

Should short boys take growth hormone?

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U.S. Navy photo of
two sailors, circa 1918

If they're healthy, probably not, experts say.

(HealthDay)—Parents often worry when their child, especially a son, is much shorter than average. But as long as there is no medical cause, parents can rest easy, experts say.

Writing in the March 28 *New England Journal of Medicine*, two pediatric endocrinologists describe a scenario pediatricians see all the time: Parents bring in their 11-year-old son because he's substantially shorter than his classmates, and his growth seems to have slowed in recent years.

Their concern is reasonable, said Dr. David Allen, co-author of the article and a professor of pediatrics at the University of Wisconsin School of Medicine and Public Health in Madison.

In the vignette, Allen and Dr. Leona Cuttler describe a boy whose height was in the third percentile at age 9 years. (That means he was shorter than 97 percent of boys his age.) But his growth rate slowed further, so that he is now in the first percentile for height.

"When a child falls off the growth curve like that, it's appropriate for parents to be concerned and have him evaluated," Allen said.

The potential medical causes include growth hormone deficiency, certain genetic disorders or an underactive thyroid gland. Fortunately, though, most short kids are healthy.

The "conundrum," Allen said, is that parents are often still worried, especially when that child is a boy. And, in the United States, human growth hormone is approved to treat so-called idiopathic short stature—that is, short stature with no known medical cause—when a child is below the first percentile for height.

So parents may want costly treatment even if their child has a clean bill of health.

Dr. Patricia Vuguin, a pediatric endocrinologist at Cohen Children's Medical Center in New Hyde Park, N.Y., said some doctors will recommend doing nothing. And, "some will say, let's try growth hormone," she said.

But both Vuguin and Allen said it's important for parents to have realistic expectations of growth hormone. For short, healthy children, studies predict that growth hormone will deliver an extra 1 to 3 inches as an adult. And that's the average; other factors come into play.

If both parents are short, that limits what growth hormone therapy can do. "We can't modify your genetic potential," Vuguin said.

The fictional family in Allen's report fit that scenario. The mother was 5 feet tall, while the dad stood at 5 feet 6 inches. Their son's predicted height, with no intervention, was 5 feet 5 inches—the lower end of "normal."

"You have to think, how important is an inch or two of extra height in the big picture?" Vuguin said. "Is the difference between 5 feet 5 inches and 5 feet 6 inches that important?"

Allen said there are instances where healthy children are extremely short, and "it's appropriate to help them grow." But for most kids, it's "reasonable" to just keep watching their growth rate and reassure the parents.

Often, parents worry about their child (again, usually a son) being teased, or—as an adult—feeling unhappy or even being at a disadvantage career-wise.

But studies have not borne out those worries, Allen said. Short children and adults do not seem less happy than their taller peers, and there's no proof that treating idiopathic short stature improves quality of life.

"The more we look into this 'assumed morbidity' associated with short stature, the less we find," Allen said. "And it's been very difficult to show that treating (idiopathic short stature) improves kids' well-being as adults."

As far as safety, growth hormone "has an excellent track record while kids are on it," Allen said. But no one knows yet if there are risks later in life. In theory, growth hormone might raise the odds of diabetes or certain cancers down the road. But for now, those are theoretical risks, Allen said.

The other big issue is cost. A conservative estimate is that each inch of height gained with growth hormone treatment would ring up at \$35,000 to \$50,000, Allen said.

Growth hormone is not the only option for idiopathic short stature. Boys can be given low doses of androgens, or "male" hormones. This therapy boosts boys' growth rate in the short term, but there's no evidence it increases their adult height, Allen said.

"It's always reasonable to say, 'Let's just watch this,'" Allen said. At first, the gap might worsen if a short child's peers hit puberty earlier and their growth takes off, he noted. But once a "late bloomer" starts puberty himself, his growth will accelerate, too.

More information: Learn more about [growth disorders](#) from the Endocrine Society.

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