

Weight loss surgery boosts good cholesterol in obese teen boys

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Weight loss surgery boosts the level of HDL "good" cholesterol and also improves its heart-protecting actions in severely obese teens, according to preliminary research presented at the American Heart Association's Arteriosclerosis, Thrombosis and Vascular Biology | Peripheral Vascular Disease 2016 Scientific Sessions.

"We already knew that [weight loss](#) surgery improves weight and cholesterol numbers. This new research shows that there are actually changes in the way HDL functions in adolescents, which may lead to a reduction in long-term cardiovascular risk," said pediatric endocrinologist Amy S. Shah, M.D., lead author of the study and assistant professor of pediatrics at the Cincinnati Children's Hospital in Ohio.

In this study, ten severely obese teenage boys (average weight 367 lbs.; average age 17; 90 percent Caucasian), underwent vertical sleeve gastrectomy, a type of weight loss surgery which reduces the size of the stomach.

One year after surgery the teens had lost 111 pounds on average, and reduced their [body mass index](#) by 32 percent. Body mass index is a scientific way to evaluate body weight.

Levels of high density lipoprotein (HDL), the so-called good cholesterol, increased 23 percent in the year following surgery. In addition to measuring HDL levels, the researchers performed several tests to assess

whether surgery had an impact on HDL function. Among their findings:

- Cholesterol efflux, the ability of HDL to remove cholesterol from artery walls so it can be sent to the liver and removed from the body, increased 12 percent;
- HDL oxidation potential, a measure of how easily HDL generates oxidants or free radicals, which can trigger unwanted inflammation, decreased 30 percent;
- HDL became more anti-inflammatory, with a 25 percent decrease on the HDL inflammatory index.

"Despite remaining obese, these young men showed improved metabolic health measured by HDL function after surgery," Shah said.

The preliminary study is limited by small numbers and having no female participants.

"We plan to expand our work to study girls, to look at time points sooner than one year to see how early after surgery HDL function improves, and will compare these results to other types of [weight loss surgery](#)," Shah said.

Provided by American Heart Association

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