

Starting estradiol therapy soon after menopause may benefit arteries

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Taking estradiol within 6 years after the onset of menopause may help prevent atherosclerosis, plaque buildup in artery walls, from progressing; however, starting estradiol therapy ten years after menopause did not have similar benefits, according to preliminary research presented at the American Heart Association's Epidemiology and Prevention | Lifestyle and Cardiometabolic Health Scientific Sessions 2020.

Estradiol is a female sex hormone and a form of estrogen that is often prescribed to treat the symptoms of menopause and to prevent osteoporosis.

"Atherosclerosis is a major cause of heart disease, and cholesterol accumulation in the arterial wall is the predominant characteristic of atherosclerosis," said lead study author Roksana Karim, Ph.D., M.B.B.S., an associate professor of clinical preventive medicine at the Keck School of Medicine at the University of Southern California in Los Angeles. "Our results show that estradiol initiated earlier in menopause reduces atherosclerosis and appears to do so by directly reducing cholesterol accumulation in the arterial

wall."

Karim and colleagues analyzed findings from the Early versus Late Intervention Trial with Estradiol (ELITE), a study of 643 healthy, [postmenopausal women](#) who were divided into 4 groups: participants in group 1 and 2 were randomized to 1 mg daily of estradiol or to a [placebo pill](#) within six years after the onset of menopause; and those in groups 3 and 4 were randomized to estradiol or to placebo more than a decade after menopause. All study participants took estradiol or placebo daily for an average of five years. The study's initial findings, published in 2016, indicated that women starting [hormone therapy](#) earlier in menopause experienced less progression of artery wall thickening, compared to those who started the hormone therapy later or who received the placebo.

When the researchers looked further into estradiol's impact on heart health by analyzing cholesterol, or lipids, in the arterial wall, they found the rate of atherosclerosis progression among early estradiol users was less than half, compared to the women taking placebo who had gone through menopause within the last six years.

Estradiol did not have this benefit among the women who started the hormone therapy 10 years or more after the onset of menopause. Cholesterol in the [arterial wall](#) and atherosclerosis progressed similarly for both the women in the placebo group and those who started estradiol therapy a decade after menopause.

"Our results show that starting estradiol soon after the onset of menopause may result in fewer cholesterol deposits in the arteries, compared to women starting [estradiol](#) much later," said Karim.

"The American Heart Association does not recommend [hormone replacement therapy](#) after the [onset of menopause](#) to prevent heart disease. Although some studies, like this one, show benefits,

we are still seeing other trials with different outcomes. Because of that, estrogen replacement therapy should be used only to alleviate the symptoms of menopause," said Suzanne Steinbaum, D.O., an American Heart Association volunteer expert, an attending cardiologist and director of Women's Heart Health of Northwell Lenox Hill Hospital, and senior faculty at Mount Sinai Hospital in New York City.

Provided by American Heart Association

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