

# Abstract

J Trace Elem Med Biol. 2010 Jul;24(3):165-8.

## **A pilot study of copper supplementation effects on plasma F2alpha isoprostanes and urinary collagen crosslinks in young adult women.**

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**OBJECTIVE:** Marginal copper deficiency has been proposed to occur frequently, but the benefits of correction remain largely uncharacterized. Two benefits could be reduced oxidant stress and better crosslinking of collagen in bone.

**METHODS:** Copper intake was increased in 8 female university students by supplementation with copper glycinate (2 mg copper/day) for 8 weeks.

**RESULTS:** Supplementation improved copper status based on serum activity of two copper enzymes, ceruloplasmin and diamine oxidase (9% and 75% mean increase, respectively). No effect was seen for erythrocyte copper-zinc superoxide dismutase. Supplementation produced a 39% mean decrease in plasma for F(2alpha)-isoprostanes (a marker of oxidant stress), and gave a 62% increase in the urine ratio of collagen crosslinks to a measure of total collagen. None of the supplementation effects were duplicated for 8 women given placebo.

**CONCLUSION:** In conclusion, this pilot study found that in young adult women, increased copper intake can alter biochemical parameters relevant to copper function.

PMID: 20569928

