

# Adhering to healthy lifestyle habits associated with reduced lifetime risk of heart failure

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Men who exercised regularly, drank moderately, did not smoke, who were not overweight and had a diet that included cereal and fruits and vegetables had a lower lifetime risk of heart failure, according to a study in the July 22/29 issue of *JAMA*.

With an annual incidence of 550,000, [heart failure](#) remains a major public health issue and is the leading cause of hospitalization among older adults in the United States. Despite improved medical and surgical management, death after onset of heart failure remains high, ranging from 20 percent to 50 percent. The lifetime risk of heart failure at age 40 years is approximately 1 in 5 in the general population; however, it has been unclear whether adherence to healthy lifestyle factors, such as regular [exercise](#) and not smoking, could lead to a reduction in lifetime risk of heart failure, according to background information in the article. "A demonstration of beneficial influence of healthy lifestyle habits on the lifetime risk has potential clinical and public health implications."

Luc Djoussé, M.D., Sc.D., M.P.H., of Brigham and Women's Hospital, Harvard Medical School and Boston Veterans Affairs Healthcare System, Boston, and colleagues assessed the association between modifiable lifestyle factors and the remaining lifetime risk of heart failure in a large group of men. The study included data from 20,900 men (average age at the start of the study, 53.6 years) from the Physicians' Health Study I (1982-2008) who were apparently healthy at baseline. Six modifiable lifestyle factors were assessed: body weight, smoking, exercise, alcohol intake, consumption of breakfast cereals and consumption of fruits and vegetables.

During an average follow-up of 22.4 years, 1,200 new cases of heart failure (5.7 percent) and 4,999 confirmed deaths (23.9 percent) occurred in the

study. Compared with participants adhering to no healthy lifestyle factors, those adhering to 4 or more factors tended to be older and had a lower prevalence of hypertension and diabetes mellitus. Analysis indicated that overall, the lifetime risk of heart failure was 13.8 percent at age 40 years and remained constant through age 70; at age 80 years, the lifetime risk for heart failure was 10.6 percent. The remaining lifetime risk of heart failure was approximately 2 percent to 4 percent higher in men with hypertension than in those without hypertension.

The researchers found that normal body weight, never smoking, regular exercise, moderate alcohol intake, and consumption of breakfast cereal and fruits and [vegetables](#) were individually associated with a lower lifetime risk of heart failure compared to a corresponding undesirable behavior. There was an inverse and graded association between the number of healthy lifestyle factors and lifetime risk of heart failure. "For example, the lifetime risk for heart failure was approximately 1 in 5 (21.2 percent) in men adhering to none of the desirable lifestyle factors, compared to 1 in 10 (10.1 percent) in those adhering to 4 or more healthy lifestyle factors," the authors write.

When restricted to body weight, smoking, and exercise, the association between lifestyle factors and lifetime risk of heart failure persisted in the overall population as well as in men with and without hypertension.

"Our estimate of lifetime risk of heart failure could help [public health](#) officials allocate resources for the prevention and management of this condition. Our findings of a low lifetime risk in men who adhere to modifiable [lifestyle factors](#) emphasize the need for incorporation of these behaviors in prevention strategies against heart failure at both the individual

and the population level," the authors write.

More information: *JAMA*. 2009;302[4]:385-393.

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