

# SOUTH FLORIDA SE AIDS EDUCATION & TRAINING CENTER

## Oral HPV Hepatitis C Updates



Southeast AIDS  
Education &  
Training Center



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# Objectives

- Understand the impact of HPV and its relationship to oral cancer
- Discuss methods of HPV Transmission and risk factors
- Discuss the epidemiology of HCV
- Understand current treatment and treatment outcomes for HCV

# Oral Manifestations of HIV

## Human Papilloma Virus

- About 7% of Americans have oral HPV. That's far fewer than the number who have the genital version, which is the most common sexually transmitted disease in the U.S.
- Every day in the US, about 12,000 people ages 15 to 24 are infected with HPV. Approximately 26 million Americans on any given day have an oral HPV infection. Of those approximately 2600 are HPV16 the strain that can lead to oral cancer.
- The vast majority of individuals will clear the virus naturally through their own immune response, and never know that they were exposed or had it.

<http://oralcancerfoundation.org/hpv/hpv-oral-cancer-facts.php>

# Human Papilloma Virus

More than 40 types of HPV can infect people, but only a few cause cancer. One of the types that causes most cervical cancers, called HPV16, is also linked with most HPV-related head and neck cancers.

Oral warts are caused by human papillomavirus (HPV) and may appear anywhere within the oral cavity or on the lips. They occur more frequently and more extensively in people with HIV infection than in those with normal immune function, especially in patients with advancing immune suppression (CD4 counts of <200-300 cells/ $\mu$ L).

Oral warts may be refractory to therapy.

The frequency of oral warts may increase, at least temporarily, in patients treated with antiretroviral therapy.

<http://oralcancerfoundation.org/hpv/hpv-oral-cancer-facts.php>



# Human Papilloma Virus

- About one in nine American men is infected with the oral form of human papillomavirus (HPV), according to a [new study](#) published in the journal *Annals of Internal Medicine*. Nationwide, rates for oral HPV infections are 11.5% of men and 3.2% of women: 11 million men, compared with 3.2 million women, the researchers estimated.
- Annually, an average of 38,793 cases of HPV-related cancer -- 59% of them in men and 41% in women -- were diagnosed in the United States
- Oropharyngeal squamous cell carcinoma was far more likely to strike men: 12,638 cases diagnosed in men each year, compared with just 3,100 cases in women.
- It is the most common of all the HPV-related cancers, and its incidence among men (7.8 per 100,000) now surpasses incidence rates of cervical cancer among women (7.4 per 100,000). Cervical cancer is known to be caused by HPV.

# Human Papilloma Virus

Human papilloma virus (HPV), commonly known as the virus that causes genital warts and cervical cancer in women, is increasingly being recognized as a cause of infections that colonize the back of the mouth (throat), including the tongue base and tonsils

Evidence strongly suggests that tonsillar HPV is predominantly transmitted by sexual contact.

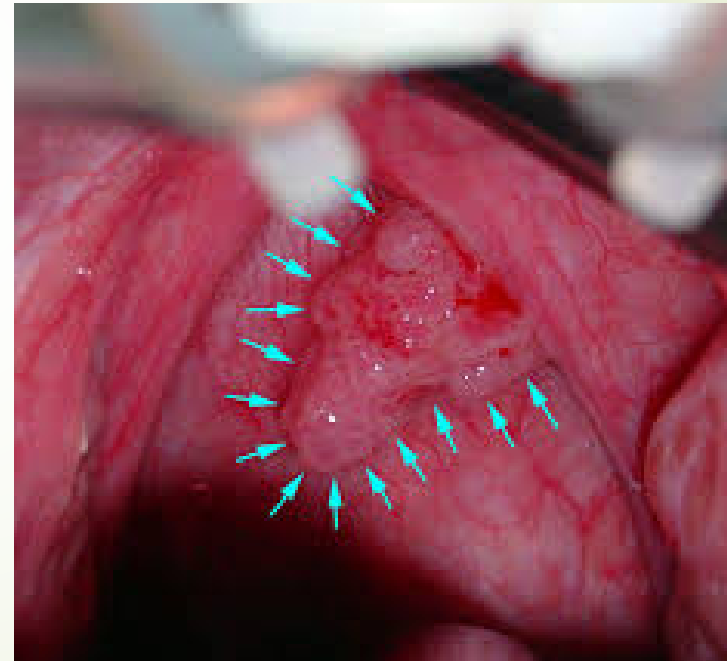
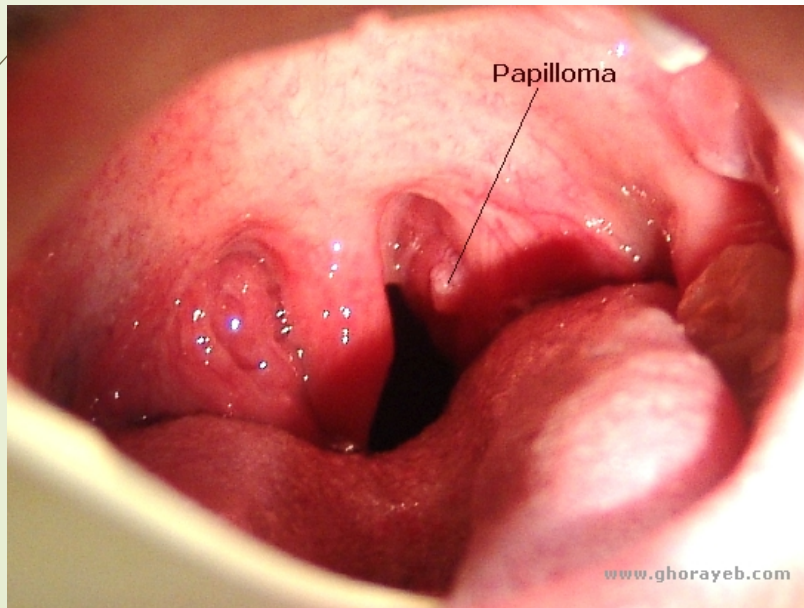
An increase in oral sex is suspected as the cause of the increase in the prevalence of tonsillar HPV infection, although several sexual behaviors seem to be related to oral HPV prevalence. The risk of infection increases with an increasing number of lifetime or recent sexual partners for any type of sexual behavior (ie, vaginal sex, oral sex). With 20 or more lifetime sexual partners, the prevalence of oral HPV infection reaches 20%.

Smokers are also at greater risk than nonsmokers, with current heavy smokers at particularly high risk.



# Human Papilloma Virus

- Men who have had multiple sex partners, men who reported having sex with men, and men with genital HPV infections were found to have the highest rates of oral HPV



# Human Papilloma Virus



- Possible spread through Oral Sex and French Kissing



**Men** are at increased risk for oral human papillomavirus (HPV) infection if their **female** sex partners have oral and/or genital HPV infections

# Human Papilloma Virus





# Human Papilloma Virus

## Initial signs

- trouble with swallowing.
- coughing up blood
- a lump on the neck or in the cheek, or
- hoarseness that doesn't go away

Unfortunately, these are late signs of the disease.

## Other potential signs and symptoms of oral cancers are

- sore throat
- a white or red patch on the tonsils
- jaw pain or swelling, and
- numbness of the tongue, among others

These signs don't necessarily mean that you have cancer, but if any signs are present for longer than 2 weeks, you should see your doctor.

# Human Papilloma Virus

Tonsillar HPV infection can cause oropharyngeal cancer.

An increase in the incidence of oropharyngeal cancer has paralleled the increased prevalence of tonsillar HPV infection. However,

The vast majority of people with tonsillar HPV infections do not develop cancer because the subtypes of HPV with which they are infected are not linked to development of cancer. Although millions of Americans have tonsillar HPV, fewer than 15,000 get HPV-positive oropharyngeal cancers annually.

Many oropharyngeal cancers are not related to HPV infection but rather with tobacco and alcohol use. People with HPV-positive oropharyngeal cancers tend to be younger and are less likely to be smokers and drinkers.



# Human Papilloma Virus

- There is no test that can find early signs of HPV infection of the throat. Some cancerous or precancerous tonsillar HPV lesions may be detected during screening or examination by a dentist or doctor, but most are found by testing in persons who already have signs or symptoms.
- To inspect hard-to-see areas of the throat, larynx (voice box), and the base of the tongue, doctors may use instruments called laryngoscopes or pharyngoscopes together with small mirrors
- Perform a **biopsy** of areas that look suspicious for cancer. A biopsy is a small sample of cells taken with a thin, hollow needle. The cells are then viewed under a microscope to look for signs of cancer. Biopsy samples from throat cancers may be tested for the presence of HPV DNA. The presence of HPV DNA signals a cancer that is more responsive to treatment than one that is HPV-negative

# Human Papilloma Virus

## How is an oral HPV-positive cancer treated?

The treatment of choice is either chemotherapy or radiation therapy up front, or surgery followed by radiation therapy with or without the addition of chemotherapy. Radiation therapy involves the delivery of high levels of radiation to kill cancer cells or to keep them from growing and dividing. Chemotherapy is a cancer treatment used most often to describe drugs that kill cancer cells directly.

After surgery to remove an oropharyngeal cancer, further surgery may be needed to reconstruct parts of the oral cavity that were removed as part of the treatment.

## What is the prognosis?

Fortunately, HPV-positive oropharyngeal cancers have better outcomes and fewer relapses after treatment than HPV-negative cancers. In patients with oropharyngeal cancer treated with radiation and chemotherapy, survival was longer among those with HPV-positive tumors vs. HPV-negative tumors.

# Human Papilloma Virus

The only surefire way to prevent it is to abstain from sex. Although vaccines have been developed that reduce the risk of infection with subtypes of HPV that are known to cause cervical cancer, their effect in preventing oropharyngeal cancers linked to the same HPV subtypes is unknown.

These vaccines are prophylactic vaccines in that they may prevent HPV infection (they do not treat an existing infection), and thus are recommended before a person is sexually active.

# Human Papilloma Virus in patients with HIV

Oral warts are caused by human papillomavirus (HPV) and may appear anywhere within the oral cavity or on the lips. They occur more frequently and more extensively in people with HIV infection than in those with normal immune function, especially in patients with advancing immune suppression (CD4 counts of <200-300 cells/ $\mu$ L).

Oral warts may be refractory to therapy.

The frequency of oral warts may increase, at least temporarily, in patients treated with antiretroviral therapy.



HPV vaccine is recommended for routine vaccination at age 11 to 12 years

Recommends vaccination for females aged 13 through 26 and males aged 13 through 21 years not vaccinated previously

Vaccination is also recommended through age 26 years for men who have sex with men and for immunocompromised persons (including those with HIV infection) if not vaccinated.

**NEW RECOMMENDATION: The vaccine that prevents the human papillomavirus, HPV, has been approved by the Food and Drug Administration for men and women 27 to 45 years old.**



Sign and symptoms might include but not limited to:

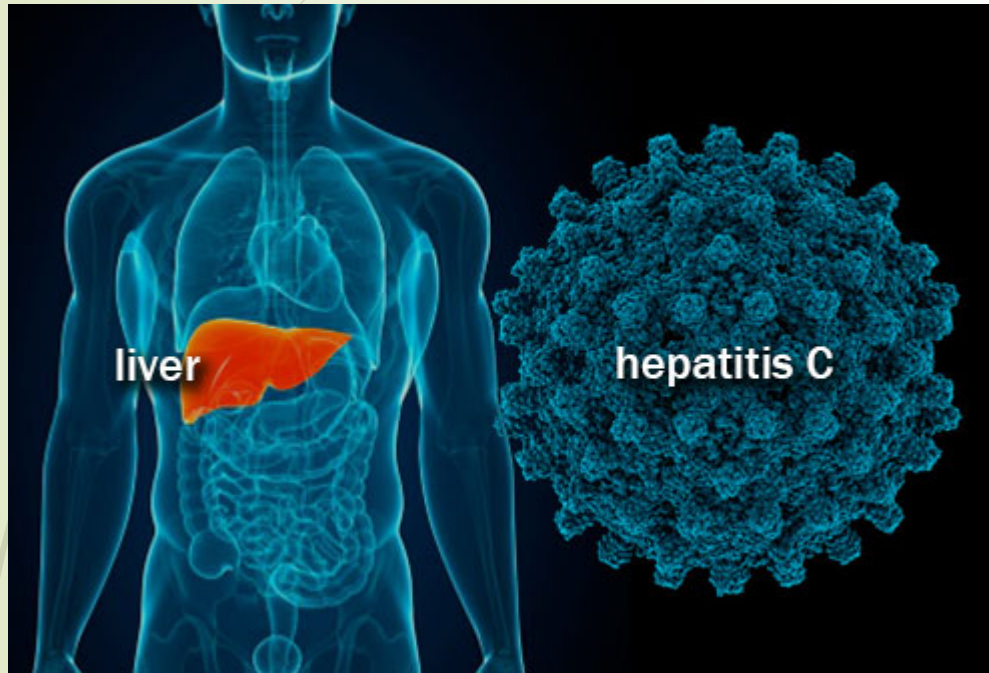
- Any sore or ulceration that does not heal within 14 days.
- A red, white, or black discoloration of the soft tissues of the mouth.
- Any abnormality that bleeds easily when touched.
- A lump or hard spot in the tissue, usually border of the tongue.
- A sore under a denture, which even after adjustment of the denture that does not heal.
- A painless, firm, fixated lump felt on the outside of the neck, which has been there for at least two weeks.

For more information visit the Oral Cancer Foundation at [www.oralcancer.org](http://www.oralcancer.org)



# Hepatitis C (HCV)

# Hepatitis C: What Is It?



**Hepatitis C is a liver infection that's caused by a virus. About 3.5 million Americans have it, and 17,000 or so others get it each year. If left untreated, it can turn into lifelong liver disease.**



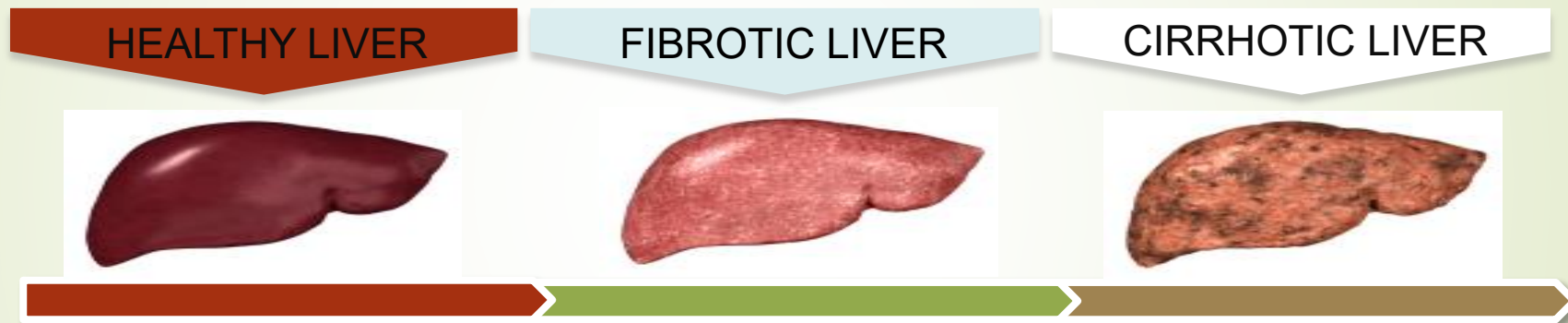
•According to the Centers for Disease Control and Prevention (CDC), approximately 25% of people with HIV in the United States also have HCV. Infection with both HIV and HCV is called HIV/HCV coinfection.

• Among people with HIV who inject drugs, about 50% to 90% also have HCV. Because both HIV and HCV can spread in blood, a major risk factor for both HIV and HCV infection is injection drug use. Sharing needles or other drug injection equipment increases the risk of contact with HIV- or HCV-infected blood.

•People with both HIV and HCV may be treated for both diseases. Health care providers prescribe HIV and HCV medicines carefully to avoid drug-drug interactions and closely monitor those taking the medicines for any side effects.

In people with HIV/HCV coinfection, HIV may cause chronic HCV to advance faster. Whether HCV causes HIV to advance faster is unclear.

# Chronic Hepatitis C Virus (HCV) Is a Progressive Disease

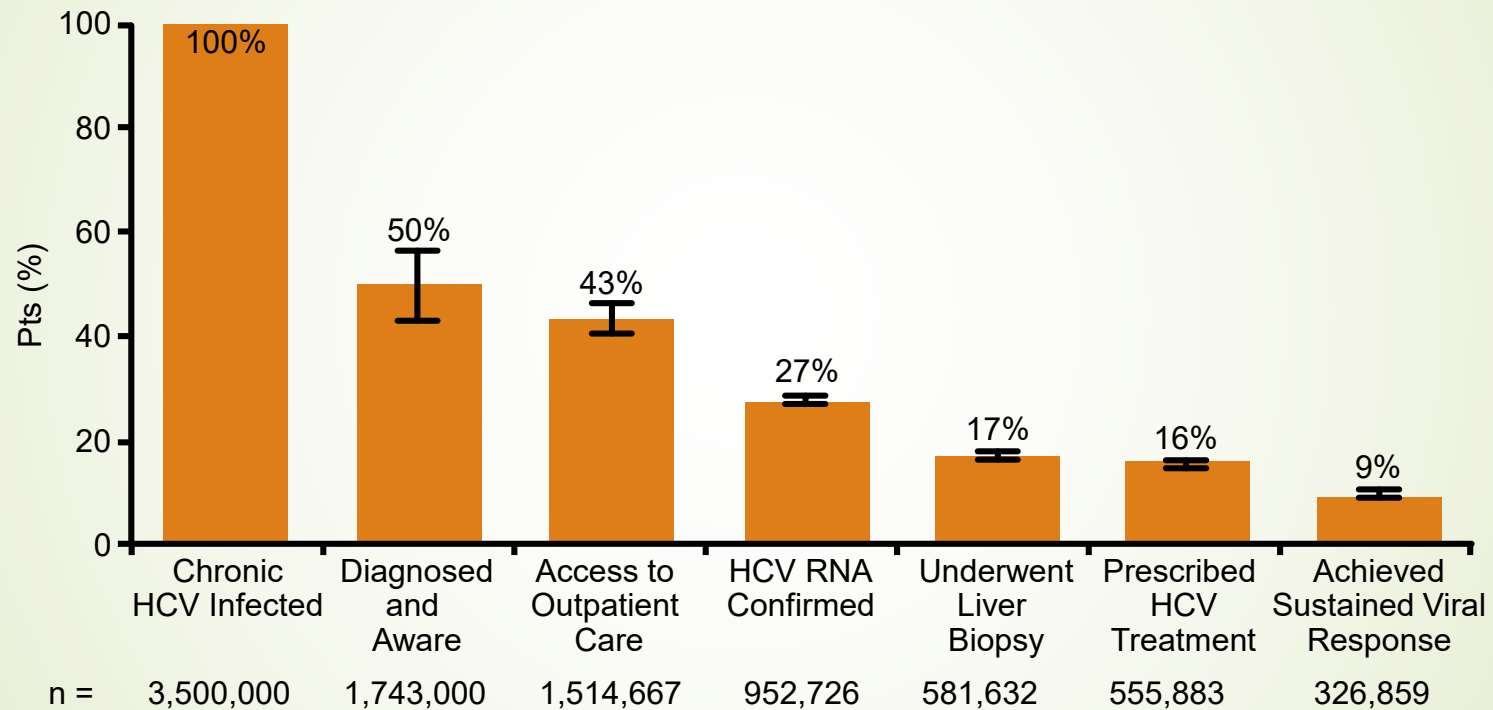


- Chronic HCV frequently has few or no symptoms and can progress without signs for decades<sup>[1]</sup>
- Most patients with chronic HCV are asymptomatic until serious liver complications arise<sup>[2]</sup>

1. CDC. MMWR Morb Mortal Wkly Rep. 1998;47(RR-19):1-39.  
2. 2. Heidelbaugh JJ, et al. Am Fam Physician. 2006;74:756-762



# HCV in the US: Gaps in Current Practice



Slide credit: [clinicaloptions.com](http://clinicaloptions.com)

Yehia BR, et al. PLoS One. 2014;9:e101554.

# How You Get Hepatitis C?



The most common way to get the disease is to share needles or other equipment used to inject illegal drugs. A health care worker might accidentally be stuck with a needle used on an infected patient. It's rare, but you can get it at a tattoo parlor if the equipment isn't clean. You can't get it by kissing, hugging, or sharing eating utensils.

# CDC, USPSTF, and AASLD/IDSA HCV Screening Recommendations

Population	Recommendation
Age	One-time screening is recommended for persons born between 1945 and 1965, without ascertainment of HCV risk <sup>[1-3]</sup>
Risk	<p>One-time screening is recommended for persons with these risk factors<sup>[1,3]</sup>:</p> <ul style="list-style-type: none"> <li>▪History of illicit injection drug use (IDU) or intranasal illicit drug use</li> <li>▪History of long-term hemodialysis</li> <li>▪Receiving a tattoo in an unregulated facility/setting</li> <li>▪Healthcare workers upon accidental exposure</li> <li>▪Children born to anti-HCV–positive mothers</li> <li>▪History of transfusion with blood or organ transplantation</li> <li>▪Were ever in prison</li> <li>▪HIV infection</li> <li>▪Chronic liver disease/hepatitis with unknown cause, including elevated liver enzymes</li> </ul> <p>Annual screening is recommended for current IDUs and HIV-infected MSM<sup>[3]</sup></p>

1. Smith BD, et al. MMWR Recomm Rep. 2012;61(RR-4):1-32. 2. US Preventive Services Task Force. HCV Screening Guidelines 2013.  
 3. AASLD-IDSA. HCV Guidelines 2017.

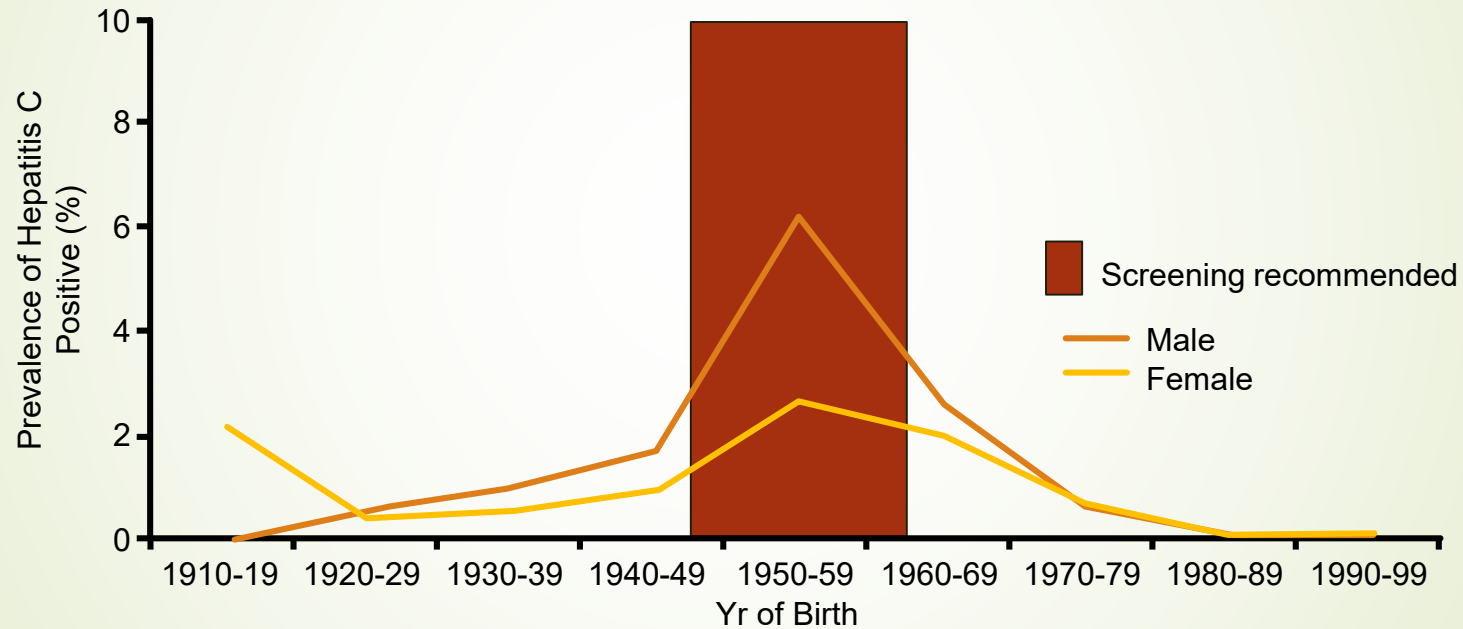
# Who Gets Hepatitis C?



Baby boomers are most likely to have the infection, but we're not sure why. Some boomers were infected before blood screening methods changed in 1992. Others got it from injecting drugs, even if it was only once. If you were born between 1945 and 1965, the CDC suggests you get tested for hepatitis C

# Hepatitis C Prevalence is Increased in Baby Boomers

Prevalence of Hepatitis C Antibody Positivity in US Population by Sex by Yr of Birth (NHANES III)

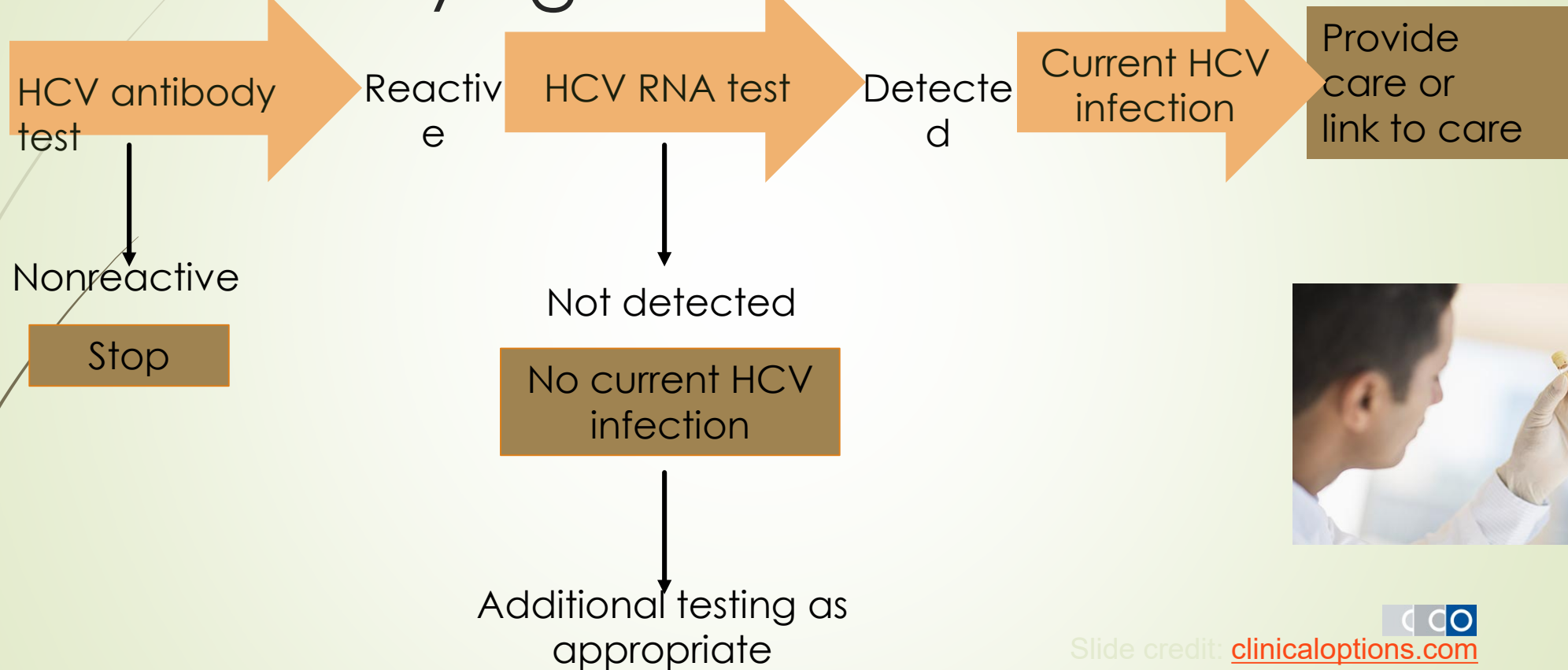


Slide credit: [clinicaloptions.com](http://clinicaloptions.com)


Iwasaki K, et al. ISPOR 2010. Abstract PG17.



# Recommended Testing Sequence for Identifying Current HCV Infection



CDC. MMWR Morb Mortal Wkly Rep. 2013;62:362-365.

Slide credit:  [clinicaloptions.com](http://clinicaloptions.com)

# Symptoms




Most people who have hepatitis C won't have any symptoms at all. If you do, they might include fever, nausea, vomiting, jaundice, or stomach pain. You could be tired and not feel hungry. Because those symptoms can be the same for a lot of illnesses, see your doctor if you don't feel well.

# Recommendations for Additional Follow-up of Initial HCV Testing

- ▶ **Quantitative hepatitis C RNA** testing prior to initiation of antiviral therapy to document baseline viral load
- ▶ Testing for **hepatitis C genotype**—all genotypes can be treated, but genotype will guide choice of antiviral therapy

AASLD-IDSA. HCV Guidelines 2017.

Slide credit:  [clinicaloptions.com](http://clinicaloptions.com)

# Treatment



Drugs called antivirals treat hepatitis C. The latest medication to receive approval from the FDA is glecaprevir and pibrentasvir (**Mavyret**), a daily pill that offers a shorter treatment cycle of 8 weeks for adult patients with all types of HCV who don't have cirrhosis and who have not been previously treated.


# Counseling for HCV-Infected Individuals

## Prevent HCV Transmission

- Avoid sharing toothbrushes, dental, shaving equipment
- Prevent blood contact; do not donate blood
- Avoid illicit drugs; avoid reusing or sharing drug paraphernalia
- Risk of sexual transmission is low, except for people with HIV, multiple partners, or STIs

## Reduce progression of Liver Disease

- Test for conditions that accelerate fibrosis (Hepatitis B and HIV)
- Evaluate for advanced fibrosis
- Update vaccinations
- Avoid alcohol

Slide credit:  [clinicaloptions.com](http://clinicaloptions.com)

**Talk to your doctor before taking any prescription or non-prescription medicines, especially Tylenol (acetaminophen).**





# Treatment

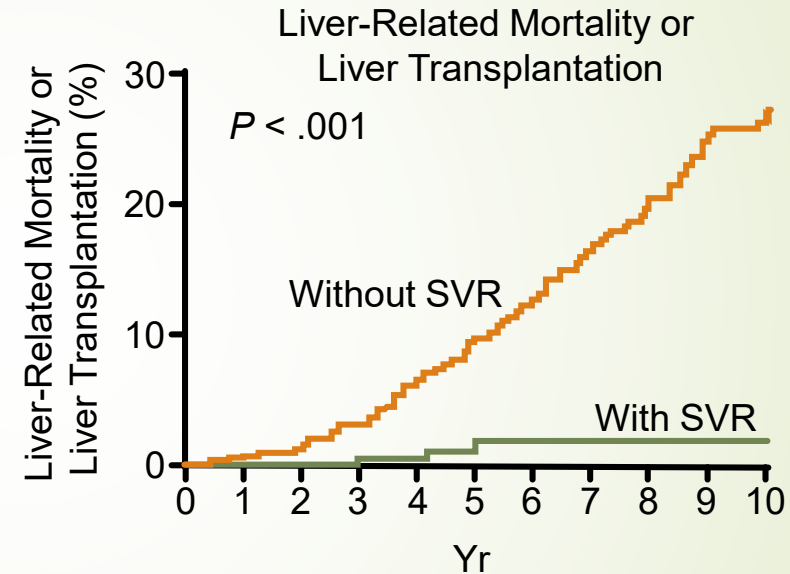
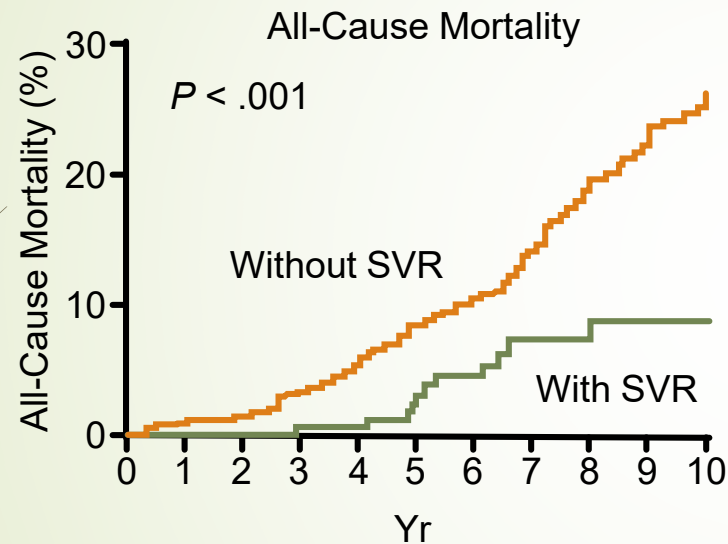
The length of treatment is longer for those who are in a different disease stage.

- **Zepatier**, which combines elbasvir and grazoprevir, and **Harvoni**, which combines sofosbuvir and ledipasvir, are once-daily pills that are indicated for people with only certain types of HCV. Both have been found to cure the disease in most people in 8-12 weeks.
- Another once a day medicine is **Vosevi**. This is a combination of sofosbuvir, velpatasvir, and voxilaprevir that has been approved to treat adults with chronic HCV either with no cirrhosis or with compensated cirrhosis who have already had certain treatments.

# Summary

- Patients born 1945-1965 should be screened for HCV infection
  - Know risk-based screening recommendations
- Virtually all with HCV infection should be treated, regardless of genotype and fibrosis
  - Prevents morbidity, progression of fibrosis, hepatocellular carcinoma
- Current treatments include pangenotypic and ribavirin-free options
  - > 95% rate of cure for most genotypes
  - Most therapies are 12 wks., ribavirin free, all oral, once daily
- Many patients can be treated in primary care setting
  - Counsel and monitor for adverse effects and drug interactions

# HCV Virologic Cure Associated with Improved Outcomes



HR: 0.26 (95% CI: 0.14-0.49;  $P < .001$ )

- **Virologic cure does not protect against reinfection**

Slide credit: [clinicaloptions.com](http://clinicaloptions.com)

van der Meer AJ, et al. JAMA. 2012;308:2584-2593.

# HIV Medication Reminder !!!!!!!



shutterstock - 184787189

# Antiretrovirals Have Drug Interactions With Multiple Medications

- Statins (HMG Co-A reductase inhibitors)
- Anti-acid therapy
- Antimycobacterials
- Antiepileptics
- Hormonal contraceptives
- Asthma medications and corticosteroids
- Other antiretrovirals
- Hepatitis C medications
- Antifungals
- Benzodiazepines
- Antiplatelets & anticoagulants
- Phosphodiesterase inhibitors
- Antiarrhythmics, calcium channel blockers
- Antipsychotics and antidepressants
- Herbal and dietary supplements





# Resources for checking interactions

- ▶ <http://www.hiv-druginteractions.org/>
  - ▶ HIV iChart app available
- ▶ DHHS Adult HIV Guidelines, Tables 17-20 [www.aidsinfo.nih.gov]
  - ▶ <https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-arv-guidelines/367/overview>



**We are available for clinical consultations and trainings**

