prepared ahead just in case you experience any of these. You will not be alarmed if you know it is normal for treatment.

*Find out from your doctor, pharmaceutical support line, or other credible medical resource what you can use to help relieve side effects in case they occur. Most side effects if they occur normally cycle out and get better. Remember to take treatment one step, one day and week at a time. You’re in the process of fighting the virus and heading toward your cure.

*Discuss with your doctor in detail about treatment side effects in relation to depression, anxiety, insomnia, etc... depending on the type of treatment medications used, some treatments can cause chemical side effects such as depression, anxiety, even anger, or insomnia especially if Interferon or Ribavirin are used.

Many specialists recommend taking an Anti-Depressant or Anti-Anxiety medication while on treatment to lessen these side effects and help the patient with relief. Remember Hep C treatment are strong meds which cause chemical reactions, this is not an emotional or mental issue.

Don’t be ashamed or embarrassed to talk to your doctor about taking an Anti-depressant or Anti-anxiety medication, these are tools to ease side effects and help you get through treatment.

Once treatment is completed, your doctor can advise how to step down off of the Anti-depressant or Anti-anxiety meds. They served their purpose as a useful tool for you during treatment.

Some doctors recommend beginning an Anti-depressant three weeks prior to beginning Hep C treatment in order to get in your system, and work properly for you before you start treatment.
If you’re taking an Anti-depressant or Anti-anxiety medication let your doctor know if you’re experiencing problems. Sometimes medication or dose adjustments are necessary while on treatment.

*Communicate how you’re feeling during Hep C treatment so your doctor will know best how to help you if you are dealing with any side effects.

*Discuss with your doctor what tests will be done, before, during and after your treatment.

*Discuss with your doctor the recommended treatment regimen and length for your treatment.

*After you have discussed with your doctor which treatment is best suited for your condition, and when to begin treatment, the doctor’s office can help with paper work necessary to order your treatment meds from the pharmacy or specialty pharmacy.

Hep C treatment medications cannot be purchased outright. They can only be obtained through a prescription to your pharmacy or specialty pharmacy, which is provided from your physician who is licensed to practice in the country where the treatment medication has been approved for use.

All Hep C patients on treatment will need to be monitored and regularly tested by their physicians while in treatment and post treatment recovery.

If you need financial assistance for your treatment medications or co-pays, there are resources available to help you. Here at lifebeyondhepc.com we can provide a list of credible patient assistance programs to help you with your treatment medication. Don’t allow financial need to keep you from seeking assistance and moving forward with treatment. There are resources to help.

www.lifebeyondhepc.com
The Importance of Support

A Positive Attitude and Can Do Spirit effects every part of your life and is a vital tool for good health.

A depressive state or high stress can chemically affect your health in a negative way and suppress your immune system, leaving you at greater risk for infections and other health issues. See your doctor if you are experiencing depression, or problems with anxiety or insomnia.

A support system is an important tool to help you mentally and emotionally. Good support systems can include: family, friends, church, healthcare team, and support from others who share the same liver disease. A connection with others is good for your health and well-being.

Support is very important no matter where you are at with Hep C, but especially if you are in treatment and post treatment recovery. No matter where you live there is a variety of online and physical support groups available.

Many times due to the stigma of Hep C, patients find it hard to talk and share about their Hep C and treatment. Many feel alone, isolated, hopeless and
helpless, and struggle with difficulties, anxiety and depression silently. This makes fighting and winning over Hep C more difficult.

It helps to connect with others who understand what you are going through and offer understanding, encouragement, help and support. Support is important for patients and care givers alike. Support makes a big difference in your treatment and healing process and winning over Hep C.

At lifebeyondbhepc.com we host an online support group, “Hep C Warriors Friday Forum Support Group” which meets weekly. No matter what state or country you live, you can connect to a wonderful group of caring people who have Hep C, and understand what your journey is like first hand. You will receive weekly encouragement, help, support and a safe place to voice your experience.
Some Facts about Alternative Treatments for Hep C

The Center for Disease Control and Prevention as well as Hepatitis Foundation International states, “Beware of Herbal treatments and other products sold as treatment or cures for Hepatitis C.”

Herbal treatments and alternative liver medicines need to undergo rigorous scientific study before they can be recommended. “Natural” or dietary treatments and herbal remedies can be quite dangerous and can actually harm your liver and accelerate damage. Always talk to your doctor before you take anything.

The Hepatitis Foundation International reports these are some of the plants that are toxic to the liver; plants of the Senecio, Crotalaria and Heliotopium families, plus chaparral, germander, comfrey, mistletoe, skullcap, margosa oil, mate tea, gordolobo yerba tea, pennyroyal, and Jim Blu Huan all all toxic to the liver. (This list is not exclusive).
Treatment Facts for Hepatitis C

The goal of Hep C treatment is to cure the virus. Chronic Hepatitis C is treated with drugs to eliminate the virus from the body and prevent further liver damage.

To help determine which Hep C treatment is best suited for each patient will depend on genotype (genetic virus strain), viral load (RNA), liver condition, Hep C treatment history and tolerance, and overall health conditions.

Blood tests and physical exams will take place all throughout treatment and post treatment recovery. Viral load tests can take place as early as 2 to 4 weeks from beginning of treatment and continue through 12 weeks of completion of treatment. Many physicians will continue to test patients to 24 weeks or longer post treatment.

When HCV is undetected in the blood for 12 weeks from when treatment has been completed, the patient has achieved what is known as SVR12 (sustained virologic response) and considered cured.

Genotype describes the type of virus strain of Hep C. The World Health Organization reports there are 11 genotypes of Hep C with distinct subtypes identified throughout the world. Certain genotypes are prevalent in certain countries and some specific to certain countries. There are 6 different genotypes of Hep C with multiple subtypes which are in most parts of the world. 75% of Hep C patients from the US have genotype 1a or b. Genotypes 2, 3 and 4 are less common in the US.

Great Improvement in Treatment

In 2011 in the U.S. the FDA approved the first generation of protease inhibitors to be used in triple therapy with standard combination treatment of Peginterferon and Ribavirin. For the first time a cure to eliminate the Hep C virus was available. The cure rate was 70% using one of the two protease inhibitors in triple therapy with standard treatment time of 24 to 48 weeks and harsh side effects.

Since this short time, we have seen great improvement in treatment. A variety of new treatments have brought; new treatment options with and without use of Peginterferon and Ribavirin, treatment options for different genotypes, higher
cure rates of 90% to 99%, less treatment side effects and shorter treatment time to 8 to 12 weeks being the new standard. With certain genotypes and liver conditions, some treatments may be recommended to 24 weeks.

Clinical trials are currently in progress with new treatments for a variety of genotypes and conditions.

**New Treatment for Hep C: Type, Length, Side Effects**

There are several Hep C treatment options as of May 2015 without Interferon and Ribavirin. See each treatment listed for details. Talk to your physician about which treatment is best suited for your genotype, liver condition and any past treatment history.

As of 2019 these are the Hep C Treatments approved in the U.S. by the FDA:

- **Epclusa** (the first Hep C treatment used for all genotypes 1-6, can be used with or without Ribavirin)
- **Vosevi** (treatment for all Hep C genotypes, treats adults without cirrhosis or with mild cirrhosis. Treatment for patients who have been previously treated with direct-acting antiviral drug sofosbuvir, or other treatment for Hep C that inhibit the protein NS5A.)
- **Mavyret**, (treatment for all genotypes, for patients without cirrhosis and those with compensated cirrhosis as well as patients with genotype 1 who have been previously treated with an HCV NS5A inhibitor or NS3/4A protease inhibitor but not both and for patients with severe kidney disease, including those on dialysis. Mavyret is taken without Ribavirin.)
- **Harvoni** (without Interferon, can be taken with or without Ribavirin)
- **Viekira Pak** (without Interferon, can be taken with or without Ribavirin)
- **Sovaldi with Ribavirin**
- **Sovaldi with Ribavirin and Peg Interferon** (not commonly used)
- **Daklinza** for genotypes 1 and 3, for use in combination with sofosbuvir, which is used without Interferon and Ribavirin.
- **Zepatier** for Genotypes 1 and 4 for use with or without Ribavirin.

**Important:** See detailed information about each treatment, for genotype, cure rate, side effects, drug interactions, etc, following overview.
Continue to check with lifebeyondhepc.com for new treatment updates.

What Determines Which Hep C Treatment is Best for me?

Deciding Which New Drug to Use

Each patient and their physician will need to look at the pro’s and con’s of each medication. Each has side effects to be considered. Talk to your doctor about treatment side effects and which treatment is best suited for you. Hep C treatment is determined by genotype, viral load, liver condition, any past treatment history and overall medical condition as well as all medications and supplements the patient takes.
This overview shows Hep C treatments which are approved by the United States FDA and recommended by the American Association for Study of Liver Disease (AASLD) and the Infectious Diseases Society of America (IDSA) for variety of genotypes.

For All Genotypes 1-6
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis.
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis as well as patients with genotype 1 who have been previously treated with an HCV NS5A inhibitor or NS3/4A protease inhibitor but not both and for patients with severe kidney disease, including those on dialysis.

For Genotype 1a:
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Harvoni** for 12 weeks
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis.
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis as well as patients with genotype 1 who have been previously treated with an HCV NS5A inhibitor or NS3/4A protease inhibitor but not both and for patients with severe kidney disease, including those on dialysis.
or
Viekira Pak + Ribavirin for 12 weeks (w/o cirrhosis) or 24 weeks (with cirrhosis)
or
Daklinza for 12 weeks for patients co-infected with HIV-1
or post-transplant patients, or patients with compensated (Child-Pugh A) cirrhosis and decompensated (Child-Pugh B or C) patients
or
Zepatier for 12 weeks, can be used with or without Ribavirin for patients without moderate or severe cirrhosis.

**For Genotype 2:**
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Sovaldi + Ribavirin for 12 to 16 weeks (with cirrhosis)
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis and for patients with severe kidney disease, including those on dialysis

**For Genotype 3:**
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis and for patients with severe kidney disease, including those on dialysis
or
Sovaldi + Ribavirin for 24 weeks
or
Daklinza for genotype 3 post-transplant patients and for patients with decompensated (Child-Pugh B or C) cirrhosis
For Genotype 4:
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis and for patients with severe kidney disease, including those on dialysis
or
Harvoni for 12 weeks
or
Viekira Pak (without Dasabuvir) + Ribavirin for 12 weeks
or
Zepatier for 12 weeks, can be used with or without Ribavirin for patients without moderate or severe cirrhosis
or
Sovaldi + Ribavirin + Interferon for 12 weeks for patients with or without cirrhosis

For Genotype 5:
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis and for patients with severe kidney disease, including those on dialysis
or
Harvoni for 12 weeks

For Genotype 6:
Epclusa for 12 weeks, treatment can be used with or without Ribavirin for patients with and without cirrhosis
or
Vosevi for 12 weeks for patients without cirrhosis or with mild cirrhosis
or
Mavyret for 12 weeks for patients without cirrhosis and those with compensated cirrhosis and for patients with severe kidney disease, including those on dialysis or
Harvoni for 12 weeks

**denotes 8 weeks of treatment may be considered in patients without cirrhosis who have pre-treatment viral load (RNA) less than 6 million/IUmL
Epclusa by Gilead Sciences for all Hepatitis C genotypes 1-6.

Epclusa (sofosbuvir/velpatasvir), made by Gilead Sciences was approved by the U.S. FDA June 28, 2016.
*Epclusa is the first Hep C treatment available to used for all genotypes (1-6).
*Epclusa can be used with or without Ribavirin.

**Dosage:**
*1 pill, once daily dose combination of Sofosbuvir and Velpatasvir. If Ribavirin is used with treatment, this is a separate pill.

**Treatment Duration Time**
Standard treatment time is 12 weeks.

**SVR (sustained virologic response) Cure Rate:**
An average 98% SVR (sustained virologic response) cure rate from Hep C was shown in clinical trial studies with Hep C patients who did not have cirrhosis or those who had compensated cirrhosis.
An 83% to 94% SVR, cure rate was reported for patients in clinical trials who had decompensated cirrhosis (Child-Pugh B).

**Common Side Effects:**
The most common treatment side effects of Epclusa include headache and fatigue. If ribavirin is used, side effects of ribavirin can include possible anemia, fatigue, nausea, headache, insomnia and diarrhea were reported in clinical trials.

**Warning and Precautions**
FDA reports Epclusa carries a warning for patients and health care providers that serious slowing of the heart rate (symptomatic bradycardia) and cases requiring pacemaker intervention have been reported when amiodarone (heart medication) is used with sofosbuvir in combination with another HCV direct-acting antiviral. Co-administration of amiodarone with Epclusa is not recommended.
Epclusa also carries a warning not to use with certain drugs that may reduce the amount of Epclusa in the blood which could lead to reduced efficacy of treatment. Coadministration of Epclusa is not recommended with topotecan or proton-pump inhibitors, oxcarbazepine, phenobarbital, phenytoin, rifabutin, rifapentine, efavirenz, and tipranavir/ritonavir.

See full label instructions at drugs@fda and at www.gilead.com
For more information regarding Epclusasee (www.MySupportPath.com)

Vosevi by Gilead Sciences for all Genotypes 1-6

Vosevi (sofobuvir, velpatasvir, voxilaprevir), made by Gilead Sciences was approved by the U.S. FDA July 18, 2017.

Vosevi treats adults without cirrhosis or with mild cirrhosis. Treatment for patients who have been previously treated with direct-acting antiviral drug sofobuvir, or other treatment for Hep C that inhibit the protein NS5A.

Dosage:
*1 pill taken once a day at a scheduled time each day and taken with food.

Important Note: If you need to take an antacid medicine that contains aluminum or magnesium, take it either 4 hours before or 4 hours after you take Vosevi.

Treatment Duration Time:
Treatment duration time may vary depending on viral genotype and prior treatment history. Standard length of treatment is 12 weeks.

*SVR12 Cure Rates: 96-97%

*Most Common Side Effects: headache, fatigue, diarrhea, nausea.

*Caution: Vosevi may cause serious side effects, including:
*Hepatitis B virus (HBV) reactivation.* Before starting treatment, your physician will do blood tests to check for hepatitis B virus infection. If you have ever had hepatitis B virus infection, the hepatitis B virus could become active again during or after treatment of hepatitis C virus with Vosevi. Hepatitis B virus becoming active again (called reactivation) may cause serious liver problems including liver failure and death. Your physician will monitor you if you are at risk for hepatitis B virus reactivation during treatment and after you stop taking Vosevi.

*Slow heart rate (bradycardia).* Vosevi treatment may result in slowing of the heart rate along with other symptoms when taken with amiodarone (Cordarone, Nexterone, Pacerone), a medicine used to treat certain heart problems. In some cases bradycardia has led to death or the need for a heart pacemaker when amiodarone is taken with medicines similar to Vosevi that contain sofosbuvir. Get medical help right away if you take amiodarone with Vosevi and have any of the following symptoms: fainting or near fainting, dizziness or light headedness, not feeling well, weakness, extreme fatigue, shortness of breath, chest pains, confusion or memory problems.

*Do not take Vosevi* if you also take any medicines that contain rifampin (Rifater, Rifamate, Rimactane, Rifadin).
These are not all the possible side effects. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

Mavyret by AbbVie for ALL Genotypes
The U.S. FDA approved August 2017. Mavyret by AbbVie is used for all genotypes, for patients without cirrhosis and those with compensated cirrhosis as well as patients with genotype 1 who have been previously treated with an HCV NS5A inhibitor or NS3/4A protease inhibitor but not both and for patients with severe kidney disease, including those on dialysis.
**Mavyret** is a fixed-dose combination of glecaprevir, a hepatitis C virus (HCV) NS3/4A protease inhibitor, and pibrentasvir, an HCV NS5A inhibitor. Mavyret is taken without ribavirin.

**Prior to Treatment:**
All patients should be tested for evidence of current or prior Hepatitis B (HBV) core antibody (anti-HBc) before treatment with Mavyret.

**Dosage and Duration:**
Mavyret is a fixed-dose combination tablet containing glecaprevir 100 mg and pibrentasvir 40 mg. No ribavirin required. The recommended oral dosage of Mavyret is three tablets taken once daily with food.

For all genotypes: 1, 2, 3, 4, 5, 6 patients without any treatment experience and no cirrhosis, treatment is for 8 weeks. Patients without any treatment experience with compensated cirrhosis, treatment is for 12 weeks.

For genotype 1 patients who have been previously treated with an NS5A inhibitor without prior treatment with an NS3/4A protease inhibitor, and no cirrhosis, recommended treatment is for 16 weeks.
For genotype 1 patients who have been previously treated with an NS3/4A PI 2 and with an NS5A inhibitor, with no cirrhosis and patients with compensated cirrhosis, treatment is for 12 weeks.

For all genotypes 1, 2, 4, 5, or 6 patients who have been previously treated with an PRS 3 with no cirrhosis, treatment is for 8 weeks and for patients with compensated cirrhosis, treatment is for 12 weeks. For patients with genotype 3 with no cirrhosis, treatment is for 16 weeks and patients with compensated cirrhosis, treatment is for 16 weeks.

For all genotype patients with chronic kidney disease recommended treatment is for 12 weeks.

**Side Effects:**
The most common side effects reported in clinical trials were headache, fatigue, nausea and some with diarrhea.
Cure Rate:
Clinical trials report cure rates from 92% to 100% with the average cure of 98%.

Drug Interactions:
It is very important to tell your physician and pharmacist any medical conditions you have and all medications, vitamins and supplements or herbs you take prior to taking Mavyret. Mavyret should not be taken with atazanavir, or rifampin. Mavyret also interferes with other drugs, especially carbamazepine, efavirenz, and St. John’s wort.

It is important to note that additional drug to drug interactions may occur. To get a complete listing of drug interactions, see prescribing information list provided by Mavyret.

Warning:
Mavyret is not recommended for children and is not recommended for patients with decompensated cirrhosis (severe hepatic impairment Child-Pugh C). It has been reported that patients who are co-infected with Hepatitis B and C or patients who have had Hepatitis B in the past, could be at risk for hepatitis B reactivation. Hep B has been reported in HCV/HBV coinfected patients who were taking or had taken treatment with the Hep C direct acting antiviral and not receiving treatment for Hep B.

Important:
Prior to taking Mavyret, make sure your physician tests you for Hepatitis B antibodies and report any prior history of Hepatitis B or treatment for Hep B. Some cases have resulted in serious hepatitis reactivation, liver failure, and death. Be sure to report pregnancy or breast feeding to your physician prior to taking Mavyret.

For full product information see Mavyret.com. For co-pay assistance or patient assistance program for Mavyret call: 1-877-628-9738 to learn more.
**Harvoni by Gilead Sciences for Genotypes 1a, 1b, 4, 5, 6**

*Harvoni* (Ledipasvir and Sovaldi), made by Gilead Sciences was approved by the U.S. FDA October 2014. FDA approved expanded treatment options for Havoni February 12, 2016.

FDA approved expanded treatment options for Harvoni and Sovaldi to treat children ages 12 to 17 or weighing at least 77 pounds (35kg), on April 7th, 2017. Treatment options for children without cirrhosis or with compensated (mild) cirrhosis.

*Interferon free treatment for Genotypes 1a, 1b, 4, 5, 6 to be used with or without Ribavirin, depending on liver condition.

**Dosage:**
* 1 pill, once daily dose combination of ledipasvir and sovaldi.
* To be used without peg Interferon alfa and ribavirin for Genotype 1.

**Treatment Duration Time:**
* Treatment Duration is 8 weeks for certain treatment-naive patients without cirrhosis and a baseline viral load below 6 million.
* Treatment-experienced patients without cirrhosis, 12 weeks of treatment is recommended.
* Treatment-experienced patients who have failed treatment with either peginterferon alfa + ribavirin or an HCV protease inhibitor + peginterferon alfa + ribavirin with cirrhosis are recommended to take treatment for 24 weeks.

*SVR12 Cure rates range between 94 to 99%.

*Common Side Effects reported in >10% were fatigue and headache for those treated for 8, 12 or 24 weeks.
* Other side effects listed by the FDA reports less than 10% of patients experienced nausea, diarrhea and insomnia.
*Laboratory Abnormalities of elevations of Bilirubin, Lipase, and Creatine Kinase in a small percentage of patients were observed.

*Caution Drug Interaction: Risk of Reduced Therapeutic Effects of Harvoni due to P-gp Inducers; Rifampin and St. John's Wort are not recommended for use with Harvoni as they may significantly decrease ledipasvir and sofosbuvir plasma concentrations.

*In addition to Rifampin and St. John's Wort, there are other drug interactions with certain Antacids and other acid-reducing meds, Dignoxin, Anti-Seizure medications, Simprevir (Olysio), Rosuvastatin and HIV and TB medications. See a complete list of drug reactions to Harvoni listed on Gilead's/Harvoni website. Be sure to talk to your physician and pharmacist about all medications and supplements you are taking prior to taking Harvoni.

See Harvoni.com for more information and full product guide.

For Children

Harvoni By Gilead Sciences for all Genotypes 1, 4, 5, and 6, approved for Children (see specific guidelines) Sovaldi and Ribavirin also approved for Children with genotype 2 or 3 without cirrhosis or with compensated (mild) cirrhosis. (See below for specific guidelines with Sovaldi/Ribavirin for children).

FDA approved expanded treatment options for Harvoni and Sovaldi to treat children ages 12 to 17 or weighing at least 77 pounds (35kg), on April 7th, 2017. Treatment options for children without cirrhosis or with compensated (mild) cirrhosis.

Treatment Medication: Harvoni 1 pill a day. If Sovaldi/Ribavirin is prescribed the daily dosage of Ribavirin is weight-based and is administered orally in 2 divided doses with food.

SVR12 Cure Rates: 97 to 100%

Treatment Duration Time: Harvoni standard treatment time is 12 weeks for genotypes 1, 4, 5 and 6. Sovaldi/Ribavirin standard treatment time for genotype 2 is 12 weeks, for genotype 3 with or without cirrhosis is 24 weeks.
**Common Side Effects**: most common side effects are: headache and fatigue; Less common are diarrhea, nausea and insomnia.

*Caution Drug Interaction*: Risk of Reduced Therapeutic Effects of Harvoni due to P-gp Inducers; Rifampin and St. John's Wort are not recommended for use with Harvoni as they may significantly decrease ledipasvir and sofosbuvir plasma concentrations.

*In addition to Rifampin and St. John's Wort, there are other drug interactions with certain Antacids and other acid-reducing meds, Dignoxin, Anti-Seizure medications, Rosuvastatin and HIV and TB medications.

See a complete list of drug reactions to Harvoni listed on Gilead's/Harvoni website. Be sure to talk to your physician and pharmacist about all medications and supplements you are taking prior to taking Harvoni.

* Further treatment recommendations by American Association for Study of Liver Disease (AASLD) and Infectious Diseases Study of America (ISDA), See: [http://www.hcvguidelines.org/full-report/initial-treatment-hcv-infection](http://www.hcvguidelines.org/full-report/initial-treatment-hcv-infection)
Treatment: Viekira Pak\(^1\) by AbbVie: for genotype 1a or 1b with or without cirrhosis

*A double pill regimen contains three drugs, ombitasvir, paritaprevir and dasabuvir. The double dose regimen contains one pill with ritonavir combined with paritaprevir and ombitasvir. The second pill contains dasabuvir. Viekira Pak, an all oral treatment is Peg Interferon free. It can be used however with or without Ribavirin.

**Dosing recommendations:**
*Taken in the Morning: Two tablets of the combined ombitasvir, paritaprevir and ritonavir.
*Taken in the Morning and Evening: One tablet of dasabuvir.
*Viekira Pak is to be taken with a meal without regard to fat or calorie content.
*If Ribavirin is prescribed, dosing will be based on patient’s weight.

**Treatment duration time:**

<table>
<thead>
<tr>
<th>Patient Population</th>
<th>Treatment*</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genotype 1a, without cirrhosis</td>
<td>VIEKIRA PAK + ribavirin</td>
<td>12 weeks</td>
</tr>
<tr>
<td>Genotype 1a, with cirrhosis</td>
<td>VIEKIRA PAK + ribavirin</td>
<td>24 weeks**</td>
</tr>
<tr>
<td>Genotype 1b, without cirrhosis</td>
<td>VIEKIRA PAK</td>
<td>12 weeks</td>
</tr>
<tr>
<td>Genotype 1b,</td>
<td>VIEKIRA PAK + ribavirin</td>
<td>12 weeks</td>
</tr>
</tbody>
</table>
with cirrhosis

*Note: Follow the genotype 1a dosing recommendations in patients with an unknown genotype 1 subtype or with mixed genotype 1 infection.

**VIEKIRA PAK administered with ribavirin for 12 weeks may be considered for some patients based on prior treatment history.

For Use in Liver Transplant Recipients

In liver transplant recipients with normal hepatic function and mild fibrosis (Metavir fibrosis score of 2 or lower), the recommended duration of Viekira Pak with ribavirin is 24 weeks, for Hep C patients with genotype 1 subtype. When Viekira Pak is administered with calcineurin inhibitors in liver transplant recipients, dosage adjustment of calcineurin inhibitors is needed.

SVR12 Cure Rates 91% to 100%.

Common Side Effects for VIEKIRA PAK used with ribavirin, side effects include fatigue, nausea, itching, skin reactions such as redness or rash, sleep problems, and feeling weak.

For VIEKIRA PAK used without ribavirin, side effects include nausea, itching, and insomnia.

These are not all of the possible side effects of VIEKIRA PAK. See Viekira.com for more information and full product guide. A healthcare provider should be notified if there is any side effect that is bothersome or that does not go away.

Drugs Contraindicated with Viekira Pak: Certain drugs may decrease loss of therapeutic activity of Viekira Pak or lead to harmful side effects. Make sure to talk to your physician about all medications, and supplements you take prior to starting treatment with Viekira Pak. *Important review FDA release of Contraindicated Drugs and List of Drug Interactions for Viekira Pak.

Note: A contraindication is a specific situation in which a drug, procedure, or surgery should not be used because it may be harmful to the patient. There are two types of contraindications: Relative contraindication means that caution should be used when two drugs or procedures are used together. Absolute
contraindication means that event or substance could cause a life-threatening situation. A procedure or medication that falls under this category should be avoided.

**Caution Drug Interaction: Potential for VIEKIRA PAK to Affect Other Drugs and Potential for Other Drugs to Affect One or More Components of VIEKIRA PAK**

VIEKIRA PAK can cause increases in liver function blood test results, especially if people use ethinyl estradiol-containing medicines (such as some birth control products).

Ethinyl estradiol-containing medicines (combination birth control pills or patches, such as Lo Loestrin® FE, Norinyl®, Ortho Tri-Cyclen Lo®, Ortho Evra®; hormonal vaginal rings such as NuvaRing®; and the hormone replacement therapy medicine, Fem HRT®) must be stopped before starting treatment with VIEKIRA PAK. If these medicines are used as a method of birth control, another method must be used during treatment with VIEKIRA PAK, and for about 2 weeks after treatment with VIEKIRA PAK ends. A healthcare provider can provide instruction on when to begin taking ethinyl estradiol-containing medicines.

A healthcare provider should do blood tests to check liver function during the first 4 weeks of treatment and then as needed.

A healthcare provider may tell people to stop taking VIEKIRA PAK if signs or symptoms of liver problems develop.

A healthcare provider must be notified right away if any of the following symptoms develop or if they worsen during treatment with VIEKIRA PAK: tiredness, weakness, loss of appetite, nausea, vomiting, yellowing of the skin or eyes, or color changes in stools.

**VIEKIRA PAK must not be taken if people:**
* have severe liver problems
* take any of the following medicines: alfuzosin hydrochloride (Uroxatral®) - carbamazepine (Carbatrol®, Epitrol®, Equetro®, Tegretol®) - efavirenz (Sustiva®, Atripla®) - ergot containing medicines including ergotamine tartrate (Cafergot®, Migergot®, Ergomar®, Ergostat®, Medihaler®, Wigraine®, Wigrettes®), dihydroergotamine mesylate (D.H.E. 45®, Migranal®), methylergonovine (Ergotrate®, Methergine®) - ethinyl estradiol-containing medicines - gemfibrozil
(Lopid®) - lovastatin (Advicor®, Altoprev®, Mevacor®) - midazolam (when taken by mouth) - phenytoin (Dilantin®, Phenytek®) - phenobarbital (Luminal®) - pimozide (Orap®) - rifampin (Rifadin®, Rifamate®, Rifater®, Rimactane®) - sildenafil citrate (Revatio®) when taken for pulmonary artery hypertension (PAH) - simvastatin (Zocor®, Vytorin®, Simcor®) - St. John's wort (Hypericum perforatum) or a product that contains St. John's wort - triazolam (Halcion®) or have had a severe skin rash after taking ritonavir (Norvir®).

**What should people tell a healthcare provider before taking VIEKIRA PAK**

If they have: liver problems other than HCV infection, HIV infection, or any other medical conditions.

If they have had a liver transplant. If they take the medicines tacrolimus (Prograf®) or cyclosporine (Gengraf®, Neoral®, Sandimmune®), a healthcare provider should check blood levels, and, if needed, may change the dose of these medicines or how often they are taken, both during and after treatment with VIEKIRA PAK.

If they are pregnant or plan to become pregnant or if they are breastfeeding or plan to breastfeed. It is not known if VIEKIRA PAK will harm a person's unborn baby or pass into breast milk. A healthcare provider should be consulted about the best way to feed a baby if taking VIEKIRA PAK. For pregnant females that have both HCV and HIV infection, they should talk with a healthcare provider about enrolling in the antiretroviral pregnancy registry. About all the medicines they take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Some medicines interact with VIEKIRA PAK. A new medicine must not be started without telling a healthcare provider. A healthcare provider will provide instruction on whether it is safe to take VIEKIRA PAK with other medicines.

FDA approved Viekira Pak, December 19th 2014. Viekira Pak made by AbbVie is designed to treat Hep C patients who have genotype 1 varieties, with and without cirrhosis.

See Viekira.com for more information and full product guide.
Treatment: Sovaldi\textsuperscript{2} (sofosbuvir) by Gilead Sciences for genotypes 1, 2, 3, 4. Used in combination with other Hep C medications

*FDA approved for Genotypes 1,2,3,4
*Oral treatment regimen for Genotypes 2 and 3
*Regimen for Hep C patients awaiting liver transplantation to prevent HCV recurrence.

Treatmet and Duration Time:
*For Genotype 1a, 1b: Treatments with either Harvoni (Sovaldi & Ledipasvir) or Sovaldi/Olysio are recommended with combination of Sovaldi.
*For Genotype 2: Sovaldi + ribavirin for 12 weeks.
*For Genotype 3: Sovaldi + ribavirin for 24 weeks.

Further treatment recommendations by American Association for Study of Liver Disease (AASLD) and Infectious Diseases Study of America (ISDA), See: [http://www.hcvguidelines.org/full-report/initial-treatment-hcv-infection](http://www.hcvguidelines.org/full-report/initial-treatment-hcv-infection)
*For Genotype 4: Sovaldi + ribavirin for 24 weeks
*For Genotype 5: Sovaldi + ribavirin + peg-interferon alfa for 12 weeks.
*As an alternative treatment for Genotype 6: Sovaldi + ribavirin + peg-interferon alfa for 12 weeks.

Sovaldi in combination with ribavirin for 24 weeks can be considered for CHC (chronic hepatitis C) patients with genotype 1 infection who are interferon ineligible. Talk to your physician about which treatment option is best suited for your genotype, liver condition and any past treatment history.

**SVR12 Cure Rates** 84% to 96%.
**Common Side Effects** For Sovaldi used in combination with ribavirin include; tiredness and headache and for Sovaldi used in combination with peg interferon alfa and ribavirin they include additional side effects of nausea, difficulty sleeping, and low red blood count. See separate side effect information for peg-interferon and ribavirin.

Sovaldi (sofosbuvir) made by Gilead Sciences was approved by the U.S. FDA on December 6, 2013. See Sovaldi.com for information and full product guide.

____________________

**Common Side Effects of Peginterferon**


Peginterferon alfa-2b may cause side effects. Tell your doctor if any of these symptoms are severe or do not go away:
* bruising, pain, redness, swelling, itching, or irritation in a place where you injected peginterferon alfa-2b
* nausea  * vomiting  * loss of appetite  * change in the way things taste
* diarrhea  * constipation  * heartburn  * weight loss  * headache  * dizziness
* confusion  * hair loss or thinning  * itching  * difficulty concentrating
* feeling cold or hot all the time  * changes to your skin  * dry mouth  * sweating
* flushing  * runny nose  * difficulty falling asleep or staying asleep

Some side effects can be serious. The following symptoms are uncommon, but if you experience any of them, or those listed in the IMPORTANT WARNING section, call your doctor immediately:
* rash  * hives  * difficulty swallowing
* swelling of the face, throat, tongue, lips, eyes, hands, feet, ankles, or lower legs
* hoarseness  * fast heartbeat  * pale skin  * lower back pain

____________________
Talk to your doctor if you have ever dealt with depression or anxiety and the possible need to take an Anti-Depressant while on treatment.


Ribavirin may cause side effects. Tell your doctor if any of these symptoms are severe or do not go away:
*Cough *upset stomach *vomiting *diarrhea *constipation *heartburn
*loss of appetite *weight loss *changes in ability to taste food *dry mouth
*difficulty concentrating *difficulty falling asleep or staying asleep
*memory loss *rash *dry, irritated, or itchy skin *sweating
*painful or irregular menstruation (period) *muscle or bone pain *hair loss

Some side effects can be serious. The following symptoms are uncommon, but if you experience any of them, or those listed in the IMPORTANT WARNING section, call your doctor immediately:
*hives
*swelling of the face, throat, tongue, lips, eyes, hands, feet, ankles, or lower legs
*hoarseness *difficulty swallowing or breathing
*pain in the stomach or lower back *bloody diarrhea *bright red blood in stools
*black, tarry stools *stomach bloating *confusion *dark-colored urine
*yellowing of the skin or eyes *unusual bleeding or bruising *vision changes
*fever, chills, and other signs of infection *depression
*thinking about hurting or killing yourself *mood changes *excessive worry
*irritability
*starting to use street drugs or alcohol again if you used these substances in the past
*intolerance to cold

Talk to your doctor if you have ever dealt with depression or anxiety and the possible need to take an anti-depressant while on treatment.
People are encouraged to report negative side effects of prescription drugs to the FDA. Visit [www.fda.gov/medwatch](http://www.fda.gov/medwatch) or call 1-800-FDA-1088.

**Patient Assistance Programs for Financial/Hep C Treatment Assistance**

Many resources exist to help Hep C patients and their families get the proper medical and treatment assistance they need. It is important to understand the potential out of pocket expenses for treatment. Check with your insurance company regarding coverage. There is help for you if you don't have insurance, need help with co-pays with your insurance coverage, or if you have been denied treatment from your insurance company. You can contact the pharmaceutical companies and patient assistance programs, to find out which assistance is right for your needs.

If one resource isn't right for you, keep going until you find the resource you need. Be proactive and persistent. The right help is out there for you.
Gilead the pharmaceutical company that makes Harvoni (sofosbuvir, ledipasvir) and Sovaldi (sofosbuvir), for Hep C Treatment have stated in their press release and on their website that they will assist those who cannot afford Hep C treatment through their program, Support Path.

Support Path assists eligible hepatitis C patients in the United States who do not have insurance, are underinsured or need financial assistance to gain coverage for or access to Sovaldi (sofosbuvir). The program consists of an integrated offering of support services for patients and providers. Services include:

- Access to dedicated case managers to help patients and their providers with insurance-related needs.
- Education and support, including a 24/7 nursing support service line.
- The Sovaldi Co-pay Coupon Program, which provides co-pay assistance for eligible patients with private insurance who need assistance paying for out-of-pocket medication costs. Most patients will pay no more than $5 per co-pay.
- Gilead will provide support to the Patient Access Network (PAN) Foundation, an independent non-profit organization that provides assistance for eligible federally-insured and privately-insured patients who need help covering out-of-pocket medication costs.
- The Support Path Patient Assistance Program will provide Sovaldi at no charge for eligible patients with no other insurance options.

To learn more about Support Path for Harvoni or Support Path for Sovaldi, please call, 1-855-769-7284, Monday through Friday, between 9:00am and 8:00pm Eastern time.
Viekira Pak by AbbVie: Viekira.com, ProCeed assists with resources and tools for VIEKIRA. ProCeed is a personalized program, designed with you in mind. It’s about getting to know you as an individual so we can help build a plan that fits your needs throughout treatment. To get started and enroll see the link for the ProCeed Program or Call 1-844-2proCeed or 1-844-277-6223. For Financial treatment assistance and information contact the ProCeed Program.

AbbVie Patient Assistance: The AbbVie Patient Assistance Foundation believes that people who need AbbVie medicines should be able to get them. We understand the challenges people face and are here to help. The Foundation provides AbbVie medicines at no cost to people experiencing financial difficulties. Contact: abbviepaf.org/index.cfm or Call 1-800-222-6885 Monday through Friday 8am-5pm CST.

Genentech: Genentech-access.com/patients. We are committed to helping people get access to Genentech medicines whenever possible. Genentech Access Solutions offers coverage support, patient assistance, and other useful information to help you along the way.

We offer a full range of programs and services to meet the needs of patients and are here to help when one of our medicines is prescribed.

Genentech Access Solutions can help you manage payments for your prescribed Genentech medicines. We can work with you if:

- You have no health care plan
• Your health care plan turned down paying for your medicine
• You have a high co-pay or co-insurance

GENENTECH ACCESS SOLUTIONS SUPPORT LINE
6 a.m.-5 p.m. PT, Monday through Friday  Call (866) 4Access or (866) 422-2377.

For Merck the makers of Peg Interferon they offer Insurance and Reimbursement Help with The ACT Program. The ACT Program Specialists can help answer questions related to insurance coverage and reimbursement. They can also explain program requirements and available options.

Reimbursement Support Services: The ACT Program Specialist can:

*Research your medical insurance and prescription plan benefits

*Verify out-of-pocket costs. *Collaborate with you and your doctor to help verify appropriate coverage.

*Conduct searches for alternate reimbursement resources. *Refer individuals to patient assistance program. For additional information and reimbursement support, please call The ACT Program at 866-363-6379, Monday through Friday, 8AM to 8PM ET.

For information on Merck Patient Assistance Programs, please visit www.merckhelps.com

-------------------

Kadmon Pharmaceuticals (Keys Program)for Ribasphere RibaPak (ribavirin, USP) in combination with peginterferon alfa-2a is indicated for the treatment of adults with chronic hepatitis C virus infection who have compensated liver disease and have not been previously treated with interferon alpha.

Contact: hcvadvocate.org/community/community_pdf/Riba_CoPay_Cards.pdf or Call: 1-888-668-3393.
For **Moderiba™ (ribavirin, USP)** is a prescription medicine used with another medicine called peginterferon alfa-2a to treat chronic (lasting a long time) hepatitis C infection in people whose liver still works normally, and who have not been treated before with a medicine called an interferon alpha. Contact: moderiba.com/patient-support/financial or Call: 1-844-MODERIBA or 1-844-663-3742.

For **Ribavirin (Copegus, Rebetol, Ribasp)** to be used in combination with Hep C treatment with Interferon alpha. Discount Coupons are available through this website, GoodRx.com. See locations and different coupons available for discounted prices.

__________

**Additional Resources**

**American Liver Foundation** For additional Financial Assistance Resources see American Liver Foundation Support Guide. Click on American Liver Foundation Support and look for the Financial Assistance Resource Booklet to download.

__________

**Clinical Trials** are another way to obtain treatment and care. To find out information about clinical trials in your location visit: ClinicalTrials.gov

__________

**Diplomat Specialty Pharmacy**: See: Diplomat.is or Call toll-free:877-977-9118. Dedicated funding specialists ready to help you find financial assistance. There are many external foundations and grants that exist to help patients afford their medications. In 2013, Diplomat secured more than $24 million for patients in prescription co-pay assistance from external partners.

__________

**Good Days from CDF (Chronic Disease Fund)**: Good Days from Chronic Disease Fund.org. Good Days from CDF, formerly known as Chronic Disease Fund, exists
to improve the health and quality of life of patients with chronic disease, cancer, or other life-altering conditions. The cost of medications to treat chronic disease can be staggering, adding to the despair and suffering of these patients. At Good Days, our mission is to ensure no one has to choose between getting the medication they need and affording the necessities of everyday living.

We help patients suffering from chronic medical conditions who have limited financial means get access to the medications they need. Our program helps qualified patients pay their insurance co-pays so they can get immediate access to prescription medications that will give them relief from pain and suffering. We know you have many questions and hope you find some comfort and answers here.

To contact Good Days (Chronic Disease Fund)

Email: info@cdfund.org  Toll-Free Patient Information: (877) 968-7233  Main Number: (972) 608-7141

__________

Healthwell Foundation: The HealthWell Foundation provides financial assistance to eligible individuals to cover coinsurance, copayments, health care premiums and deductibles for certain medications and therapies. If you've been prescribed a medication and your insurance company covers it, but you still cannot afford the coinsurance or copayment required, we may be able to assist you by paying for part of your costs associated with the medication. Also, if you are eligible for health insurance, but cannot afford the insurance premium, we may be able to assist with your insurance premium. Phone: (800) 675-8416.

__________

HealthCare.gov: healthcare.gov

__________

Hepatitis A & B Vaccines Assistance Programs: There is no vaccine for protection against Hepatitis C but patients with Hepatitis C need to be protected with the vaccines for Hepatitis A and Hepatitis B virus. The makers of HAV (Hepatitis A
Virus) and HBV (Hepatitis B Virus) vaccines offer patient assistance programs with low-cost and free vaccines.

Contact: Merck.com/merckhelps/vaccines/home.html Merck-VAQTA-Hepatitis A vaccine; RECOMBRIVAX HB-Hepatitis B vaccine. Or Call 1-800-293-3881.

Contact: GSK Vaccines Access Program is a patient assistance program sponsored by GlaxoSmithKline that provides GlaxoSmithKline vaccines to adult applicants who meet eligibility requirements. This program does not constitute health insurance. For GSK-HAVRIX-Hepatitis A vaccine; ENGERIX-B Hepatitis B vaccine; TWINRIX-combination of Hepatitis A and Hepatitis B vaccine. GSK-vap.com/ or Call 1-877-822-2911.

Hepatitis Foundation International For extensive list of Financial help resources, websites, and help organizations. Click here for Hepatitis Foundation International.

Medicare: Medicare.gov

Needy Meds is a nonprofit organization that assists individuals who cannot afford medicine or health care costs. Program: Free or low cost clinic locator is an online locator to find clinics that offer free or low cost health services and offer sliding scale fees based on the individuals income.

For Eligibility: Contact needymeds.org/free_clinics.taf or Needy Meds Inc. P.O. Box 219 Gloucester, MA 01931 or website: needymeds.org or Call: 1-800-503-6897.

Office of Disease Prevention & Health Promotion (ODPHP): Health.gov The Office of Disease Prevention and Health Promotion (ODPHP) plays a vital role in
keeping the Nation healthy. Learn more about our work by exploring our national health initiatives.

__________

**Patient Access Network Foundation**: 1-866-316-7263/panfoundation.org

__________

**Patient Advocate Foundation**: Patient Advocate.org. The Process is Simple. Patient Advocate Foundation's Patient Services provides patients with arbitration, mediation and negotiation to settle issues with access to care, medical debt, and job retention related to their illness. Phone: (800) 532-5274.

**Patient Advocate Foundation for Co-Pay Relief**: Copays.org/diseases/hepatitis-c or Call 1-866-512-3861.

__________

**Patient Assistance Program (PAP)**

Other programs are listed for patient assistance. See additional Financial and Medication Assistant Programs under Support and Resource Listing on this website for additional information and help.

__________

**Partnership for Prescription Assistance** Our mission is to increase awareness of patient assistance programs and boost enrollment of those who are eligible. We offer a single point of access to more than 475 public and private programs, including nearly 200 offered by biopharmaceutical companies. We have already helped millions of Americans get free or reduced-cost prescription medicines. Phone: 1-888-477-2669 or website: www.pparx.org/en. Free or low cost clinic locator is an online locator to find clinics that offer free or low cost health services and offer sliding scale fees based on the individuals income.

Rx Assist: Rx Assist.org. Patient assistance programs are run by pharmaceutical companies to provide free medications to people who cannot afford to buy their medicine. Rx Assist offers a comprehensive database of these patient assistance programs, as well as practical tools, news, and articles so that health care professionals and patients can find the information they need all in one place.

Rx Outreach: Rxoutreach.org. We are a nonprofit charity that provides critical medicine for people who can’t afford it. We offer more than 500 medications through our mail order pharmacy delivered to all 50 states, Puerto Rico and the Virgin Islands. With support of generous donors, we help more than 85,000 people each year get the medications they need to stay healthy. Call: 1-800-769-3880

Social Security Disability Other resources are available if you need to apply for Social Security Medical Disability. Click on www.ssa.gov/disability/ Be sure to type in Hepatitis C and see additional information for qualifying. Put on your investigator hat and dive into the many resources that are offered. Never give up until you find the right doors open for you.

Together Rx Access: Togetherrxaccess.com With Together Rx Access®, individuals and families without prescription drug coverage can gain access to immediate savings on hundreds of brand-name and generic prescription products at their neighborhood pharmacies. Through this website, we also connect you with resources about the Health Insurance Marketplace, the Affordable Care Act, individual pharmaceutical company patient assistance programs, and other patient assistance resources.
References:

American Liver Foundation

Hepatitis Foundation International

Harvoni (ledipasvir/sofosbuvir) by Gilead Sciences

Sovaldi (sofosbuvir) by Gilead Sciences

Viekira Pak by AbbVie & Proceed Program

Clinical Trials.gov
3rd Phase: Post Hep C Treatment Recovery

After Hep C treatment is completed, what happens next? Post Hep C treatment recovery has three specific things which happen within the whole recovery process.

First, the treatment drugs need time to leave your system. Second, your body begins the healing and rebuilding process. And third, you will continue to be monitored with blood work, tests, and physical check up’s with your physician.

Recovery from Hep C treatment holds important questions and expectations. Many Hep C patients wonder, how long does recovery take. Can the liver regenerate after treatment and heal from cirrhosis? How long will it take before I feel better? How long do I have to do blood work? What if Hep C comes back?

Hep C treatment is like climbing a mountain, its one step at a time until you reach the summit. Recovery is the same. Treatment is not achieved overnight and neither is recovery. It’s one step, one day, one week at a time and progress is made. Depending on which treatment drugs were used, along with liver and other
physical conditions, recovery can start out slow and builds as time goes by. It takes patience and perseverance in the recovery progress.

One thing is for sure, recovery from Hep C treatment is different for each Hep C patient in timeline and overall health restoration, but there are common denominators shared by all.

First and foremost there is an expectation that needs to be addressed. When you stop taking treatment medication you do not instantly regain all your energy, and treatment side effects do not disappear overnight. To explain better let’s address these questions.
How long does recovery from Hep C treatment take?
The liver is an amazing organ with the ability to regenerate over time, but the key is time and the degree of liver damage.

Do you have any other physical illness or condition? Often times it’s hard to separate how we are feeling from treatment side effects compared to other physical illnesses that are going on. Be sure to take those conditions into consideration when evaluating your Hep C recovery.

An important factor to consider is what specific treatment medications did you take and what was your liver condition or stage of liver disease prior to treatment.

We are now in a time when more Hep C treatment options are available. If you used a combination treatment without Interferon and Ribavirin, your recovery may be different than someone who had to use these meds. Each treatment medication has its own side effects and when treatment is completed, it takes
time for medications to leave the system as well as the after effects of each medication.

It’s hard to paint all Hep C recovery with the same brush when different medications are used and physical conditions need to be considered.

No matter which medications were used, whether you completed the course of treatment or had to stop early, your body has been under attack not only from the hepatitis C virus but undergoing treatment is like being in battle itself. Your body has been under siege, with after effects similar to a battleground.

Restoration and rebuilding does not happen overnight. It takes time for all the treatment medications to leave your system. Until then, you may continue to experience treatment side effects for a while. The healing process takes time, patience and effort.

Most Hep C patients report seeing treatment side effects subsiding as early as a few weeks to a few months or longer. Often times it takes 6 months to a year to regain full energy and feel well. Some patients have reported side effects lingering for longer periods of time. This may be due to the type of Hep C treatment medications used and varying stages of liver condition of each patient.

If the patient has cirrhosis it can often take longer for medications to leave the body due to the amount of scarring in the liver which restricts the flow of blood and limited function of the liver.

Some treatment medications can affect the thyroid. If you experienced thyroid issues during Hep C treatment, thyroid tests will need to be continued after Hep C treatment in order to determine if thyroid medication is required to balance out the thyroid.

When the thyroid is affected, this can cause fatigue, dry skin and hair, and other issues. If thyroid complications arise, this can easily be taken care of with daily thyroid medication and symptoms improve.
If you dealt with the common treatment side effect of fatigue, you may need to rest or take a nap for several weeks or months following treatment. After treatment you will begin to experience a gradual increase in energy and stamina.

Often you find you have to rest or nap less often as you feel better. Good nutrition, mild exercise and drinking pure water, avoiding smoking and alcohol, and getting a full night’s sleep goes a long way in your treatment recovery and helping your body in the rebuilding process. Most patients report after 6 months or longer they have more energy, and a sense of wellness than they’ve had in years.

**Can the liver regenerate after treatment and heal from cirrhosis?**

According the US National Library of Medicine, “the liver can regenerate most of its own cells when they become damaged. However, if injury to the liver is too severe or long lasting, regeneration is incomplete and the liver creates scar tissue. Scarring of the liver, also called fibrosis, may lead to cirrhosis.”

Cirrhosis is a slow and gradual process but in the early stages of cirrhosis the liver continues to function. The stage of cirrhosis depends on the level of damage and scarring which leads to liver function impairment.

Once HCV is eliminated from the body and further damage has been stopped. Physicians are now seeing some regeneration improvement in cirrhosis patients depending on the severity of damage. Even though the liver can regenerate from a certain amount of damage, it cannot regenerate from severe scarring.

Dr. Jorge L. Herrera M.D. Division of Gastroenterology at the University Of South Alabama College Of Medicine states, “Successful treatment of the hepatitis C infection will decrease the chance of developing complications from cirrhosis. Patients with cirrhosis should take steps to maintain good health, receive adequate immunizations and regular medical care. Close monitoring by their primary care physician as well as a gastroenterologist or hepatologist is important for the early detection of possible complications.”

Treatment recovery for a patient who has cirrhosis or had a liver transplant is often different from a patient’s who only has mild inflammation or mild fibrosis.
Medication requirements for patients with cirrhosis and liver transplant anti-rejection drugs often have effects on energy.

If patients are taking medications for conditions for cirrhosis or liver transplant anti-rejection drugs, DO NOT alter or stop taking these drugs after completing treatment for Hep C. Do not alter or stop taking any medication unless your physician has specifically advised.

Completing treatment and achieving a Non-Detected result and cure for Hep C is the goal for treatment. Being cured of Hep C does not mean cirrhosis does not exist. Treatment for Hep C does not cure cirrhosis. You will need to continue with necessary medications for your condition in order to protect your liver.

Depending on the amount of scarring will determine if your liver will be able to regenerate from damage. The main goal of Hep C treatment is to eliminate the Hep C virus from the body and prevent further damage from occurring.

**How long will it take before I feel better?**

It is understandable patients want to get back to their normal routine as soon as treatment is completed. In order to do that, you need to look at recovery from a rebuilding perspective.

It’s important to focus on being proactive with healthy habits, like not smoking or drinking alcohol, or being around harmful chemicals. Eating nutritious balanced meals, avoid processed foods and getting moderate exercise and a full night’s sleep will go a long way to helping you regain energy and full recovery.

Many patients have reported having days of feeling great and wonderful energy and then crash some days later, or starting the day with energy and later in the afternoon or evening have to nap or lay down. This is a normal part of recovery and rebuilding your stamina and endurance.

It’s common for patients to feel a sense of frustration or depression with recovery. Don’t allow your emotions to sweep over your progress. You are going to get better and regain your life.
Your immune system has been compromised with treatment. Often there is a reduction in your red and white blood cell count, if your counts are low, it takes time to regain to normal levels. Until then it is best to take precautions and not be around people who are sick or travel in an airplane immediately after treatment until you have had blood work and your physician tells you it’s safe.

Often fatigue is the most common treatment after effect. Energy, endurance and stamina take time to rebuild. You will get there!

**How long do I have to do blood work?**
Hep C post treatment recovery includes follow up blood tests with your physician. (CBC) Complete blood counts, Liver Enzyme Panel, (RNA) viral load counts are commonly run every 3 to 6 months after treatment is completed with some physicians following up for longer periods of time.

Medical studies show if a patient has received (SVR12) sustained virologic response of HCV being non-detected within the blood for 3 months post treatment, the patient is considered cured and has less than 1% chance of recurrence.

The gold standard of testing patients until 24 weeks post treatment is still in effect but studies show there is not much difference in results from SVR12 to SVR24, which has a less than 1% chance of recurrence.

From 2011 to currently, treatment cure rates have risen from 70% to 99%. Achieving a cure from Hep C is greater than ever before.

**What if Hep C comes back?**
For patients who did not receive an (SVR) sustained virologic response, the news is very disappointing. As a Hep C patient myself, I personally know how hard it is to hear treatment did not work. I did two different treatments between 1995 and 2000 and did not receive an SVR.

I was determined not to give up and keep trying. In 2012 I did triple therapy with a protease inhibitor. Hep C went Non-Detected the first 4 weeks of treatment and remained Non-Detected, in which I was given the new diagnosis of Hep C resolved
and cured. Be sure to check out my Hep C Treatment Journey and Video updates on lifebeyondhepc.com.

In post treatment recovery patients can often struggle with doubt and worry if they do not feel well, wondering if the virus has come back or wrestle with fear awaiting the results of a post treatment blood test.

Remember, if you have achieved SVR12 or SVR 24 there less than a 1% chance of recurrence.

The bottom line is, if in the remote chance Hep C came back, have courage to do new treatment and be proactive with your health. Never give up. You need to keep moving forward and focus on what is positive and have faith. Progress and improvements are being made for higher cure rates, shorter treatment duration and less treatment side effects than ever before.
15 Steps to Recovery from Hep C Treatment

There is no magic timeline for Hep C patients to move beyond recovery. Small achievable goals to work toward each week make a big difference in setting up your own recovery program. Focus on what you have gained not what you have lost. A good attitude will help you progress in recovery. Get rid of stinkin thinkin.

Recovery is temporary, and you will get beyond it. At this writing I am now celebrating 6 years of post-treatment recovery and cured of Hep C. I have more energy than ever before, but it did not happen overnight. Remember don’t overwhelm yourself. Do a little at a time. By the inch it’s a cinch, by the yard, it’s hard. Recovery will come!

1. Be on guard NOT to jump instantly back into your normal routine or take on more than your ready for right after you finish treatment. Just because your treatment has finished does not mean your body is recovered yet. Pace yourself and give your body time to rebuild.
2. Keep up with your doctor’s appointments for check-up’s and blood work. This is important for your recovery process.

3. For strength and stamina, slowly work back into exercise and strength training. Doing something active for 15 minutes at a time, slowly working up to 30 minutes 3-5 per week. Walking is excellent. Hand free weights and resistance bands are good to rebuild muscle strength. Doing something even in small amounts each day to build back your strength will help restore your body.

4. Drink plenty of filtered water. 6 to 8 (8oz) glasses between 48 to 64 ounces a day to replenish what has been lost during treatment and restore function. It makes a huge difference in healing and energy. Plus it helps flush toxins from your body.

5. Don’t compromise your recovery progress with drinking alcohol, smoking or drugs. Your body has been through a battle and it needs all the help you can give it for good health.

6. Rebuild and Boost Immune System: Take a good multi-vitamin, extra dose of Vitamin C, B-vitamins including B-12. Antioxidants help guard your body from infection and boost your immune system, plus helps restore your energy level. Be sure to talk to your physician before taking anything.

7. Make sure you have received your annual flu shot, plus the pneumonia and shingles vaccine. These help protect you while your immune system and blood count are being rebuilt.

8. Eat non-processed foods, plenty of fresh fruits and vegetables, lean protein, low fat, low sugar and low sodium. You might want to consider juicing fresh fruits and vegetables or blend smoothies to help supplement good nutrition. Being in a healthy weight range helps your liver function better.
If you have cirrhosis, consult with your liver specialist and registered dietitian for a diet that suits your needs the best. Proper nutrition makes a huge difference in liver health.

9. Rest and Sleep: Rest and get at least 8 hours of sleep are required to restore your body. If your body tells you to take a break, take it and rest. Recovery will be better when you take rest stops.

10. Suggestion: If you have taken an anti-depressant while on treatment to help with side effects, consult your physician before getting off medication. Some medications require you to step down slowly rather than stopping abruptly.

You do not want to have adverse effects from getting off the medication too quickly. You may want to remain on the medication for 3 to 6 months after Hep C treatment to give your body time for the treatment drugs to get out of your system and help you through recovery.

11. Journaling your treatment recovery and or making a Thankfulness journal is a positive way to keep you focused and mentally moving forward in recovery. Jot down 5 to 10 things per day that you are thankful for. This has a great effect on your attitude and outlook.

12. Listening to Christian music each day is very uplifting and nourishing spiritually and emotionally. What we listen to, see, and exposed ourselves to has a powerful influence on our lives and recovery.

13. Reading the Bible, picking one scripture to memorize each week will help your memory and concentration. It also helps nourish and restore you spiritually, emotionally and mentally. God’s Word helps you stay focused and on track. A profound scripture about the importance of God’s Word is, “They are not just idle words for you, they are your life.” Deuteronomy 32:47
Brain exercises like reading, puzzles, games, computer games, or lumonsity.com can also help with rebuilding mental sharpness.

14. Faith and Prayer each day is important to connect with God and allow Him to lead you into full recovery and balance, physically, mentally, emotionally and spiritually. Faith, Prayer, and God’s Word are powerful for healing and recovery for all areas of our lives. Many times healing begins from the inside out.

15. Be patient with the recovery process. It takes time to rebuild and restore your body from treatment. Hep C treatment is a tough battle, and something you don’t get over quickly. Remember, treatment did not happen quickly and neither will recovery, so don’t be discouraged or impatient. Keep moving forward each day.
Life Beyond Hep C.com provides:

*Credible Medical References and Resources for Education, Information and Help.

*Hep C Warriors Friday Forum Support Group: Online Forum Support Group for Hep C patients, family and caregivers.

*Hep C Patients Treatment Journey: Conquering Stories of Hep C Patients with Patient Interviews about Hep C, testing, treatment and post treatment recovery, transplants and more.

*Hep C Help which offers articles and help for managing life with Hepatitis C, treatment information, post treatment tips and patient assistant programs to help with treatment medications and disability information. Also are Hepatitis C related medical articles to help patients and families be informed with credible information regarding related conditions such as Fibrosis, Cirrhosis, Liver Cancer,
Liver Transplant, Co-Infections, Fatty Liver Disease, and other common conditions with Hepatitis C.

*Hep C News which provides updated information on what is happening in the medical community for improved Hep C treatment, testing, clinical trials, and helpful information for patient’s living with Hep C worldwide.


*Christian faith based devotionals and articles written specifically for Hep C patients and their families to offer encouragement and hope through God’s Word and relationship with Jesus Christ.

*Prayer Support and Direct Contact with Hep C Patient Advocates

**Helpful Life Beyond Hep C articles:**
Visit [lifebeyondhepc.com](http://lifebeyondhepc.com) to see these articles and many more

*How to Fight Hepatitis C 8 Ways*
*Hep C Treatment Mile Markers*
*Hep C Treatment Target Goals: Treatment for the Treatment*
*New Hepatitis C Treatments with Higher Cure Rates 2015*
*What To Do If You Can’t Afford Hep C Treatment*
*5 Facts About a Liver Biopsy*
*Beginning Treatment for Hep C: Armor Up*
*Hep C Treatment Journey: Facing the Giants Wholeheartedly*
*Facing Fear with Hep C*
*Dangers with Hep C*
*Facing the “What If’s” with Hep C*
*Journey Through Hep C as a Survivor*
*Hope with Hep C*
*How to Live Beyond Hepatitis C*
References and Resources

American Association for the Study of Liver Diseases:
http://aasld.org/patients

HCV Guidelines with the American Association for the Study of Liver Disease (AASLD) and Infectious Disease Society of America (IDSA)
http://www.hcvguidelines.org/
Phone: 703-299-9766

American Liver Foundation for Hepatitis C
http://hepc.liverfoundation.org/
Phone: 1-800-465-4837 Monday-Friday 9am-7pm EST (800-GO-LIVER)

Center for Disease Control and Prevention for Hepatitis C
http://www.cdc.gov/hepatitis/c/cfaq.htm
Phone: 1-800-232-4636 (800-CDC-INFO)

Hep C Alliance
http://hepcalliance.org/

Hepatitis C Association
http://www.hepcassoc.org/

Hepatitis Foundation International
http://www.hepatitisfoundation.org/
Phone: 1-800-891-0707

HCV Advocate
http://www.hcvadvocate.org/

Life Beyond Hepatitis C
http://www.lifebeyondhepatitisc.com/

Mayo Clinic for Hepatitis C
http://www.mayoclinic.org/diseases-conditions/hepatitis-c/basics/definition/con-20030618
Medicare
http://www.medicare.gov/

http://medicare.gov/physiciancompare/search.html

National Institute of Health

National Viral Hepatitis Roundtable
http://nvhr.org/
Phone: 415-292-6100

Parents of Kids with Infectious Diseases (PKIDS)
http://www.pkids.org/diseases/hepatitis.html
Phone: 877-55-PKIDS toll free or 877-557-5437

U.S. Dept of Veterans Affairs
For Hepatitis C Information and Help http://www.hepatitis.va.gov/

World Health Organization about Hepatitis

World Hepatitis Alliance
http://www.worldhepatitisalliance.org/en/

Medical Reference:
Oxford Journals; Clinical Infectious Diseases; Sustained Virologic Response to Antiviral Therapy for Chronic Hepatitis C Virus Infection; A Cure and So Much More by Dr. Brain Pearlman M.D. FACP and Naomi Traub.
http://cid.oxfordjournals.org/content/52/7/889.full

Clinical Significance of Hepatitis C Virus Genotypes:
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC100152/

Clinical Trials
NIH Hepatitis C Clinical Trials:
https://www.clinicaltrials.gov/ct/search?term=hepatitis+c
Research
NIH Pub Med Health/Hepatitis C

References
www.epclusa.com
www.vosevi.com
www.mavyret.com
www.harvoni.com
www.sovaldi.com
www.viekira.com
www.merck.com
www.daklinza.bmscustomerconnect.com
www.zepatier.com
www.rxabbvie.com/technivie/pdf

For Ribavirin information:

For Peg Interferon information:
**Glossary**

**Antibody:** An antibody is a protein found in the blood that is produced by the body's immune system when it detects harmful substances, called antigens. Examples of antigens include microorganisms (bacteria, fungi, parasites, and viruses) and chemicals. Antibodies can be a result of receiving a vaccine or coming into contact with a virus.

**Ascites:** Ascites is the buildup of fluid in the abdomen than can occur due to severe liver function impairment such as cirrhosis, liver cancer and liver failure.

**Cirrhosis:** Cirrhosis is extensive scarring or hardening of liver tissue that replaces soft healthy tissue. Scarring forms because of injury or long term disease. Severe scarring prevents the liver from functioning properly. Scar tissue cannot do what healthy liver tissue does - make protein, help fight infections, clean the blood, help digest food and store energy.

**Clinical trial:** A clinical trial is a medical research study conducted to find answers to health questions. Clinical trials often are conducted to evaluate new medications, combinations of medications, or new ways to use current treatments. Also clinical trials are conducted to evaluate new tests, equipment, and procedures for diagnosing and detecting health conditions and to find vaccines to prevent illnesses. Patients can also sign up to participate in a clinical trial study for treatment.

**Edema:** Edema is swelling caused by excess fluid trapped in your body's tissues. Although edema can affect any part of your body, its most commonly noticed in the hands, arms, feet, ankles and legs. Edema can be the result of medication, pregnancy or an underlying disease — often heart failure, kidney disease or cirrhosis of the liver.

**Fibrosis:** Fibrosis the initial scarring of the liver.

**Gastroenterologist:** A doctor who specializes in the study of digestive organs including the liver.

**Genotype:** In reference to Hepatitis, a genotype is the genetic makeup of a cell and describes the type of virus strain.
Hepatitis: Hepatitis means “inflammation of the liver.”

Hepatitis A: Hepatitis A is a highly contagious liver infection caused by the hepatitis A virus. The virus is one of several types of hepatitis viruses that cause inflammation and affect your liver's ability to function. You're most likely to contract hepatitis A from contaminated food or water or from close contact with someone who's infected or poor hand washing before preparing food.

Hepatitis B: Hepatitis B is caused by infection to the liver with the Hepatitis B virus (HBV). The incubation period from time of exposure to onset of symptoms is 6 weeks to 6 months. HBV is found in high concentrations in the blood and lower concentrations in other body fluids such as semen, vaginal secretions and wounds. HBV causes the liver to swell and liver function is compromised. It is most often transmitted through exposure of infected blood, sexual contact or from an infected mother to infant.

Hepatitis C: Hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States. HCV is mostly transmitted through exposure to infected blood, example through blood transfusion from unscreened donors, or exposure to infection through a needle stick or open wound/blood contact. See other risk factors under our table of contents: What is Hepatitis C and how its transmitted. Chronic Infection develops in 75% of infected patients. Majority of patients are not aware of the infection due to signs of illness are not readily present until years later when liver damage becomes more evident. HCV causes the liver to swell and impairs liver function. Infection can increase causing fibrosis and cirrhosis (severe scarring), and liver cancer. Hep C is the number one cause of liver transplants in the U.S.

Hepatitis C Antibody Tests: Hep C antibody tests detect the presence of HCV antibodies in a blood sample; the following tests are used to detect HCV antibodies:

- ELISA (enzyme-linked immunosorbent assay): a blood test used to detect HCV antibodies.
- RIBA (recombinant immunoblot assay): a blood test used to confirm antibodies in the blood after an ELISA test indicates a positive result for HCV antibodies.
**Hepatitis C RNA:** Hep C RNA indicates a high level of HCV replication. It is used to help determine how the patient needs to be medically treated with chronic HCV infection.

**Hepatologist:** A hepatologist is a physician who specializes in the study of liver disease.

**Interferon:** Interferon is a protein used by the body to fight infection. It is part of the body’s immune system defense naturally made by the body. There is also Interferon which is a prescribed injection medication for patients with Hep B and Hep C.

**Jaundice:** Jaundice is the yellowing of the skin and white part of the eyes, from excess bilirubin and typically caused by obstruction of the bile duct, by liver disease, or by excessive breakdown of red blood cells.

**Liver:** The liver is the second largest organ in your body. It processes what you eat, drink into energy and nutrients your body needs to function. It also filters and processes everything you are exposed to and removes toxic substances from your blood. The liver has many functions. If the liver is damaged due to infection causing damage and scarring the liver functions will be compromised. The liver is a vital organ which the body has to have in order to live.

**Liver biopsy:** A liver biopsy is a medical procedure used to remove a small piece of liver tissue which determines the liver’s structural condition. A Fibroscan is a additional method to perform liver scans which works like the gold standard liver biopsy, in order to diagnosis the overall liver tissue condition and test for stiffening (scarring).

**Liver cancer:** Liver cancer is the growth and spread of unhealthy cells in the liver which lead to damage and liver failure.

**Liver failure:** Liver failure is the inability of the liver to process and perform liver function necessary for the body to live.

**Liver function tests:** Liver function tests help determine the liver’s health and detect for liver damage. These are blood tests which measure certain proteins and enzymes in the blood.

- **ALT:** Alanine transaminase (ALT) is an enzyme mainly found in the liver. The ALT test measures the level of ALT in the blood. Consistently high levels of ALT can be a sign of liver damage.
• **AST**: Aspartate transaminase (AST) is an enzyme found in large amounts in the liver and other parts of the body. The AST test measures the level of AST in the blood. High levels of AST can be a sign of liver damage.

**Liver Transplant**: A liver transplant is the process of replacing a damaged liver with a donated, healthy liver by a donor.

**Ribavirin**: Ribavirin is an oral medication which is prescribed with or without Interferon or other liver medication for treatment for the hepatitis C virus.

**Sustained virologic response**: Sustained virologic response (SVR) is a person’s successful response to antiviral medications which the virus is not present in the blood six months after treatment has been completed.

**Vaccine**: A vaccine is a medication which stimulates the production of antibodies to protect against a specific disease.

**Viral load**: A viral load is the amount of virus which is found in the blood such as hepatitis B or hepatitis C.
New Treatment Hep C References

1. Epclusa: Full Prescribing Information
2. Vosevi: Full Prescribing Information
3. Mavyret: Full Prescribing Information
4. Harvoni: Full Prescribing Information
5. ViekiraPak Full Prescribing Info
6. Sovaldi Full Prescribing Info
7. Daklinza: Full Prescribing Information
   http://www.daklinzahcp.bmscustomerconnect.com/
8. Zepatier: Full Prescribing Information
9. Ribavirin Full Prescribing Info:
   http://www.drugs.com/pro/ribavirin.html/Revised08/2014
My Hep C Information and Notes

___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
___________________________________________________________________
www.lifebeyondhepc.com
The material in this guidebook is for information only and not intended to take place of medical advice from your physician. Talk to your physician about medical advice tailored for your physical and mental condition. Do not stop or alert treatment medication unless your physician has advised.

Copyright © 2015 by Connie Welch LLC
All Rights Reserved
Images from of IStock and Big Stock

www.lifebeyondhepc.com
3 Phases of Hep C Treatment Guidebook