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Tiejian Wu* (wut@etsu.edu), Box 70674, Public Health/Family Medicine, Johnson City, TN 37614. *Serum Iron, Copper and Zinc Concentrations and Risk of Cancer Mortality in US Adults.*

Iron, copper, and zinc may play an important role in carcinogenesis. This study examined the association of serum iron, copper and zinc with cancer mortality. The study sample includes 3,000 men and 3,244 women free from cancer who participated in the Second National Health and Nutrition Examination Survey. Vital status at follow-up was identified by the Social Security Administration's death file and the National Death Index. Iron, copper, and zinc were categorized into four levels using the 10th, 50th, and 90th percentiles. Relative risk (RR) was derived from the proportional hazard model. Three hundred and seven cancer deaths were identified according to ICD9 (International Classification of Diseases, 9th version) code 140-195 and 199-208. Cancer mortality per 1,000 person-years of follow-up was 3.7 (4.7 for men and 2.8 for women). RRs of cancer death (95% confidence interval) for the four levels were 0.96 (0.57-1.61), 1.00 (reference), 1.12 (0.80-1.58), 1.86 (1.07-3.22) for iron; 0.76 (0.44-1.31), 1.00 (reference), 1.10 (0.77-1.58), 1.89 (1.07-3.32) for copper; and 0.75 (0.5-1.13), 1.00 (reference), 0.64 (0.47-0.88), 0.84 (0.53-1.33) for zinc. In conclusion, people with the highest levels (top 10 percentile) of serum iron or copper were at a higher risk for cancer death. (Received August 18, 2005)