

# Estrogen replacement therapy helps reduce anxiety in anorexia nervosa

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Estrogen replacement therapy is associated with a significant decrease in anxiety symptoms among girls with anorexia nervosa, a new clinical trial finds. The results will be presented today at The Endocrine Society's Annual Meeting in San Francisco.

"This is the first study to show that estrogen replacement ameliorates the tendency for anxiety in anorexia nervosa and may prevent increasing body dissatisfaction with weight gain," said the study's lead author Madhusmita Misra, MD, MPH, pediatric endocrinologist and associate professor of pediatrics at the Massachusetts General Hospital and Harvard Medical School in Boston, MA. "This is very important given that anorexia nervosa can be difficult to treat, and underlying anxiety, eating attitudes and concerns of [body shape](#) with increasing weight during treatment may reduce the success of treatment programs."

Anorexia nervosa is a severe eating disorder that primarily affects teenage girls, although boys, as well as older and younger people, can also develop it. Approximately 0.2-1 percent of teenage girls suffer from the disorder.

The disorder is characterized by a distorted body image, which causes patients to view themselves as heavy, or fat, even when their body-mass index is well below the normal range. As the disease progresses, patients become increasingly preoccupied with weight loss through restricting food and/or increasing activity with intense, frequent exercising. Some resort to purging behaviors to rid themselves of any food that they consume.

Complications include depression, increased risk of suicide and weakened bones, which increase the risk of fractures and osteoporosis. Among girls, [menstrual periods](#) stop occurring as body weight and [estrogen production](#) drop. If left untreated, the disorder can cause death. Unfortunately, anorexia

can be quite difficult to treat, and relapse is common.

In this study, investigators found that anxiety scores on a standardized questionnaire decreased as [estrogen levels](#) increased. This relationship was unaffected by weight gain. Additionally, if weight gain did occur, estrogen replacement appeared to prevent a worsening of attitudes toward body image and food, as assessed using the Eating Disorders Inventory-II questionnaire.

"Identification of therapies that reduce the tendency to experience anxiety and reduce [body dissatisfaction](#) with weight gain may have a major impact in reducing relapse," Misra said. "These findings have the potential to impact therapy in anorexia nervosa with early implementation of estrogen replacement in girls who are estrogen deficient."

Participants included 72 teenage girls diagnosed with [anorexia nervosa](#). At the start of the study, all were between 13 and 18 years old, and had a measured bone age of at least 15 years.

Investigators randomly assigned participants to receive estrogen or placebo for 18 months. Of the 72 initial participants, 38 received estrogen and 34 received placebo. At the study's start and end, participants completed questionnaires designed to assess anxiety, and attitudes toward eating and body image. Thirty-seven participants completed the study, with 20 receiving estrogen and 17 receiving placebo.

Provided by The Endocrine Society

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