

Indications for Treatment of Hepatitis B Virus Infection

Frank Duy Duc Trinh, MD

Staff Physician, Hepatitis Clinic, San Mateo Medical Center, San Mateo, CA

Medical Director, San Mateo County Public Health Mobile Health Clinic

Medical Director, San Mateo County Health Care for the Homeless/Farmworker Health Program

Assistant Health Officer, San Mateo County Public Health

January 19, 2021

Disclosures

None

Objectives

- Hepatitis B pathogenesis and goals of treatment
- Indications for treatment of symptomatic acute hepatitis B infection
- Indications for treatment of immune-active chronic hepatitis B infection
 - Summarize indications for treatment per American Association for the Study of Liver Diseases (AASLD) Guidelines
 - Summarize indications for treatment per European Association for the Study of the Liver (EASL) Guidelines
 - Summarize indications for treatment per HBV Primary Care Workgroup

Definitions

- Acute Hepatitis B Infection
 - HBV infection with disappearance of HBsAg in < 6 months
- Chronic Hepatitis B Infection
 - Persistence of HBsAg for > 6 months

HBV Pathogenesis

- Immune-mediated liver injury: Primary mechanism
- Direct cytotoxic liver injury: HBV generally not a cytopathic virus

Goals of HBV Treatment

- Improve survival and quality of life by preventing disease progression and development of hepatocellular carcinoma
- Prevent mother to child transmission
- Prevent Hepatitis B reactivation
- Prevent and treat HBV-associated extrahepatic manifestations

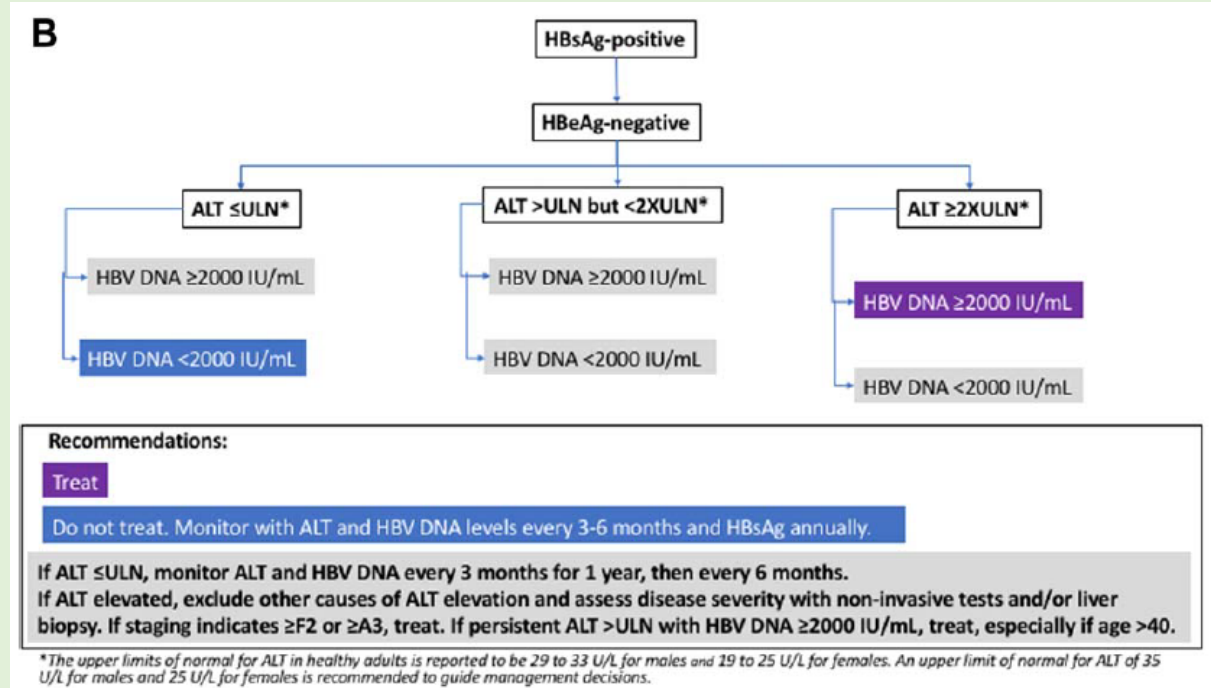
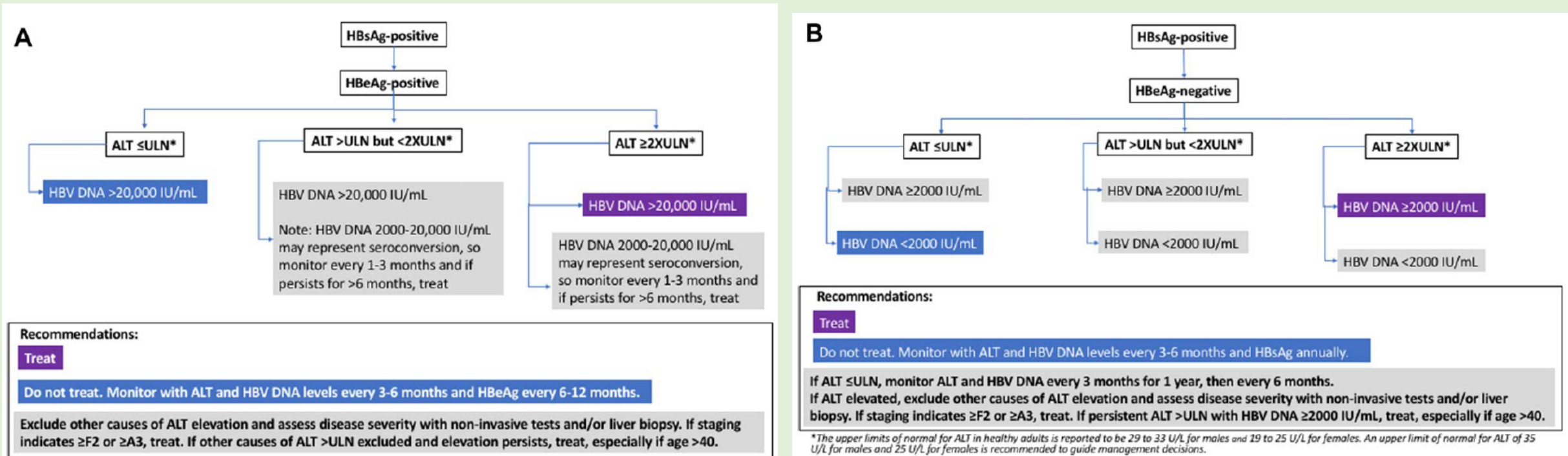
Symptomatic Acute Hepatitis B Infection

Symptomatic Acute Hepatitis B Infection – AASLD 2018 Updated Guidelines

- Antiviral therapy generally not necessary
 - >95% of immunocompetent adults recover spontaneously
- Treatment indicated for protracted, severe course:
 - Total bilirubin >3 mg/dL or direct bilirubin >1.5 mg/dL for >4 weeks OR
 - INR >1.5 for >4 weeks OR
 - Encephalopathy OR
 - Ascites

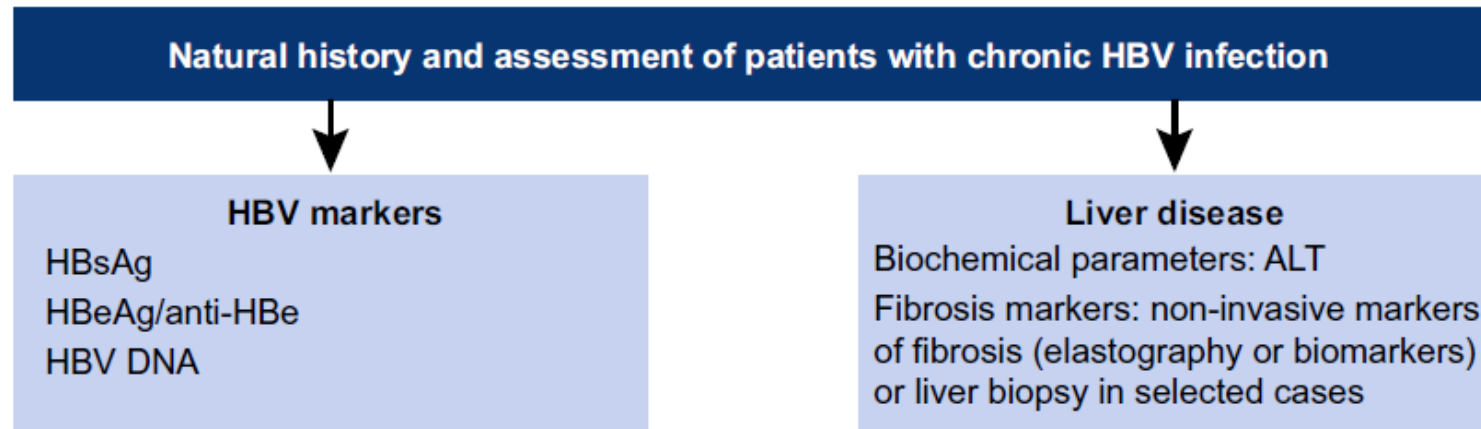
Indications for Treatment of Immune-active Chronic Hepatitis B (CHB) Infection

AASLD 2018 Updated Guidelines – Indications for CHB Treatment



- Compensated cirrhosis and low-level viremia <2,000 IU/ml: Treatment suggested
- Decompensated cirrhosis: Treatment recommended regardless of HBV DNA level, HBeAg status, or ALT level

EASL 2017 Guidelines – Indications for CHB Treatment



	HBeAg positive		HBeAg negative	
	Chronic infection	Chronic hepatitis	Chronic infection	Chronic hepatitis
HBsAg	High	High/intermediate	Low	Intermediate
HBeAg	Positive	Positive	Negative	Negative
HBV DNA	>10 ⁷ IU/ml	10 ⁴ -10 ⁷ IU/ml	<2,000 IU/ml ^{oo}	>2,000 IU/ml
ALT	Normal	Elevated	Normal	Elevated*
Liver disease	None/minimal	Moderate/severe	None	Moderate/severe
Old terminology	Immune tolerant	Immune reactive HBeAg positive	Inactive carrier	HBeAg negative chronic hepatitis

Fig. 1. Natural history and assessment of patients with chronic HBV infection based upon HBV and liver disease markers. *Persistently or intermittently. ^{oo}HBV DNA levels can be between 2,000 and 20,000 IU/ml in some patients without signs of chronic hepatitis.

EASL 2017 Guidelines – Indications for CHB Treatment

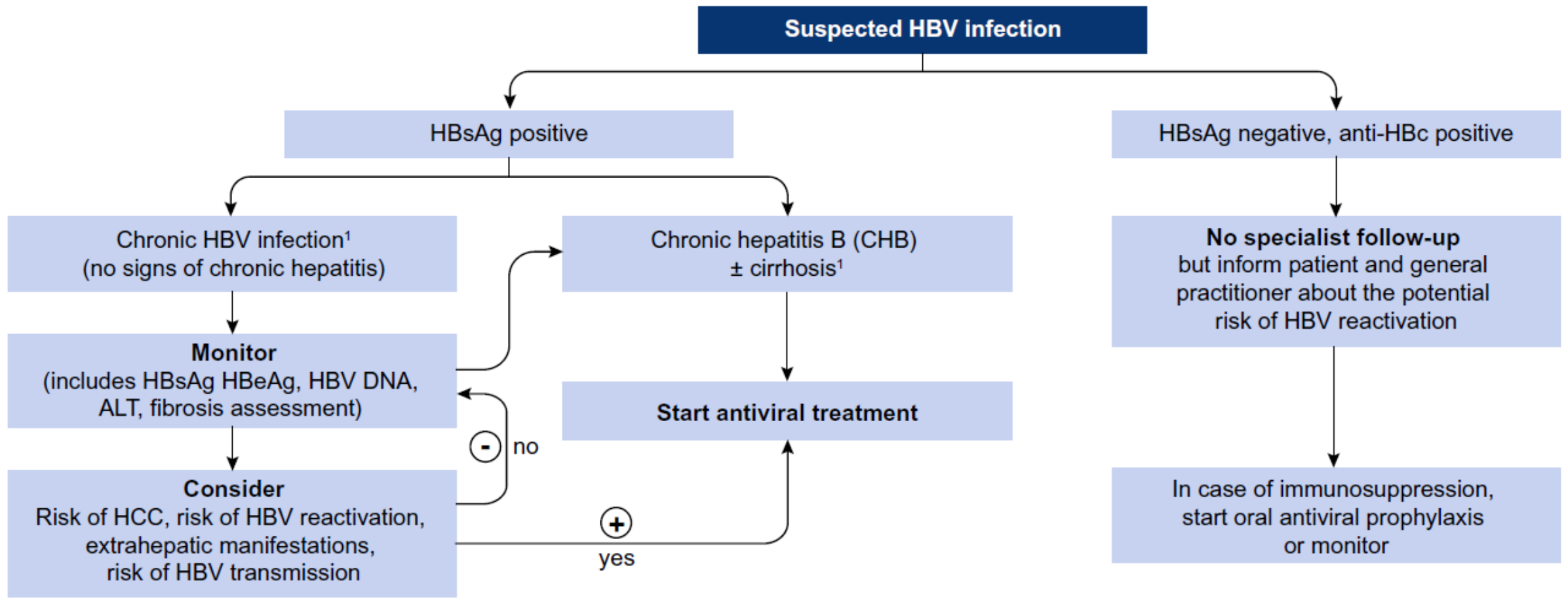


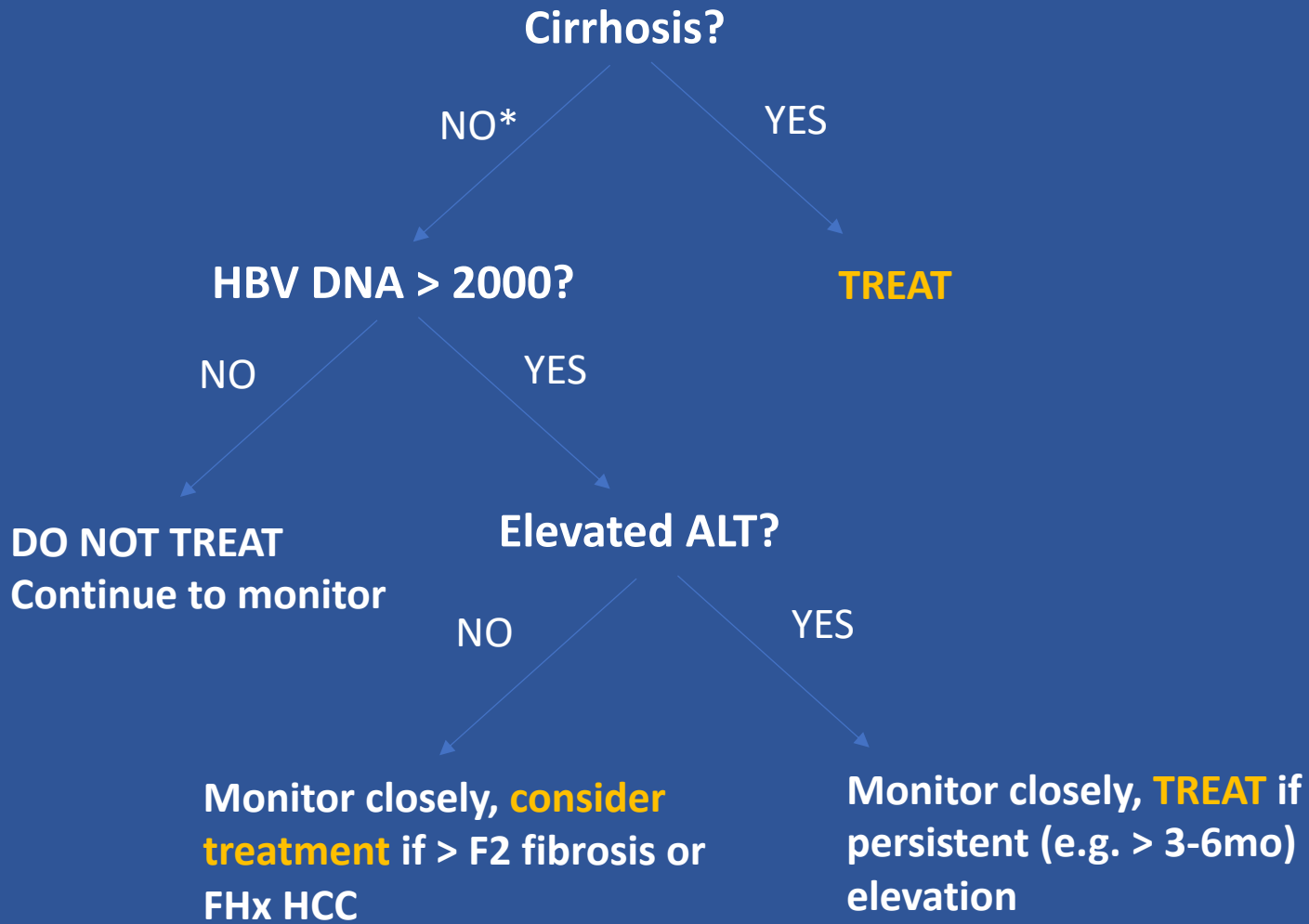
Fig. 2. Algorithm for the management of HBV infection. ¹see definitions in text and Fig. 1.

EASL 2017 Guidelines – Indications for CHB Treatment

- All patients with HBeAg-positive or –negative chronic hepatitis B
 - HBV DNA >2,000 IU/ml
 - ALT >ULN (~40 U/L) and/or at least moderate liver necroinflammation or fibrosis
- All patients with HBV DNA >20,000 IU/ml and ALT >2xULN
 - Regardless of degree of fibrosis
- All patients with compensated or decompensated cirrhosis
 - With any detectable HBV DNA level
 - Regardless of ALT levels

HBV Primary Care Workgroup 2020 Guidelines

New HBsAg(+) patients need an initial HBV evaluation to identify if HBV antiviral needed for immune active CHB



*Need to actively rule out cirrhosis in all patients with a baseline fibrosis assessment, e.g. Fibroscan, FibroSure, Fib-4

*Elevated ALT:
Females >25 U/L
Males >35 U/L

From Tang AS, Thornton K, and HBV Primary Care Workgroup. Hepatitis B Management: Guidance for the Primary Care Provider. February 25, 2020. [https://www.hepatitisB.uw.edu/hbv-pcw/guidance]