HEPATITIS C

WHAT YOU NEED TO KNOW

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In the United States, injection drug use is the most common method of transmitting the hepatitis C virus (HCV).[1] The most recent CDC surveys indicate that approximately one third of injection drug users (IDUs) aged 18 to 30 years are infected with HCV, and the rate of infection in older IDUs and former IDUs who injected in the 1970s and 1980s falls between 70% and 90%.[2] These startling numbers mean that it is especially important for people who inject drugs to be educated about how to protect themselves and others from becoming infected with HCV, and for those who are infected to know how to access the most effective and cutting edge treatment available.

What is Hep C? What Can It Do to My Body?

Hepatitis C is a contagious disease that causes inflammation of the liver which can lead to reduced liver function and liver failure. HCV is usually spread when the blood of an infected person enters the body of someone who is not infected, leading to an acute infection. Acute hepatitis C is a short-term viral infection that appears within 6 months of exposure to HCV. Some people with acute hepatitis C experience mild to severe fatigue, nausea, and joint pain; but many people do not experience any noticeable symptoms.

Between 15% and 25% of people with acute hepatitis C clear the infection on their own, but the remaining 75% to 85% of people proceed to develop chronic hepatitis C.[3] Chronic hepatitis C is a long-term illness that has serious medical consequences if left untreated, including severe liver problems such as fibrosis (mild to moderate liver scarring), cirrhosis (severe liver scarring), and liver cancer. Below are some of the symptoms of acute, chronic, and late-stage hepatitis C.

Acute Hepatitis C	Chronic Hepatits C	Late-Stage Hepatitis C with Cirrhosis
Flu-like illness	(Any of the Acute Symptoms Plus)	(Any of the Acute or Chronic Symptoms Plus)
Abdominal bloating	"Brain fog"	Frequent urination
Nausea	Mood swings	Dark Urine
Fatigue	Muscle Cramping	Cognitive dysfunction
Abdominal pain	Depression	Lack of concentration
Vomiting		Mental confusion
Loss of appetite		Itching
Fever		Vision problems
Night sweats		Ankle Swelling
Diarrhea		Enlarged spleen
Jaundice		Cryoglobulinemia (impaired circulation in the small blood vessels)
Indigestion		
Muscle of joint pain		
Headaches		

Figure 1: Symptoms of acute, chronic, and late-stage hepatitis C.[4]

At room temperature, the hepatitis C virus can survive on a surface for up to 3 weeks.[5] Since the virus can survive for such a long time outside of a host, it is especially easy to spread through risky behaviors. You cannot give yourself hep C, but sharing any injection equipment carries the risk of spreading HCV. This not only includes sharing syringes, but also used cookers, water, and cottons, even when they were only used once or appear clean. Since dried blood that may not be visible can still carry HCV, the only way to stay safe is to use your own fresh equipment every time.

Getting Tested

Many people with HCV go long periods of time without displaying any symptoms. For this reason, the only way to know for sure if you are infected is to visit your physician or a local health center to get tested. There are several different HCV tests, each of which tells you something different about your HCV status. **HCV Antibody Tests** are simple blood tests that are used to determine whether a person has ever been exposed to HCV. These are useful tests for ruling out the possibility of HCV, but are not able to show whether a person is still infected.

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If an antibody test comes back positive, the next step is to get a qualitative or quantitative test. A qualitative **HCV RNA Test** detects HCV RNA that indicates whether or not a person is infected, and is one of the most sensitive tests available. A quantitative **Viral Load Test** measures the amount of HCV circulating in the blood. This number fluctuates, and sometimes testing must be done more than once to confirm that you are not infected. Once a test has confirmed that you have an active HCV infection, your doctor may want to perform a **Genotype Test** to decide how to proceed with treatment. Genotype tests tell you which strain of HCV you have, which in turn affects the treatment course that will be most effective for you.

In some cases, HCV could have already caused damage to your liver by the time you receive a positive diagnosis, which is why some people choose to undergo tests that show how well their liver is currently functioning. **ALT and AST** are enzymes that are released into the bloodstream when the liver is damaged, and people with HCV infections often have moderately elevated levels of these enzymes. High levels of other measures such as **ALP and GGT** can be more serious, indicating possible cirrhosis or bile duct blockage. Ultrasounds can usually give your doctor a good idea of your liver function easily and painlessly. Talk to your doctor about whether a liver function test or liver biopsy is something that you should consider.

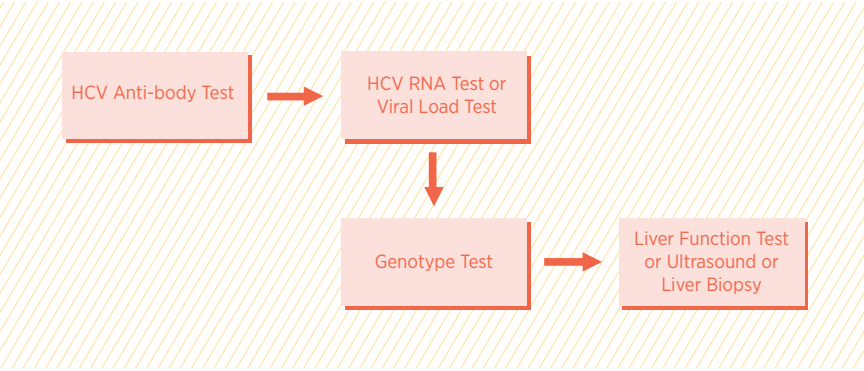

Figure 2. The trajectory of hepatitis C testing in likely chronological order

Getting Treatment

The outlook for people with HCV is much brighter than it was even fifteen years ago. Whereas the previous regimens of injectable Interferon and oral Ribavirin had a fairly limited success rate for most strains of HCV, FDA-approved medications in 2015 have shown success rates of over 90% in clinical trials.[6] There are a number of factors that determine the treatment course that you and your doctor select. One major factor is the genotype of HCV that you have. HCV has between 6 and 11 unique genotypes, but only four are prevalent in the United States (GT1, GT2, GT3, GT4). Approximately 70%-75% of Americans with HCV have a subtype of genotype 1, although genotype 3 is particularly prevalent among injection drug users.[7] Among people infected with HCV in Massachusetts, approximately 58% have GT1a, 13% have GT1b, 12% have GT2, 13% have GT3, and 3.4% have GT4.[8]

Gilead's Harvoni was approved by the FDA in 2014, and is the first and only treatment to provide a complete regimen for HCV in a single tablet.[9] Harvoni is very similar to **Sovaldi**, but also includes an additional inhibitor called ledipasvir that allows it to work effectively without supplemental pills or injections. In a clinical study of 865 patients with genotype 1 HCV and no prior HCV treatment, 96%-99% of those who

received Harvoni once daily for 12 weeks were effectively cured of HCV.[10] Harvoni trials have primarily included participants with genotype 1a or 1b, so patients with other genotypes of HCV are currently unlikely to be prescribed Harvoni, although it is not unheard of.

Another newly approved medication that has shown impressive efficacy is **Viekira Pak**. Viekira Pak is also an all oral treatment that consists of four drugs: ombitasvir, paritaprevir and ritonavir tablets co-packaged with dasabuvir tablets. Your physician may or may not also prescribe Ribavirin along with Viekira Pak. Viekira Pak works by attacking the virus's copy-making process, which prevents it from multiplying and eventually clears the virus to an undetectable level. Six major studies that have involved a total of 2308 patients with a genotype 1 infection have shown cure rates of approximately 91% to 100% using Viekira Pak, with or without ribavirin.[11]

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For people with HCV genotype 3, new developments bode well for an all-oral 12-week regimen similar to Harvoni or Viekira Pak. In July 2015, the FDA approved Dackatasvir (Daklinza) to be used in conjunction with Sovaldi (sofosbuvir) to treat genotype 3 patients specifically.[12] This is exciting news for sufferers of genotype 3, who have had more limited options than genotype 1 patients in the last several years. In July 2015, the FDA also approved Technivie to be used in conjunction with ribavirin to treat patients with genotype 4. This is the first drug that can treat genotype 4 HCV infections that does not require the use of interferon.

Getting Coverage

While these new treatment plans are remarkably effective and carry limited side effects, navigating the healthcare system in order to get the care that you need can be a difficult task. If you currently do not have insurance and you are a resident of Massachusetts, you should see if you qualify for coverage under MassHealth. You can fill out an application on your own or you can get assistance from a social worker or case worker. Additionally, most major medical facilities have someone on site to assist people in enrolling in MassHealth. If you plan on going to a hospital or health center for help enrolling, call ahead to see if someone is available to assist you.

If you are already enrolled in MassHealth, then there are a few things that you should know before you begin the process of getting coverage for hepatitis C treatment. If you have MassHealth with a Primary Care Clinician (PCC), then you will generally be subjected to fewer restrictions while seeking coverage. If you have MassHealth with a Managed Care Organization (MCO) such as Neighborhood Health or Network Health, there will generally be a greater number of requirements before you are approved for coverage. Sometimes these requirements include a period of sobriety, but this is not always the case. **You should *not* let this requirement deter you from inquiring about treatment since insurance coverage and requirements can be difficult to predict.**

Despite these challenges, there is also good news. As of August 28th, 2015, Harvoni is on the MassHealth preferred drug list.[13] This means that MassHealth is currently covering all or nearly all of the cost of treatment for those that qualify for Harvoni. Because Harvoni is currently very expensive (over $1000 a pill)[14], MassHealth looks at certain factors when deciding whether or not to provide coverage. Among these factors are the stage of the disease, response to past treatment, severity of symptoms, and age of the patient. If you are not immediately approved for treatment, remember that this does not mean that you won't be approved in the future. Although it can be frustrating, it is important to try again as your health factors and insurance details change. Advocates across the state and country are working to help increase access to treatment for patients with hepatitis C.

Tips for Safer Use

Even if you are already infected with HCV, there are still steps that you can take to limit damage to your liver and reduce your risk for **reinfection** or **superinfection**. If you have already had HCV in the past and you have since cleared it either spontaneously or through treatment, you can still become infected again. **Having HCV once does not make you immune.** Every incident of sharing equipment puts you at risk for a new transmission of the virus, and avoiding any possibility of blood-to-blood contact is the best way of protecting yourself from reinfection.

Additionally, if you currently have one genotype of HCV you can still become infected with a different genotype. This is called superinfection, and it is a serious risk for injection drug users who continue to engage in risky behaviors once they are infected. Viral superinfections are a common cause of treatment resistance, as it is far more difficult to treat multiple genotypes as opposed to just one.

Different drugs have different complications with HCV, and knowing these complications can help you to use more safely and to educate your peers. The difficulties of processing the impurities in street drugs can place a tremendous strain on your liver, so the keys are to buy the best quality drugs you can find and afford, use the smallest quantities that you feel you can, and take breaks to allow your liver time to recover. Street **heroin** usually contains toxic contaminants that clog blood vessels leading to the liver and other vital organs. Since your liver's function may already be impaired from the effects of hep C, additional blockage or damage to the liver can be especially detrimental. This is why buying heroin cut with fewer additives is extra important when you have hep C. Of course, this also means you must monitor your dosage and begin slowly so that you don't accidentally overdose, especially if it is a higher purity than you are used to.

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Users of **benzodyazapines ("benzos" such as Xanex, Klonopin, Ativan, and Valium)** with HCV face their own set of risks and challenges. Benzos are unlikely to cause liver damage by themselves, but if liver function is already impaired then it can be difficult for the liver to metabolize the drugs, which can lead to adverse effects or even an overdose. The preferred benzodiazepines for individuals with liver disease are lorazepam (Ativan), oxazepam (Serax), and temazepam (Restoril).[15] That is not to say that these drugs do not pose a threat to those with hep C and impaired liver function, but they are principally metabolized by phase II processes, which are less affected by liver disease than phase I processes. If you need a way to remember which benzodiazepines are safer to use for your liver, **LOT** can be a good way of reminding yourself:

Lorazepam

Oxazepam

Temazepam

Regardless of what other substances you are using, it is incredibly important to **limit your intake of alcohol**. The liver must work very hard to metabolize alcohol, and drinking alcoholic beverages while infected with hep C *will* speed up the progression of the disease. People with hep C who continue to drink habitually are likely to develop fibrosis, and eventually cirrhosis of the liver. People with hep C and cirrhosis who continue to drink can develop liver cancer very quickly.

Getting Support

Whether you have just been diagnosed with hep C or have had chronic hep C for years, it is crucial to remember that you are not alone. Talk to your friends and loved ones and you will not only find others who find themselves in your same situation, you will also find others who were once in your situation and have since received treatment and cleared the disease. These people are tremendous resources, as they can share tips and lived experiences to help you on the path to treatment. Unfortunately, getting treatment can require lots of determination and some resourcefulness, and talking to those who have already been through the process will only make you more prepared to face the obstacles ahead.

Know that you have options, you have control, and you have the knowledge you need to make the decisions that are right for you. Always feel free to stop in and talk with a health educator at the Cambridge Needle Exchange at 359 Green Street in Cambridge. They can offer you support and help to link you to further services. Drop-in hours are 9-4 Monday through Friday, and the phone number is 617.599.0246.

Endnotes

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WHO WE ARE

The Cambridge Needle Exchange, a program within the AIDS Action Committee's Prevention and Education Department, is committed to the practice of harm reduction and founded on the idea that drug users deserve to be treated with dignity and respect. We provide a safe and confidential space for injection drug users to access sterile injection equipment, sharps disposal, risk reduction strategies, overdose prevention education and nasal Narcan, educational materials on HIV, HCV, & STIs, and rapid HIV and HCV testing. We also offer STI testing through Fenway Health. Overdose prevention education, Narcan, and testing services are open to the general public. Our services are provided FREE of charge and participation is anonymous or confidential.

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