

Hepatitis B Fact Sheet

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a series of fact sheets written by experts in the field of liver disease



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Grading and Staging a Liver Biopsy

A liver biopsy is the best diagnostic test for discovering if a hepatitis B virus (HBV) infection has damaged the liver. Researchers are finding out that even when viral load (HBV DNA) is low or liver tests are normal, there can still be liver damage, and a biopsy remains the best test available to determine if the liver is healthy or damaged.

During a biopsy, a small sliver of liver tissue is removed and medical experts examine it under a microscope and write a report on the health of the liver.

Information about the grade and stage of liver disease is important for the medical provider and the patient in guiding the management and treatment of hepatitis B.

Grading and Staging

There are a couple of ways to read a liver biopsy. The most common scoring methods are known as the Metavir and the Knodell Score. It is important to remember that the size of the piece of liver tissue taken at biopsy can affect the evaluation of the report. The knowledge of the expert reading the biopsy is also important.

Metavir

The Metavir scoring system is frequently used with hepatitis B. The scoring uses two numbers to assess the liver's inflammation (the amount of swelling and irritation "activity") and fibrosis (scarring from prolonged inflammation).

Fibrosis is graded on a 4-point scale for fibrosis and inflammation. The fibrosis is staged as follows:

- **0** = no fibrosis or scarring
- **1** = minimal scarring
- **2** = scarring has occurred and is outside the areas of the liver which include blood vessels
- **3** = bridging fibrosis (the



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fibrosis is spreading and connecting to other areas that contain fibrosis)

- **4** = cirrhosis or advanced severe scarring of the liver

Inflammation is graded on a four-point scale from A0, which indicates no inflammatory activity, up to A3, which indicates severe activity.

Knodell

The Knodell score or HAI (histologic activity index) is also commonly used to assess or “stage” liver disease. It is a bit more complex a process than using the Metavir score; but some experts believe that it is better at finding how much liver inflammation and damage are present. It has four different numbers that make up a single score.

The addition of these numbers reveals the amount of inflammation in the liver:

- **0** = no inflammation
- **1-4** = minimal inflammation
- **5-8** = mild inflammation
- **9-12** = moderate inflammation
- **13-18** = marked inflammation

The fourth part of the score assesses the amount of scarring in the liver and is scored from 0 (no scarring) to 4 (extensive scarring or cirrhosis). The report will be sent to the doctor to review and discuss with a patient.

Information about the grade and stage of liver disease is important for the medical provider and the patient in guiding management and treatment of hepatitis B.

For instance:

- *Moderate to severe liver damage:* treatment is usually recommended.

- *Mild liver damage:* the decision on whether to treat or not to treat can be based on several other factors (HBV DNA or viral load; elevated liver enzymes), or a patient can be closely monitored over time until the liver damage is more severe or the levels of HBV DNA and/or ALT levels indicate treatment is needed.

This is another piece of information that is important for the medical provider and patient to know and discuss to make the best possible healthcare decision.

More Information

- *HBV: Liver Biopsy:* www.hbvadvocate.org/hepatitis/factsheets_pdf/Liver_Biopsy.pdf
- *Hepatitis B Basics: Liver Biopsy:* www.hbvadvocate.org/hepatitis/Basics/HEP_B_BASICs_Biopsy.pdf

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The information in this fact sheet is designed to help you understand and manage HBV and is not intended as medical advice. All persons with HBV should consult a medical practitioner for diagnosis and treatment of HBV.

For more information about hepatitis B, visit the following websites.
Hepatitis B Foundation: www.hepb.org • HIVandHepatitis.com

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