**Chronic hepatitis B treatment decision tool for adults**

**Home page**

People who are chronically infected with hepatitis B (HBsAg positive) often have no symptoms but can harbor or develop active hepatitis, liver cirrhosis and liver cancer.

Antiviral treatment is indicated if the infected person has active hepatitis or liver cirrhosis and is effective in reducing risk of disease progression and death.

To access the treatment decision tool based on and adapted from the World Health Organization 2015 Hepatitis B Treatment Guidelines. Enter

To access the treatment decision tool based on and adapted from the 2018 hepatitis B treatment guidelines from the American Association for the Study of Liver Diseases (AASLD). Enter

**WHO Treatment Guidelines page**

**1 Does your patient have CIRRHOSIS?**

Yes

No

If you don’t know, tap here to APRI and FIB-4 Calculator

**2 What is your patient's ALT level?**

Persistently Normal

Intermittently Abnormal

Persistently Abnormal

( ≥ 60 U/L in man, ≥ 40 U/L in women)

**3 What is your patient's HBV DNA level?**

Undetectable

< 2000 IU/mL

2000 ~ 20,000 IU/mL

≥ 20,000 IU/mL

Submit

**WHO Treatment Recommended page**

**Recommendation: Treatment**

**The result shows antiviral treatment is indicated at this time**

**Entecavir (ETV 0.5 mg/pill/day) or Tenofovir disoproxil fumarate (TDF 300mg/pill/day) or Tenofovir alafenamide fumarate (TAF 25mg/pill/day) are the recommended first line treatment because of their potency and low risk of developing drug resistance.**

The medicines act by preventing the hepatitis B virus from replicating.

Important to take the medicine daily to prevent the development of drug resistance. Patients who had taken lamivudine and developed drug resistance should be placed on tenofovir

Duration of treatment is likely life-long. Stopping treatment can result in hepatitis flare

**•Long-term Monitoring Recommendations**

1. Blood test for ALT level to monitor for treatment response and hepatitis flare every 6 months. Blood test for creatinine every 6 -12 months to monitor kidney function if taking tenofovir.
2. Blood test for hepatitis B DNA level 3 - 6 months after starting treatment to evaluate treatment response. Repeat if ALT level becomes elevated on treatment and if feasible once a year.
3. Blood test for alpha fetoprotein (AFP) level every 6 months and liver ultrasound every 6-12 months for liver cancer screening (Particularly important if the patient has cirrhosis or a family history of liver cancer).

**• Avoid drinking alcohol and moldy food. Advise the patient to receive the hepatitis A vaccine if unprotected and the patient’s family and partner to get tested for hepatitis B and get vaccinated if they are not protected.**

**WHO No Treatment Recommendation page**

**Recommendation: No Treatment**

**The result shows antiviral treatment is not indicated at this time.**

**Even though treatment is not indicated for now, the chronically infected person still has a risk of developing liver cancer and active hepatitis that would require treatment in the future. It is important to follow long-term monitoring recommendations.**

•**Long-term Monitoring recommendations**

1. Blood test for ALT level to monitor for active hepatitis every 6-12 months. When ALT becomes elevated, repeat HBV DNA level to check for increased viral activity.
2. Blood test for alpha fetoprotein (AFP) level every 6 months and liver ultrasound every 6-12 months for liver cancer screening (Particularly important if there is a family history of liver cancer).
3. Baseline blood test for HBeAg and anti-HBe. Blood test for HBV DNA level once a year if feasible to monitor viral activity.

•**Circumstances where prophylactic antiviral treatment** is recommended

1. To prevent hepatitis flare while receiving or following immunosuppressive therapy, or receiving antiviral therapy for hepatitis C
2. To further reduce the risk of mother to child transmission in pregnant women with very high hepatitis B DNA level (>200,000 IU/mL or HBeAg positive if antenatal HBV DNA testing is not available) with TDF from 28 weeks of pregnancy to birth

• **Avoid drinking alcohol and moldy food. Advise the patient to receive the hepatitis A vaccine if unprotected and the patient’s family and partner to get tested for hepatitis B and get vaccinated if they are not protected.**

**AASLD Guidelines Page**

**1. Is your patient HBeAg positive?**

Yes

No

**2. Does your patient have cirrhosis or significant fibrosis (F2-F4)?**

If you don’t know, tap here to APRI and FIB-4 Calculator

Cirrhosis (F4)

Significant Fibrosis (F2-F3)

No

**3. What is your patient’s ALT level?**

Persistently normal

Intermittently abnormal

Persistently abnormal (men 35-69 U/l, women 25-49 U/l)

Persistently abnormal (men ≥ 70 U/l, women ≥ 50 U/l)

**4. What is your patient’s HBV DNA level?**

Undetectable

<2000 IU/ml

2000~20,000 IU/mL

>20,000 IU/mL

Enter

**AASLD Treatment Recommended Page**

**Recommendation: Treatment**

**The result shows antiviral treatment is indicated at this time**

**• Entecavir (ETV 0.5 mg/pill/day) or Tenofovir disoproxil fumarate (TDF 300mg/pill/day) or Tenofovir alafenamide fumarate (TAF 25mg/pill/day) are the recommended first line treatment because of their potency and low risk of developing drug resistance.**

The medicines act by preventing the hepatitis B virus from replicating

Important to take the medicine daily to prevent the development of drug resistance. Patients who had taken lamivudine and developed drug resistance should be placed on tenofovir.

Duration of treatment is likely life-long. Stopping treatment can result in hepatitis flare.

**•Long-term Monitoring recommendations:**

1.Blood test for ALT level to monitor for treatment response and hepatitis flare every 6 months. Blood test for creatinine every 6 -12 months to monitor kidney function if taking tenofovir.

2. Blood test for hepatitis B DNA level 3 - 6 months after starting treatment to evaluate treatment response. Repeat if ALT level becomes elevated on treatment and if feasible once a year.

3. Blood test for alpha fetoprotein (AFP) level every 6 months and liver ultrasound every 6-12 months for liver cancer screening (Particularly important if the patient has cirrhosis or a family history of liver cancer.)

**• Avoid drinking alcohol and moldy food. Advise the patient to receive the hepatitis A vaccine if unprotected and the patient’s family and partner to get tested for hepatitis B and get vaccinated if they are not protected.**

**AASLD No Treatment Recommended page**

**Recommendation: No Treatment**

**The result shows antiviral treatment is not indicated at this time**

**Even though treatment is not indicated for now, the chronically infected person still has a risk of developing liver cancer and active hepatitis that would require treatment in the future. It is important to follow long-term monitoring recommendations.**

**•Long-term Monitoring recommendations**

1. Blood test for ALT level to monitor for active hepatitis every 6-12 months. When ALT becomes elevated, repeat HBV DNA level to check for increased viral activity.

2. Blood test for alpha fetoprotein (AFP) level every 6 months and liver ultrasound every 6-12 months for liver cancer screening (Regular liver cancer screening is particularly important if there is a family history of liver cancer)

3. Baseline blood test for anti-HBe. Blood test for HBV DNA level once a year if feasible to monitor viral activity.

**•Circumstances where prophylactic antiviral treatment is recommended**

1. To prevent hepatitis flare while receiving or following immunosuppressive therapy**, or receiving antiviral therapy for hepatitis C**

2. **To further reduce the risk of mother to child transmission in pregnant women with very high hepatitis B DNA level (>200,000 IU/mL) with TDF from 28 weeks of pregnancy to birth**

• **Avoid drinking alcohol and moldy food. Advise the patient to receive the hepatitis A vaccine if unprotected and the patient’s family and partner to get tested for hepatitis B and get vaccinated if they are not protected.**

**APRI** (aspartate aminotransferase [AST]-to-platelet ratio index) is recommended as the preferred non-invasive test (NIT) to assess for the presence of cirrhosis (APRI score >2 in adults) in resource-limited settings. Transient elastography (e.g. FibroScan) or FibroTest may be the preferred NITs in settings where they are available and cost is not a major constraint.

AST level U/L

AST ULN (Lab Upper Limit of Normal) U/L

Platelet count 109/L

**Your APRI Score**

APRI score = (AST/AST ULN) x100 / platelet count

**Interpretation**

APRI score > 2 is 89% specific in detecting cirrhosis (F4). With a sensitivity of 35%, an APRI value > 2 can miss two thirds with cirrhosis. APRI score > 1 is more sensitive (65%) but is less specific (75%) in detecting cirrhosis. APRI score > 1.5 is 92% specific but can miss almost two thirds with significant hepatic fibrosis (F2-F4).

(Guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection. 2015, WHO)

**FIB-4** (fibrosis-4 score) is a simple index for estimating hepatic fibrosis based on a calculation derived from AST, ALT and platelet concentrations, and age. Transient elastography (e.g. FibroScan) or FibroTest may be the preferred NITs in settings where they are available and cost is not a major constraint.

Age (years)

AST Level (U/L)

Platelet count (109/L)

ALT Level (U/L)

Your FIB-4 Score

FIB-4 Score = (Age x AST) / (Platelet Count x ALT)

**Interpretation**

Interpretation: FIB-4 score > 3.6 has a 90.8% positive predictive value with 98% specificity and 30% sensitivity in detecting cirrhosis, whereas FIB-4 score < 1.6 has a negative predictive value of 93% in detecting cirrhosis. FIB 4 > 2.6 has a 94.6% positive predictive value and 97.8% specificity in detecting severe liver fibrosis (> F3).

(Kim BK et al. Liver International 2009)

**Home**

**APRI/FIB-4 Calculator**

**Introduction Video**

**About**

The chronic hepatitis B Treatment Decision Tool for Adults is developed by the Asian Liver Center at Stanford University. The app is an educational tool intended for primary healthcare professionals particularly in resource-limited countries as a general guide in the monitoring of HBsAg positive adults, and when antiviral treatment would be recommended based on the guidelines adapted from the World Health Organization or from the American Association for the Study of Liver Diseases.

**Disclaimer**

This app provides general guidance to primary healthcare professionals and is not a substitute for the advice provided by specialists in the management of liver disease and chronic hepatitis. Any course of action recommended or suggested in this educational tool should not be undertaken by the healthcare professional without an evaluation of the patient’s condition and contraindications. The patient should be provided with information about hepatitis B facts, and the potential benefits and risks of antiviral treatment. The app is not intended for use by non-healthcare professionals or patients. Non-healthcare professionals or patients must seek a doctor’s advice in addition to using this app before making any medical decisions.

**Privacy**

This app does not collect or retain any personal identifiable information including your device internet protocol (IP) address.

**Asian Liver Center at Stanford University**

Founded: in 1996 to address the gaps in hepatitis B and liver cancer awareness, education and training, research and national policies.

Goal: to eliminate worldwide hepatitis B transmission, deaths and stigma, and reduce the burden of liver cancer

Jade Ribbon and Join Jade (green color): global call to action to eliminate hepatitis B and liver cancer.

**Languages**

**Introduction Video**

**Youtube Video Links:**

**English** <https://youtu.be/D5LjdoBHPag>

**Chinese:**<https://youtu.be/p6UI_RU8egU>

**Vietnamese:**<https://youtu.be/iKdko6YdFFY>

**Laotian:**<https://youtu.be/b95i7o4pSLg>

**Cambodian:**<https://youtu.be/xCI8qwUKVlU>

**Mongolian**<https://youtu.be/I0NRHI2Akr0>

**Intro Video: from** [Nohepb.org](http://nohepb.org/)

**English**: <https://nohepb.org/assets/knowhbv/introVideo/IntroVideo_English.mp4>

**Vietnamese**: <https://nohepb.org/assets/knowhbv/introVideo/IntroVideo_Vietnamese.mp4>

**Mongolian**: [https://nohepb.org/assets/knowhbv/introVideo/IntroVideo\_Mongolian.mp4](https://nohepb.org/assets/knowhbv/introVideo/IntroVideo_%20Mongolian.mp4)

**Laotian**: <https://nohepb.org/assets/knowhbv/introVideo/IntroVideo_Laotian.mp4>

**Chinese**: <https://nohepb.org/assets/knowhbv/introVideo/IntroVideo_Mandarin.mp4>

**Cambodian**: <https://nohepb.org/assets/knowhbv/introVideo/IntroVideo_Cambodian.mp4>

**Resources**

**Guidelines**

// Guidelines

resource\_guidelines\_WHO\_2015\_English: `https://nohepb.org/assets/knowhbv/files/english/2015\_who\_english.pdf`,

resource\_guidelines\_WHO\_2020\_English: `https://nohepb.org/assets/knowhbv/files/english/2020\_who\_english.pdf`,

resource\_guidelines\_AASLD\_English: `https://nohepb.org/assets/knowhbv/files/english/aasld\_english.pdf`,

resource\_guidelines\_WHO\_Mongolian: `https://nohepb.org/assets/knowhbv/files/mongolian/2017\_who\_mongolian.pdf`,

resource\_guidelines\_WHO\_Chinese: `https://nohepb.org/assets/knowhbv/files/chinese/who\_chinese.pdf`,

resource\_guidelines\_WHO\_2015\_English\_text: `2015 guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection`,

resource\_guidelines\_WHO\_2020\_English\_text: `2020 Prevention of mother-to-child transmission of hepatitis b virus: guidelines on antiviral prophylaxis in pregnancy`,

resource\_guidelines\_AASLD\_English\_text: `Update on Prevention, Diagnosis, and Treatment of Chronic Hepatitis B: AASLD 2018 Hepatitis B Guidance`,

**2015 guidelines for the prevention, care and treatment of persons with chronic hepatitis B infection**

**2020 Prevention of mother-to-child transmission of hepatitis b virus: guidelines on antiviral prophylaxis in pregnancy**

**Update on Prevention, Diagnosis, and Treatment of Chronic Hepatitis B: AASLD 2018 Hepatitis B Guidance**

**Training**

**KNOW HBV/HCV Online Training (English)**

<https://www.edx.org/course/know-hbv-and-hcv>

**KNOW HBV Online Training (Chinese)**

<https://www.edx.org/course/ren-shi-yi-gan>

**KNOW HBV/HCV Online Training (Vietnamese)**

<https://www.edx.org/course/hieu-ro-ve-viem-gan-b-va-c>

**KNOW HBV/HCV Online Training (Mongolian)**

<https://www.edx.org/course/hbv-hcv-iin-talaar-oilgolttoi-bolokh-n>