

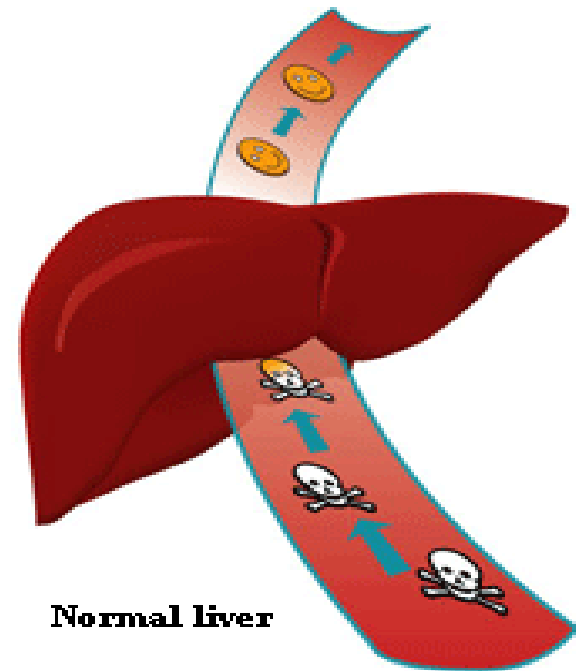
WELCOME TO LIVER WELLNESS CLASS

Topics of the Class

- YOUR LIVER
- Types of hepatitis
- How hepatitis is spread
- How to protect your liver
- Treatment for hepatitis C

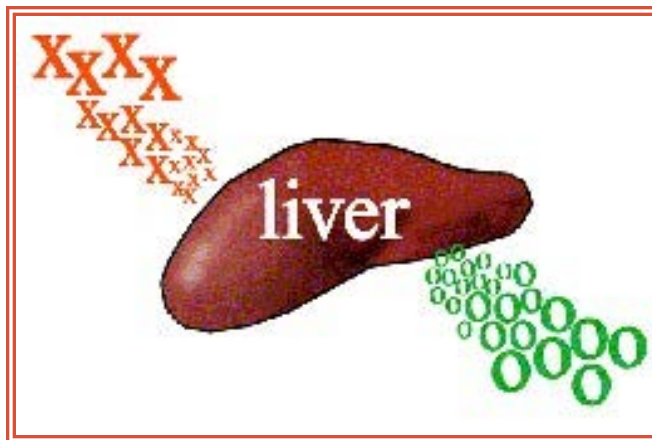
What does your liver do?

- Makes chemicals that your body needs to stay healthy
- Removes waste products and other harmful substances from your blood
- Guards against infection



The liver is a factory

- Builds and converts proteins and sugars
- Stores vitamins, sugars, fats, and other nutrients
- Releases chemicals and nutrients into the body when needed

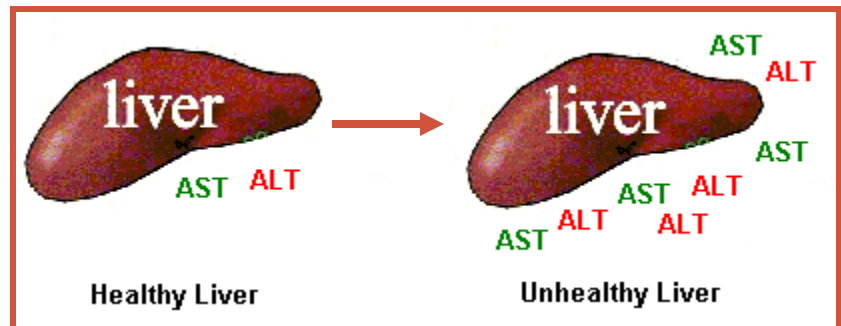


What is hepatitis?

- “Hepatitis” means inflammation of the liver
- There are many types of hepatitis
- Hepatitis can be caused by:
 - Viruses (hepatitis A, B, C, D, E)
 - Alcohol
 - Medications (including over-the-counter medicines and herbal remedies)
 - Genetic diseases

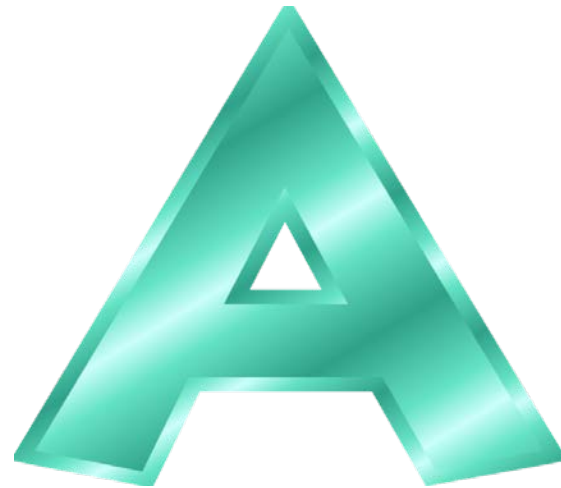
What are liver enzymes?

- Molecules inside your cells that speed up certain chemical reactions, such as:
 - Changing food into usable nutrients
 - Removing harmful substances
- When liver cells are damaged, enzymes leak into the bloodstream
 - Lots of enzymes in the bloodstream sometimes indicates liver problems



Hepatitis A

- Spread through contaminated food and water
- Hepatitis A vaccine is available to prevent infection with hepatitis A



Hepatitis B

- Spread through blood-blood contact
- Also transmitted through sex
- Hepatitis B vaccine is available to prevent hepatitis B infection



Hepatitis C

- Discovered in 1989
- Tests for hepatitis C became available in 1992
- Originally called “non-A, non-B” hepatitis
- Spread through blood-to-blood contact, including:
 - shared injection needles
 - blood transfusions
- No vaccine is available to prevent infection



How common is hepatitis C?

- About 4 million Americans are infected
- About 170 million people are infected worldwide

How do people become infected with hepatitis C?

- Injection (IV) drug use – past or current
- Blood transfusions before 1992
- Snorting cocaine
- Needle stick injuries in hospitals
- Body piercing with unsterilized needles
- Tattoos with unsterilized ink or needles
- Sharing razors or toothbrushes
- Sexual transmission
 - Rare in monogamous couples

What about sex?

- Sexual transmission of hepatitis C is uncommon but not impossible
- If you have more than one sex partner, use latex condoms and disclose your hepatitis C infection to your partners
- If you have one long-term sex partner, you may not need to change your sex habits, but your partner should be informed of your infection

Hepatitis C is NOT spread by

- Sneezing
- Coughing
- Food or water
- Sharing a drinking glass or eating utensils
- Handshakes
- Holding hands
- Hugging
- Kissing on the cheek
- Playing with children

Hepatitis C is not passed through tears, sweat, or saliva

Who should be tested for hepatitis C?

- People with a risk of hepatitis C infection
- Anyone born between 1945 and 1965
- Anyone who wishes to be tested



How can you prevent the spread of hepatitis C?

- Cover open wounds
- Tell people not to touch your blood
- Dispose of needles properly
- Do not share razors, toothbrushes, or other personal care items
- Practice safe sex



Hepatitis C is diagnosed by blood tests

- The first test is a screening test:
 - Hepatitis C antibody
- If the screening antibody is positive, a second test is needed for diagnosis:
 - Hepatitis C RNA test
- If the RNA test is positive, then there is a diagnosis of chronic hepatitis C

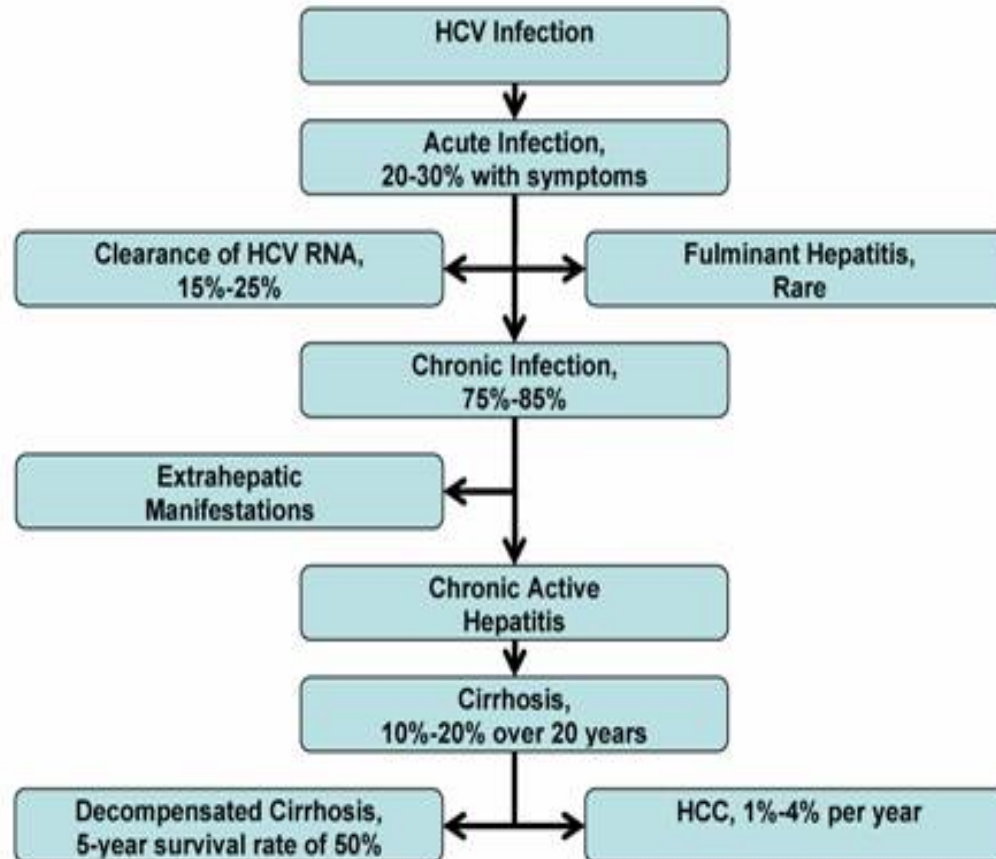
What is your hepatitis C genotype?

- There are 6 major genotypes in the U.S.
- Genotype is a “strain” of hepatitis C
 - Different medicines are used for different genotypes
- In the United States, we mostly see:
 - Genotype 1 (1a and 1b)
 - Genotype 2
 - Genotype 3
- There are no “good” or “bad” genotypes!

Why should you be concerned about hepatitis C?

- Hepatitis C can cause serious health problems, including:
 - Fibrosis
 - Cirrhosis
 - Compensated cirrhosis
 - Few symptoms
 - Decompensated cirrhosis
 - Symptoms can include yellow jaundice, swelling, fluid in the abdomen, GI bleeding, poor blood clotting, confusion
 - Liver cancer: hepatocellular carcinoma (HCC)

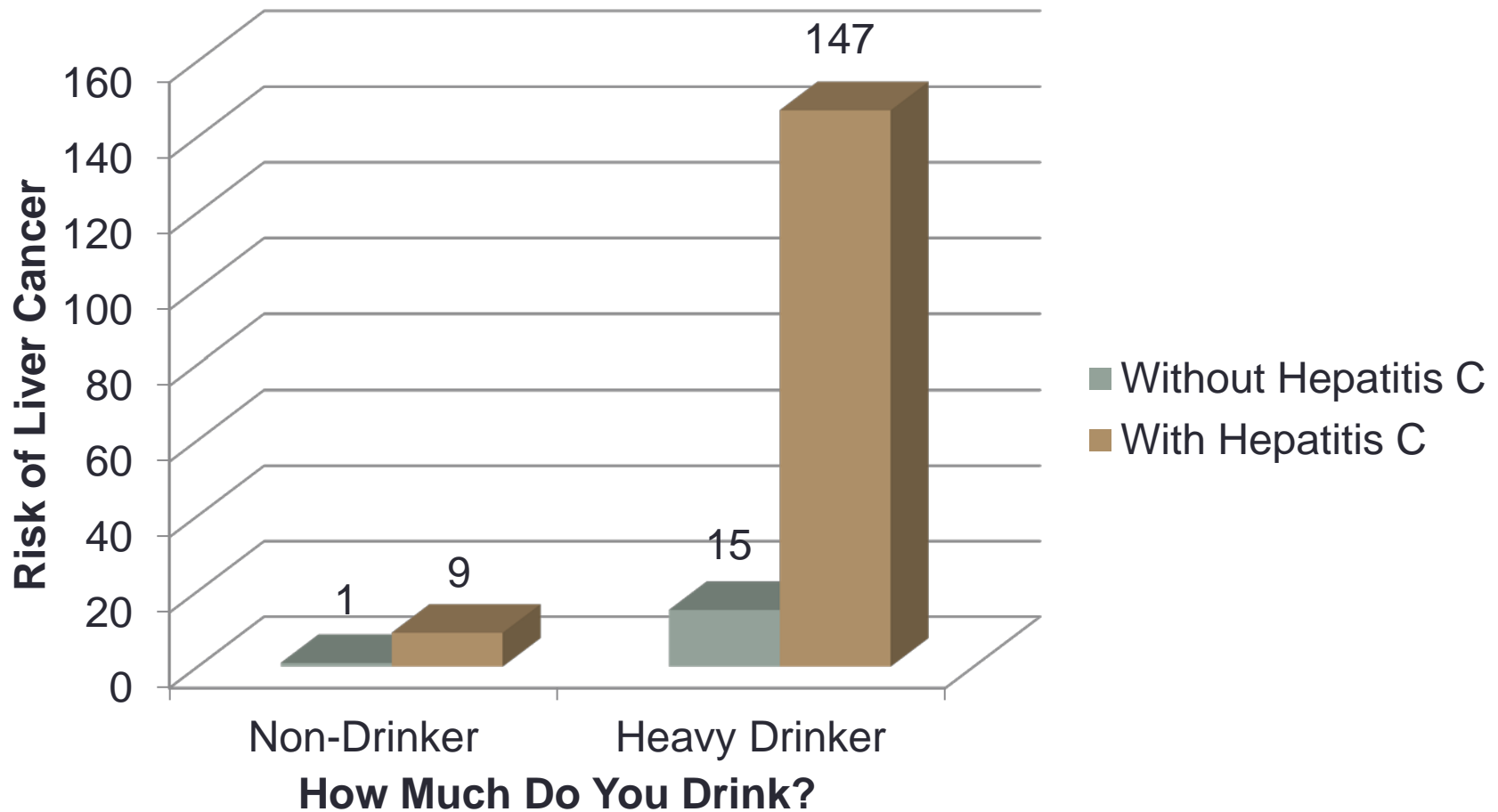
Possible outcomes of hepatitis C



Hepatocellular Carcinoma (HCC)

- Most common type of liver cancer
- Sometimes treated with special radiology procedures such as ablation of the tumor
- Sometimes can be treated with liver transplant
- Patients living with hepatitis C or cirrhosis are at risk of developing HCC

How does alcohol affect the risk of developing liver cancer (HCC)?



With hepatitis C, you should . . .

- Minimize alcohol, or if you have cirrhosis, then avoid alcohol completely
- Be careful with medications, including over-the-counter and herbal medications
- Maintain a healthy weight
- Get the hepatitis A and hepatitis B vaccines

What about vitamins and herbs?

- Iron supplements are NOT recommended for men or post-menopausal women
 - Too much iron can increase the rate of liver damage
- Milk thistle is safe, but there is no evidence that it will improve your liver
- Talk with your provider before starting any new medication or supplement

Can I take Tylenol or ibuprofen?

- Acetaminophen (Tylenol)
 - Acetaminophen at low doses is safe with hepatitis C
 - Maximum dose of 2,000 mg per day = 4 extra strength or 5 regular strength per day
 - Cold and flu medications may contain acetaminophen – read the ingredients and do not exceed the 2,000 mg maximum
- Ibuprofen, Motrin, Aleve, Naproxen = NSAIDS
 - Hepatitis C without cirrhosis
 - May take NSAIDS but do not exceed recommended dose
 - Hepatitis C with cirrhosis
 - Do not take NSAIDS at all!

Treatment of chronic hepatitis C

Goals

- Clear all the hepatitis C virus from the body
- Slow or stop damage to the liver
- Reduce risk of cirrhosis and liver cancer

High success with new drugs

- Current treatments can usually cure over 90% of patients who take their medicines correctly

How is hepatitis C treated?

- Medications called direct-acting antivirals (DAAs)
 - Directly attack hepatitis C
 - All DAAs are in pill form
- Indirect antivirals
 - Ribavirin (pills)
 - Interferon (injections) – rarely used anymore
- Treatment usually lasts 12 weeks
 - Occasionally 8, 16, or 24 weeks
- Side effects are uncommon and usually very mild
 - Fatigue, headache, nausea, or rash may occur

Which treatment is right for you?

Recommended treatment will depend on:

- Your genotype
- The amount of liver damage (fibrosis) present
- Other current medications
- Other health conditions

During treatment . . .

- Take medications exactly as prescribed
 - Do not start a new medicine without discussion with your hepatitis C provider
 - Do not stop taking medications without notifying clinic!
- Follow-up visits at least once a month
 - More frequent visits for side effects
- Blood testing once a month or more frequently
- Pick up medicines at VA pharmacy each visit
 - They will NOT BE MAILED!!!!
- Stay in touch

Viekira Pak™

Viekira™ = Ombitasvir/Paritaprevir/Ritonavir + Dasabuvir

- Used with genotype 1 or 4*
- 3 pills in morning, 1 pill at night
 - May be prescribed with or without ribavirin
- 12-24 weeks of treatment
- Does not affect kidney function
- Mild side effects
 - Headache, nausea, rash

*Viekira Pak™ is not FDA approved for treatment of genotype 4 chronic hepatitis C infection.

Zepatier™

Zepatier™ = Elbasvir/Grazoprevir

- Elbasvir/grazoprevir (50/100 mg)
 - Two DAAs combined in 1 tablet
- Approved for use with genotype 1 or 4
- Taken as 1 tablet per day, 12 or 16 weeks of treatment
- Resistance testing is required for Genotype 1a patients
 - If a resistance mutation is present, prescribe elbasvir/grazoprevir (50/100 mg) + Ribavirin, 16 weeks of treatment
- Mild side effects
- Can be used for patients with poor renal function

Ledipasvir/Sofosbuvir

Harvoni® = Ledipasvir/Sofosbuvir

- Two drugs combined in 1 tablet, 1 per day
- Used to treat genotype 1, 4, 6
- May be prescribed with or without ribavirin
- Treatment length: Usually 12 weeks
 - Some patients MAY qualify for 8 weeks of treatment
 - Rarely patients may need 24 weeks of treatment
- Cannot be used for patients with poor renal function
- Mild side effects
 - Nausea, headache

Sofosbuvir

Sovaldi® = Sofosbuvir

- Used in regimens either with other DAAs and/or ribavirin
 - Sofosbuvir + Ribavirin for genotype 2
 - Daclatasvir + Sofosbuvir ± Ribavirin for genotype 3
 - Sofosbuvir + Simeprevir ± Ribavirin for genotype 1
- Sofosbuvir is also in fixed combination tablets
 - Ledipasvir/Sofosbuvir tablets (Harvoni®) for genotype 1, 4, 6
- Mild side effects
 - Fatigue, headache, nausea

Daclatasvir

Daklinza™ = Daclatasvir

- Currently used for genotype 3
- Always taken with sofosbuvir
- May also be used with sofosbuvir + ribavirin
- Treatment 12-24 weeks
- Mild side effects
 - Fatigue, headache, nausea

Ribavirin

- Used with other drugs, for all genotypes
- Dosage varies
 - Usually 2-3 capsules in the morning and 2-3 capsules in the evening
- More challenging side effects
 - Anemia (low red blood cells), rash, headache, cough

Acknowledgements

- VA Hepatitis C Resource Center Program
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