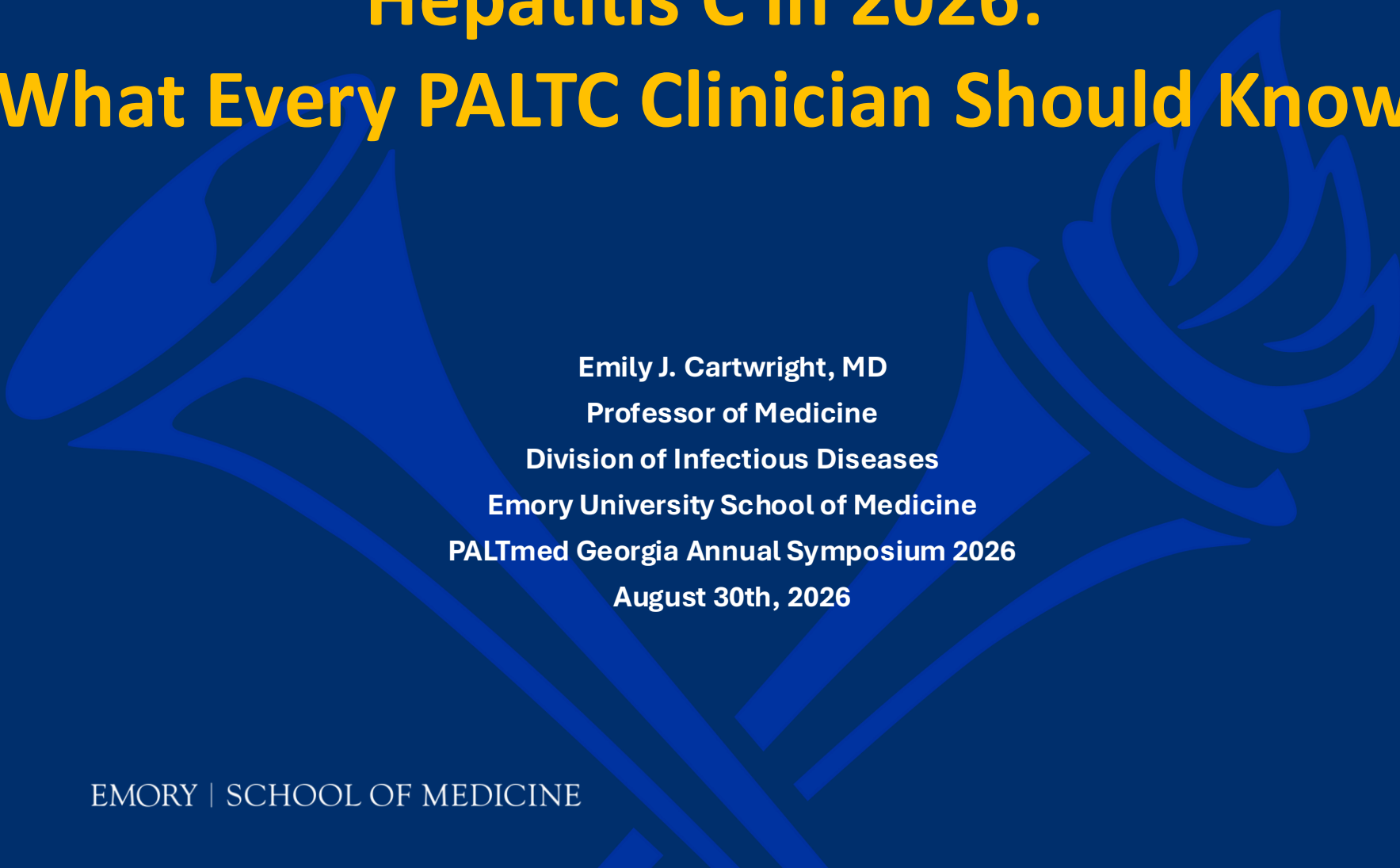




Hepatitis C in 2026: What Every PALTC Clinician Should Know



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Division of Infectious Diseases
Emory University School of Medicine
PALTmed Georgia Annual Symposium 2026
August 30th, 2026

Disclosure

- I have no actual or potential conflicts of interest in relation to this presentation.

Non-Endorsement

- Use of trade names and commercial sources is for identification only and does not imply endorsement by Emory University.

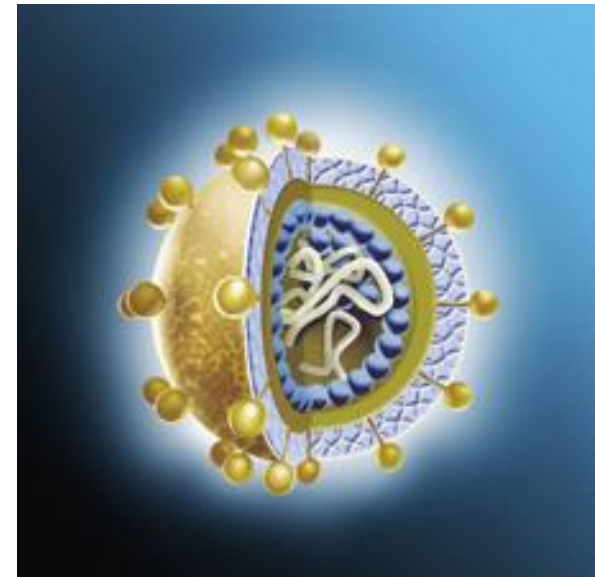


Learning Objectives

- Understand the epidemiology of hepatitis C, specifically in older adults
- Discuss the current screening recommendations for hepatitis C in the U.S.
- Review the current hepatitis C treatment options and benefits of treatment

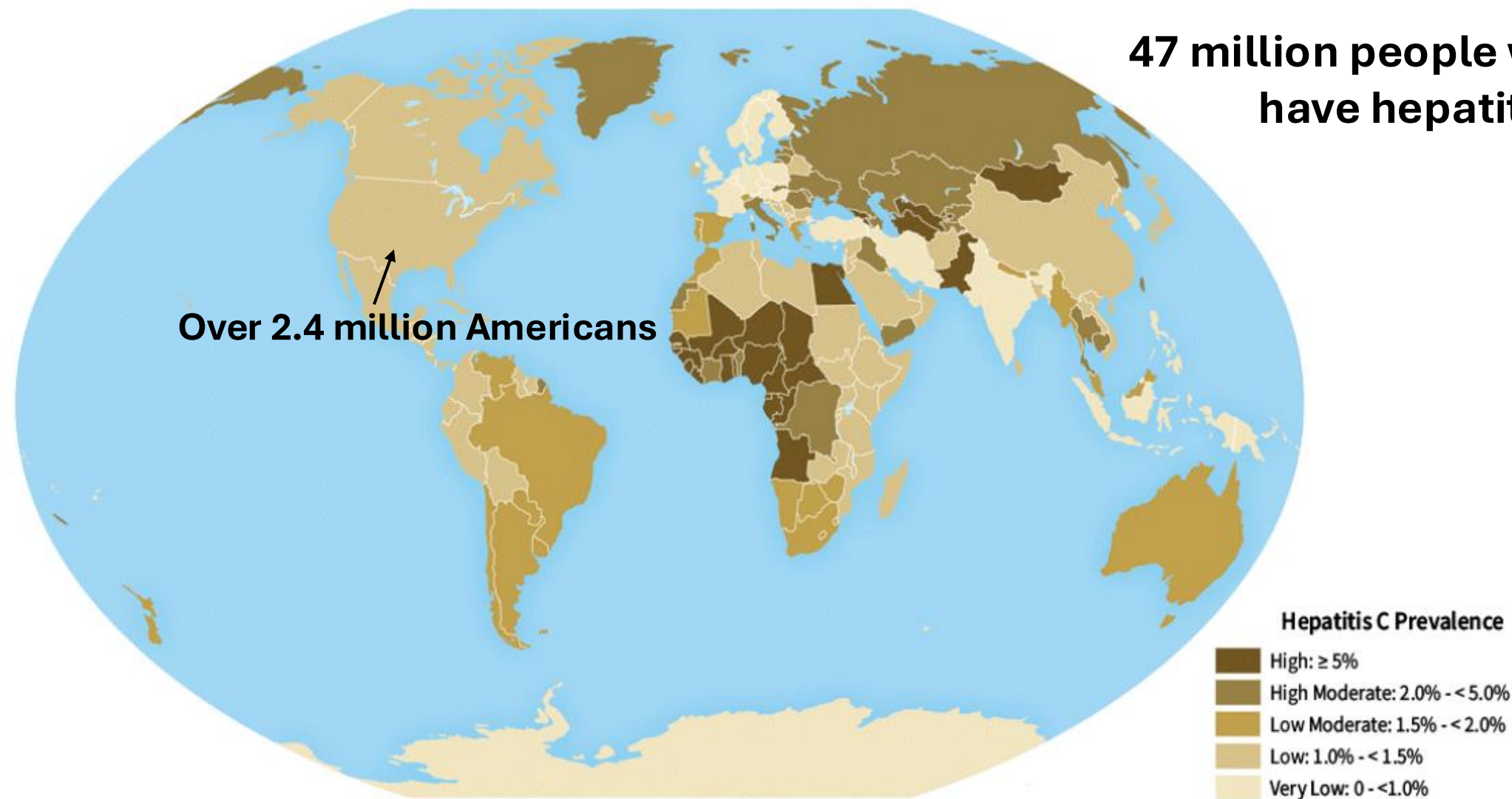
Hepatitis C Basics

- **Enveloped, positive-strand RNA – Flaviviridae**
- **Transmitted via contact with infected blood**
 - **Injecting and possibly non-injection drug use**
 - **Healthcare exposure (e.g. hemodialysis)**
 - **Unprotected anal intercourse**
- **6 genotypes/84 subtypes**
- **Incubation period 15-160 days
(mean 50)**



Countries most affected by hepatitis C

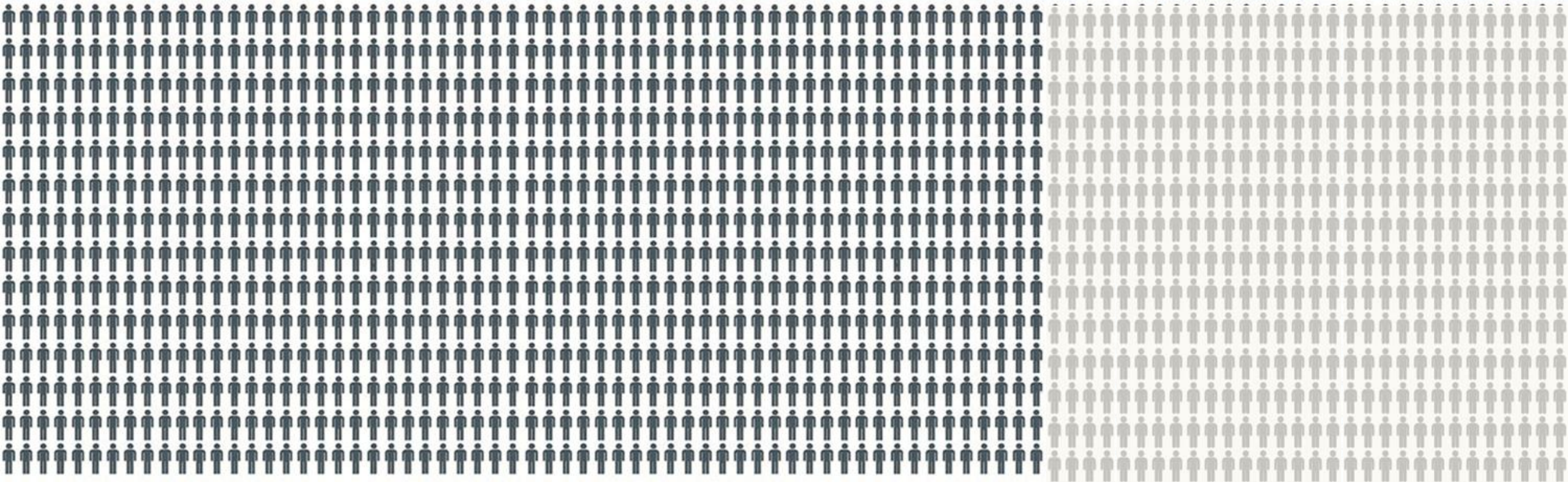
**47 million people worldwide
have hepatitis C**



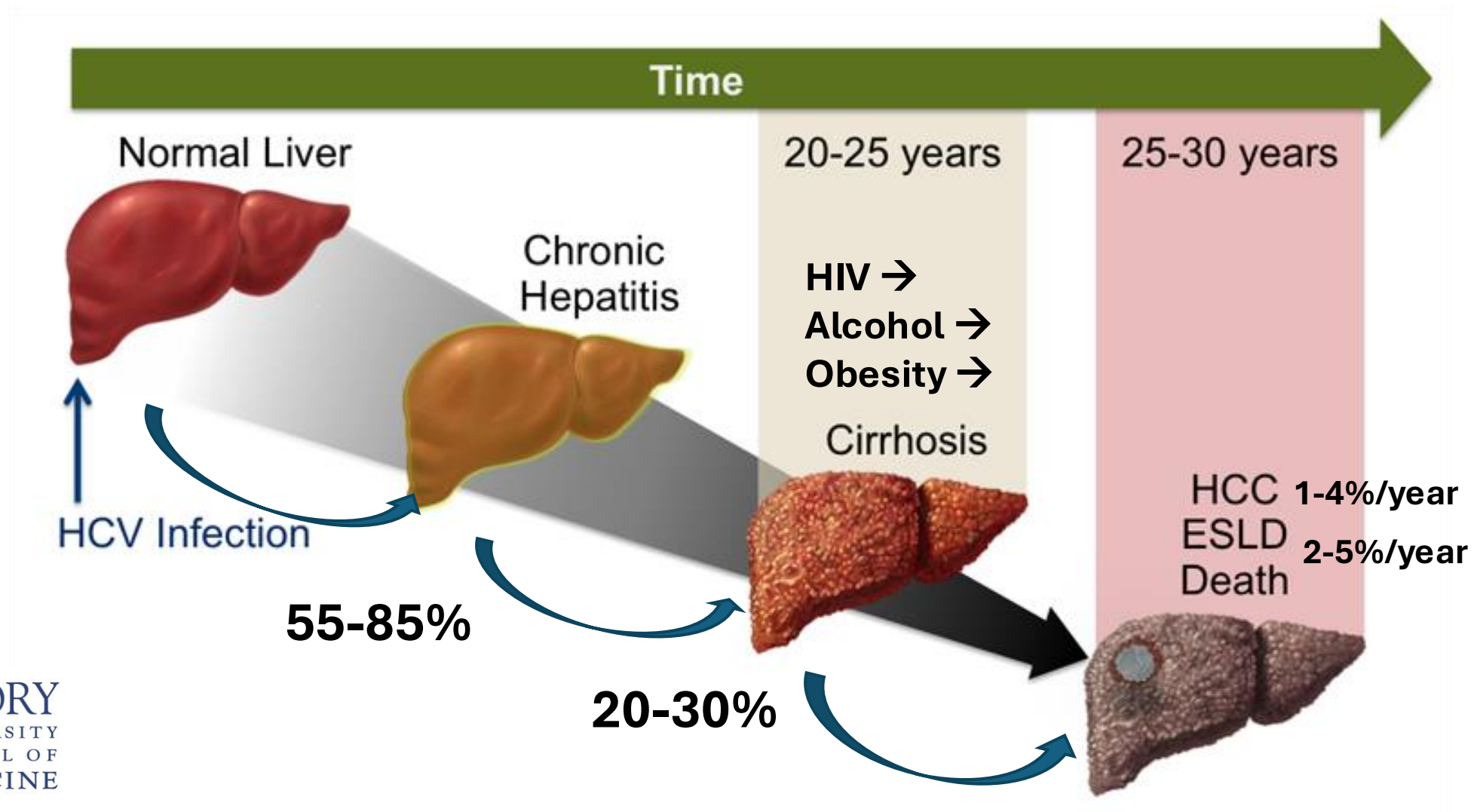
Source: Centers for Disease Control and Prevention. [CDC Yellow Book 2020](#): Health Information for International Travel. New York: Oxford University Press; 2019.

More than 2.4 million people in the U.S. have hepatitis C;

ONE THIRD
OF PEOPLE WITH HEPATITIS C
ARE UNAWARE OF THEIR INFECTION



HCV Natural History

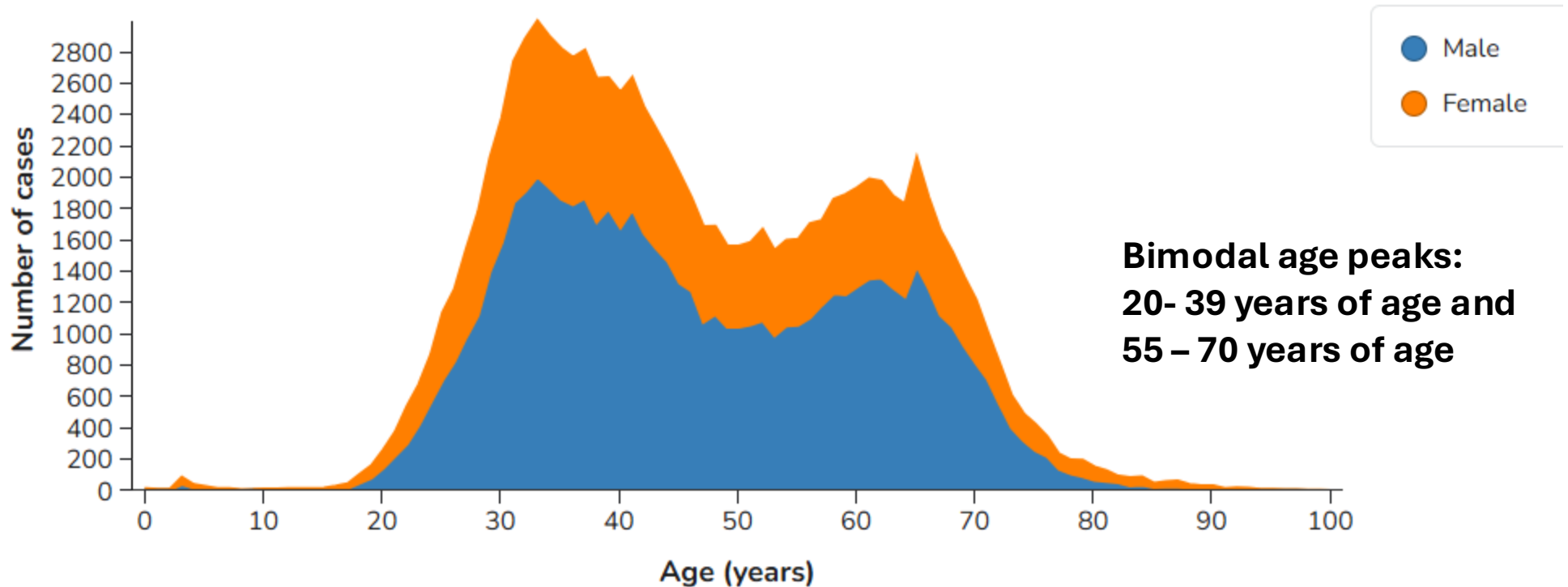


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Bimodal Age Distribution of Hepatitis C

Number of newly reported* chronic hepatitis C cases† by sex and age — United States, 2023



Hepatitis C testing recommendations

Recommendation Summary

Population	Recommendation	Grade
Adults aged 18 to 79 years	The USPSTF recommends screening for hepatitis C virus (HCV) infection in adults aged 18 to 79 years.	B

US Preventive Services Task Force
Recommendation. JAMA. 2020

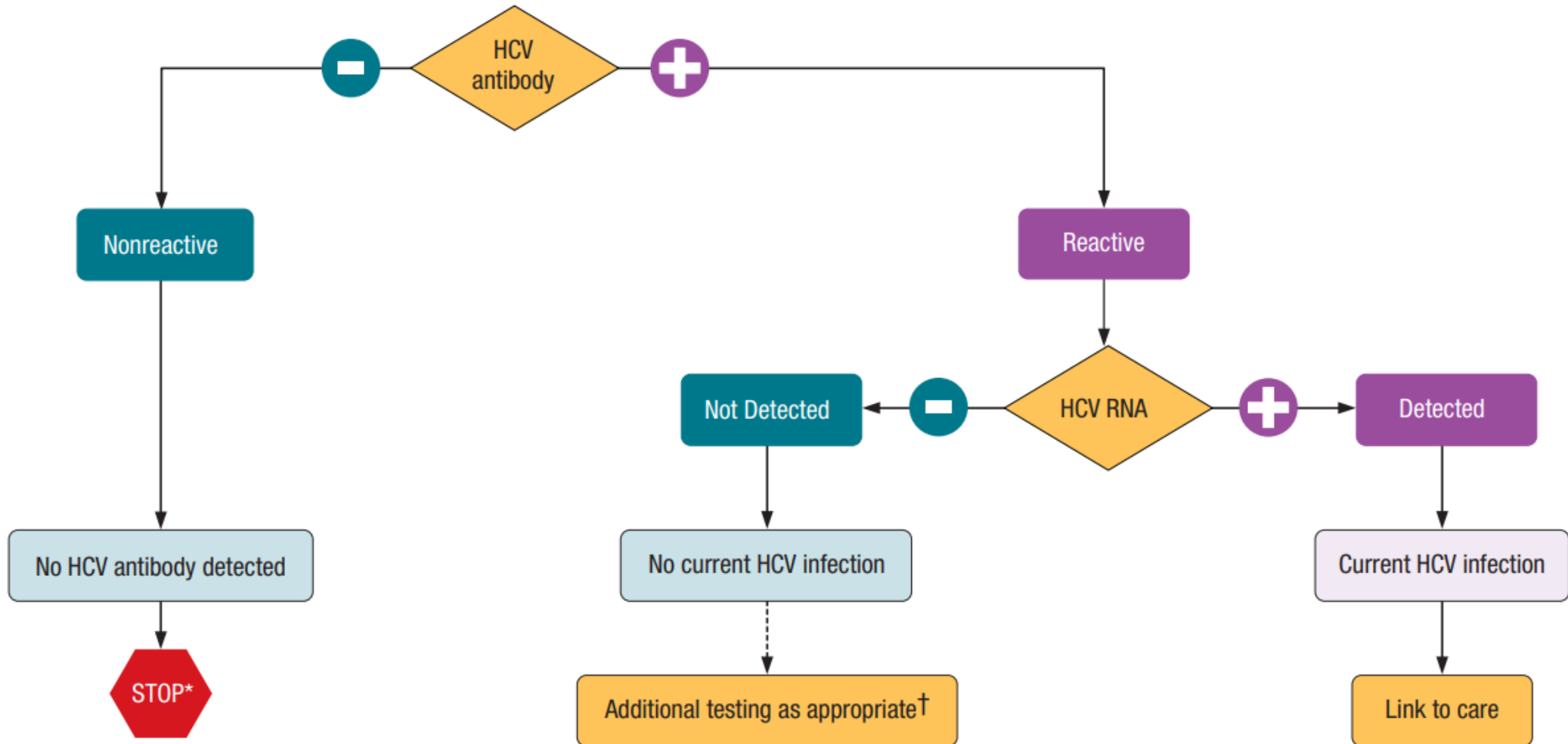


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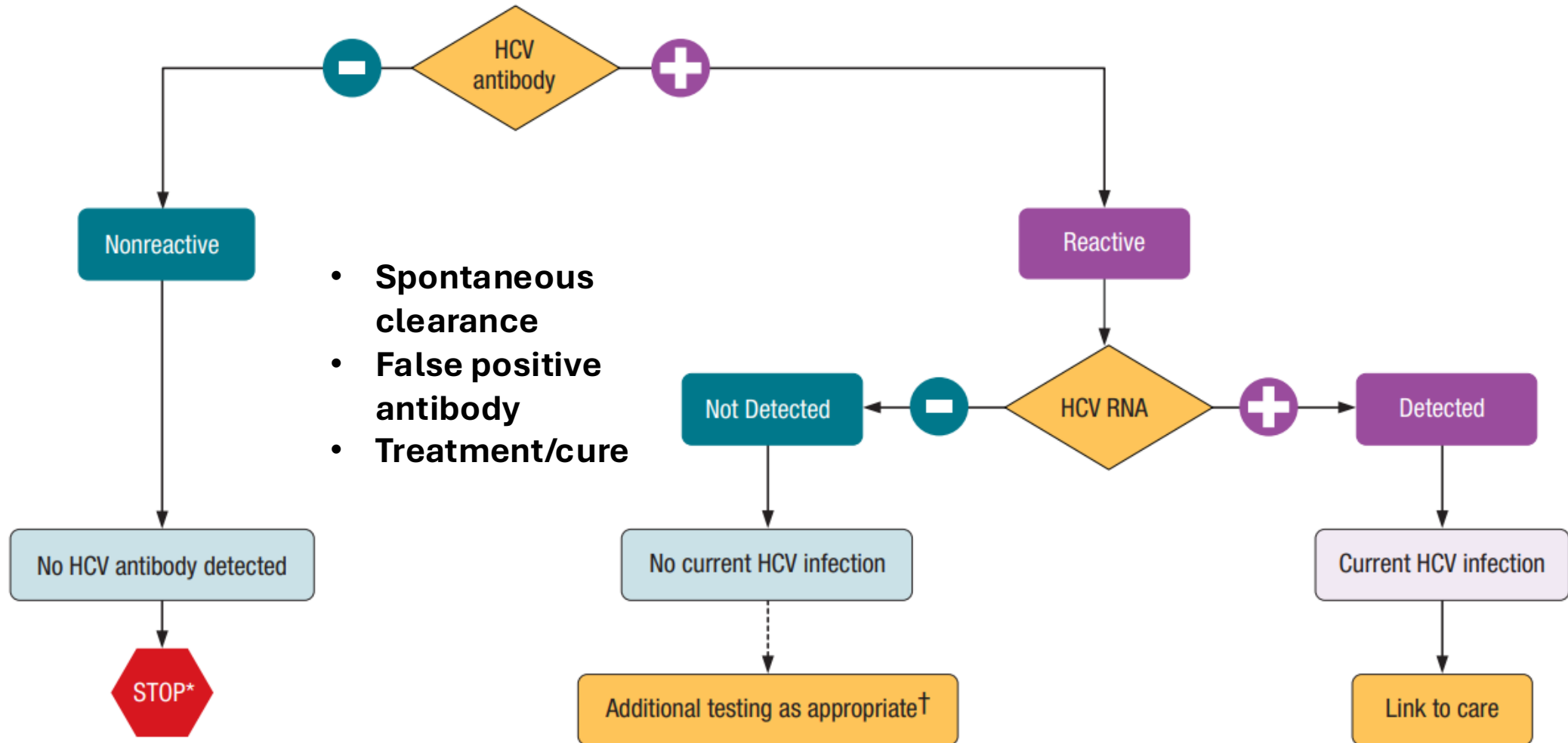


Centers for Disease Control and Prevention. MMWR, 2020

Diagnostic approach for hepatitis C virus testing

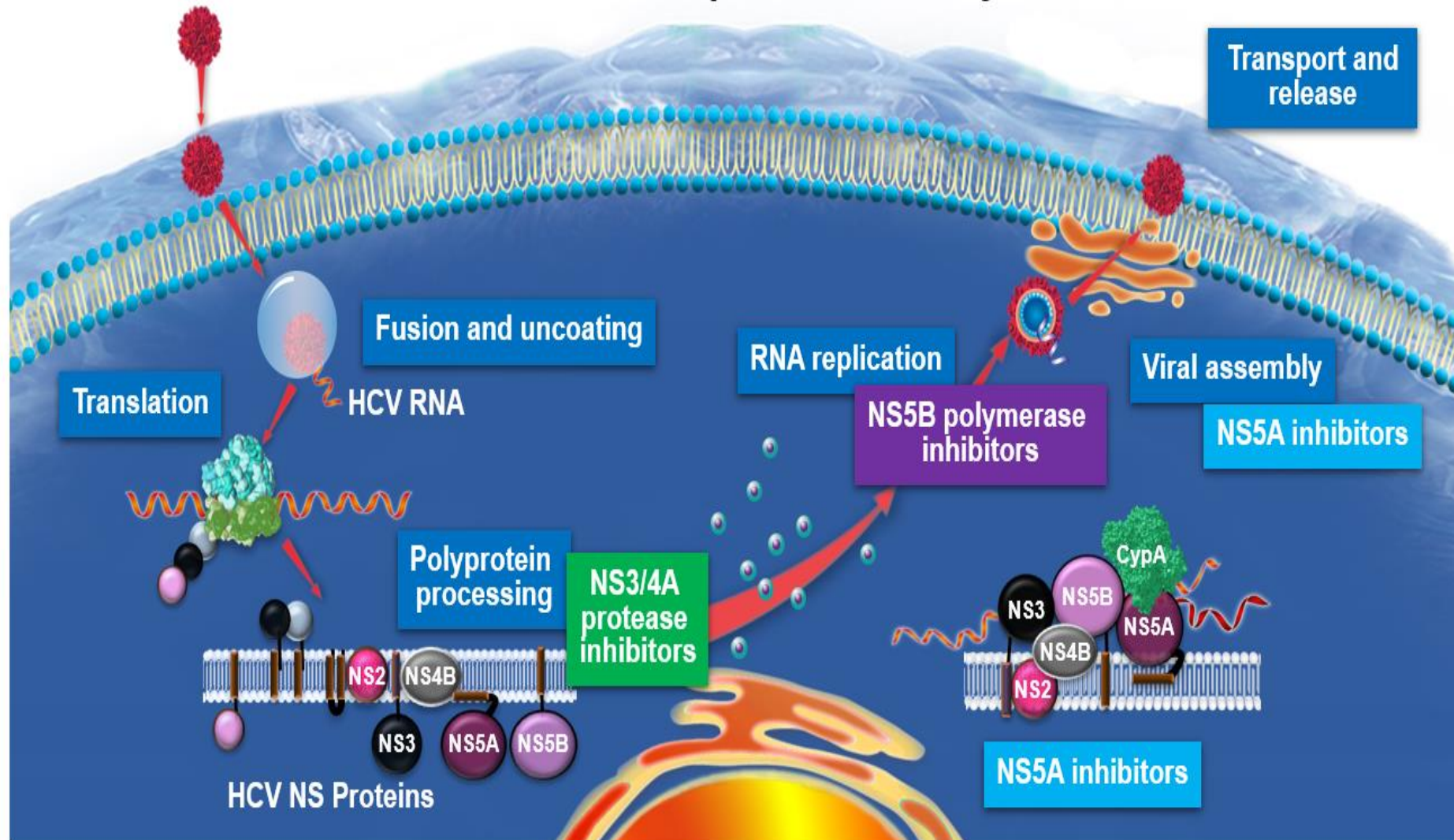


Diagnostic approach for hepatitis C virus testing



Targeting HCV

The HCV Replication Cycle



Adapted from slide courtesy of Ray Chung.

NS3/4A Protease Inhibitors

NS5A Inhibitors

NS5B Polymerase Inhibitors

Boceprevir (2011)

Ledipasvir (2015)

Sofosbuvir (2013)

Telaprevir (2011)

Ombitasvir (2015)

Simeprevir (2013)

Elbasvir (2016)

Paritaprevir (2015)

Daclatasvir (2016)

Grazoprevir (2016)

Velpatasvir (2017)

Glecaprevir (2017)

Pibrentasvir (2017)

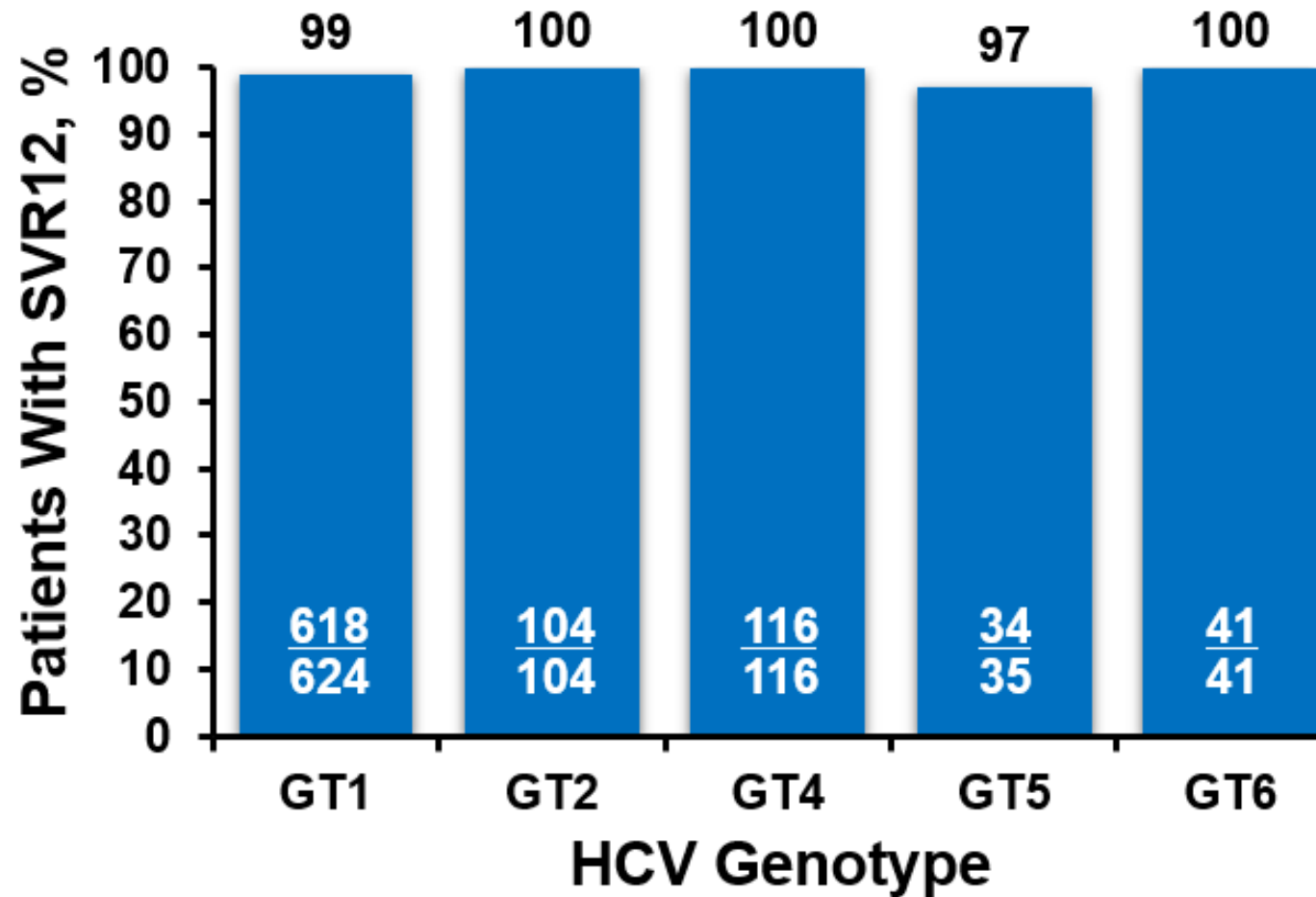
Voxileprevir (2017)

Photo credit:
<https://www.hepatitis.va.gov/>



Epclusa
Pan-genotypic
12-week regimen

SOF/VEL x 12 Weeks for GT1, 2, 4, 5, 6^{1,2,a,b}



SVR12, sustained virologic response at 12 weeks; TE, treatment experienced; TN, treatment naïve.

^a12-week arm for GT1, 2, 4, 5, 6 (19% compensated cirrhosis; 32% nonresponders); ^b8-week arms of phase 2 trial demonstrated lower SVRs at 100 mg velpatasvir dosage (81%–88%).

1. Feld JJ, et al. *N Engl J Med*. 2015;373(27):2599-260; 2. Everson GT, et al. *Ann Intern Med*. 2015;163(11):818-826; 3. Foster GR, et al. *N Engl J Med*. 2015;373(27):2608-2617.

University of Liverpool Interaction Checker

- <https://hep-druginteractions.org/> or app

HEP Drugs	Comedications	Drug Interactions
Search HEP drugs...	omep	☐ Check HEP/ HEP drug interactions
A-Z Indication Trade	A-Z Class Trade	Switch to table view
Reset Checker		
☐ Peginterferon alfa-2b	☒ Atorvastatin	Potential Interaction
☐ Pembrolizumab	☒ Lisinopril	Sofosbuvir/Velpatasvir
☐ Ravidasvir	☒ Omeprazole	Atorvastatin
☐ Regorafenib	☐ Esomeprazole	Look for alternatives →
☐ Ribavirin	☐ Levomepromazine	More Info ▼
☐ Seladelpar	☒ Omeprazole	Potential Interaction
☒ Sofosbuvir/Velpatasvir		Sofosbuvir/Velpatasvir
☐ Sofosbuvir/Velpatasvir/Voxi		Omeprazole
		Look for alternatives →
		More Info ▼

Acid Reducing Agents and DAA

- **Velpatasvir (and ledipasvir) solubility decreases as gastric pH increases**
- **Separate antacid from DAA by at least 4 hours**
- **H2 receptor antagonists - simultaneous or 12 hours apart**
- **Coadministration of omeprazole or other proton-pump inhibitors is not recommended, especially at doses exceeding omeprazole 20mg daily**

NS3/4A Protease Inhibitors

NS5A Inhibitors

NS5B Polymerase Inhibitors

Boceprevir (2011)

Ledipasvir (2015)

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Pibrentasvir (2017)

Voxileprevir (2017)

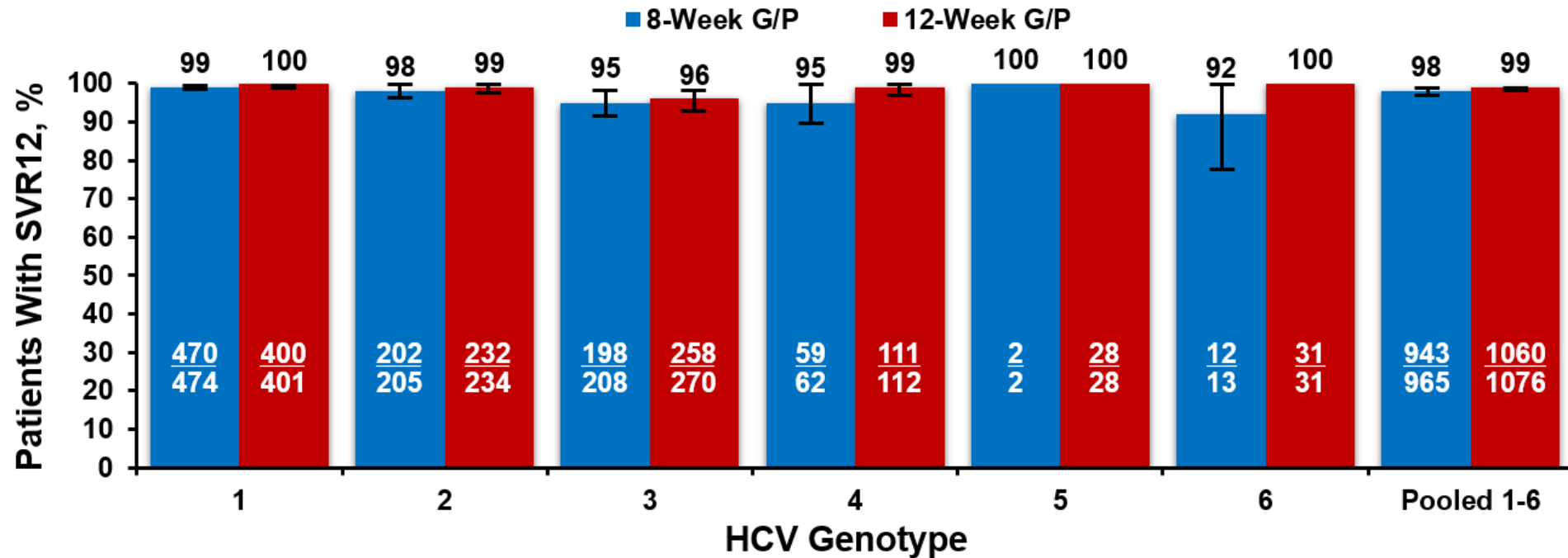
Photo credit:
<https://www.hepatitis.va.gov/>

Mavyret
Pan-genotypic
8-week regimen



Glecaprevir/Pibrentasvir

Efficacy for Treatment-Naïve Patients Without Cirrhosis^{a,b}



^aEfficacy of 12-wk GLE/PIB was not significantly greater than 8-wk GLE/PIB (P=0.2); ^bTreatment responses were high irrespective of baseline patient or viral trait. Puoti M, et al. *J Hepatol*. 2018. <https://www.sciencedirect.com/science/article/pii/S016882781830165X>. (Epub ahead of print) Accessed May 10, 2018.

Fibrosis-4 (FIB-4) Index for Liver Fibrosis



Noninvasive estimate of liver scarring in HCV and HBV patients, to assess need for biopsy.

When to Use ▾	Pearls/Pitfalls ▾	Why Use ▾
---------------	-------------------	-----------

Age	65	years
-----	----	-------

Use with caution in patients <35 or >65 years old, as the score has been shown to be less reliable in these patients

AST	86	U/L
-----	----	-----

Aspartate aminotransferase

ALT	31	U/L
-----	----	-----

Alanine aminotransferase

Platelet count	96	$\times 10^3/\mu\text{L}$ ↔
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10.46 points

Advanced fibrosis (METAVIR stage F3-F4) likely (McPherson 2017)
Approximate fibrosis stage: Ishak 4-6 (Sterling et al 2006)

Copy Results

Next Steps >>

Any value > 3.25 is concerning for advanced fibrosis or cirrhosis



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Simplified Treatment (no cirrhosis)

- Assess potential drug-drug interactions
- Confirm no past treatment experience
- Within 6 months, CBC/CMP
- HCV RNA (anytime)
- Hepatitis B serologies*
- HIV screen
- Pregnancy test, counseling
- Alcohol use – brief intervention



HCV Guidance: Recommendations for
Testing, Managing, and Treating
Hepatitis C



***Risk of Hep B reactivation if HBSAg+ and not on antiviral therapy**

Simplified Treatment - Cirrhosis

- Calculate CTP score
- Ultrasound of the liver and AFP (w/in 6 months)
- Assess potential drug-drug interactions
- Confirm no past treatment experience
- Within 3 months, CBC/CMP/INR
- HCV RNA (anytime), HIV screen
- Hepatitis B serologies*
- HCV genotype if treating with sofosbuvir/velpatasvir



HCV Guidance: Recommendations for
Testing, Managing, and Treating
Hepatitis C



*Risk of Hep B reactivation if HBSAg+ or Core Ab+ and not on antiviral therapy. AFP = alpha fetoprotein

On-Treatment Monitoring

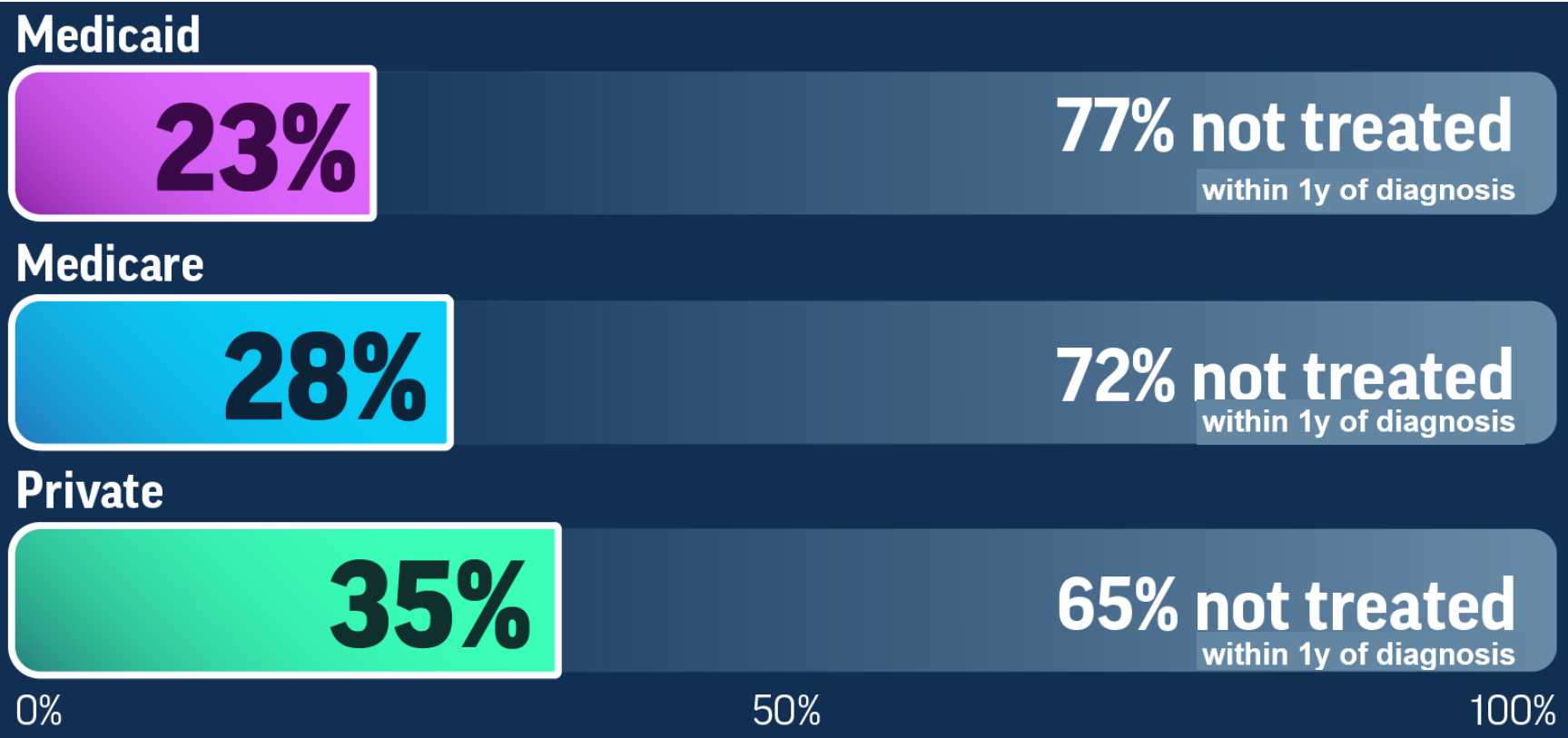
A minimal monitoring approach for the treatment of hepatitis C virus infection (ACTG A5360 [MINMON]):
a phase 4, open-label, single-arm trial

Lancet Gastroenterol Hepatol
2022; 7: 307-17

- No decompensated patients, enrolled 5 countries
- Dispense entire treatment course upfront
- Remote contact at week 4 and post-treatment week 10
- HBsAg+ were not included (but anti-HBc were)
- SVR seen in 95%

Many people who are diagnosed with hepatitis C do not get timely treatment

Hepatitis C Treatment within 1 Year of Diagnosis Among Continually Insured Adults by Insurance Type, 2019–2020



Case 1

65-year-old male newly establishing care at the VA

Known history of hypertension on Lisinopril 20mg daily

Drinking a ~6 pack of beer every day

“Mens Health/Labs ordered”



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Case 1

65-year-old male newly establishing care at the VA

Known history of hypertension on lisinopril 20mg daily

Drinking a 6 pack of beer every day

“Mens Health/Labs ordered”

- Hemoglobin A1c
- Comprehensive metabolic panel (AST 86 IU/L, ALT 31 IU/L)
- Cholesterol lipid panel
- Spot urine microalbumin
- Complete blood count (platelets 96 K/cm²)

Case 1

Hepatitis C antibody reactive,
HCV RNA 10,300,000 IU/mL

HIV screen Ag/Ab non-reactive

Anti-HBs non-reactive, anti-HBc
non-reactive, HBsAg negative

Case 1

Hepatitis C antibody reactive, HCV RNA 10,300,000 IU/mL

HIV screen Ag/Ab non-reactive

Anti-HBs non-reactive, anti-HBc non-reactive, HBsAg negative

- Denies ever having a blood transfusion
- Denies ever using IV drugs (hates needles)
- Served in the U.S. Military in the 1970's
- Denies combat blood exposure

Fibrosis-4 (FIB-4) Index for Liver Fibrosis



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HCC Surveillance

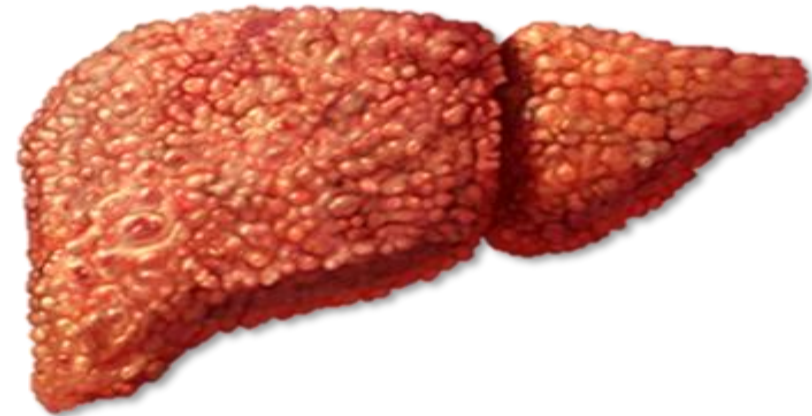
LIRADS Liver Ultrasound + AFP q 6 months

- US – 1: Negative, no evidence of hepatocellular carcinoma (HCC)
- US – 2: Observation <10 mm in diameter, not definitely benign
- US – 3: Positive, >10 mm in diameter or new thrombus in vein
 - Multiphase contrast-enhanced imaging needed
- US visualization score
 - A – no or minimal limitations
 - B – moderate limitations (moderately heterogenous, some portions of the liver not visualized)
 - C – severe limitations (liver severely heterogenous, majority [>50%] of liver not visualized)

Alcohol Increases Risk of Hepatocellular Carcinoma (HCC)

In persons with compensated cirrhosis, alcohol use increased risk of HCC **even after cure**

	HCC (%)	
	No alcohol N= 118	Alcohol use N= 74
No HCV RNA	No HCC	6.2%
+ HCV RNA	15.9%	29.2%



Only 1-2 drinks per day increases HCC risk in patients with HCV-related cirrhosis

Expert Guidelines State:

- Alcohol use should not affect eligibility for DAA treatment
 - » because the benefit is great and outcomes are the same
- As of August 2024, there are **no longer** any State Medicaid programs that require sobriety as a pre-requisite to hepatitis C treatment
- Clinicians need to address risky alcohol use because it:
 - » will damage the liver and increase risk of HCC

Health Outcomes Associated with SVR

- Reverse progression of liver fibrosis
- Reduce risk of hepatocellular carcinoma (HCC)
- Reduce liver-related mortality
- Reduce overall mortality (diabetes, kidney disease)
- Prevent HCV transmission



U.S. Department
of Veterans Affairs

I'm free of hepatitis C
You can be, too

Tens of thousands of Veterans enrolled in VA care have been cured of hepatitis C.

Call VA at **404-321-6111, ext. 6608.**
Ask about hepatitis C testing and treatment.

LEARN MORE AT
www.hepatitis.va.gov

Treatment-naïve adults with compensated cirrhosis

- **Brief alcohol intervention**
- **No drug interactions**
- **Started on Sofosbuvir/velpatasvir 1 tablet daily for 12 weeks**
 - Other option: Glecaprevir/pibrentasvir x 8 weeks
- **Entire course mailed to the patient**
- **Checked in by phone during treatment and for post-treatment testing (*cured!*)**

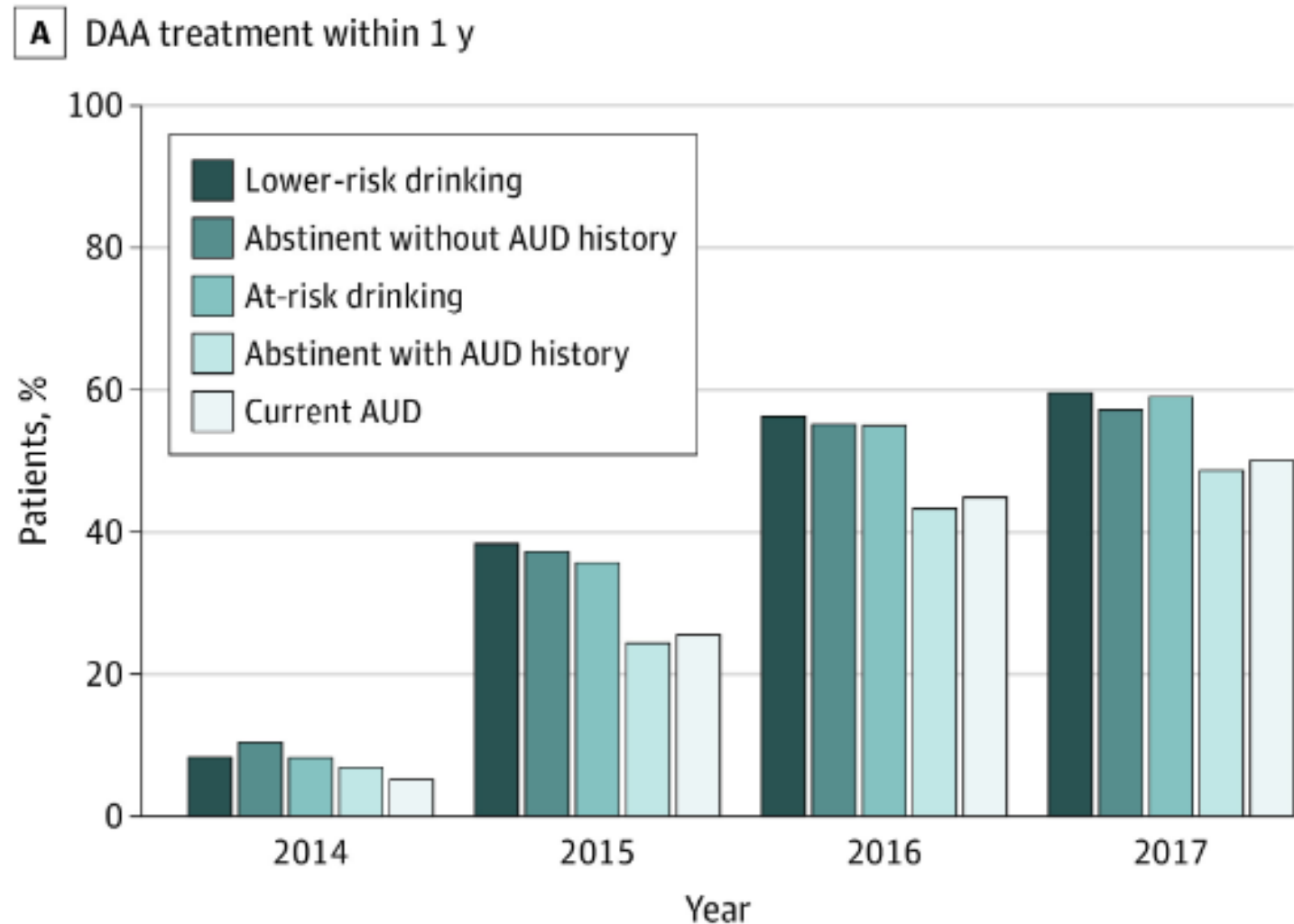
Conclusions

- **One-time, universal screen of all adults for hepatitis C**
- **Consider a simplified treatment approach**
- **Counsel on alcohol use but still treat with DAA**
- **Benefits of cure include liver and extrahepatic impacts**



Lower DAA Treatment in Alcohol Use Disorder

- Study of 133,753 veterans
- Outcome: Percent treated within 1 and 3 years
- Current alcohol use disorder and abstinent with history AUD were less likely to be treated with DAAs within 1 year



Alcohol Use and Sustained Virologic Response

Table 2. Associations of Alcohol Category With Sustained Virologic Response

Variable	OR (95% CI) ^a				
	All patients with exposure and outcome data (n = 76 568), unadjusted	Complete case analysis (n = 69 229)		By fibrosis-4 score ^b	
		Unadjusted	Fully adjusted	≤3.25 (n = 51 135)	>3.25 (n = 18 094)
Abstinent					
Without AUD	0.88 (0.80-0.95)	0.89 (0.81-0.97)	1.09 (0.99-1.20)	1.11 (0.99-1.25)	1.08 (0.92-1.27)
With AUD	0.70 (0.63-0.78)	0.71 (0.64-0.80)	0.92 (0.82-1.04)	0.96 (0.82-1.11)	0.88 (0.72-1.06)
Consumption					
Lower risk	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]	1 [Reference]
Moderate risk	1.03 (0.87-1.22)	1.04 (0.86-1.24)	0.96 (0.80-1.15)	1.00 (0.79-1.26)	0.87 (0.64-1.19)
High risk or AUD	0.91 (0.81-1.01)	0.92 (0.82-1.03)	0.95 (0.85-1.07)	0.91 (0.79-1.06)	1.02 (0.82-1.21)

No associations found between alcohol use category and SVR