Liver Testing for Adult Alphas

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Why Do Alphas Need Liver Testing?

- ✓ Liver disease is more common among Alphas than among individuals who do not have alpha-1 antitrypsin deficiency (Alpha-1). Liver disease is often asymptomatic, especially in the early stages.
- ✓ AlphaNet recommends that all Alphas age 50 and older have some form of annual liver testing. There are rare adults who have symptomatic liver disease before age 50. Infants and children with Alpha-1 also can develop liver disease.
- ✓ This document provides information about different types of liver tests.
- ✓ Work with your healthcare provider to determine which liver tests are most appropriate for you.
- ✓ Testing recommendations are based on degree of liver risk. Liver risk is determined by Alpha-1 genotype, symptoms, and many other factors including age, weight, alcohol use, and family history.
- ✓ Chapter 15 of AlphaNet's Big Fat Reference Guide (BFRG) provides detailed information about liver risk factors and testing recommendations.

Blood Tests

- ✓ Blood tests measure liver function, and can detect early-stage liver disease before symptoms appear.
- ✓ **Aspartate transaminase (AST)** and **alanine transaminase (ALT)**: AST and ALT are enzymes that, when found in high levels in the blood, can indicate possible injury to the liver. Blood levels of AST and ALT fluctuate daily and are affected by medications, alcohol, and environmental exposures. Elevated levels on multiple tests may reflect the presence of liver disease.
- ✓ Additional tests add liver function information, including alkaline phosphatase (ALP), gamma-glutamyl transferase (GGT), albumin, international normalized ratio (INR), platelet count, and bilirubin.

Liver Imaging Tests

- ✓ Imaging tests are increasingly being used to detect liver abnormalities before symptoms appear.
- ✓ **Vibration-controlled transient elastography (VCTE)**, or **Fibroscan®**: This test uses sound waves to measure liver stiffness. More stiffness suggests more scarring. Most hepatologists believe that VCTE is the best first imaging step to evaluate liver disease due to Alpha-1.
- ✓ **Ultrasound**: This test uses sound waves to reflect a picture of the liver. It can show some changes in the fat content of the liver that may indicate liver disease. It is better at detecting severe scarring than mild scarring. It is good at detecting most liver cancers.
- ✓ **Liver magnetic resonance imaging (MRI):** This test is very good at detecting early liver cancers. MRI is often used as a follow-up test for abnormalities seen on ultrasound testing.
- ✓ **Liver magnetic resonance elastography (MRE):** This imaging technique is similar to VCTE. Like VCTE, MRE measures liver stiffness. This test is newer than VCTE and is available at fewer medical centers.
- ✓ **Computed tomography (CT)**: CT scans use X-rays to take a picture of the abdomen. CT scans are not very good at showing scarring in the liver, unless it is advanced. CT scans are very good at detecting liver cancer, if intravenous contrast is used.

Liver Biopsy

- ✓ A liver biopsy involves inserting a needle through the skin of the abdomen into the liver, or using an intravenous approach.
- ✓ It is an accurate test to determine the cause of liver disease, but test-to-test variability in judging the amount of scarring is about 30% due to different areas in the liver being sampled.
- ✓ The largest risk from liver biopsy is bleeding which occurs in about 1/1000 tests. For this reason, you are expected to rest for 24 hours following a biopsy.
- ✓ Healthcare providers are likely to use other liver tests first and only do a liver biopsy to confirm whether scarring is due to Alpha-1, or to clarify degree of scarring when other tests are inconclusive.

Additional Resources

- ✓ AlphaNet's Big Fat Reference Guide (BFRG) has a large section devoted to liver health. Types of liver tests are described in Chapter 14, and testing recommendations are in Chapter 15. Anyone can access AlphaNet's BFRG. AlphaNet Subscribers can access the BFRG through their Subscriber Portal.
- ✓ AlphaNet has created several 1-page documents that focus on liver health, which are available here.