

## Spur Growth in Children with Two Simple Nutrients

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Constitutional delay of growth and puberty (CDGP) is a term describing a temporary delay in the skeletal growth and height, as well as puberty, of a child with no known cause. Those affected eventually enter puberty and reach normal adult height; however, the challenges of the shortness stigma and the possibility of poor bone formation often lead doctors to prescribe sex hormones. According to research published in *Clinical Endocrinology* (2004;60:682–7), researchers have discovered that vitamin A and iron supplementation, which is side effect-free, is just as effective as hormone therapy for enhancing growth and promoting puberty in children with CDGP.

The researchers compared the effect of supplementation with hormonal therapy on 102 boys with CDGP averaging 14.4 years in age. The boys received one of six treatments: 5 mg per day of growth-promoting steroid hormone (oxandrolone) for six months; 100 mg of testosterone per month for three months or six months; 6,000 IU of vitamin A per week plus 12 mg of iron per day for 12 months; 5 mg of oxandrolone per day for six months plus 6,000 IU vitamin A per week and 12 mg iron per day for 12 months; or no treatment. Measurements, taken at the beginning, six, and 12 months, included height, weight, pubertal changes (by testicular volume), and bone status. The researchers found that those taking vitamin A and iron had significantly faster growth rates than those in the control group, and similar rates to those taking testosterone and oxandrolone. Moreover, only the nutrient-taking group experienced an increase in testicular volume (indicating the onset of puberty) after six months. The researchers therefore concluded that daily supplementation with vitamin A and iron may be as effective as hormone therapy for boys with CDGP, without the same health risks.

Vitamin A deficiency is believed to decrease growth hormone secretion, and iron is also necessary for normal growth and enhancing vitamin A activity. Vitamin A-rich foods include liver, full-fat dairy products, and cod liver oil. The most absorbable form of iron, called “heme” iron, is found in oysters, meat, poultry, and fish. Non-heme iron is found in the same foods, as well as dried fruit, molasses, and leafy green vegetables. Many professionals encourage fatty food consumption for children. Low-fat, low-animal food diets are dangerous, especially for our youth.