Hepatitis B and C Quality Improvement Interventions for Health Care Facilities

The following recommendations are provided to support hepatitis B and C service improvement in order to increase screening and early diagnosis. For more information and assistance, contact hep@health.nyc.gov.

1. Patient Education

- **Hep B and C Basics presentations** can be requested to hep@health.nyc.gov
- **One-on-one education** delivered through peers, community health workers, navigators, or other health care professionals
- Client reminders (letter, postcard, email, text, telephone, by other service providers)

2. Provider Education

See available trainings www.hepfree.nyc/resources/training-technical-assistance/hep-c-training-guide

- **Hepatitis training providing CMEs/CNEs/CASAC**
  - Hepatitis B Clinical Provider Training (Empire Liver Foundation webinars)
  - Hepatitis C Clinical Provider Training (Empire Liver Foundation webinars)
    Review AASLD Hep C Guidelines: www.hcvguidelines.org
  - Half day Preceptorship in Hepatology (Empire Liver Foundation)
  - Hep C Patient Navigator Training (NYC Health Department; Harm Reduction Coalition)
- **Free onsite hepatitis trainings**
  - Empire Liver Foundation and Clinical Education Initiative offer onsite provider training
  - Contact hep@health.nyc.gov to request other training support
- **Provider assessment and feedback**
  - Add screening measure in provider performance dashboard (for example: # baby boomers ever screened for HCV at the institution).
  - Use other measures to assess provider adherence to internal or professional guidelines for hepatitis screening and provide regular feedback

3. Use Clinical Decision Tools

- **Set up electronic reminders** (manual or automated) for providers and staff to order or complete testing for patients when they come for their next appointment
- **Generate patient lists** of patients in need of hepatitis screening based on risk criteria. Contact hep@health.nyc.gov to request an EMR query tool and other guidance.

4. Implement Policy for Routine Testing

- **Order sets**
- **Standing orders** (either through RN, or co-signed by ordering provider)
- **Universal screening**: Provide test for anyone 18 years old or older at least once. This is particularly recommended for high-risk settings such as health centers servicing immigrant populations at high risk, jails, urban emergency departments, dialysis centers, and substance use treatment programs
- **Opt-out screening:** Perform the test after notifying the patient that the test will be done; consent is inferred unless the patient declines.
- **Written policy** for when routine testing should occur (if no existing policy)
- **Implement "Reflex" (automatic confirmatory viral test) testing for hepatitis C.**
  See Health Code Amendment

5. Increase Access to Screening and Treatment

- **Reduce time/distance** between service delivery settings and target populations
- **Modify hours of service** to meet client needs
- **Offer screening in alternative or nonclinical settings**
- **Eliminate/simplify administrative procedures or other obstacles**
- **Train primary care providers** to expand clinical capacity to treat. See provider education.

Screening Recommendations from CDC, US Preventive Services Task Force, and AASLD/IDSA

Hepatitis C (See website: https://www.cdc.gov/hepatitis/hcv/hcvfaq.htm#c1)

"It's common; it's curable; if it's alright with you, I'd like to test you for hepatitis C today"

- All adults ages 18 to 79 (All adults ages 18 to 79) (https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/hepatitis-c-screening)
- All pregnant women during each pregnancy
- Born from 1945 through 1965
- History of injection or intranasal drug use. Persons with ongoing drug use should be tested annually
- HIV infection. HIV positive-men who have sex with men should be tested annually
- Received a tattoo or piercing in an unregulated setting
- Received clotting factor concentrates made before 1987
- Received blood transfusions or solid organ transplants before July 1992
- Received long-term hemodialysis treatment
- Health care workers with accidental exposure (e.g. needle sticks involving hepatitis C-positive blood)
- Received blood or organs from a donor who later tested hepatitis C-positive
- Persons with signs and symptoms of liver disease (e.g. abnormal liver enzyme tests)
- Children born to hepatitis C-positive mothers (to avoid detecting maternal antibody, these children should not be tested before age 18 months)
- Any person who requests testing, regardless of age or setting prevalence or disclosure of risk, because many persons might be reluctant to disclose stigmatizing risks

Hepatitis B (See website: https://www.cdc.gov/hepatitis/hbv/pdfs/chronichepbtestingflwup.pdf)

"It's common; it's preventable and treatable; if it's alright with you, I'd like to test you for hepatitis B today"

- Born in regions of high and intermediate hepatitis B endemicity (prevalence ≥ 2%) *(see below)*
- US born not vaccinated as infants whose parents were born in regions of with high hepatitis B endemicity (greater than or equal to 8%)
- History of injection or intranasal drug use.
- HIV infection
- Men who have sex with men
- All pregnant women
- Children born to hepatitis B surface antigen positive mothers
- Contacts of hepatitis B surface antigen positive persons (e.g. household members, sexual partners)
- Received long-term hemodialysis treatment
- Persons with signs and symptoms of liver disease (e.g. abnormal liver enzyme tests)
- Persons needing immunosuppressive therapy

List of countries by prevalence of chronic hepatitis B virus infection among adults:

High (≥8%): Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, São Tomé and Príncipe, Senegal, Sierra Leone, Togo

Intermediate (5%-7%): Angola, Armenia, Azerbaijan, Botswana, Burundi, Cambodia, Central African Republic, China, Comoros, Congo, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Federal States of Micronesia, Fiji, Gabon, Georgia, Indonesia, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Lao People's Democratic Republic, Lesotho, Madagascar, Malawi, Malaysia, Maldives, Marshall Islands, Mauritius, Mongolia, Mozambique, Myanmar, Namibia, Papua New Guinea, People's Republic of Korea, Philippines, Rwanda, Samoa, Seychelles, Solomon Islands, Somalia, South Africa, Sri Lanka, Sudan, Swaziland, Taiwan, Tajikistan, Thailand, Tonga, Turkmenistan, Uganda, United Republic of Tanzania, Uzbekistan, Vanuatu, Zambia, Zimbabwe

Low Intermediate (2%-4%): Afghanistan, Albania, Algeria, Argentina, Aruba, Australia, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Bhutan, Bolivia, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, Chile, Croatia, Cuba, Czech Republic, Dominica, Dominican Republic, Ecuador, Egypt, Estonia, Grenada, Guyana, Haiti, Hungary, India, Iraq, Islamic Republic of Iran, Jamaica, Japan, Jordan, Latvia, Lebanon, Libyan Arab Jamahiriya, Lithuania, Macedonia, Martinique, Moldova, Montenegro, Morocco, Nepal, Netherlands Antilles, New Zealand, Pakistan, Palestine, Peru, Poland, Puerto Rico, Republic of Korea, Romania, Russian Federation, Saint Lucia, Saint Vincent and the Grenadines, Singapore, Suriname, Trinidad and Tobago, Ukraine, Uruguay

No data: Serbia

Source: Ott JJ, Stevens GA, Groeger J, Wiersma ST. ***Global epidemiology of hepatitis B virus infection: new estimates of age-specific HBsAg seroprevalence and endemicity****. Vaccine. 2012; 30(12):2212–2219.*

For more information and assistance, contact hep@health.nyc.gov.

Summary Algorithm for Diagnosis, Treatment and Monitoring of Chronic Hepatitis B (HBV) Infection.
World Health Organization Guidelines (access to full article)

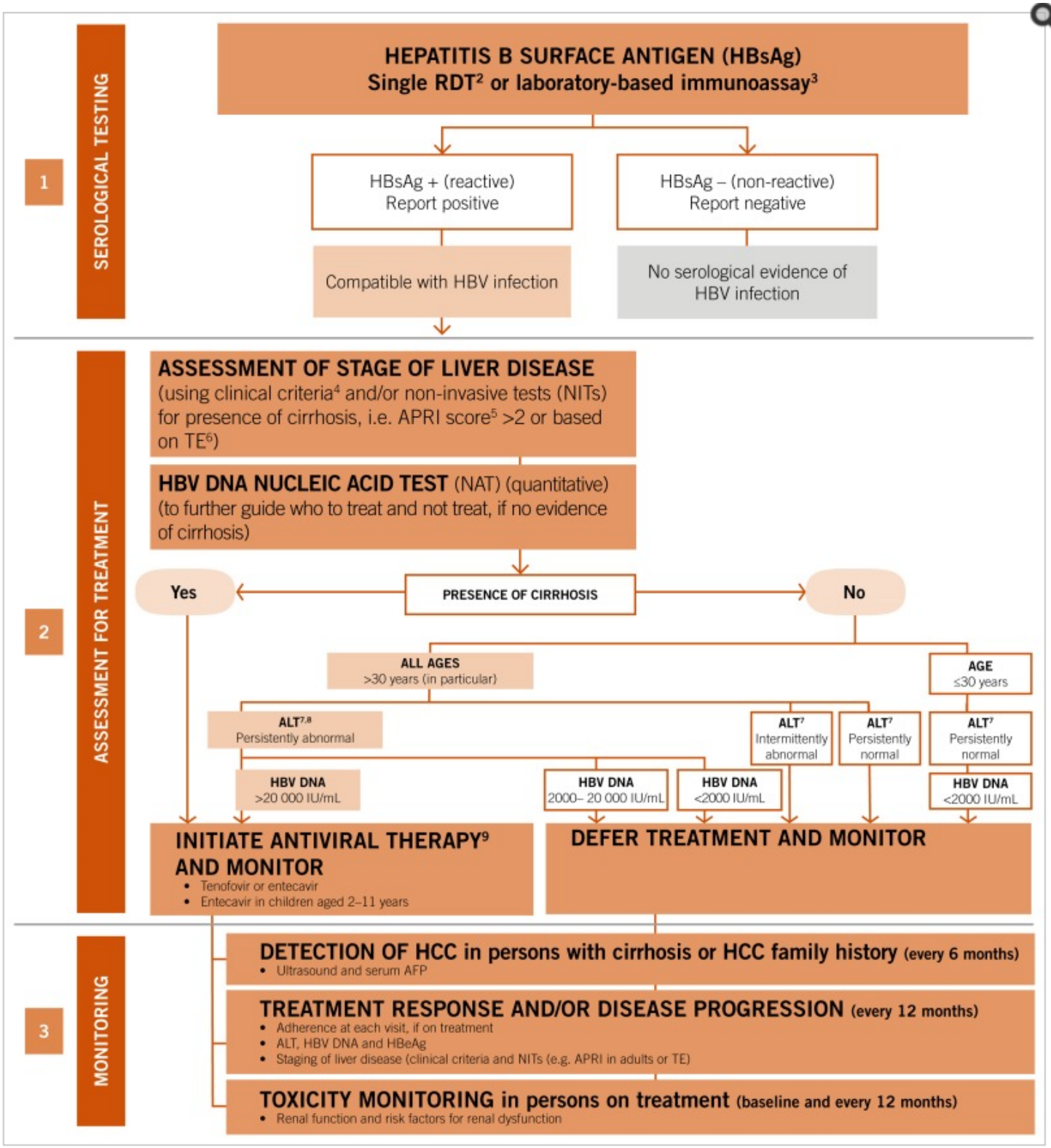

FIG.2 Summary algorithm for diagnosis, treatment and monitoring[1] of chronic HBV infection

Abbreviations: RDT: rapid diagnostic test; ALT: alanine aminotransferase; APRI: aspartase aminotransferase-to-platelet ratio index; TE: transient elastography; HCC: hepatocellular carcinoma; AFP: apha fetoprotein

For more information and assistance, contact hep@health.nyc.gov.

A Simplified Algorithm for the Management of Hepatitis C (HCV) Infection

Dieterich et al. Gastroenterology & Hepatology Volume 15, Issue 5, Supplement 3 May 2019. (access to full article)

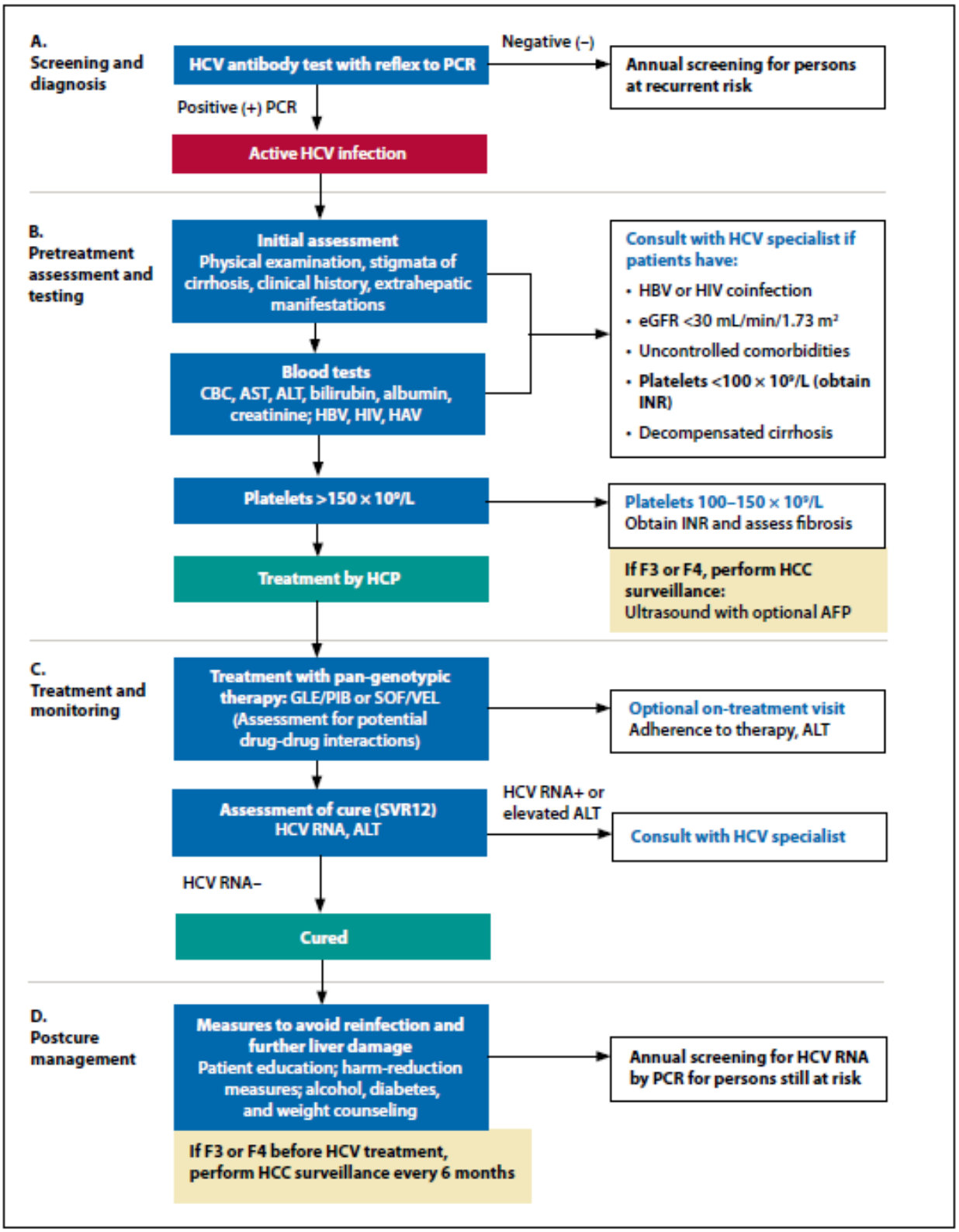

Figure 1. A simplified treatment algorithm for HCV. AFP, α-fetoprotein; ALT, alanine aminotransferase; AST, aspartate aminotransferase; CBC, complete blood count; eGFR, estimated glomerular filtration rate; F, fibrosis score (METAVIR); GLE, glecaprevir; HAV, hepatitis A virus; HBV, hepatitis B virus; HCC, hepatocellular carcinoma; HCP, health care provider; HCV, hepatitis C virus; HIV, human immunodeficiency virus; INR, international normalized ratio; PCR, polymerase chain reaction; PIB, pibrentasvir; SOF, sofosbuvir; SVR12, sustained virologic response at 12 weeks; VEL, velpatasvir.

For more information and assistance, contact hep@health.nyc.gov.

HCV GUIDANCE: RECOMMENDATIONS FOR TESTING, MANAGING, AND TREATING HEPATITIS C

Simplified HCV Treatment* for Treatment-Naive Patients Without Cirrhosis

WHO IS ELIGIBLE FOR SIMPLIFIED TREATMENT

Patients with chronic hepatitis C who do not have cirrhosis and have not previously received hepatitis C treatment

WHO IS *NOT* ELIGIBLE

Patients who have any of the following characteristics:

- Prior hepatitis C treatment
- Cirrhosis
- Prior liver transplant
- HIV or HBsAg positive
- End-stage renal disease (ie, eGFR <30 mL/min/m^2)
- Currently pregnant

PRETREATMENT ASSESSMENT*

- **Cirrhosis assessment**
  Liver biopsy is not required. The cutoffs of the following tests suggest cirrhosis. If any test suggests cirrhosis, treat the patient as having cirrhosis.
  - FIB-4 >3.25
  - APRI >2.0
  - Platelet count <150,000/mm^3
  - Fibroscan™ stiffness >12.5 kPa
- **Medication reconciliation**
  Record current medications, including over-the-counter drugs and herbal/dietary supplements.
- **Potential drug-drug interaction assessment**
  Drug-drug interactions can be assessed using the AASLD/IDSA guidance (https://www.hcvguidelines.org) or the University of Liverpool drug interaction checker. (https://www.hep-druginteractions.org/checker).
- **Education**
  Educate the patient about proper administration of medications, adherence, avoidance of alcohol, and prevention of reinfection.
- **Pretreatment laboratory testing**

  Within 6 months of initiating treatment
  - Complete blood count (CBC)
  - Hepatic function panel (ie, albumin, total protein, total and direct bilirubin, alanine aminotransferase [ALT], aspartate aminotransferase [AST], and alkaline phosphatase levels)
  - Calculated glomerular filtration rate (eGFR)

  Anytime prior to starting antiviral therapy
  - Quantitative HCV RNA (HCV viral load)
  - HIV antigen/antibody test
  - Hepatitis B surface antigen (HBsAg)

  Before initiating antiviral therapy
  - Serum pregnancy testing and counseling about pregnancy risks of HCV medication should be offered to women of childbearing age.

RECOMMENDED REGIMENS*

Glecaprevir (300 mg) / pibrentasvir (120 mg)
to be taken with food for a duration of 8 weeks

Sofosbuvir (400 mg) / velpatasvir (100 mg)
for a duration of 12 weeks

ON-TREATMENT MONITORING

- Inform patients taking diabetes medication of the potential for symptomatic hypoglycemia. Monitoring for hypoglycemia is recommended.
- Inform patients taking warfarin of the potential for changes in their anticoagulation status. Monitoring INR for subtherapeutic anticoagulation is recommended.
- No laboratory monitoring is required for other patients.
- An in-person or telehealth visit may be scheduled, if needed, for patient support, assessment of symptoms, and/or new medications.

POST-TREATMENT ASSESSMENT OF CURE (SVR)

- Monitoring patients taking diabetes medication for hypoglycemia is recommended.
- Monitoring INR for patients taking warfarin is recommended.
- Assessment of quantitative HCV RNA and hepatic function panel are recommended 12 weeks or later following completion of therapy to confirm HCV RNA is undetectable (virologic cure) and transaminase normalization.
- Assessment for other causes of liver disease is recommended for patients with elevated transaminase levels after achieving SVR.

FOLLOW-UP AFTER ACHIEVING VIROLOGIC CURE (SVR)

- No liver-related follow-up is recommended for noncirrhotic patients who achieve SVR.
- Patients with ongoing risk for HCV infection (eg, intravenous drug use or MSM engaging in unprotected sex) should be counseled about risk reduction, and tested for HCV RNA annually and whenever they develop elevated ALT, AST, or bilirubin.

FOLLOW-UP FOR PATIENTS WHO DO *NOT* ACHIEVE A VIROLOGIC CURE

- Assessment for disease progression every 6 to 12 months with a hepatic function panel, CBC, and international normalized ratio (INR) is recommended.
- Patients in whom initial HCV treatment fails to achieve cure (SVR) can be retreated, often successfully. Consult the AASLD/IDSA guidance for recommendations regarding the evaluation of patients for retreatment and selection of an appropriate HCV antiviral regimen. (https://www.hcvguidelines.org)

* More detailed descriptions of the patient evaluation process and antivirals used for HCV treatment, including the treatment of patients with cirrhosis, can be found at https://www.hcvguidelines.org. Updated: November 6, 2019

For more information and assistance, contact hep@health.nyc.gov.