The liver enzyme pattern decoder

ALT and AST are read together. Which one is higher points clinicians in different directions, and everyday things can nudge both.

TWO PATTERNS

Pattern	What commonly sits behind it
ALT higher than AST	Fatty liver, viral hepatitis, medications, iron overload, celiac disease, autoimmune hepatitis
AST higher than ALT	Alcohol-related injury, cirrhosis, muscle injury or strenuous exercise, red cell breakdown, thyroid disease

BEFORE THE TEST

- [ ] No hard training the day before
- [ ] Note any alcohol in the past few days
- [ ] List every medicine, including acetaminophen. In one study, 4,000 mg a day raised median ALT from 24 to 39
- [ ] Note the time. ALT tends to run lowest around 4 AM and highest around 4 PM

MY NUMBERS

ALT _____

AST _____

GGT _____

Date and time of draw _____

QUESTIONS TO ASK

- [ ] Which pattern do my results fit?
- [ ] Could exercise, alcohol or a medicine explain it?
- [ ] Should it be repeated, and when?

Sources: Heard 2010. Ruhl 2012 (NHANES, 18,518 adults). Moriles 2021.

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