

2026 Meta-Analysis Examines Association Between Fatty Liver Disease and Testosterone Levels in Men

MOPE Clinic in Metairie summarizes new peer-reviewed research on MASLD, testosterone deficiency and overlapping metabolic risk factors

METAIRIE, LA, UNITED STATES, August 10, 2026 /EINPresswire.com/ -- MOPE Clinic in Metairie summarizes new peer-reviewed research on MASLD, testosterone deficiency and overlapping metabolic risk factors

A systematic review and meta-analysis published in 2026 is adding to the scientific discussion surrounding metabolic dysfunction-associated steatotic liver disease, or MASLD, and testosterone deficiency in adult men.

The peer-reviewed analysis included 28 studies examining relationships between testosterone status and MASLD. Nine studies compared men with hypogonadism and men with normal testosterone status, while 19 compared men with MASLD and men without the condition.

Source: 2026 Systematic Review and Meta-Analysis — PubMed:

<https://pubmed.ncbi.nlm.nih.gov/42426979/>

Researchers reported that MASLD was significantly more prevalent among men with hypogonadism. They also found that total testosterone concentrations were significantly lower among men with MASLD than among control groups.

The findings describe an association rather than proof that one condition directly causes the other.

MOPE Clinic, a medical clinic in Metairie, Louisiana, is highlighting the research as part of ongoing patient education about metabolic and hormone health.



MOPE Clinic in Metairie uses laboratory testing and personalized medical evaluation when metabolic health and low testosterone concerns overlap.



The research reinforces why metabolic and hormone concerns should be evaluated with laboratory data, medical history and the patient's overall health picture.”

*Chris Rue, APRN, FNP-C, MOPE
Clinic Owner*

“The research reinforces why metabolic and hormone concerns should be evaluated with laboratory data, medical history and the patient's overall health picture,” said Chris Rue, APRN, FNP-C, of MOPE Clinic.

Understanding MASLD

MASLD is the term now commonly used for a form of fatty liver disease associated with metabolic dysfunction.

The condition was previously widely known as nonalcoholic

fatty liver disease, or NAFLD.

According to the National Institute of Diabetes and Digestive and Kidney Diseases, people with MASLD often have few or no symptoms.

When symptoms are present, fatigue or discomfort in the upper-right portion of the abdomen may occur.

The lack of obvious symptoms means that some people may not recognize the condition until liver-related abnormalities are found during laboratory testing, imaging or another medical evaluation.

Metabolic Risk Factors Often Overlap

MASLD frequently occurs alongside other metabolic health concerns.

NIDDK identifies several factors associated with the condition, including overweight or obesity, insulin resistance, type 2 diabetes, abnormal blood lipid levels and metabolic syndrome.

These conditions may also influence broader health measures such as cardiovascular risk, blood glucose regulation and body composition.

Because these health issues can occur together, researchers continue to investigate how hormone status may fit into the larger metabolic picture.

Why Testosterone Is Part of the Research

Testosterone plays several physiological roles in men.

Beyond reproductive and sexual function, testosterone is associated with muscle mass, bone

health and body composition.

However, testosterone levels can also be influenced by age, obesity, chronic medical conditions, medications and other health factors.

The 2026 meta-analysis examined whether testosterone deficiency and MASLD appeared together more frequently than expected.

Across the studies analyzed, men with hypogonadism had a higher prevalence of MASLD.

Conversely, men with MASLD had lower total testosterone concentrations than men without MASLD.

Researchers also observed relationships between testosterone levels and the severity of liver disease in several of the included studies.

The authors concluded that additional long-term research and randomized clinical trials are needed to better understand the relationship.

Association Does Not Mean Causation

One of the most important points in interpreting the findings is the difference between an association and a cause-and-effect relationship.

The presence of fatty liver disease does not establish that it caused testosterone deficiency.

Likewise, low testosterone does not prove that it caused fatty liver disease.

Several shared factors may influence both conditions.

For example, obesity and insulin resistance can affect metabolic health in numerous ways. Sleep disorders, medication use, age and chronic health conditions can also affect testosterone levels.

As a result, isolated symptoms or a single abnormal finding may not explain the full medical picture.

Why Symptoms Can Be Difficult to Interpret

Fatigue is a good example.

Low energy may occur with sleep deprivation, sleep apnea, thyroid disorders, anemia, diabetes, medication effects, stress and many other conditions.

Low libido can also have several causes.

Changes in muscle strength or abdominal weight may reflect alterations in activity, nutrition, sleep, age, medications or metabolic health.

For those reasons, symptoms alone cannot establish a diagnosis of testosterone deficiency or fatty liver disease.

Laboratory testing and appropriate medical evaluation may help clinicians determine which potential causes warrant further investigation.

What Laboratory Testing Can Add

Laboratory testing can provide information that symptoms and body weight cannot.

Depending on a person's history and clinical presentation, healthcare providers may evaluate hormone levels, glucose regulation, blood lipids or liver-related laboratory values.

The exact testing needed varies from person to person.

Medical history, medications, existing health conditions, age and symptoms can all influence which tests are appropriate.

At MOPE Clinic, laboratory testing is required before treatment decisions are made.

The clinic's approach combines test results with symptoms, medical history and individual health considerations.

Everyday Habits That Support Metabolic Health

General lifestyle habits can support metabolic health, although they are not substitutes for medical diagnosis or treatment.

Regular Physical Activity

Routine movement can support cardiovascular and metabolic health.

For residents of South Louisiana, extreme heat and humidity may make outdoor exercise uncomfortable or unsafe during parts of the year.

Indoor walking, resistance exercise or other climate-controlled activities may provide alternatives during periods of high heat.

Balanced Meals

Meals that include protein, vegetables, fiber-rich foods and minimally processed foods can support overall nutrition.

Individual dietary needs vary, particularly for people with diabetes, kidney disease, liver disease or other medical conditions.

Limiting Sugary Drinks

Soft drinks, sweetened tea and specialty beverages can contribute significant amounts of added sugar and calories.

Replacing some of these beverages with water or unsweetened alternatives may reduce overall sugar intake.

Maintaining Muscle

Resistance exercise can help support muscle mass as people age.

However, exercise programs should reflect individual health status, physical limitations and medical guidance when necessary.

Prioritizing Sleep

Poor sleep can affect energy, appetite and metabolic health.

Persistent snoring, breathing pauses during sleep or ongoing daytime exhaustion may warrant evaluation for a sleep disorder.

South Louisiana Health Context

Metabolic health recommendations often need to fit the realities of daily life.

In Metairie, New Orleans and surrounding communities, high temperatures and humidity can affect outdoor activity for much of the year.

Food culture also plays an important role in Louisiana life.

Family gatherings, festivals, restaurant meals and seasonal traditions are part of the region's culture.

For many people, sustainable health habits are more realistic when they focus on consistency and moderation rather than attempting to eliminate every social or cultural food tradition.

Frequently Asked Questions

What is MASLD?

MASLD stands for metabolic dysfunction-associated steatotic liver disease. It describes excess fat accumulation in the liver occurring in association with metabolic risk factors.

Is MASLD the same as fatty liver disease?

MASLD is a newer medical term used for a condition previously commonly referred to as nonalcoholic fatty liver disease, or NAFLD.

Does fatty liver disease cause low testosterone?

Current research shows an association between MASLD and lower testosterone levels in men. However, the available evidence does not prove that fatty liver directly causes testosterone deficiency.

Does low testosterone cause fatty liver?

Research has identified a relationship between testosterone deficiency and MASLD, but it does not establish that low testosterone directly causes fatty liver disease.

Why might the two conditions occur together?

Shared metabolic factors may be involved. Obesity, insulin resistance, type 2 diabetes and metabolic syndrome are among the health concerns commonly associated with MASLD.

Can someone have fatty liver disease without symptoms?

Yes. According to NIDDK, MASLD often produces few or no symptoms.

Can fatigue prove that someone has low testosterone?

No. Fatigue has many possible causes, including sleep disorders, anemia, thyroid problems, diabetes, stress, medications and other medical conditions.

How is low testosterone evaluated?

Healthcare providers generally use blood testing together with symptoms, medical history and other clinical information.

Why are more studies needed?

The 2026 meta-analysis found meaningful associations, but the studies differed in design, patient populations and methods. Researchers therefore called for additional prospective studies and randomized clinical trials.

Growing Research Interest

The relationship between metabolic health and hormone status remains an active area of scientific study.

As researchers learn more about MASLD, obesity, insulin resistance and testosterone status, clinicians may gain a clearer understanding of how these conditions overlap.

For now, available evidence supports a careful approach to interpretation.

Symptoms should not be assumed to have a single cause, and an association between two conditions should not be treated as proof of causation.

MOPE Clinic has published additional educational information about [fatty liver and low testosterone](https://mopeclinic.com/fatty-liver-testosterone/) for patients interested in learning more about the research and the role of medical evaluation:

<https://mopeclinic.com/fatty-liver-testosterone/>

About MOPE Clinic

MOPE Clinic is a LegitScript-certified medical clinic located in Metairie, Louisiana.

The clinic uses laboratory testing, medical evaluation and individualized clinical planning when evaluating hormone and metabolic health concerns.

MOPE Clinic serves patients from Metairie, New Orleans and surrounding South Louisiana communities.

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