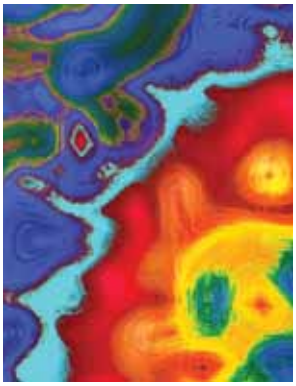
Hepatitis C for Addiction Professionals

A disease whose reputation is often worse than its reality, hepatitis C is usually benign. Most infected individuals do not experience symptoms requiring treatment, and roughly half of those treated will become free of detectable virus for an extended, perhaps permanent, period. Moreover, a growing body of data suggests that drug users can attain successful treatment outcomes, even when not completely abstinent. Addiction professionals belong in the forefront of prevention and management of this disease. We can assist our patients by helping them stabilize their lifestyles, correcting misperceptions about the disease, teaching prevention and health maintenance, promoting access to diagnosis and treatment, monitoring for treatment side effects, and providing encouragement to remain in treatment.

Diana Sylvestre, M.D.

University of California, San Francisco
San Francisco, California

Organization to Achieve Solutions in Substance-Abuse (O.A.S.I.S.)
Oakland, California



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"Therapy [for hepatitis C] has been successful even when the patients have not abstained from continued [injection] drug or alcohol use or are on daily methadone. Thus, it is recommended that active injection drug use in and of itself not be used to exclude such patients from antiviral therapy." So concludes the section entitled "Active Injection Drug Users" in the 2002 National Institutes of Health Consensus Development Conference statement on the management of hepatitis C (National Institutes of Health, 2002).

Despite this authoritative guideline, most addiction specialists encounter difficulties in referring patients for hepatitis C viral testing, liver biopsy, or treatment. Indeed, addiction specialists struggle to provide access to basic services such as hepatitis C virus (HCV) screening and hepatitis A and B vaccinations. The discrepancy between expert endorsements for treatment and the reality of treatment unavailability frustrates substance abuse patients and their caregivers all the more, because antiviral therapy for HCV is quite effective. Data suggest that more than 50 percent of treated individuals will produce virus-free blood samples for years (Fried et al., 2002; Manns et al., 2001).

Although lack of access to treatment is a glaring problem, despair appears unwarranted. The natural history of HCV infection is typically more benign than many people realize. With aggressive risk reduction, the majority of patients will remain healthy even without treatment (Thomas et al., 2000). Moreover, an evolving body of data suggests that those addicted individuals who do need treatment can have successful outcomes despite multiple so-called barriers, especially if treatment takes place in a setting that can address their special needs (Backmund et al., 2001; Edlin, 2002; Sylvestre et al., 2005).

Addiction specialists can contribute critically to alleviating the impact of the hepatitis C epidemic. The education and lifestyle stabilization that treatment provides are vital aids to interrupting the chain of viral transmission and helping infected individuals maintain or recover their health. This article aims to familiarize readers with the fundamentals of hepatitis C so that they can maximize their effectiveness on behalf of their patients.

THE COURSE OF HEPATITIS C

Hepatitis C is the most common blood-borne illness in the United States (Alter, 1999; Sulkowski, 2001). More than 4 million Americans have been exposed to the virus, and 2.7 million are thought to be chronically infected, making this disease four to five times more widespread than HIV infection. Hepatitis C is the most common reason for liver transplantation in the Nation and causes 10,000 to 12,000 deaths annually (Centers for Disease Control and Prevention (CDC), 1998).

Because HCV transmission occurs primarily through exposure to infected blood, injection drug use is now responsible for the majority of new and existing cases of hepatitis C (Alter and Moyer, 1998). Some 70 to 96 percent of long-term injectors have been exposed, about half of them during their first year of injecting (Garfein et al., 2000). Blood-to-blood contact transmits HCV from person to person very efficiently; thus, people can acquire it through sharing not only needles and syringes, but also other injection equipment, including cottons, cookers, and rinse water (Hagan et al., 2001). Risk may also attend sharing or reuse of:

- Cocaine-snorting paraphernalia such as straws or tubing, because the drug produces intranasal bleeding (Conry-Cantilena et al., 1996); and
- Tattoo needles, razors, and toothbrushes used by infected individuals.

Sexual transmission occurs in fewer than 5 percent of stable monogamous relationships (CDC, 1998). However, sex with multiple partners or sex when either partner has a sexually transmitted disease raises the transmission risk (CDC, 1998). Vertical transmission is uncommon, affecting about 5 percent of children born to infected women.

Fortunately, hepatitis C does not usually lead to significant clinical problems during the first two decades of infection. Although estimates vary widely according to the population studied, overall only about 10 to 15 percent of chronically infected persons develop cirrhosis, with the associated risks for end-stage liver disease and hepatocellular carcinoma, after 20 years (National Institutes of Health, 2002). Disease progression occurs more commonly in males, individuals who acquired their infections at older ages, and those with concurrent hepatitis B or conditions associated with immunosuppression, such as HIV infection (Thomas et al., 2000). In addition, alcohol ingestion of 30 g/day in men or 20 g/day in women accelerates liver damage (Poynard et al., 2001; Schiff, 1997). Interestingly, some evidence suggests that hepatitis C may follow a more benign course when contracted via injection drug use, despite the potential risks of ongoing injecting behaviors and alcohol consumption (Wilson et al., 2006).

Hepatitis C does not usually lead to significant clinical problems during the first two decades of infection.

TABLE 1. Tests to Diagnose and Assess Hepatitis C

TEST	WHAT IT IS	WHAT IT TELLS YOU	WHAT IT DOESN'T TELL YOU
HCV antibody test	Test of prior exposure to HCV	If you were exposed to HCV sometime in the past	Whether you are currently infected with HCV
HCV viral assay (PCR, TMA)	Test that detects HCV in the blood	If you are currently infected with HCV	How much your liver is damaged Whether you need treatment
Liver biopsy	Examination under a microscope of a small piece of liver removed by a needle	The amount of liver damage and whether there are other causes of liver inflammation	The likelihood of viral clearance on treatment Whether the treatment was successful
HCV genotype	Test that determines the "strain" of HCV that you have	How long you need treatment and your chances of successful treatment	How much your liver is damaged Whether you need treatment

Abbreviations: HCV, hepatitis C virus; PCR, polymerase chain reaction; TMA, transcription-mediated amplification.

DIAGNOSTIC TESTS AND THE DECISION TO TREAT

For the majority of patients with hepatitis C, the decision about the need for treatment is based on the presence of chronic infection and an assessment of the amount of liver damage that has occurred. The hepatitis C evaluation pathway usually involves three tests: an antibody-based blood test to document prior exposure to the virus, a viral assay to confirm active infection, and a liver biopsy to establish the extent of liver damage (Table 1). In patients who are actively infected, as shown by the presence of detectable virus in the blood, a liver biopsy showing significant liver damage provides the best indication that treatment is needed. A fourth test, one that determines the HCV genotype, informs the choice of antiviral treatment intensity and duration.

A diagnosis of active hepatitis C does not in itself indicate a need for treatment.

Screening

Patients should be screened for hepatitis C if they report any potential risk factors for infection. Screening is based on risk status—not the presence of symptoms—because most infected individuals experience no symptoms or only nonspecific ones such as fatigue or muscle and joint aches. Abnormal liver function test results are not prerequisites for HCV testing, because close to half of infected patients have normal transaminase values and only about 15 percent have values that remain persistently elevated on repeated measures (Inglesby et al., 1999). Hepatitis C blood tests are not difficult to understand, but misinterpretations are fairly common and can incite undue concern. A basic familiarity with the implications of the different tests is key.

The screen is an antibody-mediated immunoassay. Although this test is highly sensitive and specific, a positive finding does not establish that the individual has HCV infection: It simply shows that he or she was exposed to the virus at some time in the past and the body responded by forming antibodies. About 75 percent of antibody-positive patients are chronically infected, but the rest—for reasons that remain unknown—have spontaneously cleared their infections. Individuals in this lucky quarter have no detectable virus in their blood and therefore do not have hepatitis C (National Institutes of Health, 2002). Without additional exposures, they are not at risk for suffering the consequences of the disease or transmitting it to others.

HCV Viral Assay

Differentiating the antibody-positive patients who have hepatitis C—that is, active HCV infection—from those who have cleared the virus requires a molecular test to detect the virus itself. These tests, such as the polymerase chain reaction, are available as either a qualitative (positive/negative) or a quantitative assay.

It is important to recognize that, unlike the viral load of HIV infection, the hepatitis C viral load (i.e., the quantity of virus present) does not correlate with disease activity. Hepatitis C viral loads in the millions of particles per milliliter of blood are common and often elicit concern. However, high viral loads frequently occur in perfectly healthy individuals, and low viral loads may be present in persons with extensive damage to the liver.

Liver Biopsy

A diagnosis of active hepatitis C does not in itself indicate a need for treatment. Typically, patients require treatment only if the disease is causing significant liver damage or if their symptoms are severe. Because hepatitis C is often asymptomatic, biopsy is the most reliable and definitive means of confirming the presence of liver injury and quantifying its extent. Although a biopsy should not be considered an absolute prerequisite for the decision to treat, a finding of extensive liver damage generally warrants treatment; patients who find out they have only slight damage may safely delay treatment.

Apprehension over undergoing a liver biopsy is a major hurdle for many of our patients (perhaps eclipsed only by the financial barrier posed by lack of insurance). In fact, though the test is reviled, it is a safe and simple outpatient procedure, with only a 1/100,000 incidence of serious consequences. Moreover, most patients report only mild discomfort, and the majority of patients who have biopsies get the good news that they do not need treatment, at least for the present time. For the remainder, the information that the liver has already incurred enough damage to require treatment can strengthen resolve to initiate and adhere to the challenging medication regimen. A variety of noninvasive tools for quantifying liver damage are currently undergoing testing, although none has yet been approved by the Food and Drug Administration.

HCV Genotype

There are six known HCV genotypes, and most patients harbor only one of them. Some of the genotypes are associated with greater responsiveness, others with greater resistance, to HCV treatment. Accordingly, a blood test to determine the genotype of the virus causing a patient's

THREE PATIENTS

Three case histories from the O.A.S.I.S. clinic illustrate some of the many clinical challenges faced by addicted patients with hepatitis C. Although none of the patients were "ideal" treatment candidates, all three successfully completed hepatitis C treatment, albeit with varying virologic outcomes.

Larry's Story

Larry, a 54-year-old Latino and Vietnam veteran with a history of impulsive violence, had abused heroin for more than 30 years and had been incarcerated for 20 years. He was methadone-maintained and abstinent from heroin when diagnosed with hepatitis C in 1998. Genotype testing revealed that he was infected with genotype 1, and liver biopsy discovered stage 2 fibrosis. A concurrent psychiatric workup resulted in a diagnosis of post-traumatic stress disorder. Treatment was delayed for nearly 3 years while psychiatric medications were adjusted. Meanwhile, Larry attended weekly hepatitis education/support meetings. He developed severe anemia with hepatitis C treatment, but his psychiatric status remained stable. Larry had no detectable HCV at the end of a 48-week treatment regimen, but HCV recurred 3 months later. A repeat biopsy showed stage 3 fibrosis. We are currently considering retreatment options.

Tim's Story

Tim, a 57-year-old heroin addict and alcoholic, has been maintained on methadone for many years. "Non-A, non-B" hepatitis was diagnosed in the 1980s. He attended a hepatitis C meeting at his methadone clinic and became interested in treatment. He was found to have genotype 2 HCV and cirrhosis on liver biopsy, which motivated him to stop drinking alcohol. After attending 8 months of education/support meetings, he underwent a successful 24-week course of hepatitis C treatment complicated by depression, which responded to treatment with a selective serotonin reuptake inhibitor. Tim experienced a sustained virologic response and is now a peer hepatitis C educator in his community.

Gerard's Story

Gerard, a 55-year-old African-American, abused heroin for more than 40 years and was diagnosed with hepatitis C at a blood plasma clinic in 1992. He began court-mandated drug treatment in 2003, was initially stabilized on methadone, and later transitioned to buprenorphine maintenance. Gerard was found to have genotype 1 HCV, but was unable to obtain a liver biopsy owing to a lack of insurance. He requested treatment because of his lengthy history of HCV exposure. A 48-week HCV treatment was uneventful and ineffective; there was no virologic response. A post-treatment liver biopsy obtained as part of a research study showed no fibrosis. Further hepatitis C treatment is not indicated in the absence of liver damage.

HCV infection is the basis for selecting the duration and dosage of HCV medication regimens.

HEPATITIS C TREATMENT BASICS

Is there a cure for hepatitis C? Based on what we now know, the answer is, "probably."

Approximately 55 percent of patients who complete their prescribed course of antiviral medications have no detectable virus in their blood 6 months later (Fried et al., 2002; Manns et al., 2001). Long-term studies of patients after they achieved this benchmark, called the sustained virologic response (SVR), showed that the vast majority remained virus-free after years of additional followup (Lau et al., 1998; Swain et al., 2007). Therefore, hepatologists generally concur that SVR is probably synonymous with cure, much as cancer relapse becomes increasingly less likely as tumor-free years accumulate. The belief that HCV has been eradicated when it does not reappear in blood tests over years is strengthened by the fact that it is an RNA-containing virus. As such, it lacks the ability of HIV and some other viruses to hide inside human cells by integrating itself into human nuclear DNA. Although some researchers have reported that viral genetic material may persist in the white blood cells or livers of sustained responders, the clinical data look very promising—so yes, antiviral therapy probably can cure hepatitis C.

The mainstays of hepatitis C treatment are interferon and ribavirin. Interferon is a natural cytokine produced by the body in response to viral infection. When taken in pharmacologic doses, interferon enhances the body's immune response to hepatitis C and may lead to viral eradication. Interferon is now available as a long-acting conjugate with polyethylene glycol, called pegylated interferon, which allows for weekly dosing via subcutaneous injection. Ribavirin, a nucleoside analog, does not work as a monotherapy. Instead, it works in synergy with interferon and approximately doubles the SVR rate. Patients typically take two or three 200-mg ribavirin pills twice daily.

TABLE 2. Managing Common Side Effects of Anti-HCV Therapy

SIDE EFFECT	STRATEGIES
Flu-like symptoms	Increased water intake, acetaminophen, nonsteroidal anti-inflammatory medications
Nausea	Adjustment to ribavirin dosing schedule, H2 blockers, promethazine
Fatigue	Light exercise, more water, improved sleep hygiene
Insomnia	Improved sleep hygiene, diphenhydramine, trazodone, amitriptyline
Skin problems	Emollients, increased water intake
Depression	Antidepressant medication, such as a selective serotonin reuptake inhibitor
Mania	Mood-stabilizing agents, such as olanzapine, quetiapine, lithium
"Brain fog"	Increased water intake, improved sleep hygiene
Anemia	Reduced ribavirin dosage, erythropoietin
Neutropenia	Reduced interferon dosage, granulocyte colony-stimulating factor
Thrombocytopenia	Reduced interferon dosage, interleukin-11
Hypothyroidism	L-thyroxine

As mentioned earlier, the genotype is the primary determinant of treatment duration and medication dosing:

- HCV genotype 1, found in about 75 percent of U.S. patients, is relatively resistant and requires 48 weeks of treatment with interferon and 1,000 to 1,200 mg of ribavirin daily. SVR rates obtained with this genotype are around 40 to 45 percent.
- Most of the remaining patients have genotype 2 or 3, both of which are much more responsive to therapy. They generally require only 24 weeks of treatment with interferon and 800 mg of ribavirin per day. New data suggest that some patients may achieve satisfactory outcomes with only a 12- to 14-week course of medication (Dalgard et al., 2004; von Wagner et al., 2005).
- Patients who have one of the less common genotypes—4, 5, or 6—receive regimens like that for genotype 1 and exhibit similar SVR rates.

Unfortunately, many patients will not achieve complete virologic clearance with the current treatment regimens. Even so, a sizeable fraction of these patients experience stabilization or even reversal of their liver damage while on treatment (Poynard et al., 2001).

There are a number of options for patients who remain actively infected following treatment, such as extending the duration of therapy, increasing the medication dosage, or using different interferons. Patients may also benefit from a low-dose maintenance regimen of interferon, which preliminary studies indicate may inhibit the progress of liver damage. Lastly, because HCV-mediated liver damage often proceeds slowly, many patients may reasonably wait for the new hepatitis C treatments that are expected to improve outcomes in the coming years. These patients can be monitored every 6 to 12 months, and their livers biopsied every 4 to 5 years.

Medication Side Effects

Unfortunately, combination therapy with interferon and ribavirin is very costly and has an onerous side-effect profile (Table 2). First, it shrinks the wallet. Although free interferon and ribavirin are readily accessible through programs for indigent patients, the cost of $15,000 to $25,000 per treatment course dictates careful consideration of each patient's treatment need and readiness.

Interferon causes flu-like symptoms. Although they can be distressing, they seldom threaten patients' commitment to treatment, because they peak in the early weeks when patients are the most motivated. The medication's more insidious neuropsychiatric symptoms, including fatigue and insomnia, are much more likely to wear the patient down and lead to early treatment discontinuation (Gish, 2004; Kim and Saab, 2005).

In addition, interferon lowers the platelet and white blood counts, a concern particularly when the patient is an active injector because of the risks of bleeding and infection. Ribavirin can produce potentially severe hemolytic anemia. To keep hemoglobin levels in a tolerable range while maintaining a therapeutic ribavirin dosage, many patients take weekly—and expensive—injections of the red blood cell promoter erythropoietin. In susceptible patients, hepatitis C treatment can promote the development of autoimmune thyroid disease and the exacerbation of other autoimmune conditions such as rheumatoid arthritis, lupus, and psoriasis. Patients

should be monitored for signs and symptoms of these diseases and conditions (e.g., thyroid blood tests every 12 weeks).

Approximately one-third of patients experience interferon-mediated psychiatric reactions, including severe depression, mania, and psychosis (Fontana, 2000; Hauser, 2004). Treatment-related suicides have been reported. In light of these risks, many clinicians understandably hesitate to treat patients for hepatitis C if they have a history of psychiatric illness. This practice imposes a major barrier to treatment access for drug abusers, many of whom have co-occurring mental illnesses. However, a number of small studies have demonstrated that, with monitoring and appropriate medications, patients with pre-existing mental illness have side-effect profiles and treatment outcomes similar to those who do not (Pariante et al., 1999; Van Thiel et al., 1995).

Prospects for New Medications

What about new treatments? An impressive pipeline of less toxic HCV-specific medications, including protease and polymerase inhibitors, is in the works. Patients who can wait for them to become available should do so. However, patients who need treatment now should not delay in anticipation that miracle drugs will arrive in the very near future. The first new medications are not expected to be approved until 2009 or 2010 at the earliest. Moreover, these drugs will probably be used in combination with interferon, at least initially.

MANAGING HEPATITIS C IN DRUG ABUSERS

The data from large-scale clinical trials of hepatitis C treatment, while robust, tell us little about the sorts of outcomes HCV-infected individuals with addictive disorders can anticipate. These trials routinely excluded active drug users; most made psychiatric illness a cause for ineligibility; and many would not even admit patients maintained on methadone. However, a growing body of data suggests that drug abusers, even those with multiple potential barriers, can participate successfully in hepatitis C therapy.

In the first reported study of its kind, Backmund and colleagues (2001) recruited 50 heroin injectors for hepatitis C treatment at the time of their enrollment in a methadone detoxification program in Germany. Using standard interferon monotherapy or interferon-ribavirin combination therapy, the group attained an SVR of 36 percent, with no significant hepatitis C outcome differences among those who relapsed and returned to treatment, those who relapsed and did not return to treatment, and those who did not relapse.

In another study of hepatitis C treatment in methadone-maintained patients, Mauss and colleagues (2004) prospectively treated HCV infection in 100 individuals, half in a methadone program and half either having no history of addiction or addicted but not using methadone for at least 5 years. Although those in the methadone group were more likely to stop taking their medications and discontinue treatment during the first 8 weeks, both groups ended up with similar SVR rates, and no participants in either group developed serious psychiatric events.

Similarly, this author and colleagues (2005) at the University of California, San Francisco, showed that in 76 methadone-maintained patients, SVR rates did not differ significantly between the following groups:

- Those with less than 6 months of abstinence from opioids other than methadone (22 percent) and those with more than 6 months of abstinence (30 percent); and
- Those who remained abstinent (35 percent) and those who abused drugs intermittently (21 percent).

Our analysis showed that among these methadone patients, individuals with pre-existing psychiatric conditions were less likely to attain SVR (22 percent) than those without such a disorder (35 percent). Both groups adhered equally to treatment; their SVR differential may have been related to interactions with psychiatric medications or to poorly understood endocrine factors (Sylvestre et al., 2005).

Finally, Robaeys and colleagues (2006) conducted a retrospective multicenter cohort analysis of 406 treatment-naïve hepatitis C patients. The researchers found no significant differences between participants who had histories of injection drug use and those who did not in terms of treatment compliance (91 percent vs. 92.3 percent) or SVR (46.6 percent vs. 34.6 percent) when the latter comparison was adjusted for genotype. About one-quarter of the drug abusers in this study were maintained on methadone, and a similar proportion injected drugs while on antiviral therapy.

Additional encouraging data indicate that, although injection drug use can lead to HCV reinfection after treatment, it is not likely to do so. Dalgard and colleagues (2002) followed 27 injectors who had been treated and attained SVR. Even though 9 returned to injecting drugs, only 1 became reinfected during 5 years (45 person-years) of followup. Similarly, Backmund, Meyer, and

Injection drug use can lead to HCV reinfection but is not likely to do so.

Edlin (2004) noted that only 2 of 12 injectors treated for hepatitis C reverted to HCV-positive status in 6 months of post-treatment followup—a rate that is comparable to typical rates of post-treatment virologic relapse in noninjecting patients. Although some of these cases may have represented reinfection, the genotype in each case was the same one that the patient had contracted originally, suggesting relapse due to incomplete viral clearance during treatment.

Why, given these data, does the decision to provide hepatitis C treatment to addicted patients remain controversial? The truth is, successful treatment is possible, but it is not easy. Positive outcomes require expertise in infectious diseases, addiction medicine, and psychiatry—preferably in an integrated setting. Few physicians have such comprehensive training, and few sites have structured their programs to integrate all these services effectively. In addition, addicted individuals are more likely than others to be uninsured or underinsured and to have additional barriers to access, such as unstable housing or lack of transportation.

HEPATITIS C RESOURCES

www.hcvu.org
Hepatitis C University, a mentoring project and educational tools for addiction professionals who wish to address hepatitis C in their practices.

www.oasisclinic.org
The home page of the O.A.S.I.S. clinic, with various educational resources for patients and professionals.

www.hcvadvocate.org
A comprehensive site with hepatitis C information for patients and professionals.

www.cdc.gov/ncidod/diseases/hepatitis/C/index.htm
The primary source for information about hepatitis C epidemiology and prevention.

ROLE OF ADDICTION PROFESSIONALS

Addiction professionals belong on the forefront of efforts to help individuals infected with HCV and to contain the epidemic. Beyond the lifestyle stabilization that is integral to drug abuse treatment, education is usually the most important intervention we can provide. The two critical areas for teaching are avoiding infection and staying healthy if infection occurs.

Addiction professionals also are well positioned to help patients negotiate the obstacles to care. We can assist at-risk and infected patients in obtaining a proper diagnostic assessment and treatment when needed. Success in these efforts sets the stage for an additional important dimension of help: support for those who fear liver biopsy and those who face the unpleasantness of medication side effects.

Educate for Prevention

The first, absolutely crucial message to give drug abusers is that all injection equipment—needles, syringes, cottons, cookers, and rinse water—can pick up and transmit the virus. No part of an injection outfit should ever be shared. Offer this information to noninjecting drug users, who risk rapid seroconversion if they begin injecting, as well as to past or current injectors. Inform drug-using and addicted patients about any programs in your state to make sterile injecting equipment available, either via syringe exchange programs or through direct purchase at local pharmacies without a prescription.

Sexual activity is a relatively inefficient way to transmit HCV. According to the CDC recommendations, persons with hepatitis C who are in long-term, stable, monogamous relationships do not need to use condoms, even when one partner is infected and the other is not. However, patients who have other sexually transmitted diseases and multiple sexual partners, factors that increase the risk of sexual transmission of HCV, should always use condoms. We advise patients in these groups to adopt the following policy: no glove, no love.

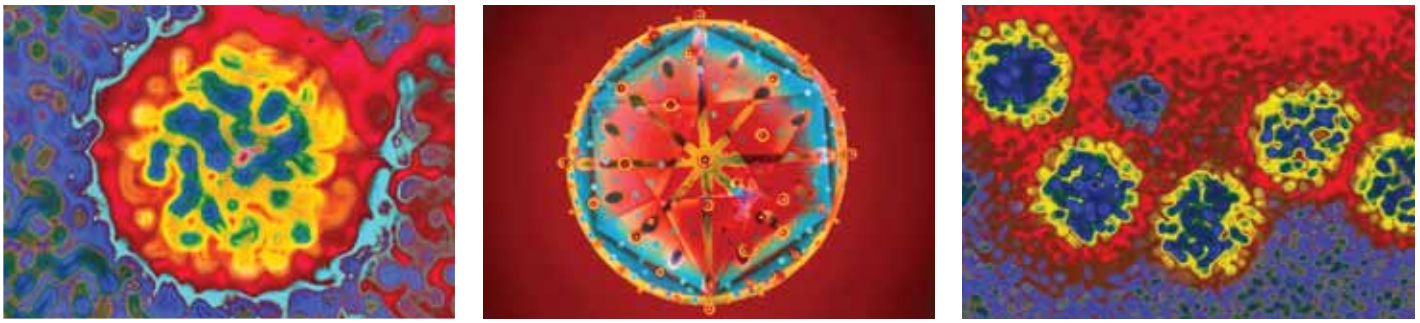
Other hepatitis C prevention measures include covering open wounds and cleaning up spilled blood with bleach. Razors, toothbrushes, and other items that may acquire small amounts of blood, including the straws and pipes used for snorting or smoking drugs, should never be shared.

Promote Self-Care

For most patients, the consequences of hepatitis C are much less dire than those of drug abuse, and this can be a very useful focus of discussion. Most patients remain healthy in spite of their infection, especially if they abstain from alcohol and get vaccinations for hepatitis A and B.

We tell our patients: You don't need to die of the disease. Not only that, you probably don't even need treatment, but you must take care of yourself. Above all, don't drink alcohol. It's like pouring gasoline on a fire. Have your blood tested for antibodies to hepatitis A and B, and get vaccinated if you haven't already been exposed.

We also urge: Find out all you can about your illness.



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Three views of the hepatitis C virus.

If your screening test is positive, obtain a viral assay to find out whether you are still infected or your body has cleared the virus. If your viral assay is positive, try to get a biopsy to find out if your liver is being damaged. If it is, work with your doctor, and prepare yourself for treatment. If you stick with your treatment, your odds of getting rid of the virus are pretty good, about 50:50. And if the coin toss doesn't go your way, remember that newer and better treatments are around the corner. The goal is to make sure you'll still be around to check them out.

Support Access and Adherence to Hepatitis C Care

Accessing screening and care on behalf of addicted patients with hepatitis C may take persistence. The HCV antibody screening test is relatively inexpensive, typically around $10, and thus affordable for almost everyone. The HCV viral assay is more problematic, but most county medical clinics and hospitals will provide it. Attempts to arrange a liver biopsy are worth the effort, and increasingly often, interventional radiologists who do not hesitate to treat drug abusers perform these procedures.

Pegylated interferon and ribavirin are easily accessible and usually available at no cost for low-income, uninsured patients who apply to an indigent patient program. Specialty physicians may be encouraged to treat an addicted person if an addiction professional agrees to assist with patient monitoring and compliance. Many infectious disease physicians have experience treating addicted patients with HIV, which makes them very capable clinical managers for addicted patients with hepatitis C.

Even though addiction care providers do not assume primary responsibility for hepatitis C treatment, they can contribute immensely to successful outcomes by providing support and helping to observe and manage side effects. We can learn to alleviate side effects such as nausea, insomnia, and flu-like symptoms—all of which are minor in themselves, but any of which can lead to treatment discontinuation if neglected. Addressing serious side effects, such as ribavirin-induced hemolytic anemia or neutropenia from interferon, may fall outside most addiction specialists' scope of practice, but we can still help with monitoring for problematic or potentially worrisome symptoms, such as worsening shortness of breath. Addiction care providers may also be better able than consulting hepatologists to spot early signs of depression or mania, which develops in about one-third of patients taking interferon. Early awareness of these problems maintains treatment outcomes by permitting prompt stabilization.

Finally, every patient confronting the challenges of hepatitis C treatment needs to hear messages of hope. This is doubly true for our more marginalized and needy patients who do not have a circle of supportive friends and family. Regular moral support from within the structure of an addiction treatment program can go a long way toward helping our patients stay the course of treatment and reap the best possible results.

CORRESPONDENCE

Diana Sylvestre, Executive Director, O.A.S.I.S., 520 27th St., Oakland, CA 94612; e-mail: diana.sylvestre@ucsf.edu. &

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