



*A Disease Process Module:*

# **A HEPATITIS C UPDATE**

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*Developing Top-Notch CNAs, One Inservice at a Time*



*An Infection Control Module:*  
**A HEPATITIS C  
UPDATE**

We hope you enjoy this inservice, prepared by registered nurses especially for nursing assistants like you!

## Instructions for the Learner

***If you are studying the inservice on your own, please do the following:***

- Read through **all** the material. You may find it useful to have a highlighting marker nearby as you read. Highlight any information that is new to you or that you feel is especially important.
- If you have questions about anything you read, please ask \_\_\_\_\_.
- Take the quiz. Think about each statement and pick the best answer.
- Check with your supervisor for the right answers. You need **8 correct** to pass!
- Print your name, write in the date, and then sign your name.
- Keep the inservice information for yourself and turn in the quiz page to \_\_\_\_\_ no later than \_\_\_\_\_. Show your Inservice Club Membership Card to \_\_\_\_\_ so that it can be initialed.
- Email In the Know at [feedback@knowingmore.com](mailto:feedback@knowingmore.com) with your comments and/or suggestions for improving this inservice.

**After finishing this inservice, you will be able to:**

*Define hepatitis C and discuss how the virus damages the liver.*



*Discuss the importance of the liver and how liver damage can affect every system in the body.*



*Name at least six possible symptoms of hepatitis C.*



*Describe at least three ways that you can help clients cope with hepatitis C.*



*Perform infection control procedures in your daily work that help stop the spread of hepatitis C.*

**THANK YOU!**



*Developing Top-Notch CNAs, One Inservice at a Time*

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## An Infection Control Module: A Hepatitis C Update

### SYMPTOMS? WHAT SYMPTOMS?

Hepatitis means "**inflammation of the liver**," and the most common cause is infection with one of 5 viruses . . . hepatitis A, B, C, D, or E.

It is estimated that about **3 percent** of the entire world population is infected with the **Hepatitis C Virus**—or "HCV" for short.

Only about 900 confirmed cases of Hepatitis C are reported in the United States each year. In a country of 300 million people, that doesn't sound so bad, does it?

**Here's the twist:** After adjusting for all the people who get it and don't know yet—and all the people who get it but keep it a secret—the CDC estimates the actual number is closer to **17,000 new cases every year!**

As many as 10,000 Americans die from complications of Hepatitis C every year.

**Most people with HCV do not have any symptoms at all.** If symptoms are present, they may be very mild and

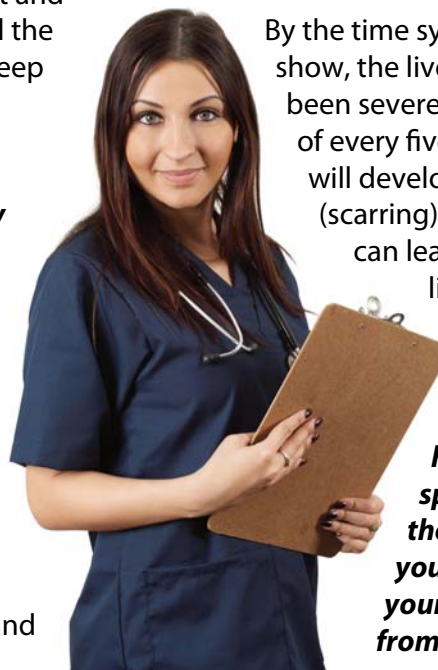
flu-like (nausea, fatigue, loss of appetite, fever, headaches, and abdominal pain).

Even without symptoms, the virus is in the blood and may be causing **liver cell damage**, and the infected person can **transmit** the disease to others.

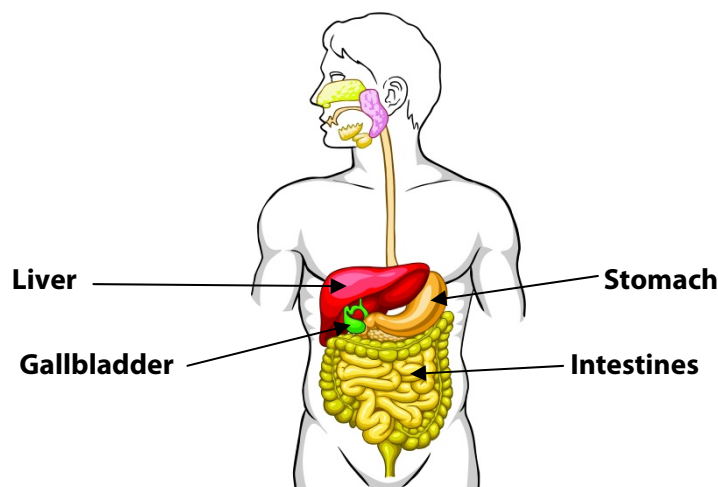
About 15-20 % of people infected with HCV are able to fight off the virus without suffering any liver damage. The rest (80-85%) develop *chronic* hepatitis C. For these people, the disease settles in and slowly attacks the liver.

By the time symptoms begin to show, the liver has most likely been severely damaged. One of every five chronic sufferers will develop cirrhosis (scarring) of the liver which can lead to the end-stage liver disease or liver cancer.

**Keep reading to learn more about how Hepatitis C is spread, how it affects the body and what you can do to help your clients who suffer from this disease.**



## WHAT'S REALLY GOING ON?



**The liver is a wedge-shaped, soft, reddish organ located on the right side of the body under the rib cage. It's about the size of a football and weighs three to four pounds.**

More than **500** vital functions have been identified with the liver. Some of the main functions include:

- Producing bile to aid in digestion by helping in the absorption of fat and vitamins A, D, E and K.
- "Cleaning" the blood by removing medications and toxins.
- Regulating blood clotting.
- Producing cholesterol to help carry fats through the body.
- Converting excess glucose into glycogen. (*Glycogen is stored and can be used later for energy.*)

**When the hepatitis virus invades the liver, it causes inflammation and keeps the liver from performing all its jobs. This can cause widespread problems throughout the entire body. Remember...**

- About 80 % of people infected HCV will develop *chronic* hepatitis C. For these people, the disease settles in and slowly attacks the liver.
- About 20% of the chronic sufferers will develop cirrhosis (scarring) of the liver which can lead to the end-stage liver disease or liver cancer.

### COMMON TERMS

**HEPATITIS:** "Inflammation of the liver."

**HCV:** An abbreviation for **H**epatitis **C** **V**irus. This virus attacks liver cells.

**ACUTE HEPATITIS:** Inflammation of the liver that begins suddenly and last for several weeks.

**CHRONIC HEPATITIS:** Inflammation of the liver that last six months or more.

**CIRRHOSIS:** A serious disease that destroys liver cells. The dying cells are replaced with scar tissue. The liver damage is *irreversible* and there is no cure.

**HEPATOLOGIST:** A doctor who specializes in diseases of the liver.

**JAUNDICE:** A yellow discoloration of the skin and the white of the eyes.

**BLOOD BORNE PATHOGEN:** A germ that is spread from person to person by contact with contaminated blood. Hepatitis B, Hepatitis C and HIV are all blood borne pathogens.

**STANDARD PRECAUTIONS:** The infection control procedures that health care workers use to protect themselves from blood borne pathogens.

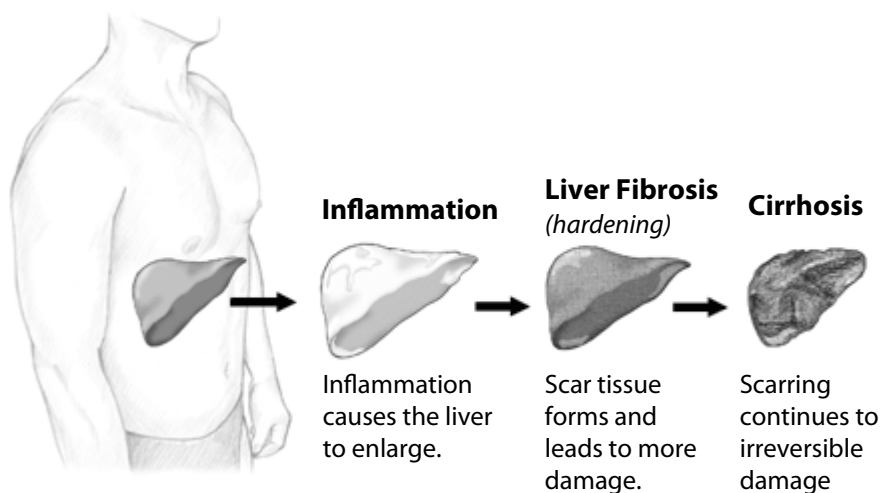
# WHAT'S NEW?

Grab your favorite highlighter! As you read through this inservice, **highlight five things** you learn that you didn't know before. Share this new information with your supervisor and co-workers!





# THE PHASES OF HEPATITIS C



## PHASE ONE: INFECTION

- During Phase One, hepatitis C “bugs” enter the blood stream and attach themselves to liver cells.
- The HCVs settle down in the liver cells and begin to multiply. These liver cells are now infected with hepatitis C.
- The new “baby” virus bugs leave home and find new liver cells to infect. This process keeps happening until more and more liver cells are affected.

## PHASE TWO: INFLAMMATION

- In Phase Two, the infected liver cells become irritated and inflamed.
- This inflammation causes the liver cells to die.

## PHASE THREE: FIBROSIS

- Over time, most cases of hepatitis C take a turn for the worse by developing a chronic complication called “fibrosis.”
- Strands of scar tissue begin to grow in between healthy and inflamed liver cells.
- Usually, fibrosis only shows up during a liver biopsy. If someone with HCV has liver fibrosis, it means that he or she has had the disease for 10 years or more.

## PHASE FOUR: CIRRHOSIS

- As the scar tissue increases, cirrhosis develops.
- Cirrhosis keeps blood from flowing in and out of the liver, and prevents the liver from doing its many jobs.



## HOPE FOR THE FUTURE

- Scientists are getting close to having a vaccine for Hepatitis C! Researchers announced positive results from animal trials. The next step is human trials.
- Scientists are now researching a new antiviral drug that might have more power against hepatitis C. If this drug is approved, people will not have to take medication as often. This will make treatment more tolerable—for both the body *and* mind of people with hepatitis C.
- Researchers are also looking at ways to combine drugs so that they work together to fight hepatitis C. (This is already being done for HIV...you may have heard of AIDS patients taking a drug “cocktail.”)
- Another hope for the future is a new type of therapy called “gene therapy”. This treatment involves putting new DNA into a person’s tissues. The new DNA would help fight the hepatitis C virus.



# HOW IS HEPATITIS C (HCV) SPREAD?

**HCV (Hepatitis C virus) is a *blood borne virus*, transmitted primarily through blood contamination.**

**YOU ARE AT RISK OF GETTING HEPATITIS C IF YOU:**

- Are a health care worker.
- Work as a fireman or EMT.
- Are an IV drug user (or a cocaine user who shares straws).
- Have hemophilia (a bleeding disease).
- Received blood transfusions before 1992.
- Received blood transfusions in another country.

**YOU MAY BE AT RISK IF YOU:**

- Have had multiple sex partners.
- Live with a person who has hepatitis C.

**AS A HEALTHCARE WORKER:**

- **You can get HCV by touching infected blood.** Although the Hepatitis C virus is NOT spread by casual contact (like hugging or shaking hands) . . . it's possible to become infected if you touch the blood of an infected person.
- **You can get HCV by getting stuck with a dirty needle.** Health care workers are at risk of catching Hepatitis C from being stuck by a dirty needle or from being **splashed** by an infected client's blood.

**PROTECT YOURSELF WITH STANDARD PRECAUTIONS!**

**Standard precautions are the "common sense" infection control guidelines you should follow with all clients, no matter what their diagnosis—even if they don't seem sick!**

Following Standard precautions means you assume all blood, body fluids, secretions, open wounds, and mucous membranes contain an infection, like HCV, and use:

- **GLOVES** – To protect your hands.
- **GOWNS** – As needed, to protect your skin and clothing.
- **MASKS** – As needed, to protect your mouth and nose.



# CONNECT It now!

*Apply what you know*

**WHAT WOULD YOU DO AFTER AN ACCIDENTAL EXPOSURE?**

Ask your supervisor for your workplace policy on accidental exposures.

**What is your workplace policy on handling needle sticks?**

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**What is the best way to prevent an accidental exposure?**

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***"I will not rest until there is awareness, education, testing, understanding, and tolerance for the 5 million Americans with the HEPATITIS C VIRUS!"***

~Kathie Bryson, Nurse  
(Contracted HCV from a needle stick.)

# HOW IS HCV DIAGNOSED AND TREATED?

## HOW IS HCV DIAGNOSED?

- The first thing doctors do is a **physical exam**. They try to determine if there has been any change in the size or position of the liver.
- If the doctor has any suspicions that the patient has HCV, **tests** will be ordered to detect if the virus is in the blood.
- Once the disease is confirmed, the doctor determines how much **liver damage** has occurred and whether or not treatment will help.

## BLOOD BANKS OFTEN DIAGNOSE HEPATITIS C

- *Eight million* Americans donate blood every year.
- Since 1992, blood banks in the United States have been testing all donated blood for hepatitis C.
- If a blood sample is found to contain HCV, the blood bank will notify the person who donated it, and advise him to see his doctor. After that, they'll throw away the infected blood.

## HOW IS HEPATITIS C TREATED?

- There are two main "anti-viral" drugs being used to fight hepatitis C. They work best when given together.
- The first drug, interferon, is given by injection. The second drug, Ribavirin, is taken as a pill.

## COMMON SIDE EFFECTS OF HCV TREATMENT DRUGS:

Some of the side effects of interferon and Ribavirin are unpleasant. Your clients may feel the worst during the first few weeks of treatment. The side effects include:

- **Anemia:** If your clients develop anemia, they may get tired more easily. Encourage them to rest as often as necessary.
- **Fever, chills, muscle aches and pains:** Report these side effects to your supervisor right away. There may be medications to help your client feel better.
- **Nausea:** Offer frequent small meals—instead of three big meals. Tell your supervisor if your client is vomiting or losing weight.
- **Taste changes:** Brushing their teeth and/or using mouth wash prior to meals may help get rid of the metallic taste.
- **Hair loss:** If you notice a client is losing hair, try styling it in a becoming fashion. Assure your clients that their hair will grow back after they finish their treatment.
- **Headaches:** You might try giving your client a back rub, or placing a warm towel around the back of the neck.



# THINK about it!

## WOULD YOU RECOGNIZE THESE SYMPTOMS?

HCV is known as the "silent" disease. People can live for years—or even decades—and not know they are infected. Here are some of the changes/symptoms that may be seen in someone who has HCV:

- Flu-like symptoms that don't go away.
- Abnormal yellowing of the skin and eyes (jaundice).
- Dark urine.
- Nausea, vomiting and/or loss of appetite.
- Fatigue.
- Abdominal pain.
- Itchiness without a rash
- Disturbed sleep.
- Mental confusion & emotional distress.
- Skin rashes.



## A CLOSER LOOK AT CIRRHOSIS

Cirrhosis is the final stage of liver damage. About 20 percent of people with chronic hepatitis C will develop cirrhosis.

Remember, the liver has been found to have over 500 functions. When cirrhosis develops . . . the whole body is effected.

**Here are a few of the ways cirrhosis effects the body:**

### **THE BRAIN**

Confusion, Dementia, Seizures, Coma.

### **NERVOUS SYSTEM**

Tremors, nerve pain.

### **DIGESTIVE SYSTEM**

Anorexia, gas, nausea, vomiting blood, change in bowel habits, dull abdominal pain, hemorrhoids.

### **REPRODUCTIVE SYSTEM**

Absence of menstrual periods (for women), shrunken testicles, enlarged breasts (in men), impotence.

### **SKIN**

Jaundice, bruising, itching, pinpoint rash, blotchy red palms.

### **THE BLOOD**

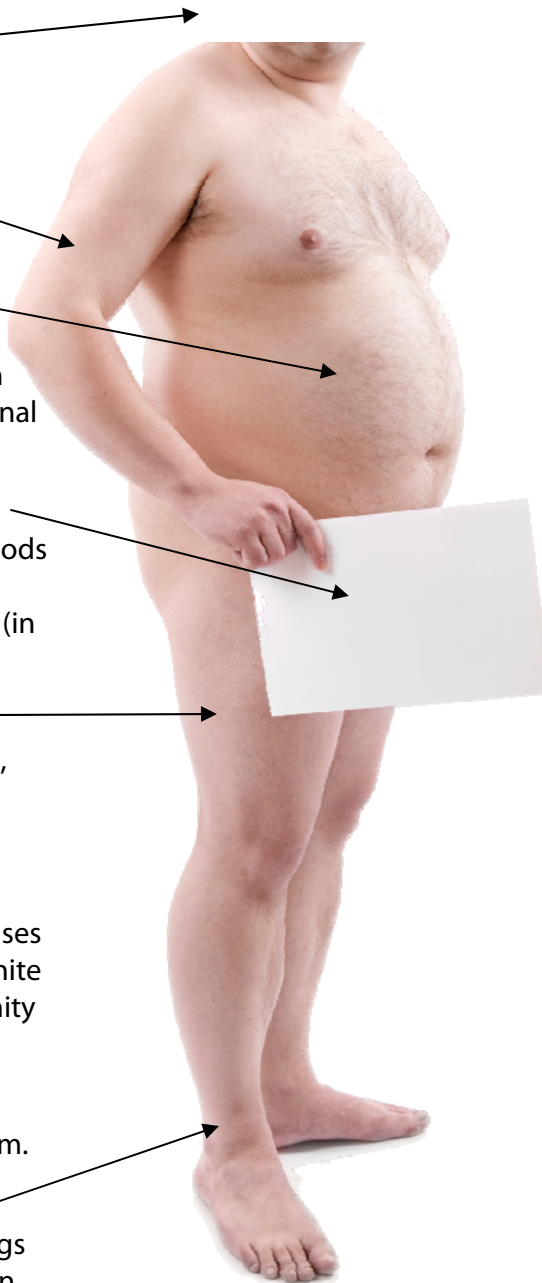
Anemia, low platelets (causes clotting problems), low white blood cells (causes immunity problems).

### **ELECTROLYTES**

Low potassium, low sodium.

### **CIRCULATORY SYSTEM**

Fluid retention, swollen legs and ankles, ascites (swollen abdomen).



# TALK about it!

## Open the Discussion

***Darla is a 47 year old woman who has Hepatitis C.***

She is not sure when or how she got the virus, but has been an IV drug user in the past and has had occasional unprotected sex.

Although she now has cirrhosis, she continues to drink alcohol and abuse drugs.

Her only hope of living long enough to turn 50 is by getting a liver transplant.



- ***What are your thoughts on providing a liver transplant to someone like Darla?***
- ***Do you think you treat clients differently when you know their illness is a result of poor lifestyle choices?***
- ***Would you feel differently about Darla if she was your mother or sister?***
- ***Discuss your thoughts with your co-workers and supervisor.***



## ALCOHOL AND HEPATITIS C

For people with hepatitis C, alcohol is poison! Alcohol speeds up damage to the liver and increases the chance of developing cirrhosis.

### Here is why alcohol and Hepatitis C are such a bad mix:

- **MORE FIBROSIS:** Remember the second phase in Hepatitis C, called fibrosis? Well, alcohol by itself can cause fibrosis. In a person with hepatitis C, the damage is even greater.
- **INCREASED VIRAL LOAD:** Viral Load is the amount of a virus in the bloodstream. In this case, the virus is hepatitis C. The more a person drinks, the more virus he or she will have. This is because:
  - Heavy alcohol use weakens the immune system, so the more you drink, the fewer resources you have to fight the hepatitis C virus.
  - Alcohol is processed and broken down in the liver, so the harder the liver has to work to process alcohol, the more freedom the virus has to do damage.
- **POOR RESPONSE TO TREATMENT:** People who drink do not do as well on antiviral treatment as non-drinkers. Many doctors will recommend a period of six months without drinking before starting treatment.

Current research shows that there is NO safe level of alcohol for people with hepatitis C.

### **Unfortunately, alcohol abuse and hepatitis C infection coexist with chronic liver disease for many people. Here are the facts:**

- Chronic Hepatitis C and alcohol abuse account for 70 to 90% of all the cases of chronic liver diseases in the western world.
- About 20% of chronic alcoholics and patients with hepatitis C infection develop cirrhosis over a period of 20 to 30 years.
- Hepatitis C-related cirrhosis now accounts for more than 50% of all liver transplants performed in the United States.

***If you suspect your client with HCV is using or abusing alcohol, talk to your supervisor or the social worker right away. There is help available for those who want it.***



### *Thinking outside the box!*

Working with clients in the home often requires coming up with creative solutions to uncommon problems.

- **THE PROBLEM:** You are caring for a 68 year old man who lives alone. He has had Hepatitis C for years but only recently started having symptoms. The doctor started him on combination drug therapy two days ago and he is miserable.
- He has nausea and vomiting, body aches and a headache. He complains that "the treatment is worse than the disease."
- **WHAT YOU KNOW:** You know there can be unpleasant side effects from these medications. You also know the side effects usually go away after being on the medication for a few weeks.
- **GET CREATIVE:** Think of **3 creative solutions** you might suggest to your client right now to help him get through this rough period.
- **TALK ABOUT IT:** Share your ideas with your co-workers and supervisor and find out how they would solve the problem.

# CARING FOR CLIENTS WITH HEPATITIS C

## PERSONAL CARE

Hepatitis C is spread when a person’s blood comes in contact with infected blood. The virus cannot be spread through hugs, sneezes or sharing eating utensils. ***HCV cannot be spread through saliva, but it can be spread by blood.***

### How You Can Help:

- Since HCV is spread by infected blood, be sure all personal items are free of blood and bacteria.
- Tiny bits of blood can remain on many personal care items...such as razors, scissors, toothbrushes, water pics, nail clippers, tweezers and even hairbrushes.
- Your clients should never “share” these items, since it’s not known just how long the virus can live (even in *dried* blood).

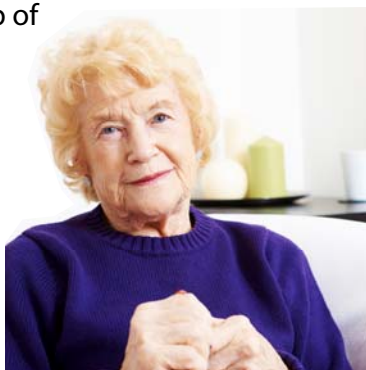
## EMOTIONAL CARE

The diagnosis of HCV often causes emotions ranging from fear and denial to depression and anger. Support is crucial because stress can be high—and stress impacts the immune system. It may affect how sick a person gets and how long it takes to recover. Relaxation is *very* important to help relieve stress.

### How You Can Help:

Help your clients remain as stress free as possible by tuning into their emotional needs:

- Bring your clients books or magazines if they like to read.
- Try getting them interested in crossword puzzles, word searches or needlepoint.
- A cup of herbal tea may give them comfort (make sure it is part of their diet).
- Bringing in a piece of the outdoors can lift the spirits. *For example:* float a single flower in a cup of water or break off a small branch of a flowering tree (*they need pruning anyway*) and put it in your client’s room.
- A hepatitis support group may be helpful for your clients.
- Talk to your clients...*“a problem shared is a problem cut in half.”*



# THE NEXT STEP!

*Apply what you've learned!*

### KEEPING CLIENTS SAFE FROM INFECTION

You’ve already learned that your client with hepatitis C may have a compromised immune system. This means he or she is more likely to get sick and will have a harder time fighting off germs than other clients.

So, how will you keep your client safe from germs like the common cold, flu, or even drug resistant bacterial infections, like MRSA?

***How will you keep your client safe from the germs YOU may carry?***

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***How will you keep your client safe from the germs carried by visitors?***

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***How will you keep your client safe from germs in the environment?***

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## CARING FOR CLIENTS WITH HCV—CONTINUED

### NUTRITIONAL CARE

In the early stages of hepatitis C, a well balanced diet should be sufficient for good nutritional health. However, as the disease progresses, the doctor may order special changes to the diet.

#### How You Can Help:

- You can monitor what your clients eat and assist them if they are having any difficulties feeding themselves.
- Make a note of how much your clients eat and alert your supervisor if they aren't eating as well as expected.
- You may be ordered to weigh your clients. People with hepatitis need to be careful not to gain a lot of weight. Be sure to report changes in your client's weight.
- Be sure to follow each client's nutritional care plan.

### HELP YOUR CLIENTS HAVE HEALTHIER LIVERS!

- Serve fresh fruits and vegetables, whole grains, fish and beans.
- Encourage your clients to avoid fried, sugary or salty foods.
- Avoid serving drinks with caffeine, such as coffee, tea and cola. Encourage your clients to drink 6 to 8 glasses of water every day—unless their doctor has ordered a fluid restriction.
- Keep your clients away from the fumes of everyday cleaning chemicals. And, avoid getting chemicals on their skin—since the liver has to deal with every toxic substance that comes in contact with the body.
- Tell your supervisor about any over-the-counter medications that your clients take. For people with liver damage, even a few Tylenol can be harmful (*especially* if taken with alcohol).
- Remember that even vitamin pills (especially vitamin A, iron and niacin) can be dangerous for people with liver damage.
- Help your clients get regular exercise . . . even a few minutes a day is better than nothing.



- Help your clients get enough sleep. It's critical for people with hepatitis C to get plenty of rest. They should rest whenever they feel tired. You might try scheduling an afternoon nap—even twenty minutes may do the trick.



## 5 KEY points

### Key Points to Remember

1. Hepatitis means "**inflammation of the liver,**" and the most common cause is infection with one of 5 viruses . . . hepatitis A, B, C, D, or E.
2. Most people with HCV do not have any symptoms at all. If symptoms are present, they may be very mild and flu-like (nausea, fatigue, loss of appetite, fever, headaches, and abdominal pain).
3. Even without symptoms . . . the virus is in the blood and may be causing liver cell **damage**, and the infected person can **transmit** the disease to others.
4. As a healthcare worker, you are at risk of getting HCV by touching infected blood or by getting stuck with a dirty needle.
5. The best way to prevent the spread of HCV in the healthcare setting is by using Standard Precautions with all clients, at all times, no matter what their diagnosis . . . even if they don't seem sick.

# FOUR WAYS TO STOP THE SPREAD OF HCV

## 1. Know the signs of HCV.

Remember. . . many people have *no* symptoms, but others may have some of the following:

- Flu-like symptoms
- Fatigue
- Jaundice
- Dark urine
- Nausea, vomiting or loss of appetite
- Abdominal pain
- Disturbed sleep
- Itchiness without a rash
- Rash
- Mental confusion

## 2. Tell your supervisor if any of your clients show physical signs of HCV.

- Whenever you spend time with a client, think about the symptoms of HCV and the side effects of treatment.
- Always be attentive to your clients and look for any physical or mental changes. If you see any thing that seems at all questionable, tell your supervisor right away.

## 3. Follow standard infection control guidelines.

- Wear protective gloves and practice standard precautions when coming in contact with any bodily fluid.
- If you come in contact with a client’s blood, alert your supervisor immediately.
- Be sure you know your workplace policy regarding needle sticks and other exposures to blood borne pathogens.
- Consider getting the vaccine injections for hepatitis B (*if you haven’t had them already*). That way, if you happen to be positive for hepatitis C, you won’t have to worry about doing *additional* damage to your liver with hepatitis B.

## 4. Help your clients with HCV practice good infection control.

- Assist your clients with their personal and nutritional needs and ensure that their items are free from any blood products or bacteria.
- Don’t let your clients share personal care implements like shavers, nail clippers or toothbrushes.
- Help your clients understand how hepatitis C is spread so that they can avoid it!



# WHAT I KNOW NOW!

*Now that you’ve read this inservice on Hepatitis C, take a moment to jot down a couple of things you learned that you didn’t know before.*

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*Developing Top-Notch CNAs, One Inservice at a Time*

**An Infection Control Module:  
A Hepatitis C Update**

EMPLOYEE NAME  
*(Please print):*

\_\_\_\_\_

DATE: \_\_\_\_\_

- *I understand the information presented in this inservice.*
- *I have completed this inservice and answered at least eight of the test questions correctly.*

EMPLOYEE SIGNATURE:

\_\_\_\_\_

SUPERVISOR SIGNATURE:

\_\_\_\_\_

**Inservice Credit:**

<input type="checkbox"/> Self Study	1 hour
<input type="checkbox"/> Group Study	1 hour

**File completed test  
in employee's  
personnel file.**

**Are you "In the Know" about hepatitis C? Circle the best choice or fill in your answer. Then check your answers with your supervisor!**

**1. Hepatitis means inflammation of the**

- A. Kidneys
- B. Gallbladder
- C. Liver
- D. Stomach

**2. The final (and most serious) phase of Hepatitis C is**

- A. Cirrhosis
- B. Inflammation
- C. Fibrosis
- D. Infection

**3. As a healthcare worker, you can get HCV by all of the following, EXCEPT**

- A. Touching infected blood.
- B. Breathing the airborne virus.
- C. An accidental needle stick injury.
- D. Getting splashed by infected blood.

**4. Most people with Hepatitis C have**

- A. Swollen abdomen.
- B. HIV/AIDS.
- C. Jaundice.
- D. No symptoms.

**5. True or False**

Liver damage can cause problems in every system of the body.

**6. True or False**

It's okay for people with Hepatitis C to drink alcohol in moderation.

**7. True or False**

All healthcare workers should be vaccinated for Hepatitis C.

**8. True or False**

There is no treatment for Hepatitis C.

**9. True or False**

Tylenol can be harmful to people with liver damage.

**10. Fill in the Blanks**

The best way to protect yourself from Hepatitis C in the healthcare setting is by following \_\_\_\_\_ precautions.