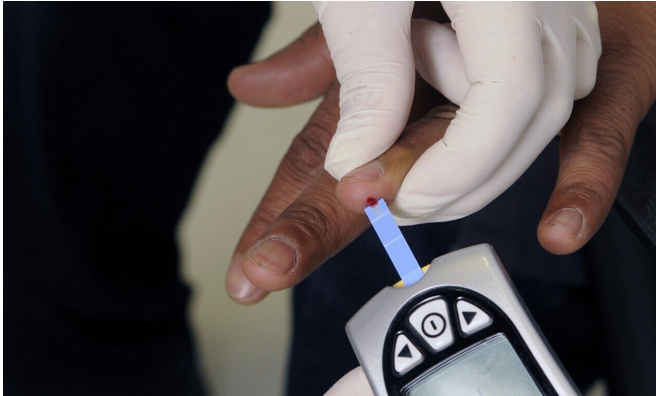


# Gender-affirming treatment impacts cholesterol levels

20 April 2021, by Will Doss



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Gender-affirming hormone treatments caused cholesterol levels to increase for transfeminine individuals and to decrease for transmasculine individuals, according to a study published in *JAMA Pediatrics*.

Robert Garofalo, MD, MPH, the Potocsnak Family Professor in Adolescent & Young Adult Medicine, chief of Adolescent Medicine in the Department of Pediatrics and a professor of Preventive Medicine, was a co-author of the study.

Mortality and morbidity from [cardiovascular disease](#) differ between men and women. One hypothesized cause is sex-related differences in lipid profiles, according to the study.

Starting at puberty, male individuals have lower levels of high-density lipoprotein cholesterol (HDL-C) when compared to female individuals. However, the relative contribution of sex hormones versus sex chromosomes to this difference has remained unknown.

Two hundred sixty-nine transgender and gender-diverse adolescents were recruited into the multi-

center study, of which one site was Ann & Robert Lurie Children's Hospital. Thirty percent of participants were transfeminine and 70 percent were transmasculine.

After six months of estradiol treatment in transfeminine participants, average HDL-C levels increased by about 27 percent to fall within the expected range for female adolescents. Conversely, for transmasculine individuals, six months of testosterone treatment led to average HDL-C dropping by about 18 percent, within the expected range for male adolescents.

The investigators found that obesity attenuated the benefit of estradiol treatment on HDL-C levels and exacerbated the association of testosterone treatment with outcomes after six months. These previously unknown findings should be taken into account when treating [adolescent](#) individuals, according to the authors.

Further, this study provides evidence that sex-related differences in cholesterol are primarily caused by differences in sex steroids, and these steroids work synergistically with other [risk factors](#) such as obesity.

**More information:** Kate Millington et al. Association of High-Density Lipoprotein Cholesterol With Sex Steroid Treatment in Transgender and Gender-Diverse Youth, *JAMA Pediatrics* (2021). [DOI: 10.1001/jamapediatrics.2020.5620](https://doi.org/10.1001/jamapediatrics.2020.5620)

Provided by Northwestern University

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