

The American Journal of

CLINICAL NUTRITION

Volume 63 Number 2 February 1996






**Serum transferrin and ferritin in pubertal boys: relations to body growth, pubertal stage, erythropoiesis, and iron deficiency**

Raija Anttila and Martti A Siimes

We studied serum transferrin and ferritin concentrations in relation to individual body growth, stage of puberty, blood hemoglobin, and red blood cell iron (RBCI) in 60 prepubertal or early pubertal boys at 3-mo intervals for 18 mo. One-third of the boys had increased serum transferrin concentrations and almost all had decreased ferritin concentrations during the follow-up. No change in mean transferrin was observed but the individual 18-mo increments in transferrin correlated positively with the increments in hemoglobin ($r = 0.55$, $P < 0.001$) and in estimated RBCI ($r = 0.31$, $P = 0.02$). Serum transferrin remained stable at different genital stages, but ferritin was lower in the pubertal than in the prepubertal boys. Transferrin concentrations at 18 mo correlated positively with the preceding weight velocities. The rise in transferrin did not lead to an increase in iron-deficiency anemia. In contrast, transferrin rose in boys whose hemoglobin increased. In pubertal boys with relatively ample iron status, serum transferrin may be an indicator of increased availability of iron for erythropoiesis. The declining ferritin concentration indicates that part of the extra iron is mobilized through redistribution from stores to red blood cell mass and is generally associated with greatly increasing absorption. Thus, the pubertal changes in transferrin and ferritin are not necessarily indications of iron deficiency. *Am J Clin Nutr* 1996;63:179-83.

Key words: Transferrin, ferritin, erythropoiesis, iron deficiency, puberty, boys

[Order a copy of this article.](#)

 [Back to](#) [February 1996 contents](#)   [Back to](#) [Issues on-line](#)   [Back to](#) [AJCN Home](#)

The American Journal of Clinical Nutrition
9650 Rockville Pike, Bethesda, MD 20814-3998
Telephone (301) 530-7038 Fax (301) 571-8303
<http://www.faseb.org/ajcn/>

 [Send questions and comments to webmaster@ascn.faseb.org](mailto:webmaster@ascn.faseb.org)