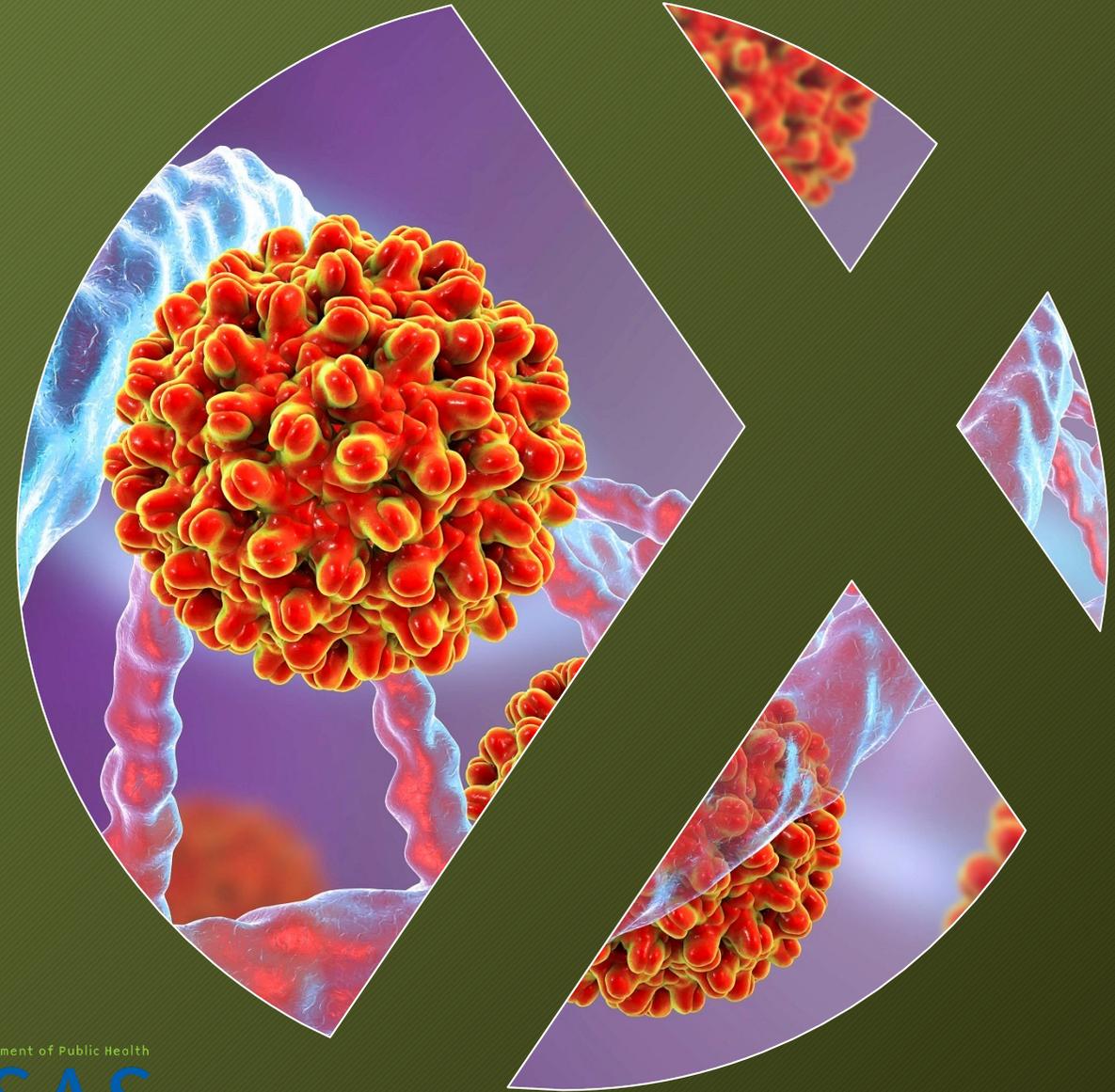


Viral Hepatitis

Prevention, Testing, & Treatment



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

Helpful Websites

BSAS:

www.mass.gov/dph/bsas

Helpline:

www.helpline-online.com

Careers of Substance:

www.careersofsubstance.org

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

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 credit for this activity, you must attend all 1.5 hours of the course and participate in course discussions

- **Conflicts of interest**

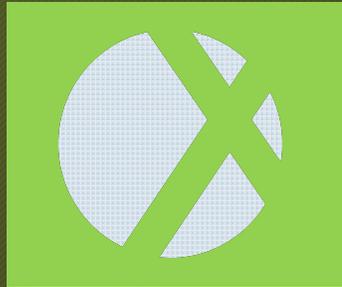
There is no conflict of interest for any planner or presenter of this activity

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

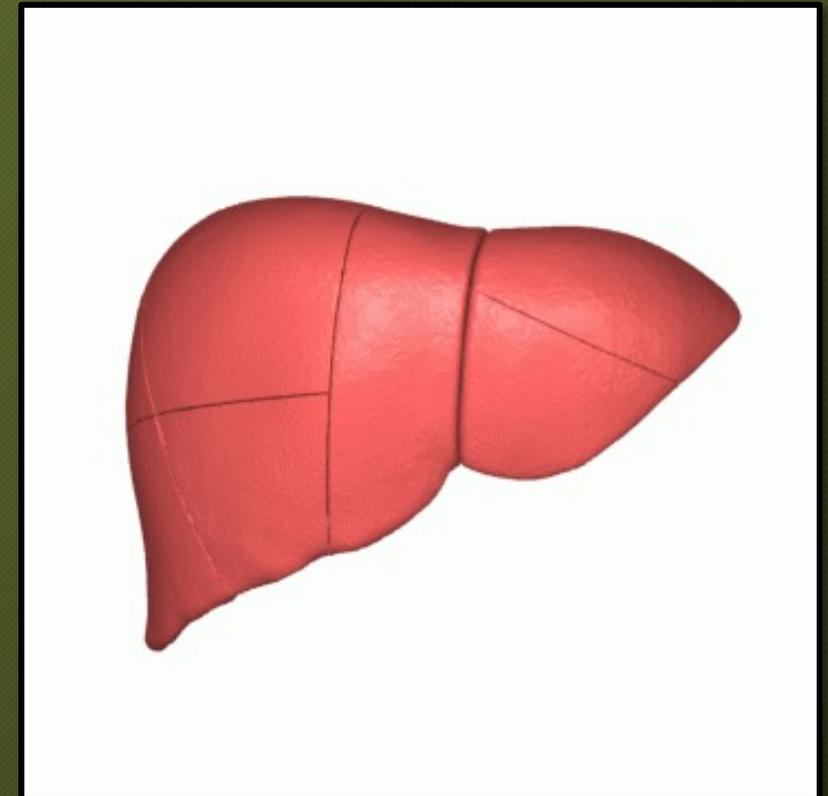


- The liver is a vital organ that carries out more than 500 roles in the body. Major roles include:
 - Processing nutrients
 - Filtering the blood from toxins
 - Fighting infections
- It is the largest and heaviest internal organ, weighing approx. 3lbs
- It is the only organ that can regenerate
- When the liver is inflamed or damaged, its ability to function and regenerate can be greatly diminished

Hepatitis



- Inflammation of the liver
 - 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



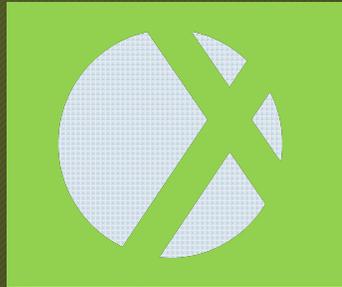
Cirrhosis



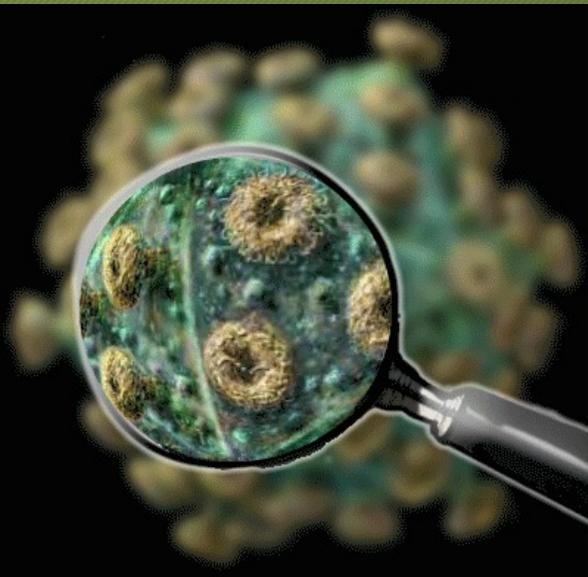
- Cirrhosis is severe scarring of the liver caused by many forms of liver diseases and conditions (such as hepatitis and heavy alcohol use)
- Each time your liver is injured – whether by disease, excessive alcohol use, etc.— it tries to repair itself. Just like in the rest of the body, in the process, scar tissue forms.
- As more and more scar tissue forms, it makes it difficult for the liver to function; advanced cirrhosis becomes life threatening
- Damage cannot be undone, but if treated early, it can be limited.



Viral Hepatitis



- In the United States, the most common types of viral hepatitis are **hepatitis A, hepatitis B, and hepatitis C**
- 4.7 million people are estimated to be living with viral hepatitis in the U.S, 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 and are usually a sign of advanced liver disease
 - Symptoms of hepatitis may include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, itching, dark urine, light-colored stools, joint pain, and jaundice



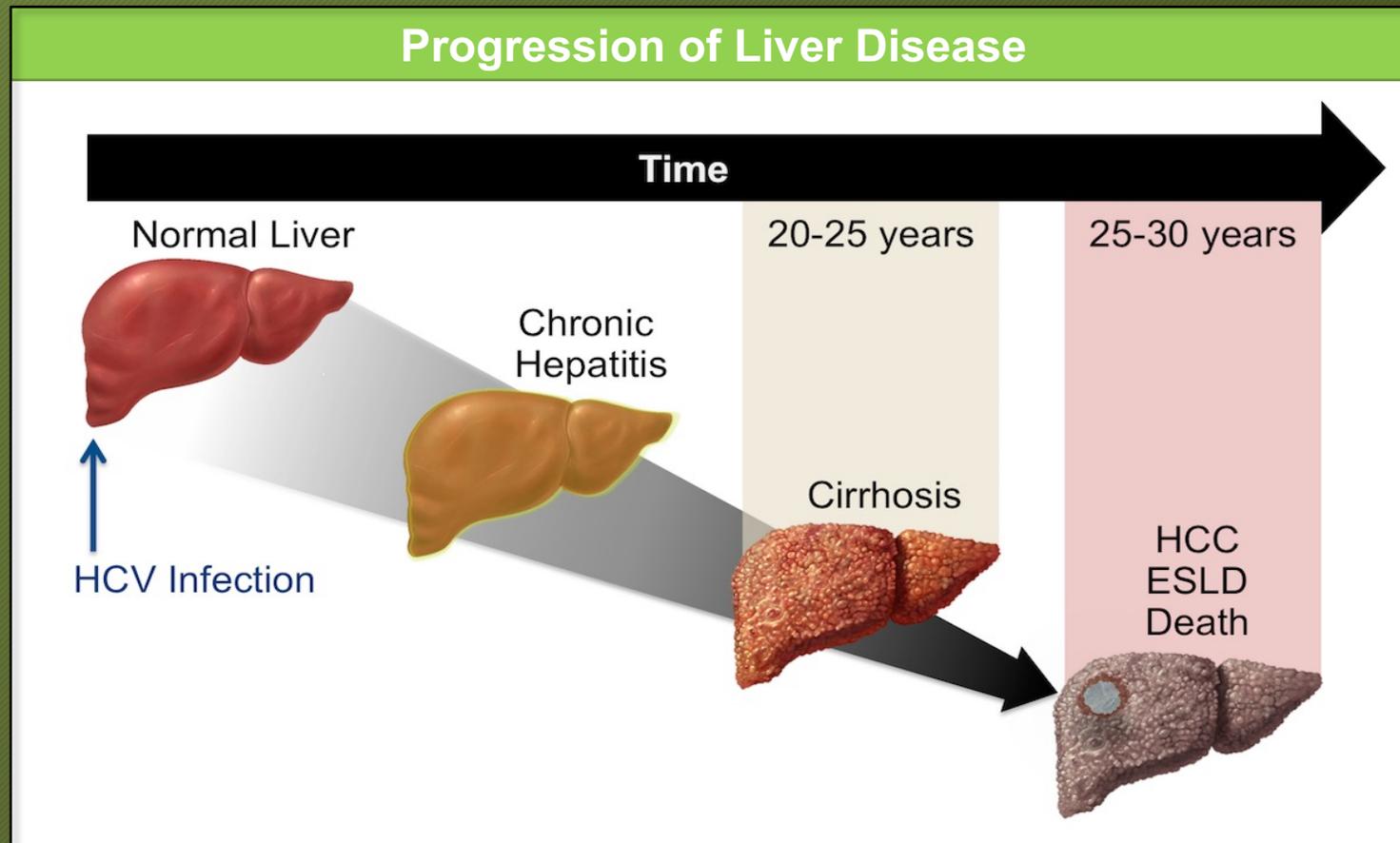
Viral Hepatitis



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



Viral Hepatitis



Viral Hepatitis

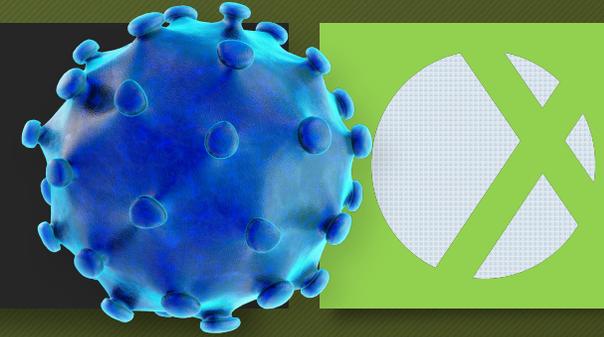




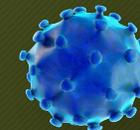
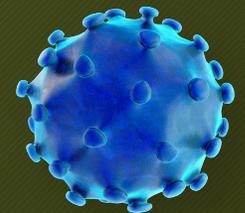
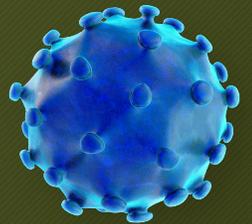
Hepatitis A



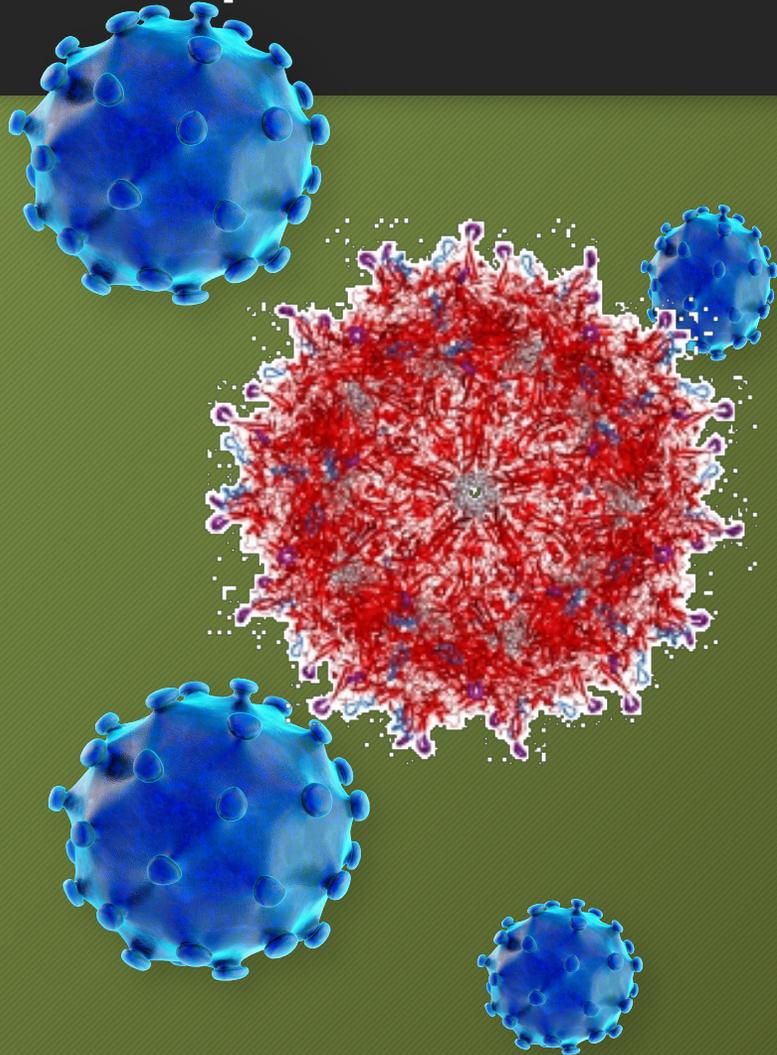
Hepatitis A (HAV)



- Liver infection spread via the oral-fecal route through direct contact or consumption of contaminated food or water.
- 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
 - In 2018, Mass saw an increase of HAV of more than 4,000%
 - Outbreaks typically happen among people who use drugs, people who experience homelessness, and men who have sex with men
- HAV is considered an STD



Hepatitis A

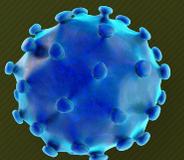
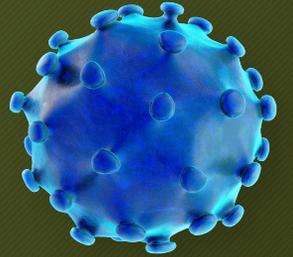
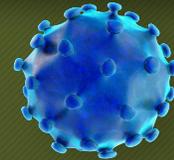


- HAV is an acute infection which usually resolves on its own within a few months
- Most people recover with no lasting liver damage
 - About 4% develop life threatening complications
- Treatment focuses on addressing the symptoms
 - Doctors usually recommend rest, good nutrition, and plenty of fluids
- 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; those born before, need to be vaccinated as an adult
 - If exposed to hep A, must be vaccinated within 2 weeks
 - Vaccine is covered by MassHealth
- Thoroughly cooking foods (and liquids) for at least 1 minute at 185°F (85°C)
- Practicing good hygiene (esp. washing hands after using the bathroom and before preparing or eating food)
 - The hepatitis A virus is able to survive outside the body for months



Handwashing

CDC's 5 steps to Handwashing:

- Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
- Lather your hands by rubbing them together with the soap. Lather the backs of your hands, between your fingers, and under your nails.
- Scrub your hands for at least 20 seconds.
- Rinse your hands well under clean, running water.
- Dry your hands using a clean towel or air dry them.

To create your own handwashing song:
washyourlyrics.com

Hand-washing technique with soap and water



1 Where it began



2 I can't begin to knowin'



3 But then I know it's growing strong



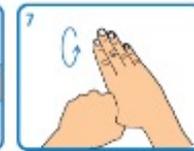
4 Was in the spring



5 And spring became the summer



6 Who'd have believed you'd come along



7 Hands, touchin' hands



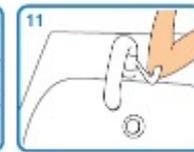
8 Reachin' out, touchin' me, touchin' you



9 Sweet Caroline



10 Good times never seemed so good



11 I've been inclined



12 To believe they never would



13 But now I look at the night

Create your own
<https://washyourlyrics.com>

Sweet Caroline
Neil Diamond

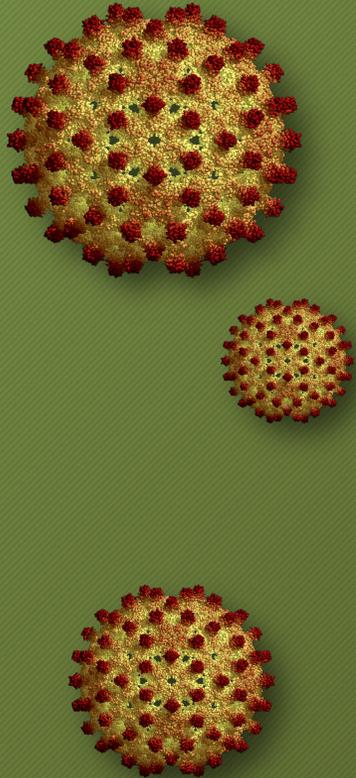
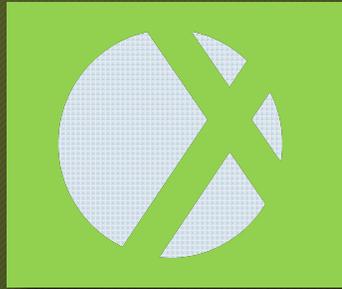
Adapted from National Health Service, who adapted from the World Health Organization Guidelines on Hand Hygiene in Health Care.
Created under the Open Government License. See <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/> for details.



Hepatitis B



Hepatitis B

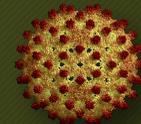
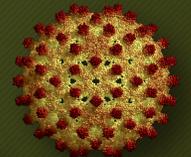
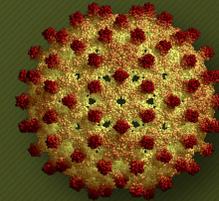
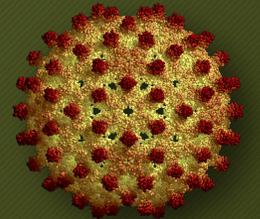
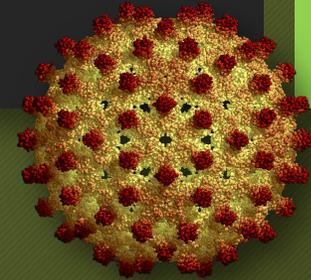


- Liver infection primarily spread through infected blood, semen, or vaginal fluid
 - Common routes include IV drug use, sexual transmission, or from mother to child in childbirth
 - HBV is considered an STD
- 1.2 million people in the U.S. are estimated to be living with HBV
 - About 2 in 3 people with 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



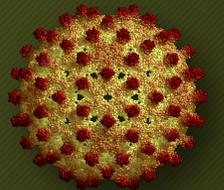
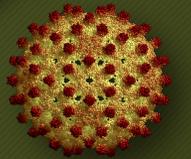
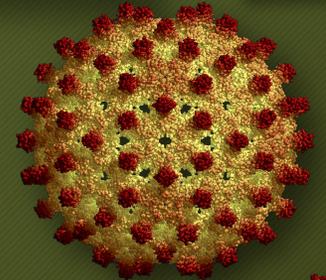
- Hepatitis B can range from a mild illness, lasting a few weeks (acute), to a serious, life-long (chronic) condition
- Treatment:
 - Acute: Resolves itself so treatment focuses on addressing the symptoms and promoting rest, good nutrition, and plenty of fluids
 - Chronic: Antiviral medications can help 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
 - Vaccine is covered by MassHealth
- 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
- Cleaning contaminated areas using a 1:10 dilution of one part household bleach to 10 parts of water (dried blood can still be infectious)

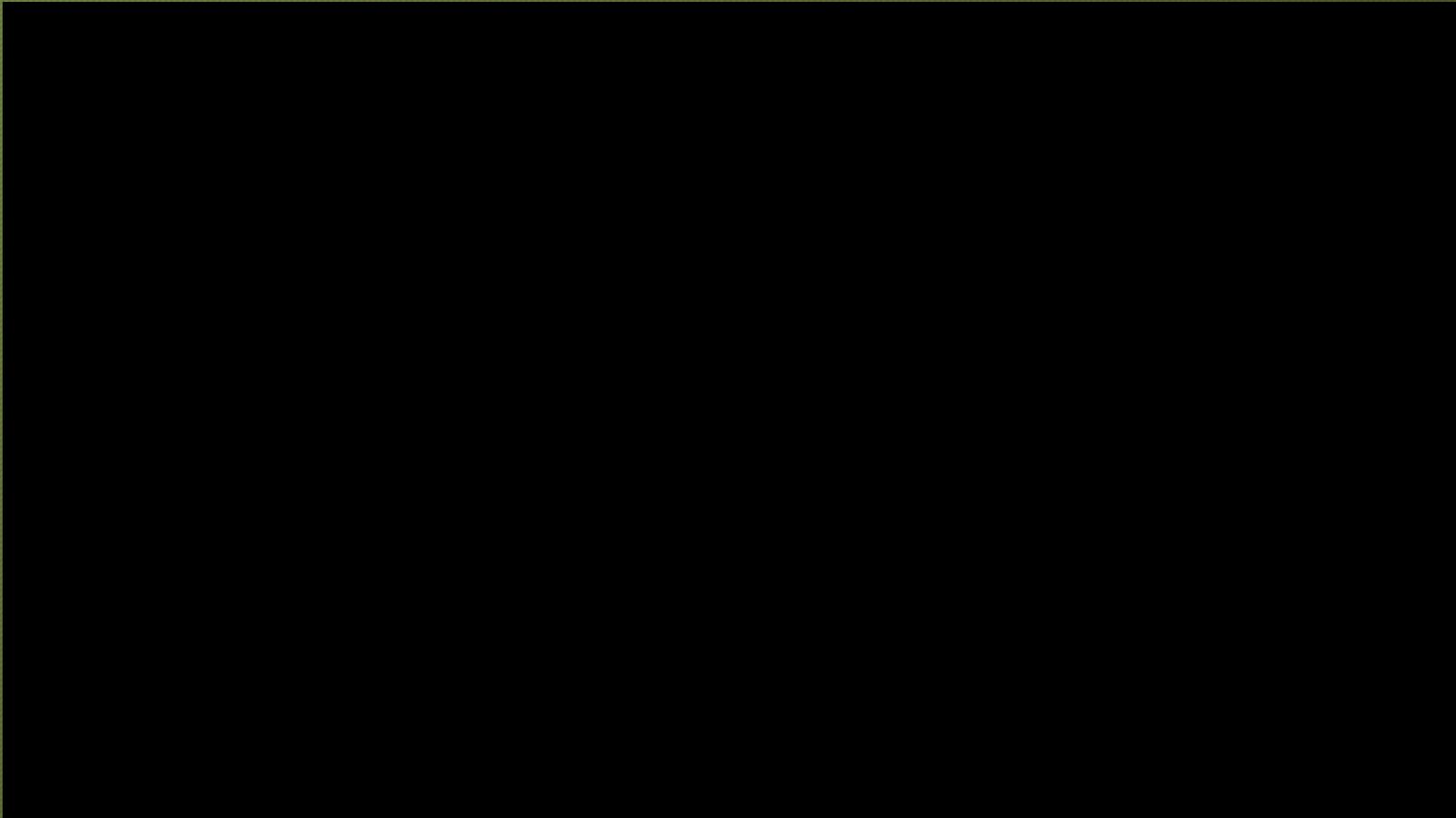




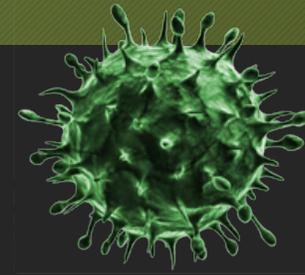
Hepatitis C



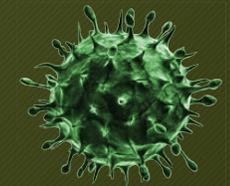
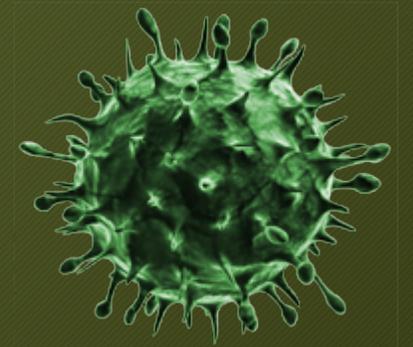
Hepatitis C



Hepatitis C



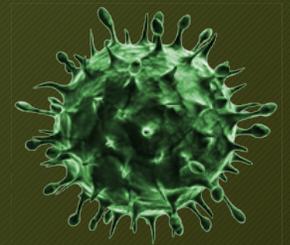
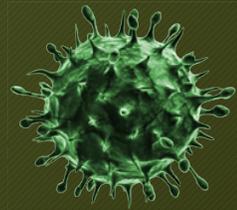
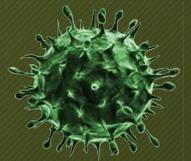
- Liver virus spread through contact with contaminated blood
 - HCV is the most common blood-borne illness in the U.S.
- Estimated 3.2 million people in the U.S. living with hepatitis C
 - More than 70,000 people have Hep C in the Commonwealth (MDPH, 2018)
- 3 out of 4 PWHCV were born from 1945-1965
 - May have been exposed before adoption of universal precautions & infection control
 - However since 2006, fastest growing number of new infections are in people under 30 who inject drugs
- Hepatitis C can lead to liver cancer, cirrhosis, and death



Hepatitis C



- Transmission
 - Injection drug use is the most common risk factor for HCV
 - Most infections occur via an inanimate object as HCV can survive outside the body for up to six weeks
 - Less frequently, can be spread from sex or from parent to child during birth (low but present risk)
- Unlike HAV & HBV, HCV antibodies do NOT protect against reinfection
- 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 who have been incarcerated
 - People with HIV



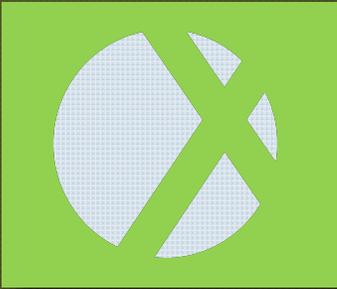
Hepatitis C & HIV



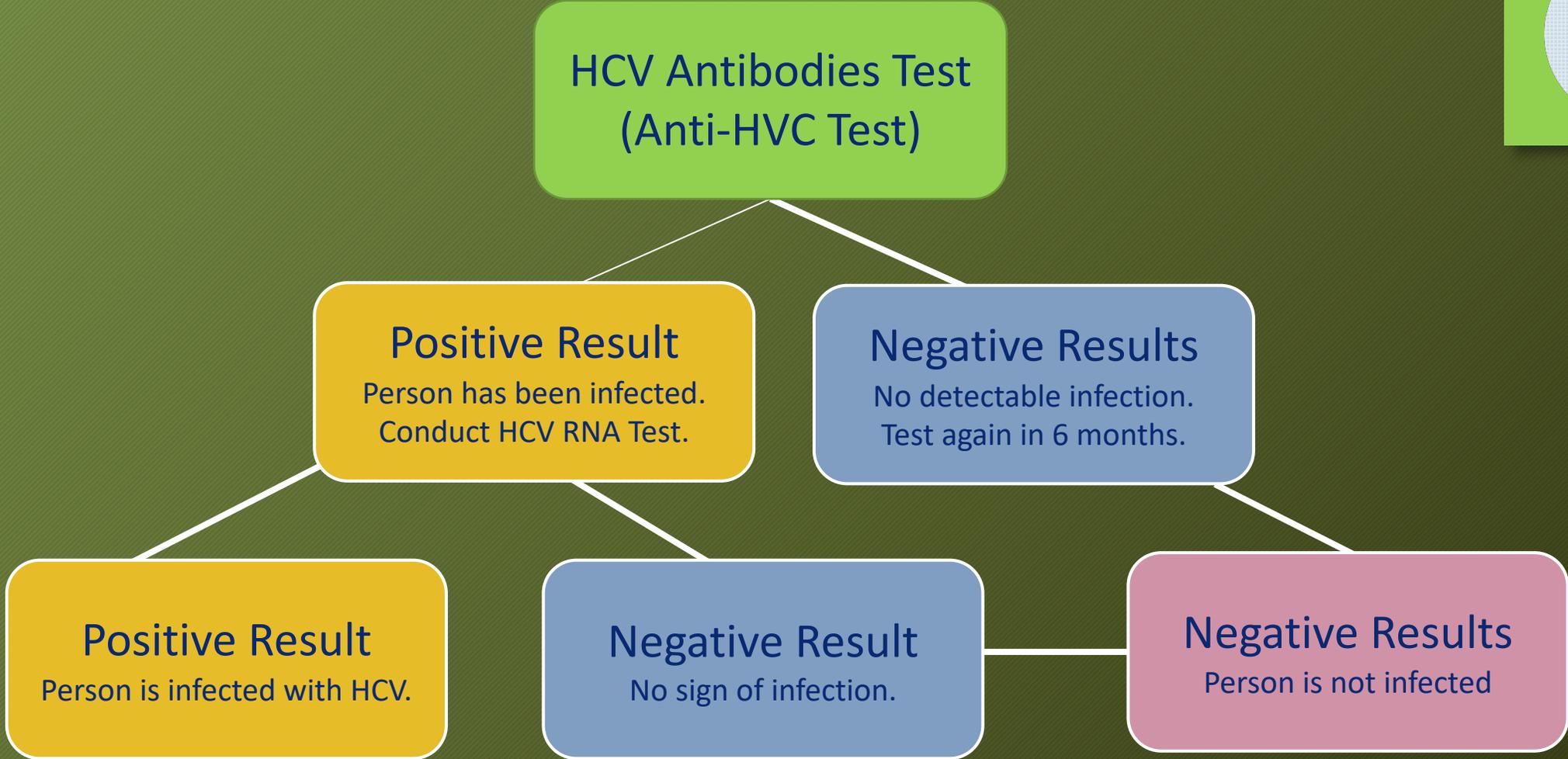
- Of people living with HIV in the United States, about:
 - 25% are coinfecting with hepatitis C virus (HCV),
 - 10% are coinfecting with hepatitis B virus (HBV)
- HIV coinfection more than triples the risk for liver disease, liver failure, and liver-related death from HCV
- CDC recommends all persons 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



- Testing is done through antibody blood test
 - Antibodies are proteins in the blood that the body produces to fight the virus
- HCV infection can be detected usually 8-11 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

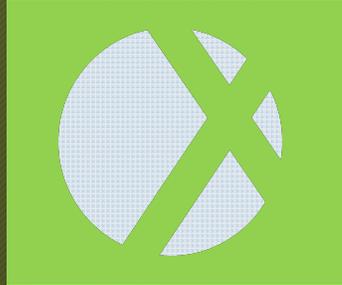
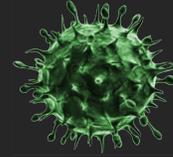


Hepatitis C: Genotypes

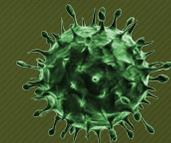
- The RNA test identifies what strain of HCV a person has
 - HCV has high mutation rates, which have evolved to different types or strains, known as *genotypes*
- There are 6 known genotypes
 - Genotype 1 (70% of HCV in U.S.)
 - Genotype 2 & 3 (25% of HCV in the U.S.)
 - Genotype 4, 5, & 6 (5% of HCV in the U.S.)
- Most people with HCV 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



Hepatitis C Treatment



Common HCV medications



Harvoni

For people with genotype 1

Daklinza

For people with genotype 3

Zepatier

For people with genotypes 1 and 5

Technivie

For people with genotype 4 who don't have cirrhosis

Viekira Pak

For people with genotype 1

Mavyret & Vosevi

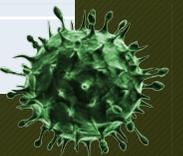
Both effective cures for genotypes 1-6

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 see high cure rates 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



Hepatitis C Treatment

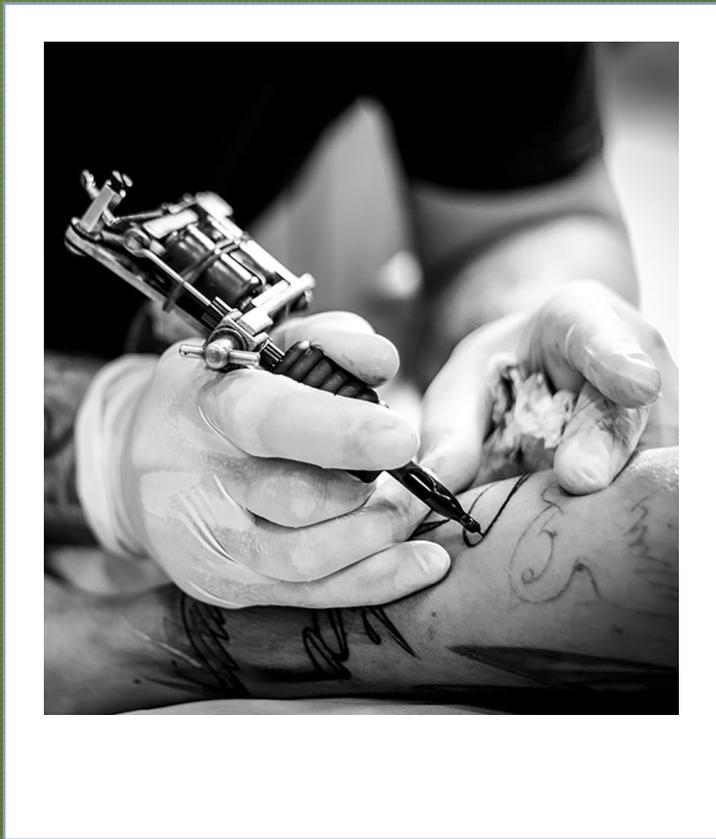


As of August 1, 2016, all MassHealth beneficiaries have a right to access HCV direct-acting antivirals without restrictions related to fibrosis score, substance use abstinence, previous infection, or prescriber specialty

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

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

Hepatitis C Prevention



- No vaccine available (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

Hepatitis C

Researchers estimate that hepatitis C could be a rare disease in the United States by 2036

With prevention interventions and curative treatment, eliminating HCV as a public health threat is a real possibility!

(Keep up the good work!)

**NO FAKE NEWS.
HEP C TREATMENT
WORKS.**



Hepatitis for Providers



For Providers



- 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 ways to address them



Barriers to 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?



10 Ways to Support Liver Health



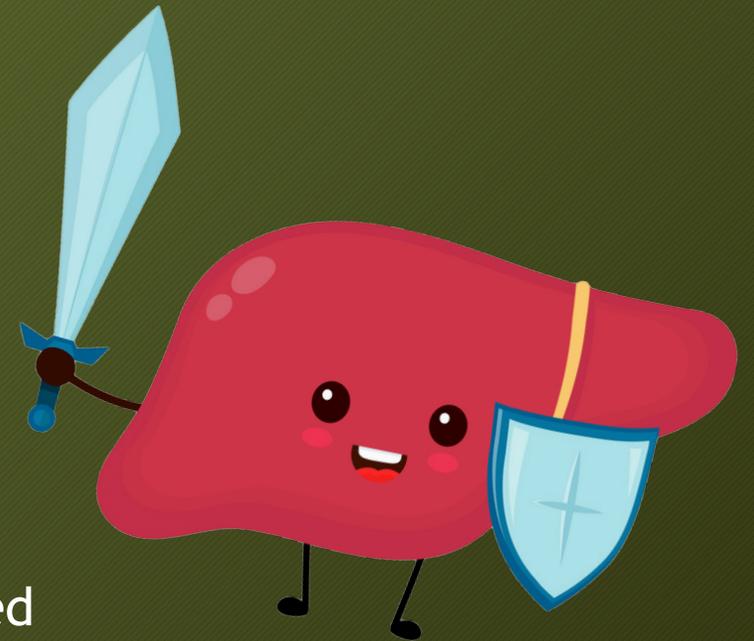
- Eat a balanced diet
 - Minimize processed foods, saturated fat, and sugars
- Drink lots of water- hydration is essential!
- Engage in physical activity regularly
 - CDC recommendation is 2.5 hours per week
- Get good sleep
 - CDC recommends 7-9 hours each night
- Avoid toxins
 - When using chemicals,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

Adapted from liverfoundation.org

10 Ways to Support Liver Health



- Use alcohol responsibly
 - No more than 1 drink per day for women and 2 for men
- Practice safer sex
 - Use condoms and lube (to reduce risk of blood exposure)
- Wash your hands
 - Scrub hands, including the back of your hands between your fingers, and under your nails, for at least 20 seconds
- 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

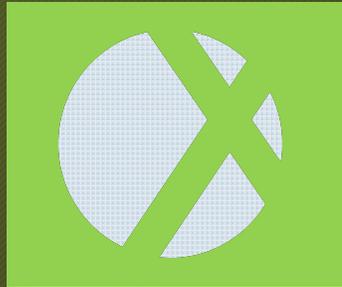
"Hepatitis" means inflammation of the liver and is usually caused by a virus. In the U.S., the most common types are Hepatitis A, Hepatitis B, and Hepatitis C. Millions of Americans are living with viral hepatitis but most do not know they are infected. People can live with chronic hepatitis for decades 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.



Education Resources



- [CDC Viral Hepatitis](#)
- [Hepatitis A Fact Sheet](#)
- [Hepatitis B Fact Sheet](#)
- [Hepatitis C Fact Sheet](#)

(Also available in Spanish)

Hepatitis A

Overview

What is hepatitis?

Hepatitis means inflammation of the liver. The liver is a vital organ that processes nutrients, filters the blood, and fights infections. When the liver is inflamed or damaged, its function can be affected. Heavy alcohol use, some medications, toxins, and certain medical conditions can cause hepatitis.

Hepatitis is most often caused by a virus. In the United States, the most common types of viral hepatitis are hepatitis A, hepatitis B, and hepatitis C. Although all types of viral hepatitis can cause similar symptoms, they are spread in different ways, have different treatments, and some are more serious than others.

Hepatitis A

Hepatitis A is a contagious liver infection caused by the hepatitis A virus. Hepatitis A can be prevented with a vaccine. People who get hepatitis A may feel sick for a few weeks to several months but usually recover completely and do not have lasting liver damage.

In rare cases, hepatitis A can cause liver failure and even death; this is more common in older people and in people with other serious health issues, such as chronic liver disease.

How common is hepatitis A?

Since the hepatitis A vaccine was first recommended in 1996, cases of hepatitis A in the United States have declined dramatically. Unfortunately, in recent years the number of people infected has been increasing because there have been multiple outbreaks of hepatitis A in the United States. These outbreaks have primarily been from person-to-person contact, especially among people who use drugs, people experiencing homelessness, and men who have sex with men.

How is hepatitis A spread?

The hepatitis A virus is found in the stool and blood of people who are infected. The hepatitis A virus is spread when someone ingests the virus, usually through:

- **Person-to-person contact**
Hepatitis A can be spread from close, personal contact with an infected person, such as through having sex, caring for someone who is ill, or using drugs with others. Hepatitis A is very contagious, and people can even spread the virus before they feel sick.
- **Eating contaminated food or drink**
Contamination of food with the hepatitis A virus can happen at any point: growing, harvesting, processing, handling, and even after cooking. Contamination of food and water happens more often in countries where hepatitis A is common. Although uncommon, foodborne outbreaks have occurred in the United States from people eating contaminated fresh and frozen imported food products.

Hepatitis A can be prevented with a safe and effective vaccine.



Meet Your Praxis Clients



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



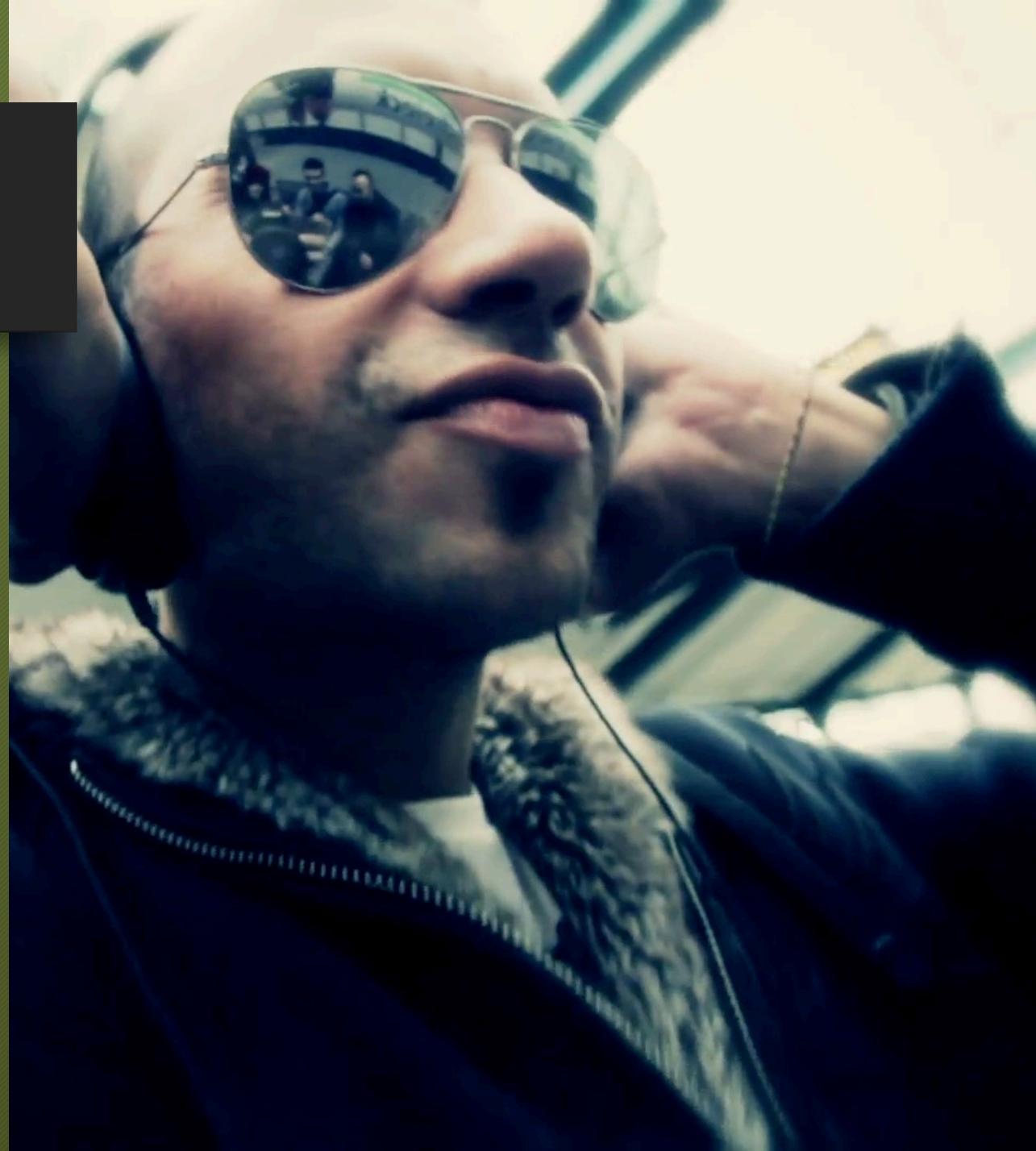
Carrie

- 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

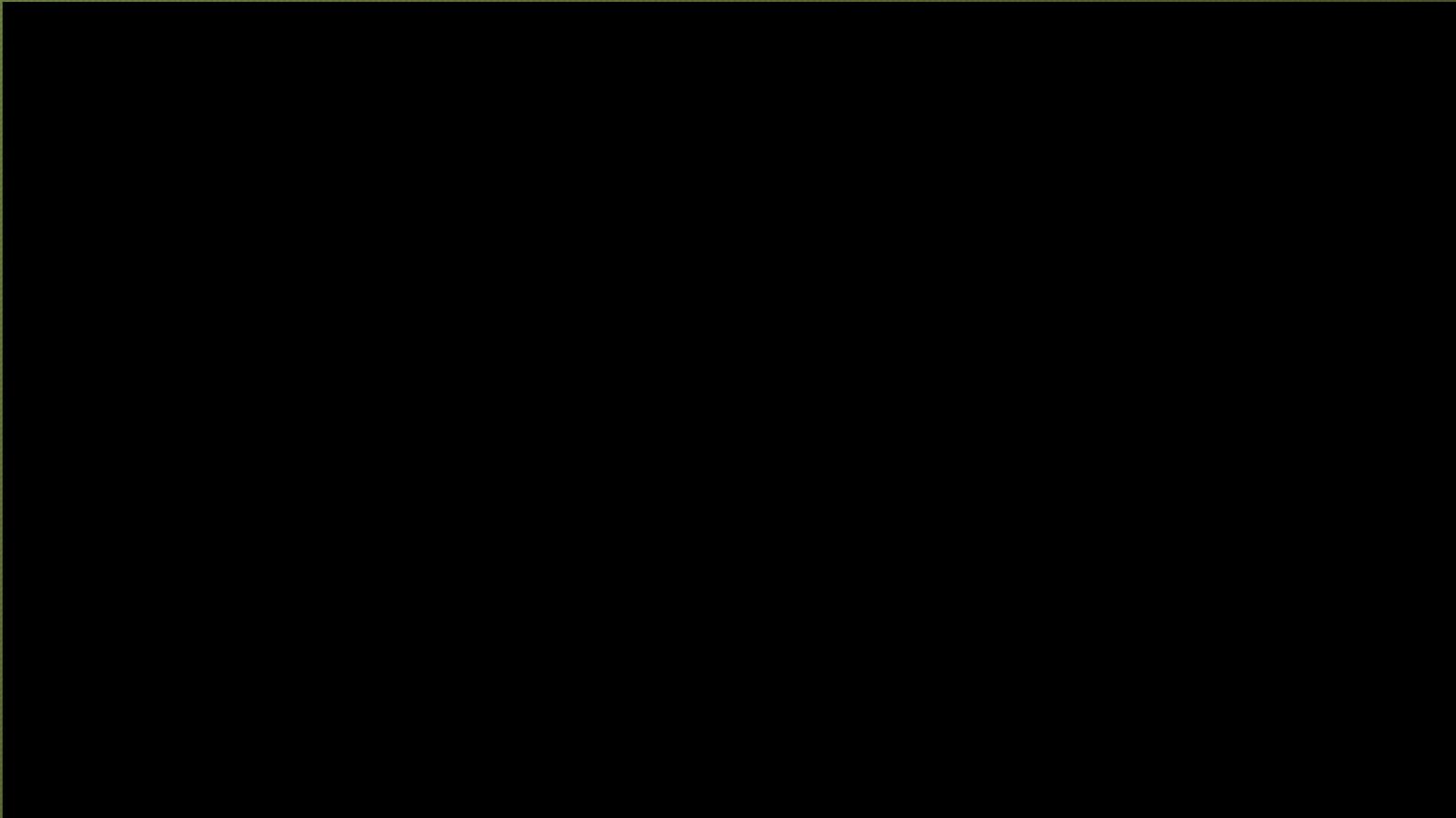


Lee

- Lives with his traditional Korean parents, who can be very overbearing
- Graduating college soon and looking forward to moving out on his own
- Feeling tired lately but no health insurance prevents him from seeing a doctor
- Sometimes snorts cocaine when he's out with his buddies



William's Story

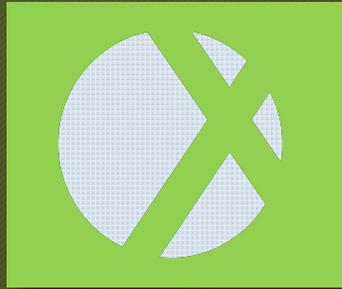


Pop Quiz!



- Three major roles of the liver?
 - Process nutrients, filter blood from toxins, fight infections
- Which strain(s) of Hepatitis are considered STDs?
 - 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?
 - 8-11 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!



Thank You!

To access these slides, visit us at
C4Innovates.com

Email us at:
Praxis@C4Innovates.com



C4
Innovations