



A Disease Process Module:

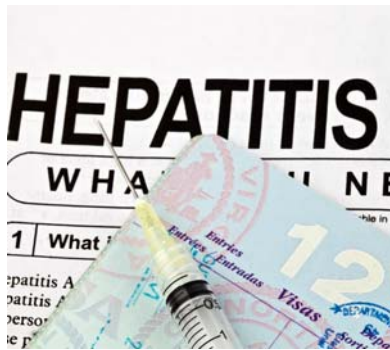
UNDERSTANDING HEPATITIS A & B

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Developing Top-Notch CNAs, One Inservice at a Time



A Disease Process Module:

UNDERSTANDING HEPATITIS A & B

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 with your comments and/or suggestions for improving this inservice.

After finishing this inservice, you will be able to:

Discuss the importance of the liver and how it is affected by hepatitis A and B.



Name at least six symptoms of hepatitis A and B.



Describe how hepatitis A and B differ in the way they spread.



Describe at least four ways that you can help your clients cope with hepatitis A or B.



Perform infection control procedures in your daily work that help stop the spread of hepatitis A and B.

THANK YOU!

HEPATITIS



Inside This Inservice:

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Developing Top-Notch CNAs, One Inservice at a Time

A Disease Process Module: Understanding Hepatitis A & B

ARE YOU UP TO YOUR ELBOWS IN IT?

Do you ever feel like you spend your days “up to your elbows” in feces, blood and body fluids? Well, the truth is, you're probably covered in it!

Unfortunately, that's not just gross . . . it can be dangerous and even deadly.

You probably already know about the big things you need to worry about, like HIV/AIDS and drug resistant bacteria, like MRSA.

But, did you know there are a group of dangerous viruses that can be found in that same feces, blood and body fluids that attack the liver and can even lead to death?

The hepatitis viruses do just that. The term “hepatitis,” means “inflammation of the liver.” It is usually caused by a virus.

The most common forms of the hepatitis virus are A, B, and C. This inservice focus on A & B.

- **Hepatitis A** (HAV, for short) is found in feces. Fortunately, it is generally mild (like food poisoning), and usually goes away without treatment.

- **Hepatitis B** (HBV, for short) is found in blood and other body fluids. And sadly, is the most serious liver infection in the world!

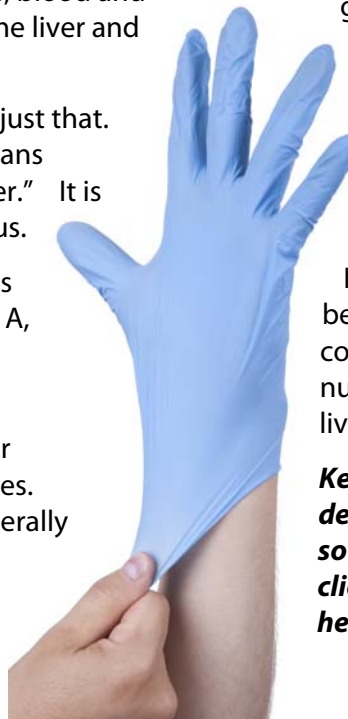
The good news is that there are some proven ways to prevent the spread of both Hepatitis A & B.

Here's how:

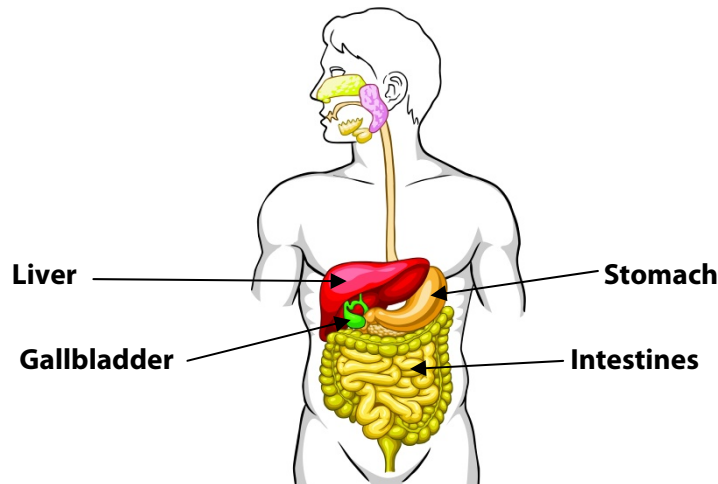
- Get vaccinated!
- Wash your hands!
- Follow standard precautions guidelines all the time, with all of your clients, even if they don't seem sick.

The bad news is that a lot of your clients, particularly the elderly, are not vaccinated. And, HBV breakouts are becoming increasingly more common in places like nursing homes and assisted living facilities.

Keep reading to learn more details about hepatitis A & B so that you can help your clients keep their livers healthy and virus-free!



A CLOSER LOOK AT THE LIVER



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:

- Produces bile to aid in digestion by helping in the absorption of fat and vitamins A, D, E, and K.
- "Cleans" the blood by removing medications and toxins.
- Regulates blood clotting.
- Produces cholesterol to help carry fats through the body.
- Converts excess glucose into glycogen. (*Glycogen is stored, and can be used later for energy.*)
- Believe it or not, the liver can even heal itself! It can replace and repair injured blood cells. It can also function when it's damaged or partially (up to 75%) removed.

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

- We can't live without the liver. If it shuts down, a person can only survive a day or two.

COMMON TERMS

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



WHAT IS HEPATITIS A?

Hepatitis A is a contagious liver infection caused by the Hepatitis A Virus (HAV, for short).

- The CDC estimates that nearly 25,000 Americans contract hepatitis A each year.
- Most people who contract hepatitis A recover completely, but an estimated 100 people die from the infection every year in the United States.

WHO IS MOST AT RISK FOR HEPATITIS A?

You are at risk for HAV if you:

- Live or care for an infected person.
- Have sex with an infected person or with a homosexual or bisexual man.
- Use drugs, injecting and non-injecting.
- Travel to countries where HAV is common like Africa, Asia, India, South America, and the Middle East.
- Have hemophilia (a bleeding disease.)
- Live in an area with increased HAV during the period from 1987-1997.



HOW IS HEPATITIS A SPREAD?

Hepatitis A is spread by:

- Eating food (or drinking water) contaminated with stool containing the virus. *For example, if people who have HAV handle food without washing their hands after using the bathroom, they could spread the hepatitis A virus.*
- Eating raw shellfish (oysters, clams, or mussels) harvested from water polluted with sewage.
- Putting something in your mouth that may look clean, but is not; it has been contaminated by the stool of a person with HAV.



HEPATITIS A IS BECOMING INCREASINGLY RARE IN THE US

Hepatitis A rates in the United States have declined by 92% since Hepatitis A vaccine first became available in 1995.

- ***Before the vaccine became available, about 150,000 Americans were infected with Hepatitis A each year.***
- ***Today that number has been reduced to just around 25,000!***

That's a huge difference!

Chances are you have been vaccinated against Hepatitis B . . . and that's great! But, have you been vaccinated against Hepatitis A?

If not, consider getting the vaccination at your next check-up.



WHEN SOMEONE GETS HEPATITIS A

HAV is most contagious before any signs or symptoms appear, and it can take several weeks (about 28 days) before any symptoms appear. So, people can spread the disease without even knowing it.

- The symptoms of HAV include: fever, fatigue, poor appetite, nausea, stomach pain, dark-colored urine and jaundice. Not everyone who is infected will have all of the symptoms.
- Age is important when it comes to HAV. The older you are, the worse it is. Adults usually have more severe symptoms than children, who usually have milder cases. Children age 2 and under often don't have any symptoms at all.

HOW IS HEPATITIS A DIAGNOSED AND TREATED?

- It's important to go to the doctor as soon as symptoms appear or if you have been exposed to hepatitis A.
- The doctor will order several bloods tests to diagnose HAV. One of these is a special blood test that will tell the exact type of hepatitis.
- To date, there isn't any treatment for HAV.
- The focus of treatment is to avoid liver damage and to maintain good nutrition.
- As with all hepatitis types, it's wise to avoid drinking alcohol until recovered. Studies have shown that even the smallest amounts of alcohol can damage a weakened liver.
- Some medications, including over-the-counter medicines like acetaminophen (Tylenol), can harm the liver, too. (Never mix acetaminophen with alcohol. It's toxic!)

WHAT'S THE WORST THAT CAN HAPPEN?

- In some rare cases, a condition called *fulminant hepatitis* may develop. People who already have liver disease or have had a liver transplant are at risk for this life-threatening ailment.
- According to the Mayo Clinic, the elderly and people with other medical conditions like diabetes, anemia, and congestive heart failure may have a more serious bout of HAV.
- Some researchers suspect that HAV may trigger hardening of the arteries—called *atherosclerosis*.



THINK about it!

WOULD YOU RECOGNIZE THESE SYMPTOMS?

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

- Mild, flu-like symptoms
- Loss of appetite
- Nausea and vomiting
- Weakness and fatigue
- Abdominal pain (around the liver)
- Jaundice (yellowing of skin and eyes)
- Joint and muscle ache and pain
- Itching
- Fever
- Diarrhea
- Dark colored urine
- Light colored stool



WHAT IS HEPATITIS B?

Hepatitis B is a highly contagious liver infection caused by the Hepatitis B Virus (HBV, for short).

- Hepatitis B is 100 times more infectious than the AIDS virus, yet it can be prevented with a safe and effective vaccine.
- About 100,000 American will become infected each year and 5,000 will die from hepatitis B and its complications.

WHO IS MOST AT RISK FOR HEPATITIS B?

You are at risk for HBV if you:

- Are a health care worker, fireman, EMT or other public safety worker.
- Live with or care for someone who has chronic HBV.
- Get a tattoo or body piercing.
- Have diabetes.
- Received blood transfusions before 1970.
- Received blood transfusions or blood products in another country.
- Share needles/snorting straws.
- Have unprotected sex with an infected person.
 - Have unprotected sex with more than one partner—whatever your sexual orientation.
 - Receive hemodialysis for kidney disease.
 - Are a newborn whose mother is infected.



HOW IS HEPATITIS B SPREAD?

Hepatitis B is spread by:

- Having infected blood, semen, vaginal secretions, or saliva enter the body of a non-infected person. (HBV is also in urine, menstrual blood, stool, and other body fluids.)
- Having unprotected sex with an infected partner.
- Being born to an infected mother.
- Sharing contaminated needles and syringes. (Accidental needle sticks are a concern for health care workers.)
- Using the personal items of an infected person, such as, razors, toothbrushes, scissors, nail clippers, since little specks of blood could get on these types of items.

CONNECT
it now!
Apply what you know

Read the section on this page titled, "How Is Hepatitis B Spread".

What things do you already do in your daily work that prevents the spread of HBV?

What will you do differently after reading this inservice?

Discuss your answers with your co-workers and supervisor. Find out what they are doing to prevent the spread of Hepatitis B.

Do you know your Hepatitis B status?

The only way to know if you have been exposed is by a blood test.

*If you have not been vaccinated against HBV... you should get tested and **know your status!***

WHEN SOMEONE GETS HEPATITIS B

HBV is known as a “silent infection” because many people don’t show any symptoms. (30% of adults with HBV never show any signs of it.) And, like all hepatitis infections, HBV is contagious before any symptoms appear!

- Symptoms, which range from mild to severe, usually appear from 4 to 6 weeks after exposure and can be either **acute** (lasting for less than 6 months) or **chronic** (lasting for more than 6 months.)
- The symptoms of HBV include: abdominal pain, dark urine, joint pain, loss of appetite, nausea and vomiting, weakness, fatigue and jaundice.

HOW IS HEPATITIS B TREATED?

- An injection of the hepatitis B immune globulin (HBIG) followed by the 1st of the HBV three shot vaccine within 24 hours of exposure may help.
- Just a decade ago there were *no* medications for people with HBV.
- Today there are 7 approved antiviral drugs for HBV. The newest drugs, Entecavir, Telbivudine, and
- Tenofovir have few side effects and are taken as a pill for one year or longer.
- There is still no *cure* for HBV. A liver transplant may be needed if the liver is badly damaged.
- Lifestyle changes are usually needed. This includes avoiding alcohol—which speeds up the advancement of liver disease.



WHAT’S THE WORST THAT CAN HAPPEN?

- Chronic HBV can lead to serious liver diseases like cirrhosis of the liver, liver cancer, liver failure, and an early death.
- Cirrhosis, which causes permanent scarring of the liver and kills almost 25,000 Americans a year.
- HBV is one of the leading causes of liver cancer. Prognosis is usually poor because it’s rarely diagnosed early.
- People with HBV are at risk for hepatitis D, which is fatal about 20% of the time.



TALK about it!

Open the Discussion

Outbreaks of hepatitis B virus (HBV) in long-term care settings, such as nursing homes and assisted living facilities are on the rise . . . and it’s the clients with diabetes who are suffering.

In the last 10 years, alone, there have been **at least 15 outbreaks** of HBV infection associated with healthcare workers failing to follow basic principles of infection control when assisting with blood glucose monitoring.

- **Do you think criminal charges should be brought against the healthcare workers who may have been responsible?**
- **What if the employees were “trained” to do things this way? What if they were never trained at all?**
- **How would you feel if you learned that you were responsible for a Hepatitis B outbreak?**
- **How would you feel if one or more of your clients died as a result of a Hepatitis B outbreak?**

A SIDE-BY-SIDE REVIEW

	HEPATITIS A (HAV)	HEPATITIS B (HBV)
How is it spread?	Hepatitis A is spread by the fecal-oral route . This means the virus is found in the feces of those infected. It is usually spread when another person eats or drinks food or water that has been contaminated with the infected person's feces.	Hepatitis B is a bloodborne virus. This means it is spread when the blood of an infected person enters the body of a non-infected person. Exposure to blood in ANY situation puts a person at risk for infection.
Who should be vaccinated?	<ul style="list-style-type: none"> • All children at 1 year. • Household contacts of infected person. • Sex partners of infected person. • Travelers. • IV drug users. • Anyone with chronic liver disease. 	<ul style="list-style-type: none"> • All children at birth. • Healthcare and public safety workers. • Household contacts of infected person. • Immigrants. • Sex partners of infected person. • IV drug users. • Anyone with diabetes or kidney disease.
Is there treatment?	There is no treatment for hepatitis A.	Several drugs are approved to prevent serious liver problems . . . but do not get rid of the virus. Infected individuals need a liver evaluation every 6-12 months.
How is it prevented?	<ul style="list-style-type: none"> • Hepatitis A vaccine. • Strict hand washing with soap after using the toilet, changing a diaper, and before and after preparing and eating food. 	<ul style="list-style-type: none"> • Hepatitis B vaccine. • Strict use of Standard Precautions for all healthcare workers.



DID YOU KNOW?

THINK PUBLIC RESTROOMS ARE GROSS?

A research group recently tested public places for the presence of blood, mucus, saliva, fecal matter and urine (potentially HAV).

And, it turns out public toilets are cleaner than playgrounds!

Here is a list of the top 10 dirtiest public places the researchers found:

1. Playgrounds
2. Bus/train rails/armrests
3. Public toilets
4. Shopping cart handles
5. Escalator handrails
6. Chair armrests
7. Vending machine buttons
8. Shared pens
9. Public telephones
10. Elevator buttons

Think about this list the next time you touch one of these places and then maybe eat a sandwich or touch a client before washing your hands!

IT'S ALL ABOUT PREVENTION!

PREVENT HEPATITIS A

GET VACCINATED: The **best** way to prevent HAV is to be vaccinated! The vaccine is safe for anyone over the age of 1 year. Side effects include soreness at the injection site.

- The vaccine, which takes up to four weeks to take effect, may provide protection from HAV for up to 20 years!
- People who haven't been vaccinated but who are exposed to HAV can take the hepatitis A immune globulin (HAIG). If taken within two weeks of exposure, it prevents the hepatitis infection from taking hold.

GOOD HYGIENE: Following good hygiene practices is the **second best** way to protect yourself and your clients from HAV.

- Simply washing your hands will protect you from all sorts of germs and bacteria. Wash your hands after using the toilet, after changing a diaper, and before you prepare food. **(For more on this, read *In the Know's* inservices on *Handwashing and Standard Precautions!*)**
- Have your clients wash their hands after every trip to the bathroom and before eating.

PREVENT HEPATITIS B

GET VACCINATED: The **best** defense against HBV is to be vaccinated!

- The vaccine is given in a series of three shots over a three month period and studies show that it may provide a life time of protection.
- Most American children now receive the vaccine within the first year of life (at 2, 4, and 9 months.)

USE STANDARD PRECAUTIONS: Standard precautions are the "common sense" infection control guidelines you should follow as you perform your daily tasks with clients.

Standard Precautions apply to **all** your clients, no matter what their diagnosis—even if they don't seem sick!

Standard Precautions means you **assume all blood, body fluids, secretions, open wounds, and mucous membranes contain an infection**, like Hepatitis B and use:

- **Gloves** – As needed, to protect hands your hands.
- **Gowns** – As needed, to protect your skin and clothing.
- **Masks** – As needed, to protect you mouth and nose.



THE NEXT STEP!

Apply what you've learned!

This inservice focuses mostly on protecting yourself and clients while you are at work.

But, what can you do to protect yourself and your family in your personal life?

Here are a few suggestions:

- Wash your hands! Good hand hygiene is not just for work anymore!
- Say no to tattoos and body piercings!
- Know the status of your sexual partner. Don't have unprotected sex unless you are sure your partner is free of hepatitis B.
- Use latex condoms.
- HBV positive women who become pregnant should notify their doctors immediately. Upon delivery, the doctor will be ready to vaccinate the baby which is 95% effective against HBV.
- Get vaccinated for HAV and HBV before traveling.

KEEPING DIABETIC CLIENTS SAFE

Performing blood glucose monitoring is likely a routine part of your job. You've done it hundreds—maybe even thousands of times. And, you are safe and careful.

Unfortunately, not everyone is as careful as you, and people with diabetes are getting sick.

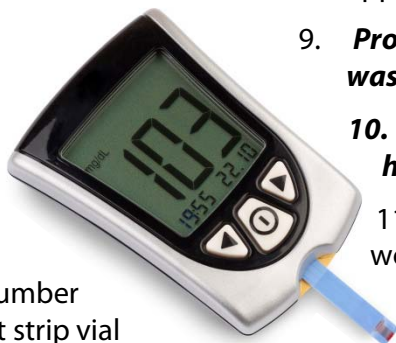
The Centers for Disease Control and Prevention (CDC) has become alarmed by the number of hepatitis B virus (HBV) outbreaks associated with blood glucose (blood sugar) monitoring and is alerting all healthcare workers of the following infection control requirements:



- **Fingerstick devices (lancets) should never be used for more than one person.**
- **Whenever possible, blood glucose meters should not be shared. If they must be shared, the device should be cleaned and disinfected after every use, per manufacturer's instructions. If the manufacturer does not specify how the device should be cleaned and disinfected then it should not be shared.**
 - **Insulin pens and other medication cartridges and syringes are for single-patient-use only and should never be used for more than one person.**

SAFE BLOOD GLUCOSE MONITORING PROCEDURE

1. Collect equipment:
 - Blood glucose monitoring device *(If device is shared, **clean and disinfect**, between clients. Why? Because if you touch the blood of an infected person, even with gloves, then you touch the device . . . that infected blood can live on the device for days and be easily carried and spread to the next person.*
 - Glucose testing strips
 - Antiseptic wipes
 - Gloves
 - Lancet **(Single use lancet, only.)**
 - Gauze or cotton ball
 - Adhesive bandage
2. **Wash your hands and put on clean gloves.** *(Gloves mainly protect you, not the client.)*
3. Calibrate monitoring device if needed. Check that the code number displayed matches code on test strip vial label.
4. Clean client's finger with antiseptic wipe and let it dry. *(If the antiseptic and the blood mix together a faulty reading may result.)*
5. Use the lancet to prick the forearm or side of the fingertip to obtain a drop of blood. Middle or ring finger is preferred. *(The side of the fingertip or side of forearm because it causes less pain.)*
6. Apply the drop of blood to the glucose test strip, following manufacturer's instructions.
7. Read the display for the blood glucose level.
8. Apply direct pressure to the finger prick site and apply a bandaid as needed.
9. **Properly dispose of test strip in biohazard waste container and lancet in sharps container.**
10. Remove and dispose of gloves. **Wash your hands.**
11. Document reading according to your workplace policy.



CARING FOR CLIENTS WITH HEPATITIS A OR B

HELPING WITH NUTRITION

- If your clients have nausea, encourage them to eat small snacks throughout the day instead of three big meals. It may also help to eat earlier in the day. Let your supervisor know if your client is losing weight or vomiting.
- Encourage your clients to eat soft foods like soup, broth, yogurt, and toast, which are much easier to digest.
- Eating a healthy diet is important, too. If you cook for your clients, have them eat fresh fruits and vegetables along with whole grains, and lean protein.
- Studies have shown that green and yellow vegetables like broccoli, cabbage, and cauliflower are good for the liver.
- Encourage your clients to avoid fried, sugary, and salty foods, which are hard on the liver.
- As mentioned earlier, it's important for your clients to avoid drinking any alcohol. For people with hepatitis, it's poison!
- Don't let your clients eat shellfish because of the risk of contamination. Raw or undercooked shellfish contain a bacteria that's toxic to the liver.
- If your client has a nutritional care plan, be sure to follow it. If your client's weight changes, report it to your supervisor.



HELPING WITH EXERCISE

- Help your clients get regular exercise . . . even if it's just a walk down the hall. Exercise increases strength, energy levels and helps reduce stress.

HELPING WITH MEDICINE

- Since most drugs are processed in the liver, it's important not to let your clients take any over-the-counter drugs or herbs without their doctor knowing about it. A few Tylenol can hurt the liver—even in a person who doesn't have hepatitis.
- Vitamin pills can be dangerous for people with liver damage, too. Notify your supervisor if you suspect your client is taking supplements without their doctor's consent.



5 KEY points

Key Points to Remember

1. The term "hepatitis," means "inflammation of the liver." It is usually caused by a virus, like the viruses known as Hepatitis A, B, and C.
2. More than 500 vital functions have been identified with the liver.
3. When the hepatitis virus invades the liver, it causes inflammation and keeps the liver from performing all its jobs . . . and this can cause widespread problems throughout the entire body.
4. Hepatitis A is a contagious disease spread by the fecal-oral route. It is generally mild and goes away without treatment.
5. Hepatitis B is a highly contagious bloodborne pathogen that is 100 times more infectious than the AIDS. About 5,000 people die each year from hepatitis B and its complications.

HEPATITIS



Developing Top-Notch CNAs, One Inservice at a Time

A Disease Process Module: Understanding Hepatitis A & B

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

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.

1. Hepatitis means inflammation of the:

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

2. Hepatitis A is spread by:

- A. Fecal-Oral route
- B. Breathing airborne virus
- C. Exposure to infected blood
- D. An accidental needlestick injury

3. Which of the following is at risk of contracting Hepatitis B?

- A. Healthcare workers.
- B. Drug users who share needles.
- C. People with diabetes.
- D. All of the above.

4. Hepatitis A and B infections are known as "silent diseases". This means:

- A. They cause hearing loss.
- B. People can have and spread HAV or HBV without knowing it.
- C. People are embarrassed to talk about them.
- D. None of the above.

5. True or False

Encourage clients with HAV or HBV to take Tylenol for pain, as needed.

6. True or False

The Hepatitis B virus can live outside the body for up to a month.

7. True or False

One way to prevent the spread of HBV is to use Standard Precautions with all your clients, all the time . . . even if they don't see sick.

8. True or False

There is no cure for Hepatitis A or B.

9. True or False

Lancets for diabetic glucose testing should never be shared.

10. Fill in the Blanks

The best way to prevent both HAV and HBV is to get _____.