

# Abstract

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## Dietary zinc and prostate cancer survival in a Swedish cohort.

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**BACKGROUND:** Zinc is involved in many essential cellular functions, including DNA repair and immune system maintenance. Although experimental evidence supports a role for zinc in prostate carcinogenesis, epidemiologic data are inconsistent; no data on cancer-specific survival have been reported.

**OBJECTIVE:** Our objective was to determine whether dietary zinc assessed near the time of prostate cancer diagnosis is associated with improved disease-specific survival.

**DESIGN:** This population-based cohort consists of 525 men aged <80 y from Örebro County, Sweden, with a diagnosis of prostate cancer made between 1989 and 1994. Study participants completed self-administered food-frequency questionnaires, and zinc intake was derived from nutrient databases. Cox proportional hazards regression was used to estimate multivariate hazard ratios (HRs) and 95% CIs for time to death from prostate cancer as well as death from all causes through February 2009 by quartile (Q) of dietary zinc intake. Models were also stratified by disease stage at diagnosis (localized or advanced).

**RESULTS:** With a median follow-up of 6.4 y, 218 (42%) men died of prostate cancer and 257 (49%) died of other causes. High dietary zinc intake was associated with a reduced risk of prostate cancer-specific mortality (HR(Q4 vs Q1): 0.64; 95% CI: 0.44, 0.94; P for trend = 0.05) in the study population. The association was stronger in men with localized tumors (HR: 0.24; 95% CI: 0.09, 0.66; P for trend = 0.005). Zinc intake was not associated with mortality from other causes.

**CONCLUSION:** These results suggest that high dietary intake of zinc is associated with lower prostate cancer-specific mortality after diagnosis, particularly in men with localized disease.

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