

Schipf S, Haring R, Friedrich N, Nauck M, Lau K, Alte D et al.

Low total testosterone is associated with increased risk of incident type 2 diabetes mellitus in men: results from the Study of Health in Pomerania (SHIP).

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**Abstract:** **OBJECTIVE:** There is increasing evidence suggesting that low total testosterone concentration is associated with incident type 2 diabetes mellitus (T2DM) in men. The aim of this study was to evaluate the association between total testosterone and incident T2DM in a large population-based cohort. **METHODS:** Of 2117 men at baseline, 1589 were followed up 5 years later. Low total testosterone concentration at baseline determined by <10th percentile (10-year age-strata) were used as a risk factor for incident T2DM at follow-up. To evaluate for potential non-response bias, drop out weights were used in sensitivity analysis. **RESULTS:** From 1339 men eligible for analyses, 68 (5.1%) developed T2DM. Men with low total testosterone concentration had an increased risk of developing T2DM (odds ratio [OR] 3.4, 95% CI 1.9-6.1), even after adjustment for age, waist circumference and smoking, OR 3.0; (95% CI 1.6-5.7). Recalculated weighted models revealed almost identical estimates indicating no relevant non-response bias. **DISCUSSION:** Our prospective findings suggest that low total testosterone concentration is associated with incident T2DM in men and might represent a biomarker that might causally be involved in the risk of T2DM. This underlines the importance of measuring total testosterone in men as the predominant male sex hormone