

# Abstract

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## Leukocyte telomere length and mortality in the Cardiovascular Health Study.

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**BACKGROUND:** Leukocyte telomere length (LTL) is related to diseases of aging, but studies of mortality have been inconsistent.

**METHODS:** We evaluated LTL in relation to total mortality and specific cause of death in 1,136 participants of the Cardiovascular Health Study who provided blood samples in 1992-1993 and survived through 1997-1998. LTL was measured by Southern blots of the terminal restriction fragments. Cause of death was classified by a committee of physicians reviewing death certificates, medical records, and informant interviews.

**RESULTS:** A total of 468 (41.2%) deaths occurred over 6.1 years of follow-up in participants with mean age of 73.9 years (SD 4.7), 65.4% female, and 14.8% African American. Although increased age and male gender were associated with shorter LTLs, African Americans had significantly longer LTLs independent of age and sex ( $p < .001$ ). Adjusted for age, sex, and race, persons with the shortest quartile of LTL were 60% more likely to die during follow-up than those within the longest quartile (hazard ratio: 1.61, 95% confidence interval: 1.22-2.12,  $p = .001$ ). The association remained after adjustment for cardiovascular disease risk factors. Evaluations of cause of death found LTL to be related to deaths due to an infectious disease etiology (hazard ratio: 2.80, 95% confidence interval: 1.32-5.94,  $p = .007$ ), whereas a borderline association was found for cardiac deaths (hazard ratio: 1.82, 95% confidence interval: 0.95-3.49,  $p = .07$ ) in adjusted models. Risk estimates for deaths due to cancer, dementia, and ischemic stroke were not significant.

**CONCLUSION:** These data weakly corroborate prior findings of associations between LTL and mortality in the elderly.

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