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Medical Encyclopedia: AST

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Alternative names

Aspartate aminotransferase; Serum glutamic-oxaloacetic transaminase; SGOT

Definition

This is a blood test to measure the amount of the enzyme AST.

How the test is performed

Blood is drawn from a vein on the inside of the elbow or the back of the hand. The puncture site is cleaned with antiseptic, and an elastic band is placed around the upper arm to apply pressure and restrict blood flow through the vein. This causes veins below the band to fill with blood.

A needle is inserted into the vein, and the blood is collected in an air-tight vial or a syringe. During the procedure, the band is removed to restore circulation. Once the blood has been collected, the needle is removed, and the puncture site is covered to stop any bleeding.

For an infant or young child, the area is cleansed with antiseptic and punctured with a sharp needle or a lancet. The blood may be collected in a pipette (small glass tube), on a slide, onto a test strip, or into a small container. Cotton or a bandage may be applied to the puncture site if there is any continued bleeding.

How to prepare for the test

AST may rise during pregnancy and after exercise.

For infants and children:

The preparation you can provide for this test depends on your child's age and experience. For specific information regarding how you can prepare your child, see the following:

- infant test or procedure preparation (birth to 1 year)
- toddler test or procedure preparation (1 to 3 years)
- preschooler test or procedure preparation (3 to 6 years)
- schoolage test or procedure preparation (6 to 12 years)
- adolescent test or procedure preparation (12 to 18 years)

How the test will feel

When the needle is inserted to draw blood, some people feel moderate pain, while others feel only a prick or stinging sensation. Afterward, there may be some throbbing.

Why the test is performed

AST is in high concentration in heart muscle, liver cells, skeletal muscle cells, and to a lesser degree, in other tissues. Although elevated serum AST is not specific for liver disease, it is used primarily to diagnose and monitor the course of liver disease (in combination with other enzymes such as ALT, ALP, and bilirubin).

Normal Values

The normal range is 10 to 34 IU/L.

Note: IU/L = international units per liter

What abnormal results mean

Diseases that affect liver cells cause the release of AST. The AST/ALT ratio (with both elevated) is usually greater than 2 in patients with alcoholic hepatitis.

An increase in AST levels may indicate:

- acute hemolytic anemia
- acute pancreatitis
- acute renal failure
- hepatic (liver) cirrhosis
- hepatic (liver) necrosis (tissue death)
- hepatitis
- infection mononucleosis
- liver cancer
- multiple trauma
- myocardial infarction (heart attack)
- primary muscle disease
- progressive muscular dystrophy
- recent cardiac catheterization or angioplasty
- recent convulsion
- recent surgery
- severe deep burn
- skeletal muscle trauma

What the risks are

- excessive bleeding
- fainting or feeling light-headed
- hematoma (blood accumulating under the skin)
- infection (a slight risk anytime the skin is broken)
- multiple punctures to locate veins

Special considerations

Veins and arteries vary in size from one patient to another and from one side of the body to the other. Obtaining a blood sample from some people may be more difficult than from others.

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