LAY ABSTRACT

TITLE: Short-chain per- and polyfluoroalkyl substances associate with elevated alanine aminotransferase: Cross-sectional analysis results from the STRIVE cohort

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This study looked at how chemicals in the environment called short and long-chain polyfluoroalkyl substances (PFAS) may be related to enzymes in the liver called alanine aminotransferase (ALT). PFAS, also called “forever chemicals,” include thousands of different types of chemicals that stay in the environment for a long time. PFAS are found in consumer products and in the environment. ALT is an enzyme in the blood that when high can be a sign of liver damage or injury. High ALT can be a sign of fatty liver disease or early liver inflammation. For this study, researchers used data from the STRIVE

cohort, which included adults aged 40-75 years from Georgia and North Carolina. Researchers looked at blood samples from 378 people to measure their PFAS levels and their ALT levels.

The researchers found that people with higher levels of short-chain PFAS in their blood also tended to have higher levels of ALT. This means there could be a link between exposure to short-chain PFAS and liver damage. They did not see a link between long-chain PFAS mixtures and ALT levels. Although short-chain PFAS are often considered a safer alternative to long-chain PFAS, this study suggests that short-chain PFAS can still pose risks to liver health.

The study findings suggest that we should continue to monitor and limit our exposure to PFAS, including short-chain PFAS. Limiting short-chain PFAS exposure may help to prevent liver injury. More research is needed to confirm these results and to understand the relationship between PFAS and liver health.