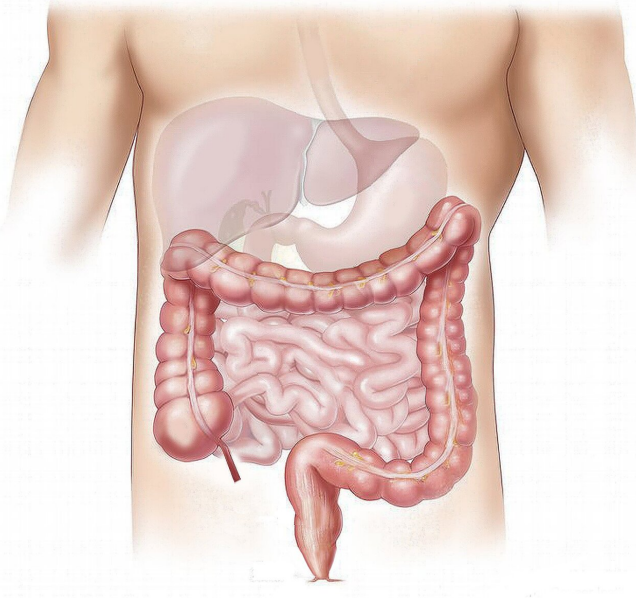


# Review suggests postmenopausal women at risk for nonalcoholic fatty liver disease

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A review article authored by a researcher at the Translational Genomics Research Institute (TGen), an affiliate of City of Hope, suggests that following menopause, women are at higher risk for developing nonalcoholic fatty liver disease (NAFLD), a chronic condition caused by the build-up of excess fat in the liver not caused by alcohol.

NAFLD is the most common cause of liver damage, and can lead to liver cirrhosis and death. It also is one of the leading indicators for liver transplants. And, it is common, affecting nearly 1 in 4 people across the globe. It often is associated with obesity, abnormally high amounts of lipids in the blood, and type 2 diabetes.

In the U.S., the number of NAFLD cases is expected to grow to more than 100 million within the next decade. Already, the total annual costs among Americans is estimated at \$292 billion.

"Even without taking into consideration the indirect costs of the disease, such as lost work-related productivity, it is clear that NAFLD places a substantial burden on the United States healthcare system," said Dr. Johanna DiStefano, a Professor and head of TGen's Diabetes and Fibrotic Disease Unit, and the study's senior author.

Dr. DiStefano's review of more than 60 epidemiological, clinical and experimental studies, published this week in the journal *Endocrinology*, suggests that the risk of NAFLD is greater among postmenopausal [women](#) than [premenopausal women](#). Menopause is the time when women are no longer able to have children, most often after age 45. During menopause, a woman's ovaries stop producing the hormones estrogen and progesterone. Women reach menopause when they have not had a period for one year.

Significantly, the level of an endocrine hormone called estradiol, or E2, which is produced by the ovaries, declines significantly following menopause. E2 is the major female sex hormone involved in the regulation of the estrous and menstrual female reproductive cycles.

"It is likely that the loss of protection conferred by estrogens, combined with other factors, underlie the increased NAFLD risk in post-menopausal women," Dr. DiStefano said.

NAFLD can progress to a more dangerous condition called nonalcoholic steatohepatitis (NASH), which indicates there is both inflammation and liver cell damage, along with fat in the liver. The number of NASH cases in the U.S. also is expected to climb to a projected 27 million by 2030. Among women, NASH is now the leading indication for [liver](#) transplantation, which is the most effective treatment strategy against NASH, though NAFLD recurrence in transplant patients is high.

"The mortality rate is rising among women with

NAFLD, and more are dying from cirrhosis, suggesting that many women have NASH, rather than just NAFLD," Dr. DiStefano said.

### **Hope for women: avoiding liver disease**

The review also suggests that normal-weight women with lipid, glucose and insulin levels within normal ranges are at low risk for developing NAFLD.

"Efforts to emphasize healthy diet and regular physical activity should be urged in middle-aged women as they approach menopause to prevent the development of NAFLD," Dr. DiStefano said.

In addition, [postmenopausal women](#) may potentially benefit from treatment options, such as [hormone replacement therapy](#) (HRT). However, the effects of different hormone combinations, including the start of therapy, the duration of therapy, dosages and even how the treatments are administered "represent a critical gap in [clinical research](#)," according to the review.

"Clinical studies with focused outcomes are necessary to determine if postmenopausal hormonal manipulation or other treatments can prevent or treat NAFLD in at-risk women," Dr. DiStefano said.

**More information:** Johanna K DiStefano, NAFLD and NASH in postmenopausal women: implications for diagnosis and treatment, *Endocrinology* (2020). [DOI: 10.1210/endocr/bqaa134](https://doi.org/10.1210/endocr/bqaa134)

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