Viral Hepatitis Screening and Diagnosis Algorithm

INDICATIONS FOR TESTING
New onset of symptoms (jaundice, fever, anorexia, dark urine) OR elevated liver enzymes of unknown etiology

ORDER
Hepatitis Panel, Acute with Reflex to HBsAg Confirmation and Reflex to HCV by Quantitative NAAT (includes the following):
- Hepatitis A Virus Antibody, IgM
- Hepatitis B Virus Core Antibody, IgM
- Hepatitis B Virus Surface Antigen with Reflex to Confirmation
- Hepatitis C Virus Antibody by CIA with Reflex to HCV by Quantitative NAAT

ORDER
Hepatitis E Virus (HEV) Antibody, IgM

HEV IgM positive
- Acute HEV

HAV, HBV, and HCV negative
- Risk factors for HEV (eg, recent travel to endemic areas)
- Acute HAV

HAV IgM positive
- HBV core IgM Abs positive
- HBV surface Ag positive
- HBV core IgM Abs negative
- Most likely acute HBV
- Most likely chronic HBV

HBV surface Ag positive
- HBV core IgM Abs positive
- HBV core IgM Abs negative
- May indicate one of the following:
  - Past infection with recovery
  - False positive
  - Occult infection
  - Resolving (if known acute infection)
- Previously infected and recovered or false-positive anti-HCV screen

HBV surface Ag negative
- HBV core IgM Abs positive
- May indicate one of the following:
  - Past infection with recovery
  - False positive
  - Occult infection
  - Resolving (if known acute infection)

HBV surface Ag negative
- HBV core IgM Abs negative
- Active HCV infection

RECEIVING OR CONSIDERING IMMUNOSUPPRESSIVE DRUG THERAPY?
- Yes
  - ORDER
    Hepatitis B Virus (HBV) by Quantitative NAAT
  - CONSIDER
    Hepatitis B Virus by Quantitative NAAT to monitor treatment and at end of treatment
  - CONSIDER
    Hepatitis C Virus by Quantitative NAAT to monitor treatment and at end of treatment
  - CONSIDER
    Hepatitis C Virus NS5A Drug Resistance by Sequencing

- No
  - ORDER
    Hepatitis C Virus Genotype by Sequencing
  - ORDER
    Hepatitis C Virus High-Resolution Genotype by Sequencing

CONSIDER
Hepatitis C Virus by Quantitative NAAT to monitor treatment at end of treatment

CONSIDER
Hepatitis C Virus (HCV) NS5A Drug Resistance by Sequencing

REPEAT SEROLOGY AND CONSIDER CLINICAL HISTORY
- Genotype 1a or 1b

REPEAT SEROLOGY AND CONSIDER CLINICAL HISTORY
- Genotype 1a

Acute HEV
- Consider other etiologies
  - Risk factors for HEV (eg, recent travel to endemic areas)
  - Acute HAV

**Panel testing is recommended, but in some cases it may be appropriate to perform specific testing depending on clinical situation.**

**Other etiologies may include other viruses, toxin exposure, nonalcoholic acute steatohepatitis, drug-induced hepatitis, autoimmune liver disease, bacterial infection, ischemia, parasitic infection, and hereditary diseases.**

Abbreviations:
- Ab: Antibody
- Ag: Antigen
- CIA: Chemiluminescent immunoassay
- HAV: Hepatitis A virus
- HBV: Hepatitis B virus
- HCV: Hepatitis C virus
- HDV: Hepatitis D virus
- HEV: Hepatitis E virus
- IgM: Immunoglobulin M
- NAAT: Nucleic acid amplification test
- NS5A: Nonstructural protein 5A