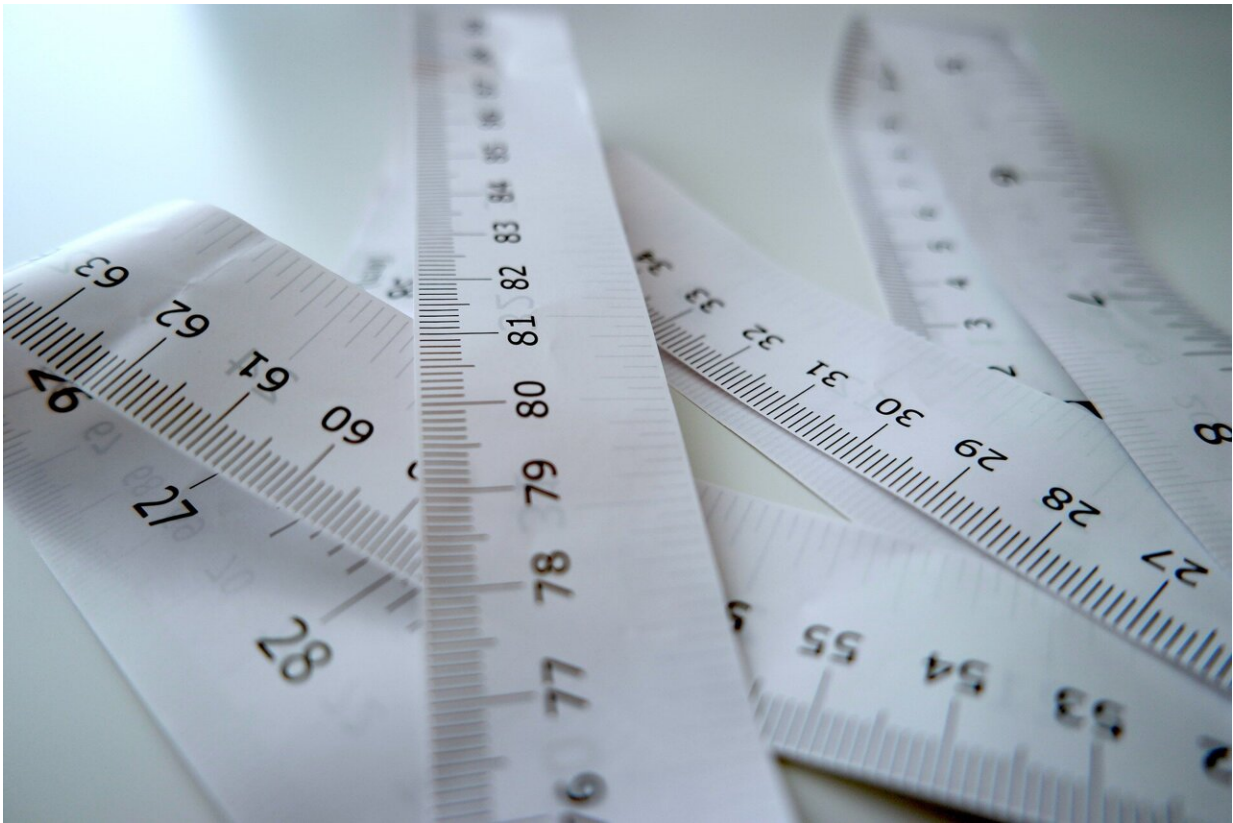


Overweight boys more likely to be infertile men, study finds

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A new paper in the *European Journal of Endocrinology*, indicates that overweight boys tend to have lower testicular volume, putting them at risk for infertility in adulthood.

Infertility weighs on both the [psychological health](#) and the economic and social lives of people of childbearing age. Infertility affected 48 million couples in 2010. Although observers often overlook [male infertility](#), researchers believe it is a factor contributing to couple infertility in about half of all cases. Yet in most cases, the reason for male infertility remains unclear.

According to a German study that evaluated infertility in over 20,000 [male patients](#) referred to a fertility center, no diagnosis could be made for about 70% of them. A significant percentage of childless male patients have no explanation for their infertility. Research also indicates a trend toward decreasing [sperm concentration](#) and total sperm count over the past forty years.

In parallel with the decline in sperm count, the prevalence of childhood obesity has increased worldwide from 32 to 42 million. Observers estimate that about 60% of children today will be obese by the age of 35.

Italian surveys have also revealed testicular hypotrophy in almost a quarter of young men aged 18-19 whose future fertility is, therefore, at risk. Various environmental conditions (including exposure to endocrine-disrupting chemicals) and personal habits (such as a [sedentary lifestyle](#) or eating disorders) have changed dramatically over the past few decades.

The impact of obesity and obesity-related metabolic disorders on testicular growth in childhood is unknown. Researchers here performed a retrospective, cross-sectional study on children and adolescents aged 2 to 18 years, referred to the Unit of Pediatric Endocrinology at the University of Catania, in Sicily, for body weight control.

The investigators collected data on testicular volume, age, body mass index, and insulin resistance in 268 children and adolescents. They found

that boys with [normal weight](#) had a 1.5 times higher testicular volume compared to those who were overweight or obese in peripubertal age.

Children and adolescents in the study with normal insulin levels had 1.5-2 times higher testicular volume compared to those with hyperinsulinemia, a condition often associated with type 2 diabetes in which patients have higher insulin levels in their blood. Thus, those with overweight or obesity, hyperinsulinemia or insulin resistance showed lower testicular volume than their healthy peers.

Since lower testicular volume predicts poorer sperm production in adulthood, the researchers here believe that weight loss could help patients avoid [infertility](#) later in life.

"Although the prevalence of childhood obesity is increasing worldwide, the impact of obesity and associated [metabolic disorders](#) on testicular growth is not well known," said Rossella Cannarella, one of the authors of the paper.

"In this study, we found that being overweight or obese was associated with a lower peri-pubertal testicular volume. In addition, obesity-related comorbidities, such as hyperinsulinemia and [insulin resistance](#), have been found to influence testicular volume in pre- and post-puberty. Therefore, we speculate that more careful control of body weight in childhood could represent a prevention strategy for maintaining testicular function later in life."

More information: R Cannarella et al, Testicular volume in 268 children and adolescents followed-up for childhood obesity—a retrospective cross-sectional study, *European Journal of Endocrinology* (2023). [DOI: 10.1093/ejendo/lvad033](https://doi.org/10.1093/ejendo/lvad033)

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