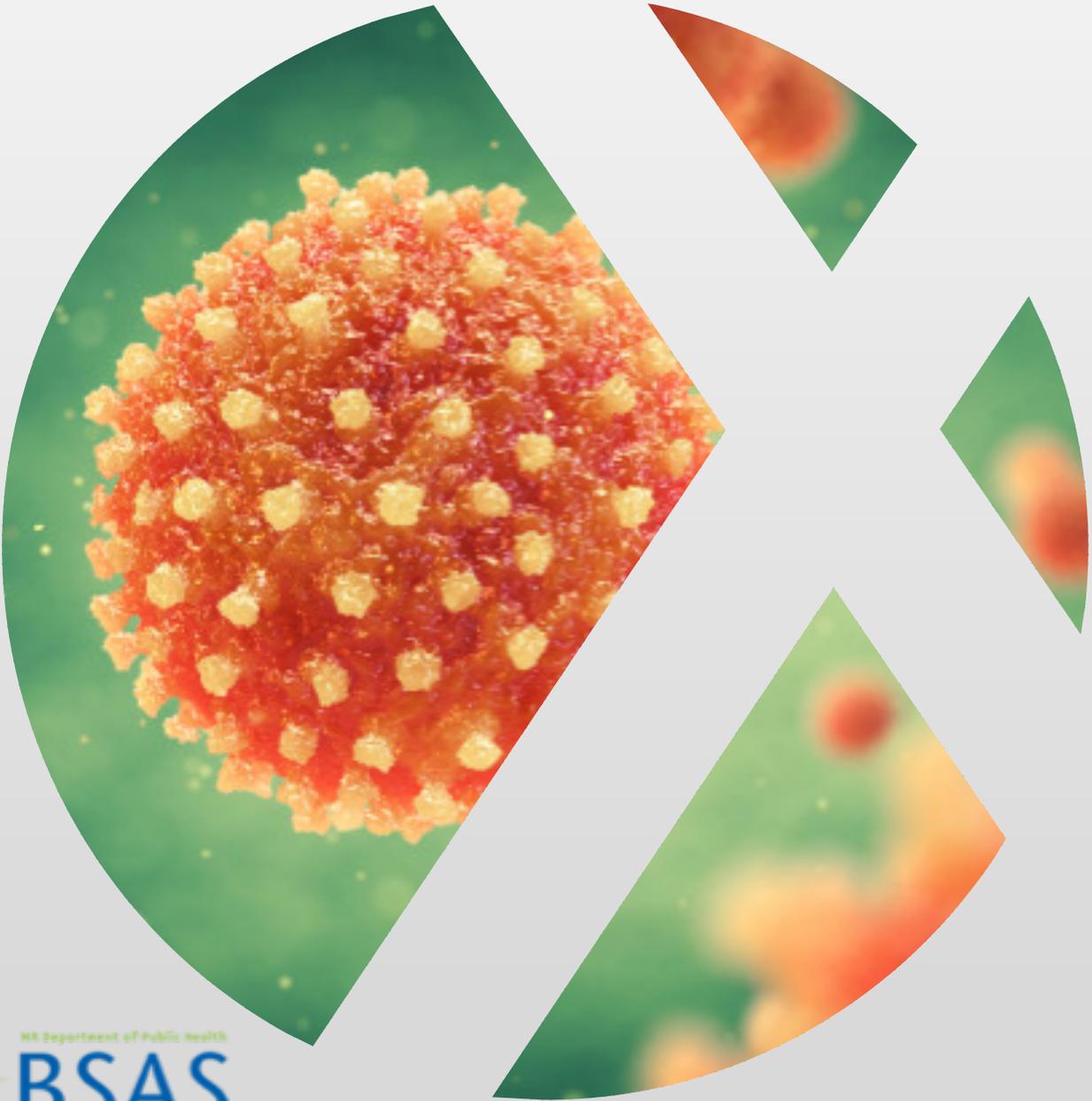


Viral Hepatitis



Today's workshop is sponsored by BSAS



The Bureau of Substance Addiction Services:

- Provides access to addictions services for the uninsured
- Funds and monitors prevention, intervention, treatment and recovery support services
- Licenses addictions treatment programs and counselors
- Tracks statewide substance use trends
- Develops and implements policies and programs
- Supports the addictions workforce

BSAS oversees the statewide system of prevention, intervention, treatment, and recovery support services for individuals, families, and communities affected by gambling and substance addiction

Helpful Websites

BSAS:

www.mass.gov/dph/bsas

Helpline: www.helpline-online.com

Careers of Substance:

www.careersofsubstance.org

Required Disclosures for CEUs

ANCC Accreditation Statement

This continuing nursing education activity was approved by the Maryland Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation

Activity Purpose and/or Learning Outcomes

- Describe the work of a healthy liver and how viral hepatitis affects it
- Understand how viral hepatitis A, B, and C are transmitted and identify risk factors
- Identify prevention and harm reduction strategies for reducing transmission of viral hepatitis
- Describe the disease progression of viral hepatitis and the potential signs and symptoms of an infection
- Explain the treatment and management of viral hepatitis A, B, & C
- Employ key discussion points for teaching clients about viral hepatitis

Successful Completion of this Continuing Nursing Education Activity

In order to successfully complete this activity and receive full contact-hour credit for this CNE activity, you must:

- Attend all 3-hours of the course
- Participate in course discussions

Conflicts of interest

There is no conflict of interest for any planner or presenter of this activity

Agenda

- The three most common types of hepatitis: A, B, and C
- How hepatitis affects the body
- Hepatitis transmission and prevention/harm reduction strategies
- Treatment and management of viral hepatitis
- How to educate clients on and support clients with hepatitis



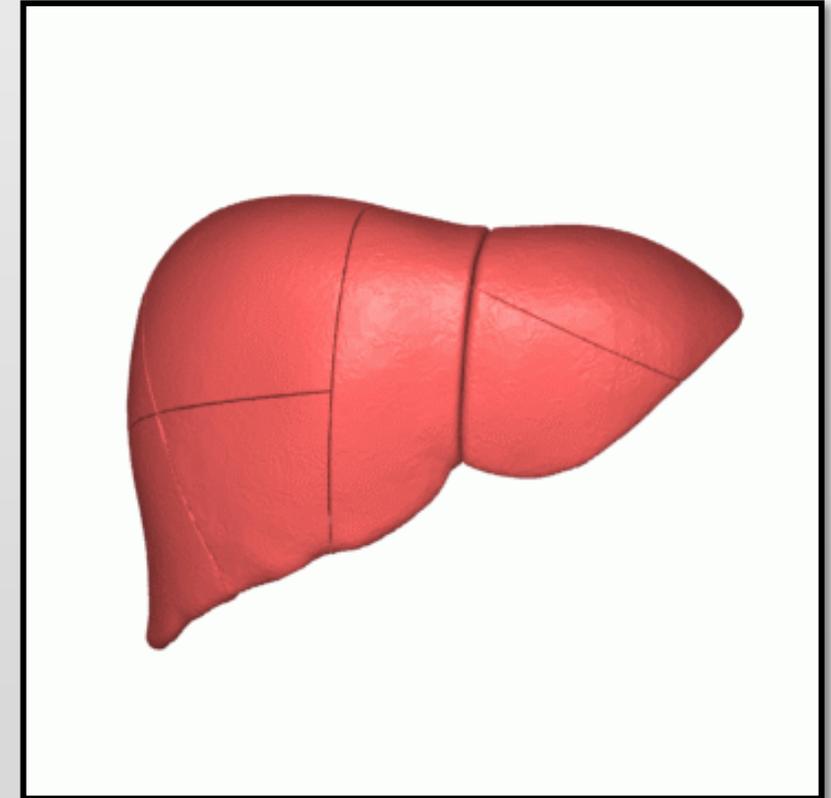


The Liver

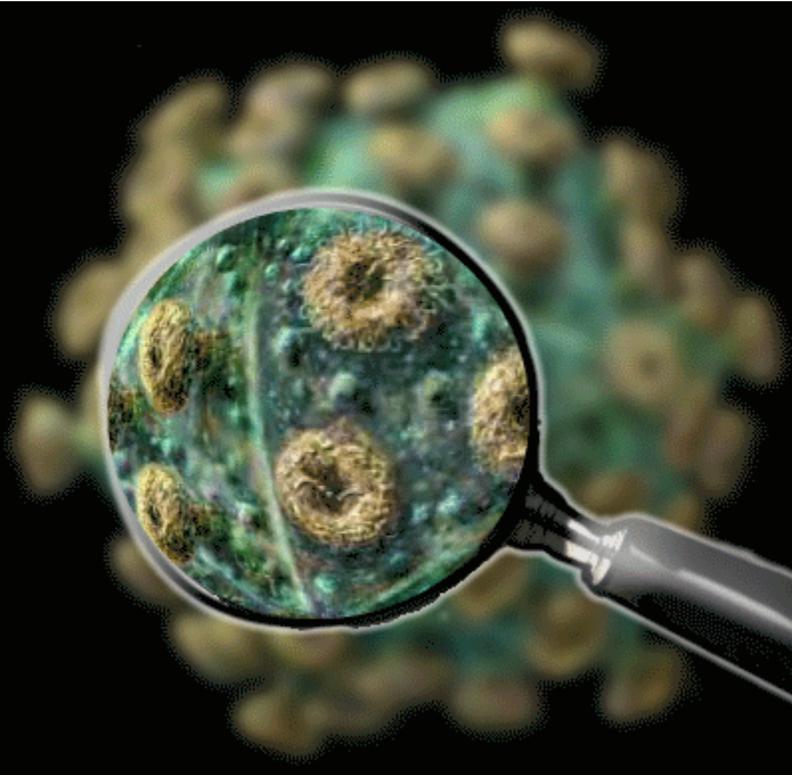
- The liver is a vital organ that carries out more than 500 roles in the human body
 - includes processing nutrients, filtering the blood from toxins, and fighting infections.
- It is the largest and heaviest internal organ, weighing approximately 3lbs.
- The liver sits to the right side of the body, below the lungs and on top of the stomach and the gall bladder, along with parts of the pancreas and intestines.
- It is the only organ that can regenerate
 - Was first recognized by the ancient Greeks, who mentioned liver regeneration in the story of Prometheus
- When the liver is inflamed or damaged, its ability to function and regenerate can be greatly diminished

Hepatitis

- Inflammation of the liver
 - Comes from Greek “Hêpar” (Liver) and “-itis” (inflamed, irritated, or diseased)
 - Inflammation is swelling that occurs when tissues of the body become injured or infected
- Caused by:
 - Prolonged exposure to toxins
 - Obesity (steatohepatitis)
 - Heavy alcohol use
 - Viruses
- Can cause liver damage, liver cancer, and cirrhosis of the liver
 - Can eventually lead to death
 - Number one cause of liver transplants in the U.S.
 - Now kills more people in the U.S. than HIV



Hepatitis



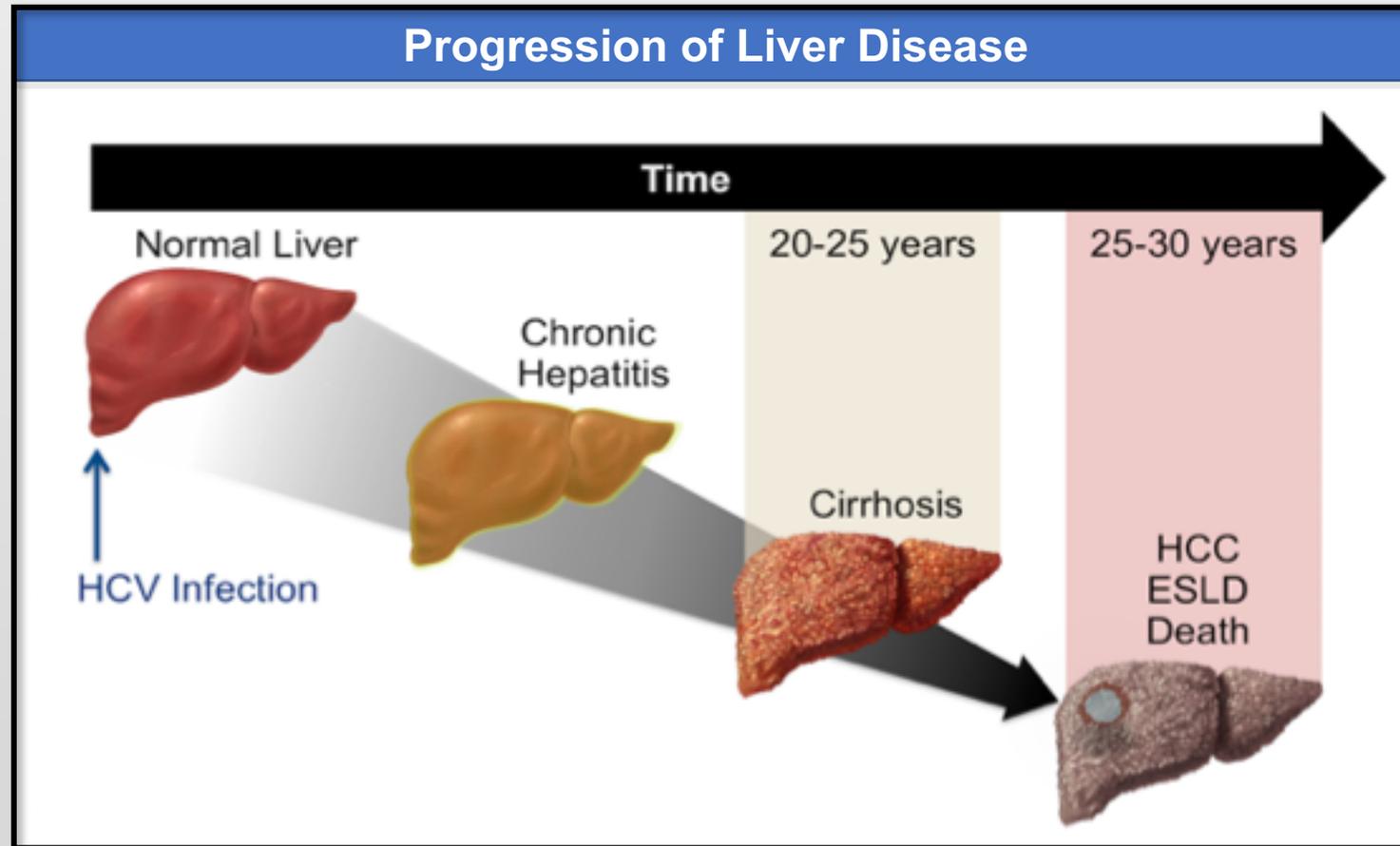
- In the United States, the most common types of viral hepatitis are **hepatitis A, hepatitis B, and hepatitis C**
- Millions of Americans are affected by viral hepatitis though more than half do not know it (HHS, 2019)
 - Puts them at-risk for life threatening liver disease and unknowingly transmitting the virus to others
- Symptoms of chronic viral hepatitis can take decades to develop
 - Symptoms of hepatitis may include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, light-colored stools, joint pain, and jaundice

Hepatitis

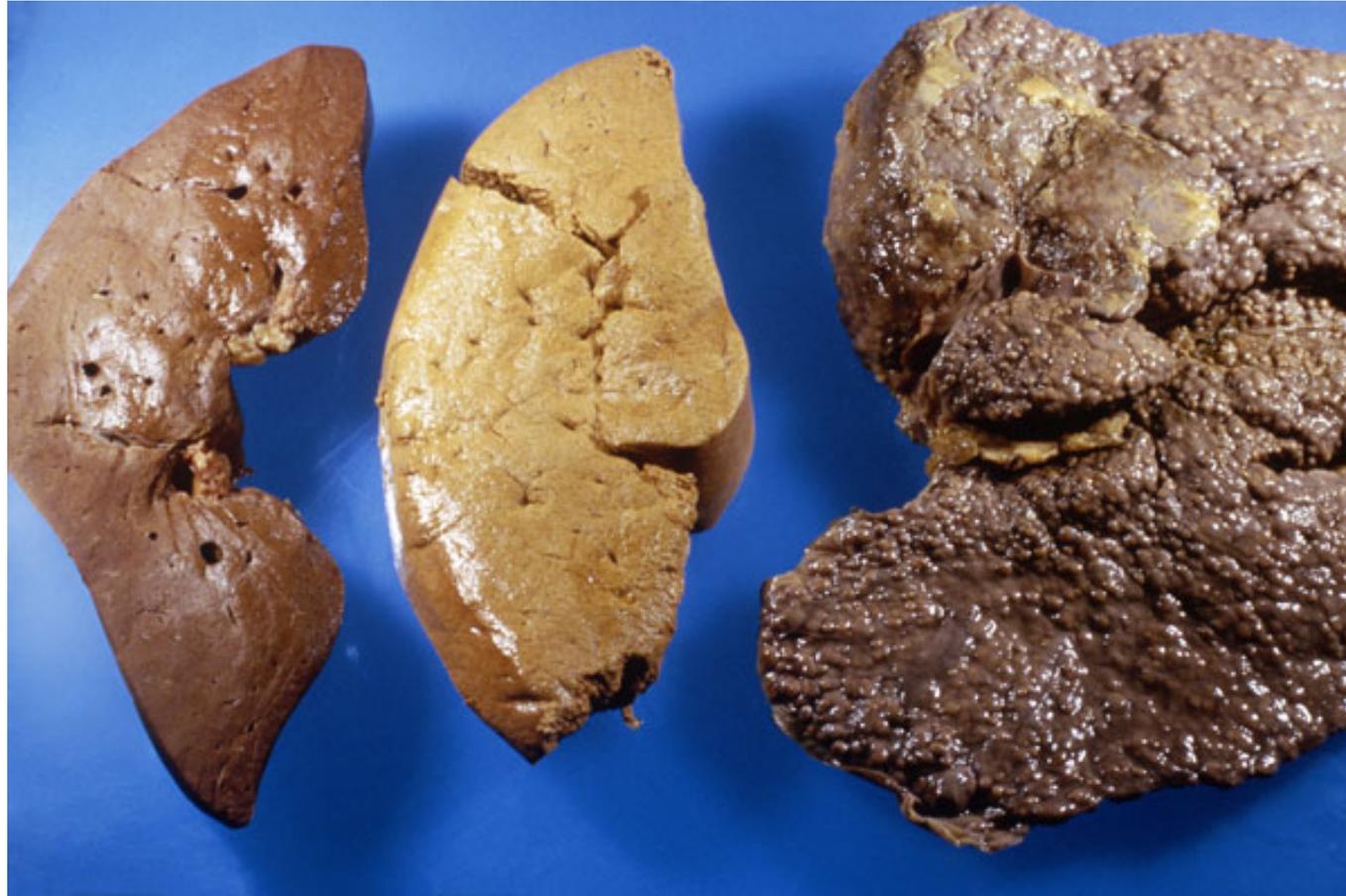
Jaundice is a yellowing of the skin and eyes due to a high level of waste material (bilirubin) in the blood



Hepatitis



Hepatitis

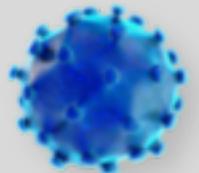
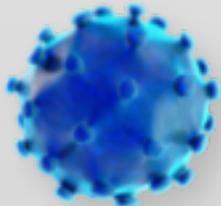
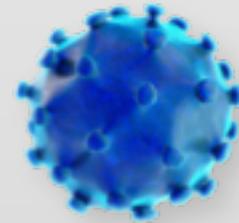
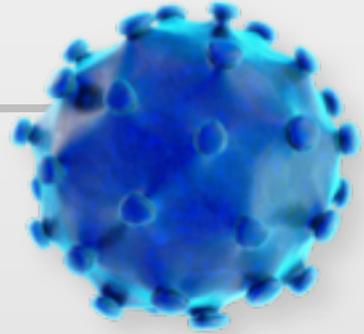




Hepatitis A

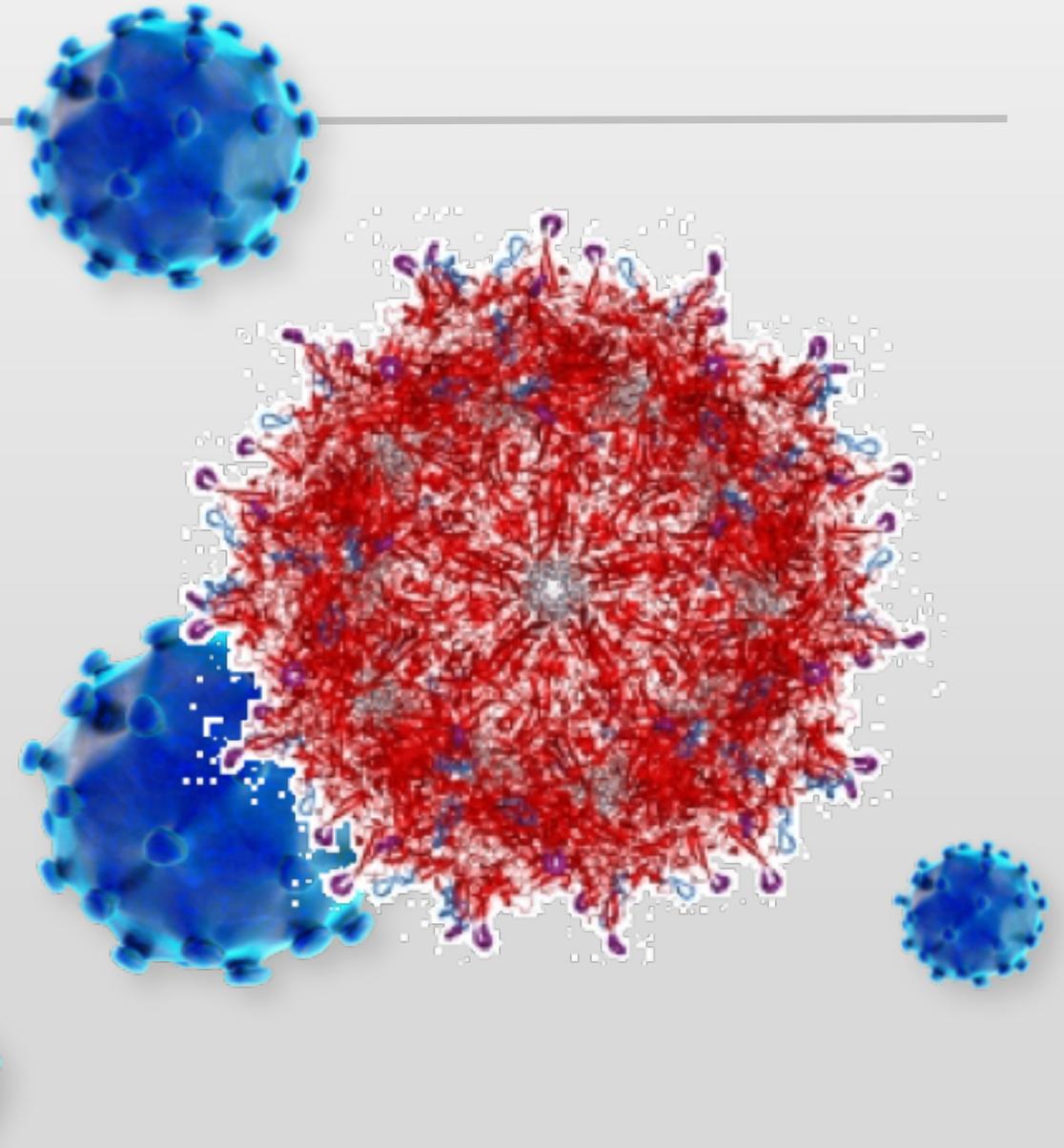
Hepatitis A (HAV)

- Acute liver infection spread by contact with objects, food, or drinks contaminated by feces from an infected person (even in microscopic amounts)
- The hepatitis A virus is able to survive outside the body for months
- Most common in countries where there are poor sanitary conditions
 - In the United States, the FDA provides strict sanitary guidelines and chlorination of water kills hepatitis A virus that enters the water supply
- About 4,000 new infections in the U.S. each year
 - Outbreaks typically happen among people who use drugs, people who experience homelessness, and men who have sex with men
 - HAV is considered an STI



Hepatitis A

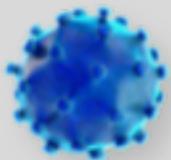
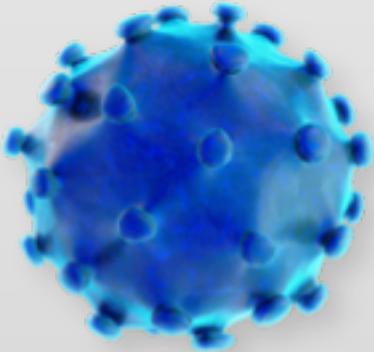
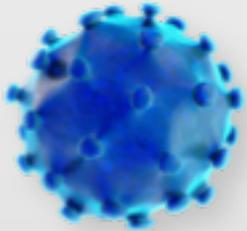
- Usually resolves on its own and most people recover with no lasting liver damage
- People who contract HAV can be sick for a few weeks to a few months
- Treatment focuses on addressing the symptoms
 - Doctors usually recommend rest, good nutrition, and plenty of fluids
- Antibodies produced by the body to fight the HAV infection last for life and protect against reinfection

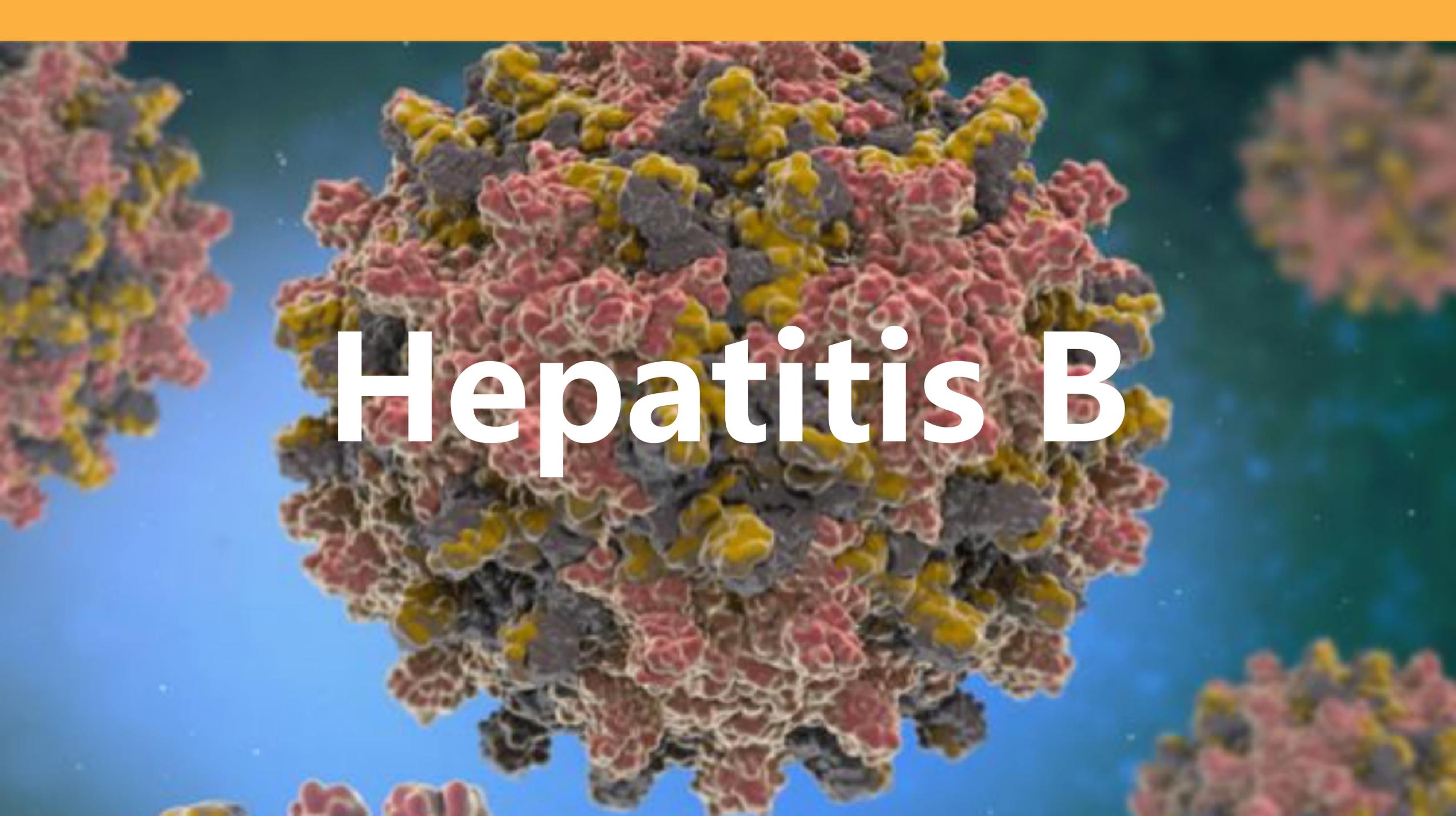


Hepatitis A

Prevention

- The best way to prevent hepatitis A is through vaccination
 - The vaccine series usually consists of 2 shots, given 6 months apart
 - Developed in 1995; born before then, need to be vaccinated as an adult
 - Duration of protection is not exactly known but it thought to be around twenty years
 - If exposed to hep A, must be vaccinated within 2 weeks
- Practicing good hygiene (esp. washing hands after using the bathroom and before preparing or eating food)
- Thoroughly cooking foods (and liquids) for at least 1 minute at 185°F (85°C)

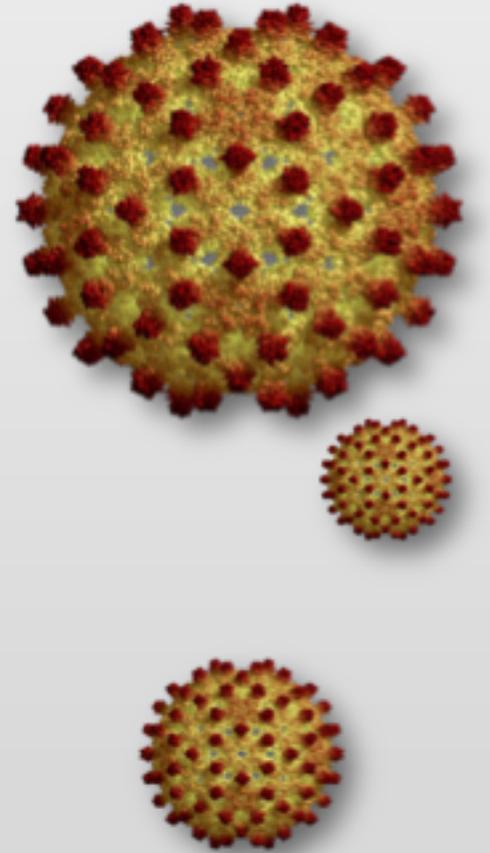


A 3D scientific illustration of Hepatitis B virus particles. The central focus is a large, spherical virus particle with a complex, textured surface composed of numerous small, interconnected subunits in shades of pink, purple, and yellow. The particle is set against a dark blue background with a subtle gradient and some faint, out-of-focus particles. The text "Hepatitis B" is overlaid in a large, white, sans-serif font across the middle of the image.

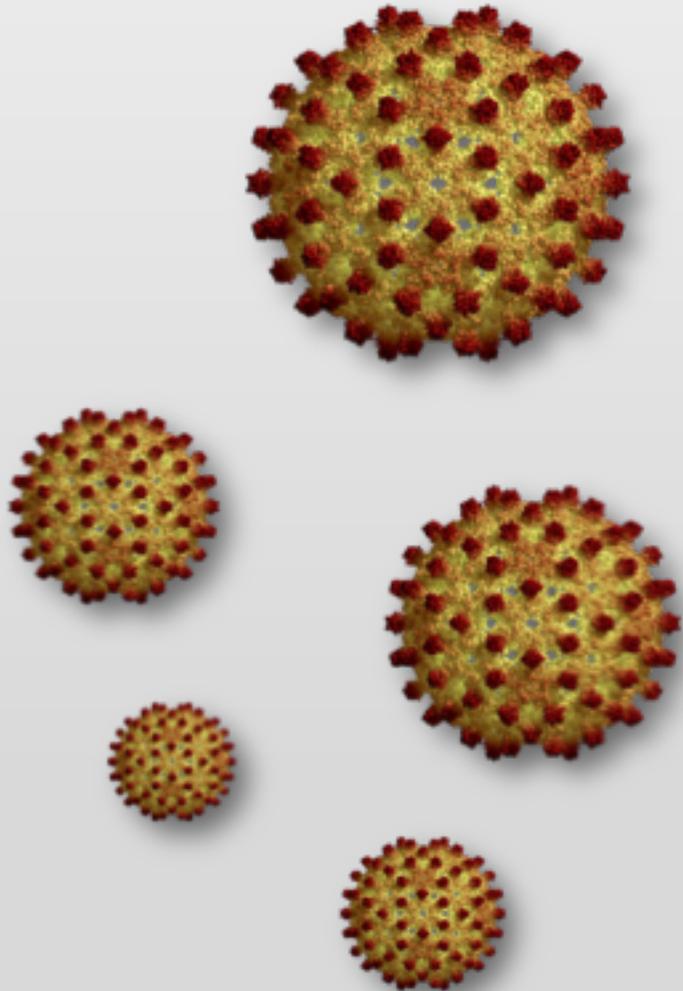
Hepatitis B

Hepatitis B (HBV)

- Liver infection primarily spread through infected blood, semen, or vaginal fluid
 - Common routes include IV drug use, sexual transmission, or from mother to child in childbirth
 - HBV is considered an STI
- 1.2 million people in the U.S. are estimated to be living with HBV
 - About 2 in 3 people with hepatitis B do not know they are infected
 - About 21,000 new infections each year in the U.S.
 - About 50% of people with hepatitis B in the U.S are Asian
- Hepatitis B can lead to liver cancer, cirrhosis, and death

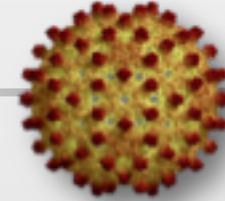
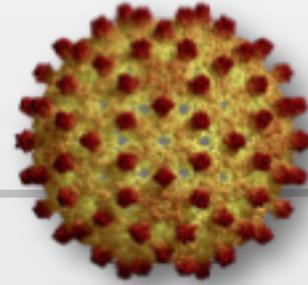


Hepatitis B



- Hepatitis B can range from a mild illness, lasting a few weeks (acute), to a serious, life-long (chronic) condition
- Treatment:
 - Acute: Resolves itself so treatment focuses on addressing the symptoms and promoting rest, good nutrition, and plenty of fluids
 - Chronic: Antiviral medications can help fight the virus and reduce risk of transmission, but there is no cure
- Antibodies produced in response to HBV last for life & protect against reinfection

Hepatitis B



- **Prevention**

- Hepatitis B Vaccination

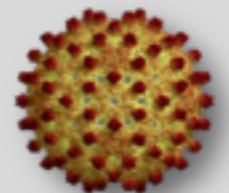
- The vaccine series usually consists of 3 shots over a 6 month period
 - Developed in 1997; born before then, need to be vaccinated as an adult
 - Thought to protect for life, though sometimes boosters are recommended
 - If exposed to Hep B, must be vaccinated within 7 days to prevent infection

- Using condoms or other barriers

- Not sharing needles and other equipment for injection drug use

- Not sharing personal items like toothbrushes, razors, and nail clippers

- Hep B can live outside the body for 7 days

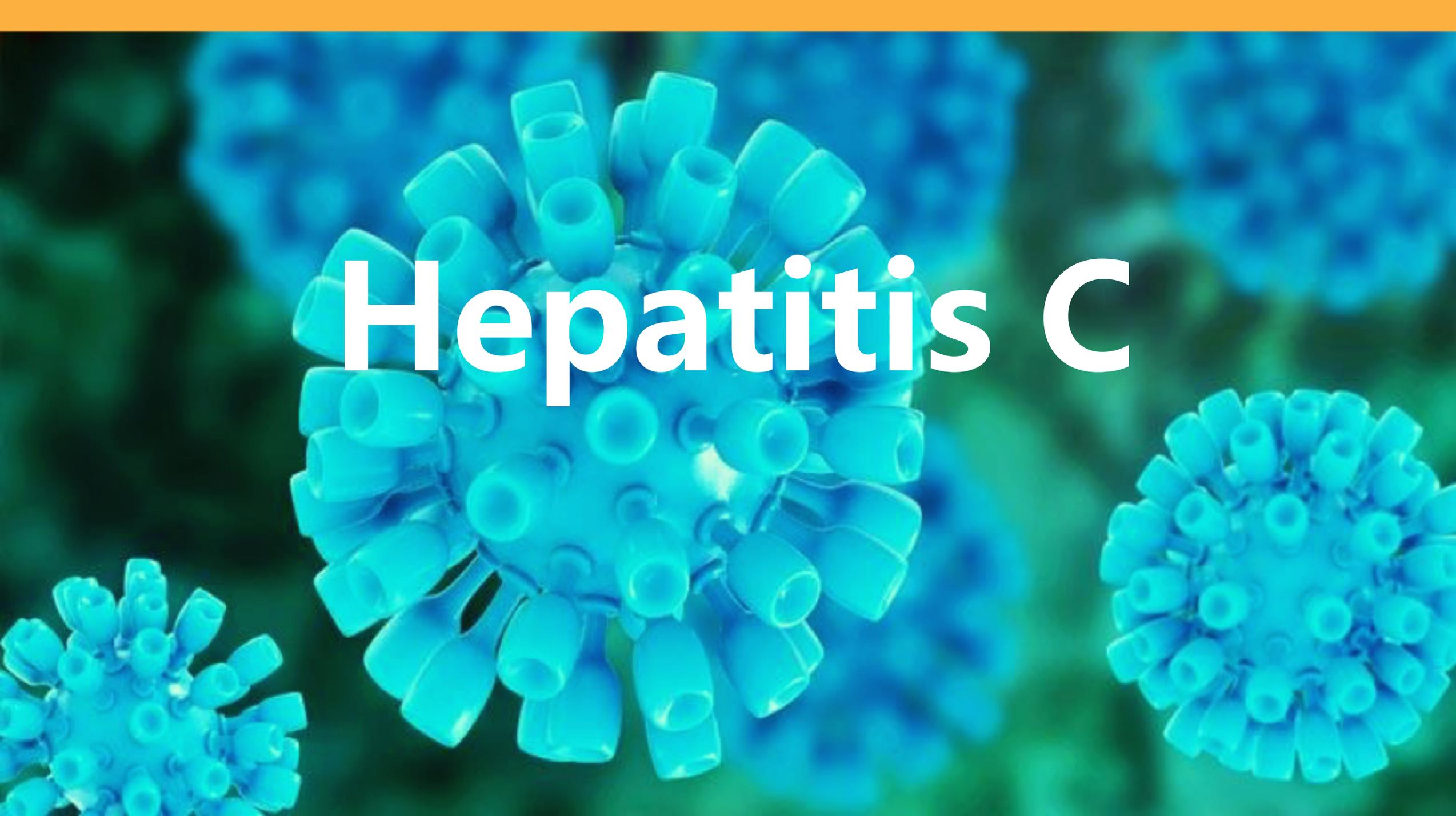




Combination Vaccination

- Combination vaccination available for protection against both Hepatitis A and Hepatitis B
- Can be administered to anyone over the age of 18
- Given as 3 shots over a 6 month period
- Provides immunity for at least 10 years, but may protect for a lifetime (research still being reviewed)
- Vaccine is covered by MassHealth

Hepatitis C

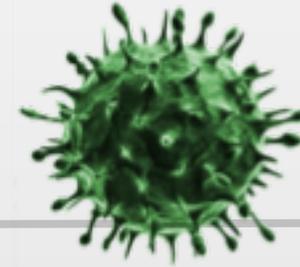
A 3D rendering of Hepatitis C virus particles, which are spherical and composed of many small, blue, cylindrical subunits. The particles are shown in various sizes and orientations against a dark blue background with a greenish gradient. The text "Hepatitis C" is overlaid in white, bold, sans-serif font.

Hepatitis C (HCV)

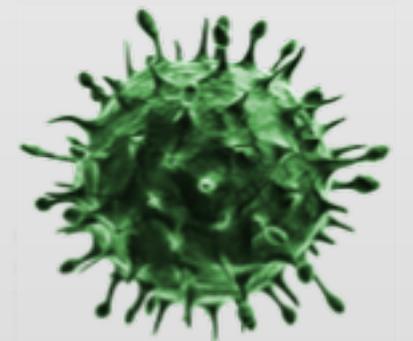
What Is Hepatitis C ?

[Link to Video](#)

Hepatitis C (HCV)

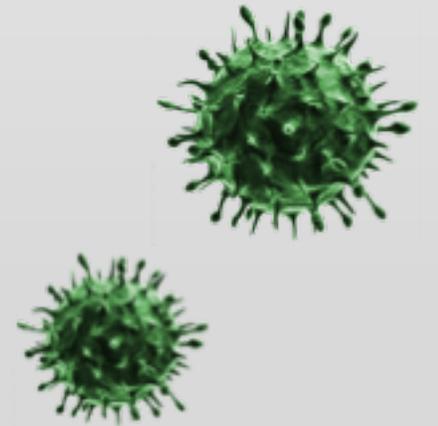


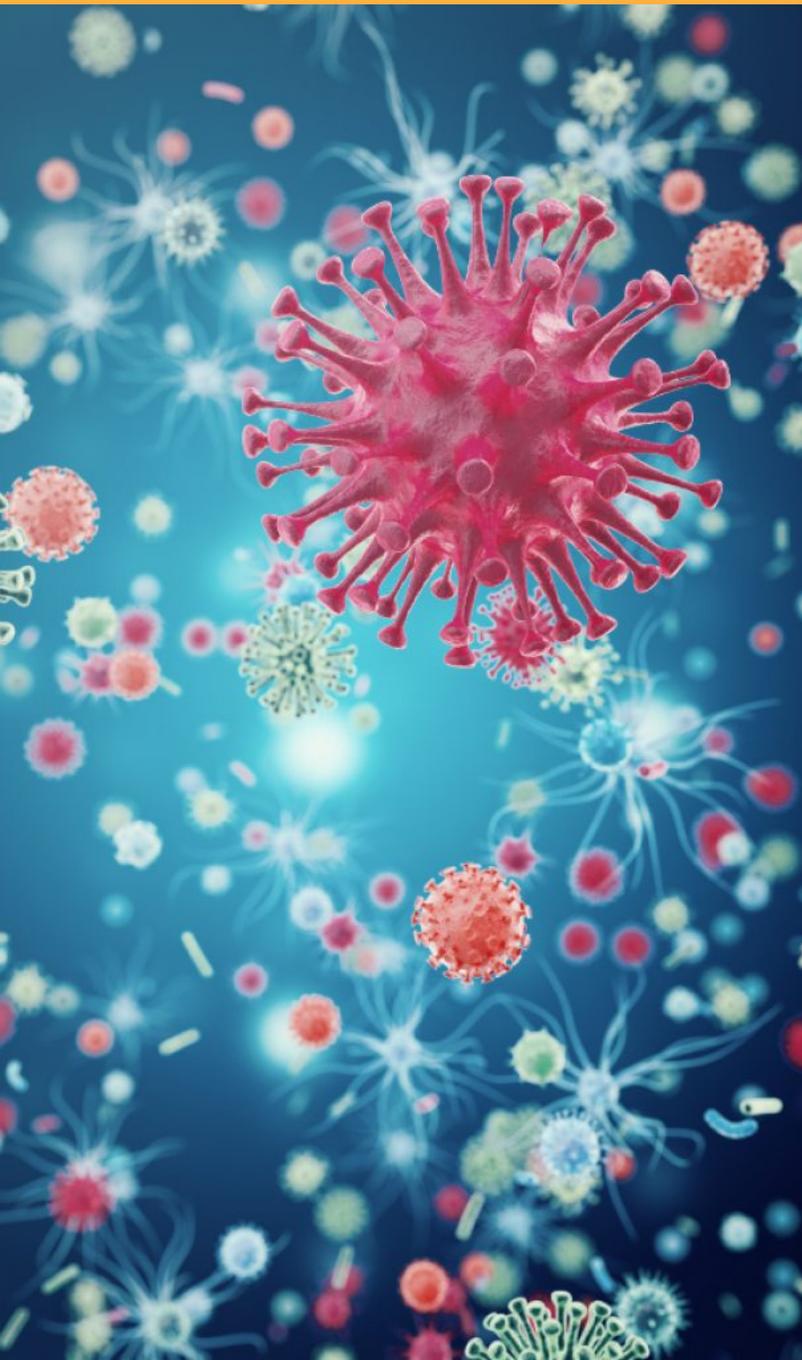
- Liver virus spread through contact with contaminated blood
 - HCV is the most common blood-borne illness in the U.S.
- Estimated 3.2 million people in the U.S. living with hepatitis C
 - About 41,000 new infections each year
 - About 50% of people with hepatitis C do not know they are infected
 - More than 70,000 people have Hep C in the Commonwealth (MDPH, 2018)
- 3 out of 4 PWHCV were born from 1945-1965
 - May have been exposed to medical equipment, procedures, and bloody supply before universal precautions and infection control were adopted
 - However since 2006, the number of new HCV infections has been rising, especially among people younger than age 30 who inject
- Hepatitis C can lead to liver cancer, cirrhosis, and death



Hepatitis C

- Transmission
 - Sharing needles and other drug paraphernalia is the most common risk factor for HCV
 - Most infections occur via an intermediary, inanimate object as HCV can survive outside the body for up to six weeks
 - Less frequently, can be spread from sex or from mother to child during birth (low but present risk)
- Who should get tested?
 - People who continue high-risk behaviors (tested at least once every year)
 - People who were born 1945-1965 (tested at least once)
 - People with a recognized exposure
 - People who have been incarcerated
 - People with HIV



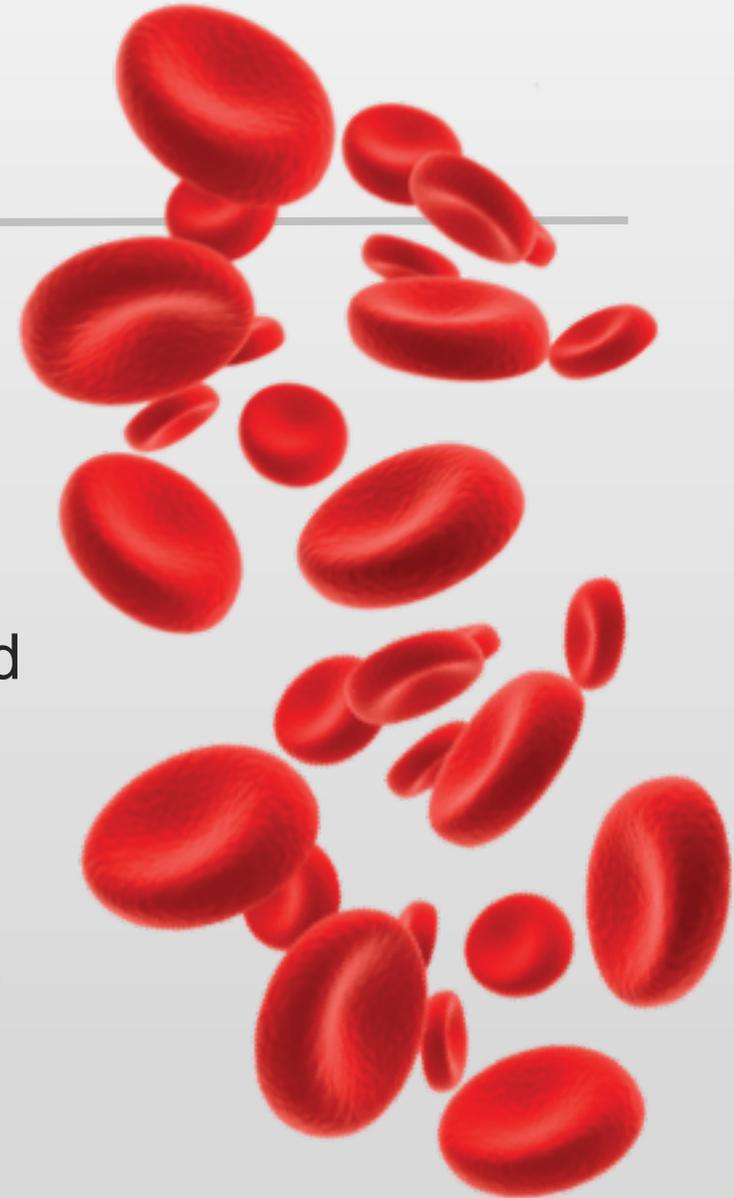


Co-Infection: HIV & VH

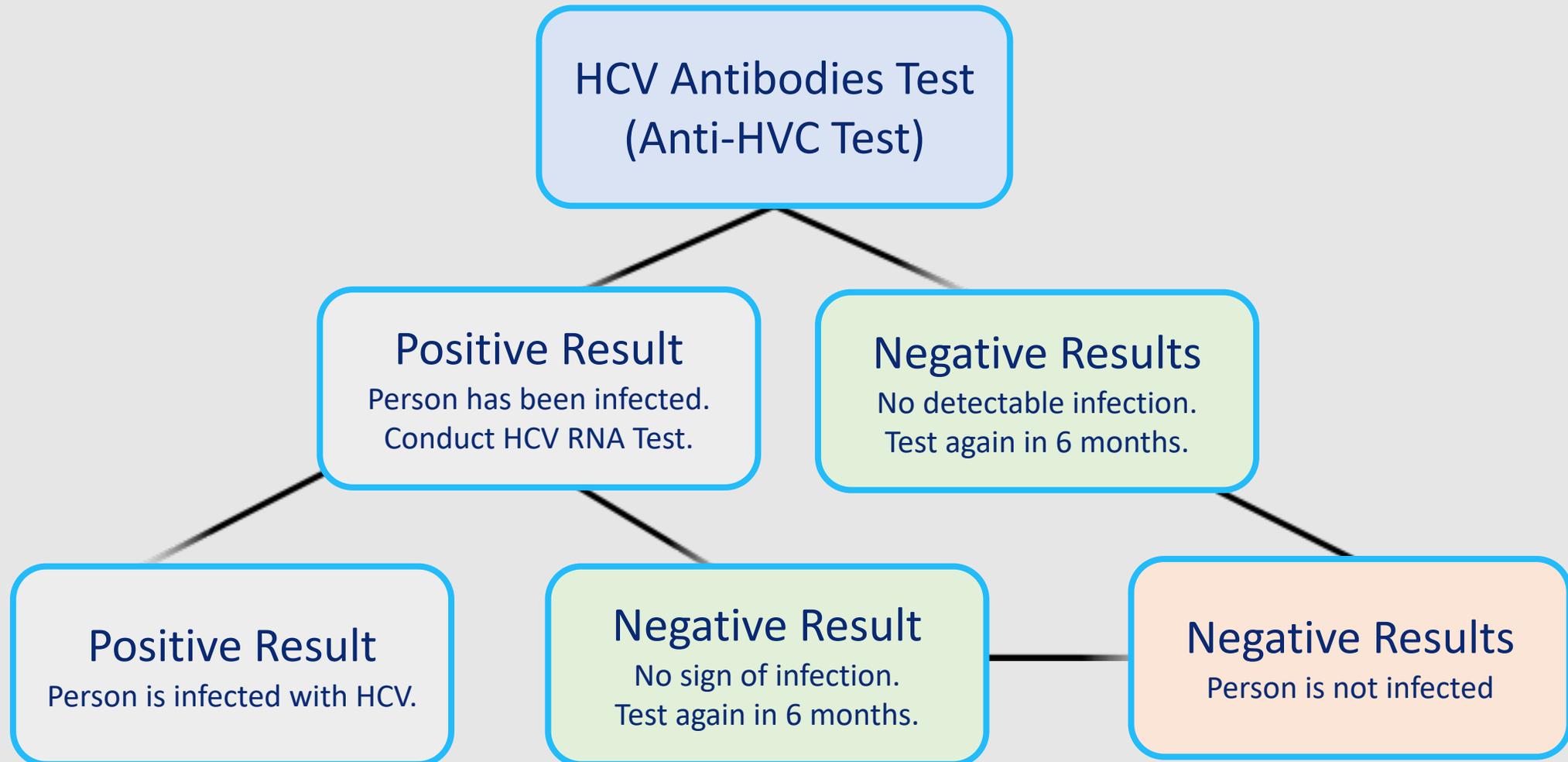
- Of people living with HIV in the United States, about 25 percent are coinfecting with hepatitis C virus (HCV), and about 10 percent are coinfecting with hepatitis B virus (HBV)
- HIV coinfection more than triples the risk for liver disease, liver failure, and liver-related death from HCV
- CDC recommends all persons at risk for HIV be vaccinated against hepatitis B and be tested routinely for HBV and HCV infection
- In Massachusetts, all HIV screenings conducted at state-funded sites is automatically tested for both

Hepatitis C Testing

- Doctors use an antibody blood test to determine if a person has been infected
 - Antibodies are proteins in the blood that the body produces to fight the virus
- HCV infection can be detected by the HCV antibody blood test usually 4–10 weeks after infection
 - About 97% of people infected will have a positive HCV antibody test 6 months after exposure
- If a person tests positive for antibodies, an HCV RNA test is done to determine if the virus is active
 - RNA is the virus' genetic material



Hepatitis C Testing



Hepatitis C: Genotypes

- The RNA test identifies what type of Hep C a person has been infected
 - HCV has high mutation rates, which have evolved to different types or strains, known as *genotypes*
- There are 6 known genotypes in the world
 - HCV genotypes 1-3 appear to be distributed worldwide
 - HCV genotype 4 is more prevalent in Africa and in the Middle East
 - HCV genotype 5 is found mainly in South Africa
 - HCV genotype 6 is found mainly in Southeast Asia





Hepatitis C: Genotypes

- In the U.S:
 - Genotype 1 (70% of HCV in U.S.)
 - Genotype 2 & 3 (25% of HCV in the U.S.)
 - Genotype 4, 5, & 6 (5% of HCV in the U.S.)
- Most people with the hep C virus are infected by just one virus genotype, BUT a person can be infected with more than one type at the same time
- Treatment is determined by the HCV genotype a person has contracted

Hepatitis C Treatment

Harvoni

For people with genotype 1 & 3 and 6 if taken with Ribavirin

Daklinza

For people with genotype 3 and treatment naïve

Zepatier

For genotypes 1, 4, and 6. Recommended for people with cirrhosis, HIV and kidney disease

Technivie

For people with genotype 4 who don't have cirrhosis

Viekira Pak

For people with genotype 1 who have compensated cirrhosis

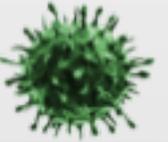
**Mavyret &
Vosevi**

Both effective cures for genotypes 1-6

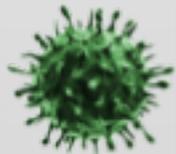
Hepatitis C Treatment



- HCV is treated with antiviral medications which work by reducing the amount of the virus in the body, helping the immune system fight the infection and the liver to recover
- Current treatments usually involve 8-12 weeks of oral therapy (pills) and cure almost 99% of people with few side effects- much more effective and tolerable than past treatment



	Interferon (Then)	New Generation
Course	48 weeks; weekly injection	8-12 weeks, P.O. taken once daily
Side Effects	Flu like symptoms, fatigue nausea, vomiting, diarrhea, mouth ulcers, poor appetite, anxiety, depression, suicidal ideations, hair loss	Temporary mild flu like symptoms
Efficacy	54-63% SVR	96-99% SVR



- Even with effective medications, many still don't access treatment

Hepatitis C Treatment



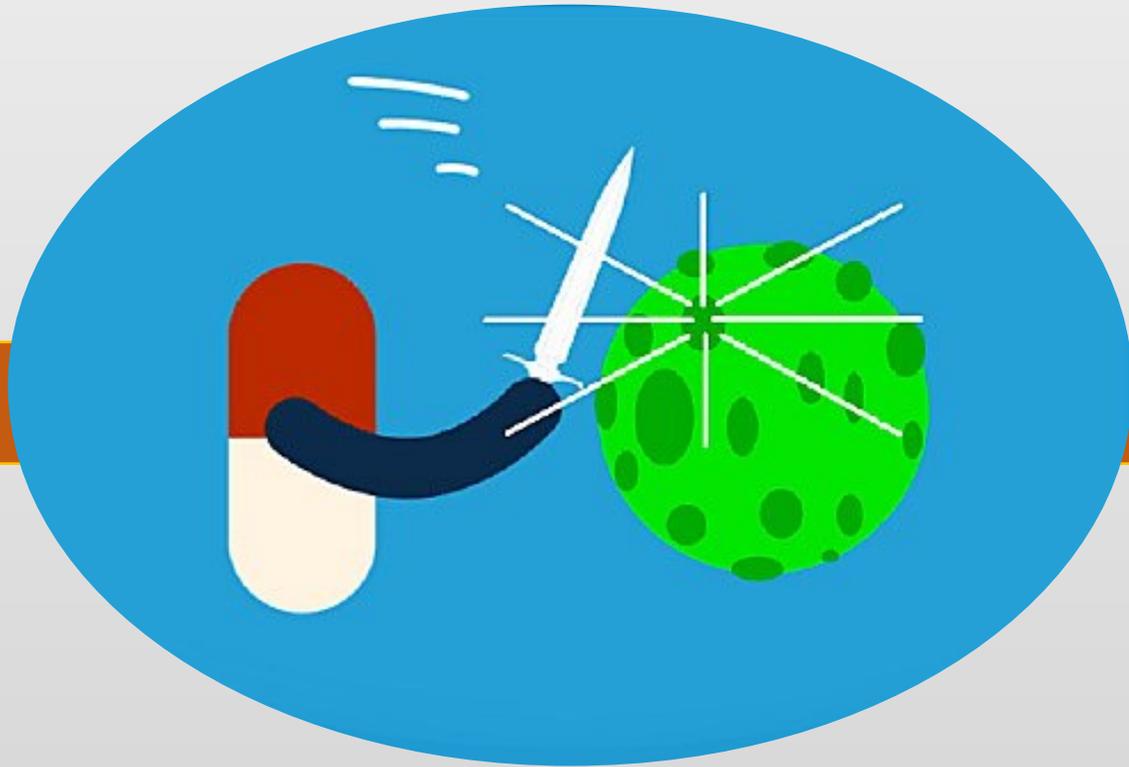
As of August 1, 2016, all MassHealth beneficiaries have a right to access HCV direct-acting antivirals without restrictions related to fibrosis score, substance use abstinence, previous infection, or prescriber specialty

Insurer ⁵	Epclusa (sofosbuvir / velpatasvir)			Harvoni (ledipasvir / sofosbuvir)			Mavyret (glecaprevir / pibrentasvir)			Sovaldi (sofosbuvir)			Vosevi (sofosbuvir / velpatasvir / voxilaprevir)			Zepatier (elbasvir / grazoprevir)		
	Covered (Yes/No)	Cost	Util. Mgmt.	Covered (Yes/No)	Cost	Util. Mgmt.	Covered (Yes/No)	Cost	Util. Mgmt.	Covered (Yes/No)	Cost	Util. Mgmt.	Covered (Yes/No)	Cost	Util. Mgmt.	Covered (Yes/No)	Cost	Util. Mgmt.
MassHealth*	Yes	\$3.65	PA;	Yes	\$3.65	PA;	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA
AllWays Health Partners – My Care Family	Yes	\$3.65	PA; QL	Yes	\$3.65	PA; QL	No	--	--	No	--	--	Yes	\$3.65	PA	No	--	--
BMC HealthNet**	Yes	\$3.65	PA	Yes	\$3.65	PA; QL	Yes	\$3.65	PA	Yes	\$3.65	PA; QL	Yes	\$3.65	PA	Yes	\$3.65	PA
Fallon Health***	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA
Health New England – BeHealthy Partnership	Yes	\$3.65	PA; QL	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA; QL
Tufts Health Plan****	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA	Yes	\$3.65	PA

[Link to More Info](#)

For PWHIV, assistance through [HIV Drug Assistance Program \(HDAP\)](#) is also available

Hepatitis C Treatment

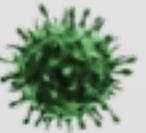


- **Researchers estimate that hepatitis C could be a rare disease in the United States by 2036**
- **With curative treatment, eliminating HCV as a public health threat is a real possibility!**



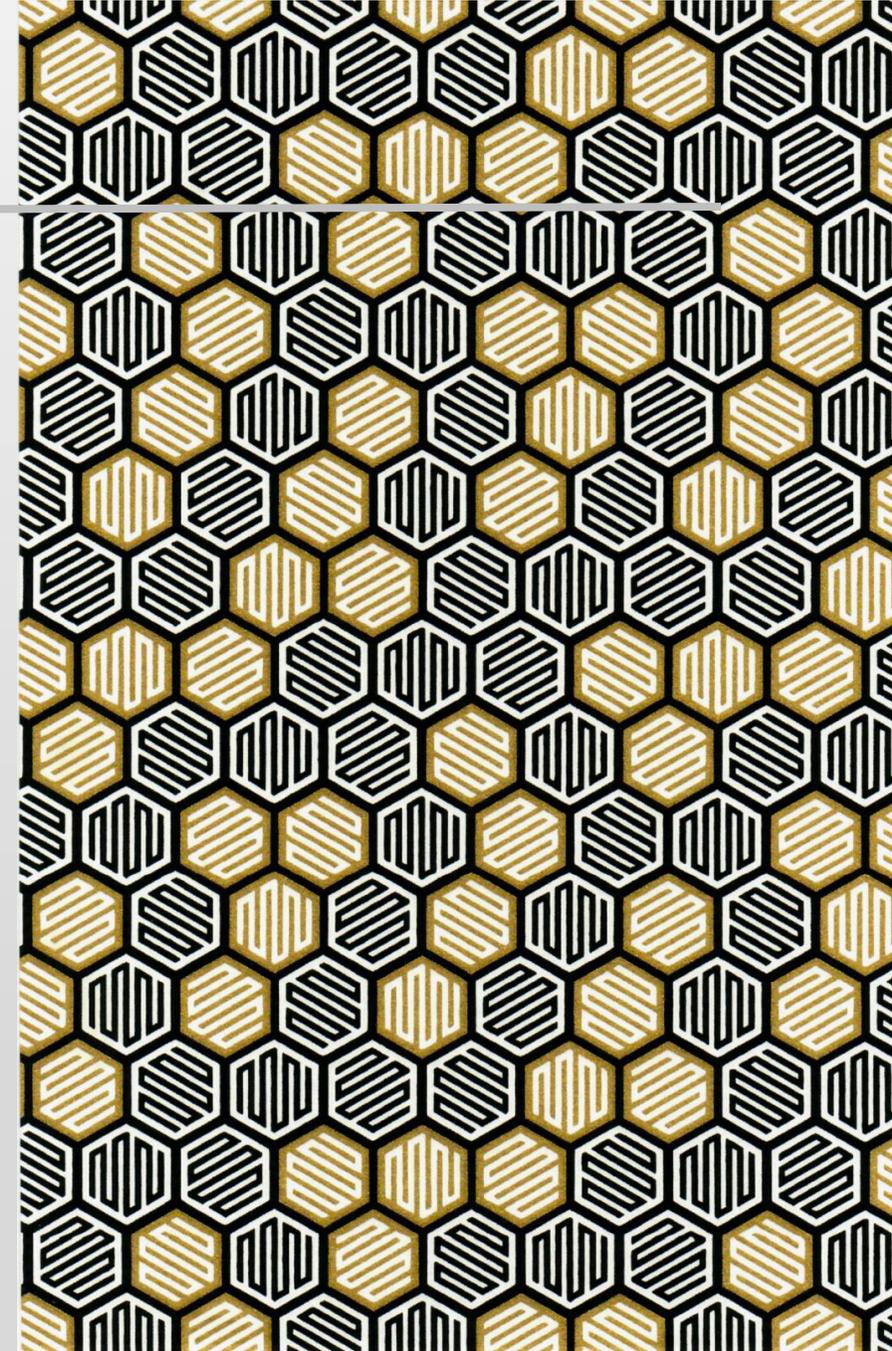
Hepatitis C Prevention

- There is no vaccine available for hepatitis C (yet)
- Not sharing needles or other equipment (or using first or early in line)
- Not sharing personal items like toothbrushes, razors, and nail clippers
- Covering and protecting cuts and sores
- Using only licensed tattoo and piercing artists



Provider 411

- As providers, we play an important role in protecting our clients' health
- It is our job to:
 - Provide education on viral hepatitis
 - Encourage testing and link with resources
 - Offer harm reduction strategies that meet clients where they are
 - Be knowledgeable about treatment and guidelines
 - Help clients identify barriers to treatment and how ways to address them



Hepatitis C Treatment

- Though HCV is curable, many still don't access treatment
- Possible barriers include:
 - Not knowing of infection
 - Delay of symptoms
 - Attitudes of healthcare workers
 - Competing priorities
 - Misinformation
 - Mistrust of the healthcare system
- What if a person is not able to seek treatment right now?



Support a healthy liver



- Eat a balanced diet
 - Minimize processed foods, saturated fat, and sugars
- Drink lots of water- hydration is essential!
- Engage in physical activity regularly
 - CDC Recommendation is 2.5 hours per week
- Get good sleep
 - CDC recommends 7-9 hours each night
- Avoid toxins
 - When using chemicals, ensure good ventilation or wear a mask
 - Work towards being tobacco free

Support a healthy liver (cont.)

- Use alcohol responsibly
 - No more than 1 drink per day for women and 2 for men
- Practice safe sex
- Wash your hands
 - Scrub hands, including the back of your hands between your fingers, and under your nails, for at least 20 seconds or the time it takes to sing the “Happy Birthday” song twice
- Follow directions on all medications
 - When medicines are taken incorrectly your liver can be harmed
 - Exercise caution when using Acetaminophen (Tylenol)
- **Get vaccinated, tested, and treated!**



Hepatitis Risk Assessment Tool

"Hepatitis" means inflammation of the liver and is usually caused by a virus. In the U.S., the most common types are Hepatitis A, Hepatitis B, and Hepatitis C. Millions of Americans are living with viral hepatitis but most do not know they are infected. People can live with chronic hepatitis for decades without having symptoms.

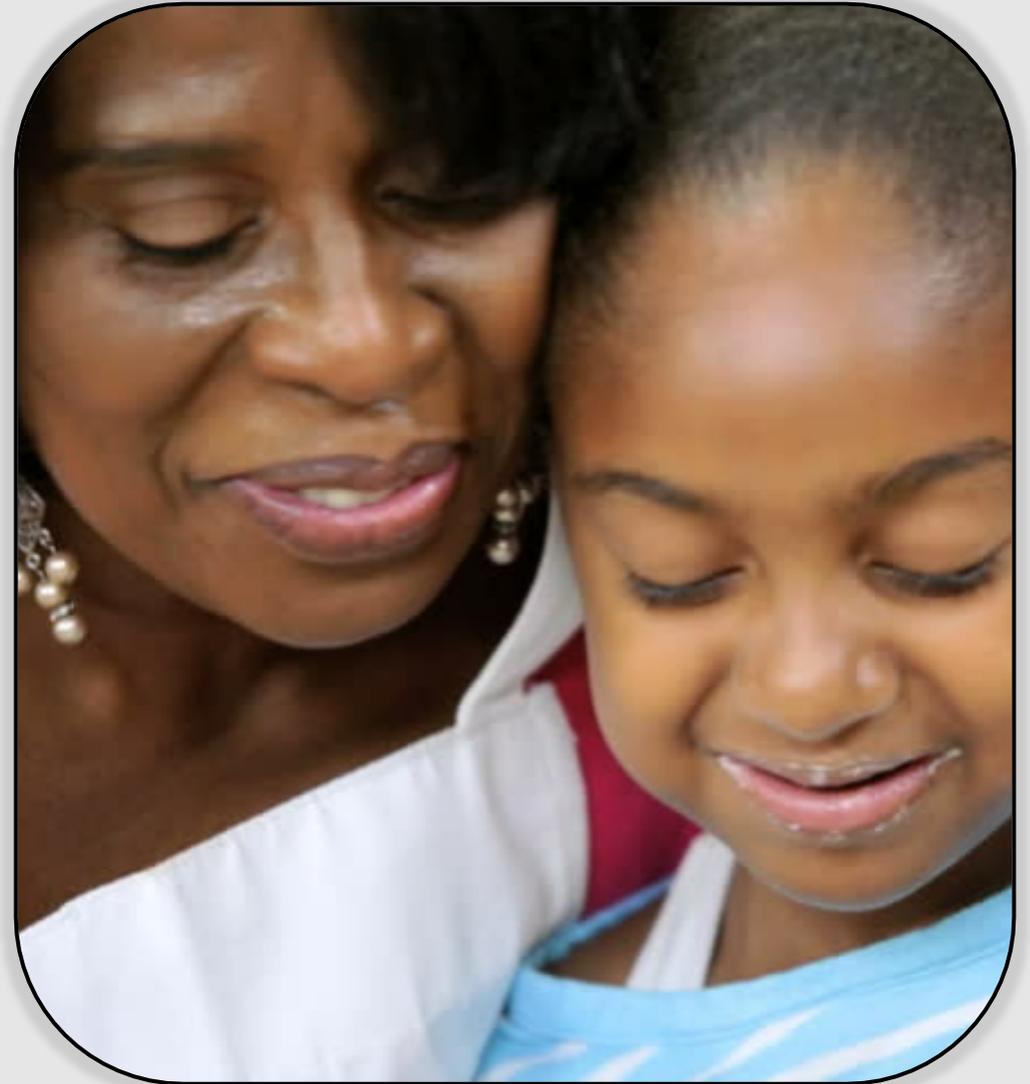
This assessment will help determine if you should be vaccinated and/or tested for viral hepatitis by asking a series of questions. Depending on your answers, you will be given a tailored recommendation that you should discuss with your doctor or your professional healthcare provider. Any information received through the use of this tool is not medical advice and should not be treated as such.

Questions	Recommendations & Explanation
1. Have you ever been diagnosed with a clotting factor disorder?	If yes, talk to your doctor about getting vaccinated for Hepatitis A.
2. Have you ever been diagnosed with a chronic liver disease?	If yes, talk to your doctor about getting vaccinated for Hepatitis A and B.
3. Were you or at least one parent born outside of the United States?	If yes, talk to a doctor about getting a blood test for Hepatitis B. Many parts of the world have high rates of hepatitis B, including the Amazon Basin, parts of Asia, Sub-Saharan Africa and the Pacific Islands.
4. Do you currently live with someone who is diagnosed with Hepatitis B?	If yes, talk to a doctor about getting a blood test for Hepatitis B.
5. Have you previously lived with someone who has been diagnosed with hepatitis B?	If yes, talk to a doctor about getting a blood test for hepatitis B.
6. Have you recently been diagnosed with a sexually transmitted disease (STD)?	If yes, talk to a doctor about getting vaccinated for Hepatitis B.
7. Have you been diagnosed with diabetes?	If yes, talk to a doctor about getting vaccinated for Hepatitis B.
8. Have you been diagnosed with HIV/AIDS?	If yes, talk to a doctor about getting vaccinated for Hepatitis B and getting a blood test for Hepatitis B and Hepatitis C.
9. If you are a man, do you have sexual encounters with other men?	If yes, talk to a doctor about getting vaccinated for Hepatitis A and B, and getting a blood test for Hepatitis B.
10. Do you currently inject drugs?	If yes, talk to a doctor about getting vaccinated for Hepatitis A and B, and getting a blood test for Hepatitis B and C.
11. Were you born from 1945-1965?	If yes, talk to a doctor about getting a blood test for Hepatitis C
12. Have you ever received a blood transfusion or organ transplant before July 1992?	If yes, talk to a doctor about getting a blood test for Hepatitis C.
13. Have you ever received a clotting factor concentrate before 1987?	If yes, talk to a doctor about getting a blood test for Hepatitis C.
14. Have you ever injected drugs, even if just once?	If yes, talk to a doctor about getting a blood test for Hepatitis C.
15. Do you plan on traveling outside of the United States within the next year?	If yes, talk to a doctor about what vaccines may be needed for travel outside the U.S.

[Link to Print Out Assessment](#)

Connie

- Married for 35 years
- Grandmother of two
- Reports smoking but states she's down to half a pack a day
- Also admits she sometimes over does it on wine in the evenings



Carrie

- Engages in sex work
- Reports no “kinky sex” or drug use
- Almost always uses a condom
- Only time she went to the doctors in the past two years was to be treated for Gonorrhoea





Alan

- Just out of long-term relationship with his boyfriend
- Headed to Mexico for vacation with friends
- Gets tested for HIV once a year



Lee

- Born in South Korea
- Moved to the US when he was 10
- Feeling tired lately but no health insurance prevents him from seeing a doctor
- Sometimes snorts cocaine when he's out with his buddies

From Cirrhosis to a Hep C Cure: William's Story



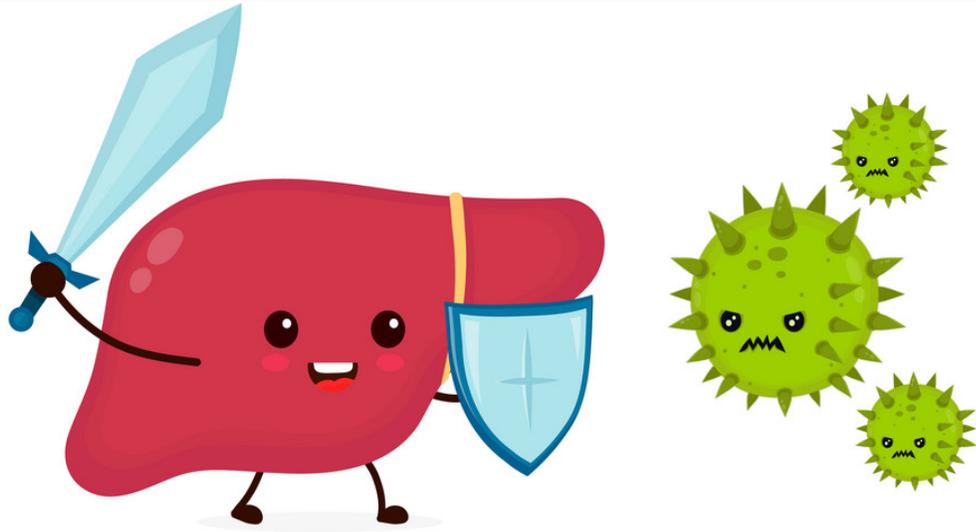
[Link to Video](#)

Pop Quiz!

- Three major roles of the liver?
 - Process nutrients, filter blood from toxins, fight infections
- Which strain(s) of Hepatitis are considered STIs?
 - Hepatitis A & B
- Which strain(s) of Hepatitis which can be cured?
 - Hepatitis A & C
- Which strain(s) have vaccinations?
 - Hepatitis A & B
- Which strain(s) of Hepatitis can a person be reinfected with?
 - Hepatitis C

Pop Quiz!

- Which viruses can become chronic?
 - Hep B & C
- How long HCV can last outside of the body?
 - Six weeks
- How long it takes for antibodies to show up in HCV test?
 - 4-10 weeks, up to 6 months
- Three symptoms of chronic hepatitis?
 - Fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, light-colored stools, joint pain, and jaundice
- Five ways to support a healthy liver?
 - Balanced diet, physical activity, sufficient sleep, hydration, avoid toxins, limit alcohol and tobacco use, safe sex, good hygiene, take meds as prescribed, get tested/vaccinated/treated!



To access slides, visit us at **C4Innovates.com**

For more information:

- SAMHSA: TIP 53: Addressing Viral Hepatitis in People with Substance Use Disorders
- CDC: www.cdc.gov/hepatitis
- MDPH: <https://www.mass.gov/service-details/hepatitis-c>
- Praxis: www.c4innovates.com

Questions?

Thank You!



C4
Innovations