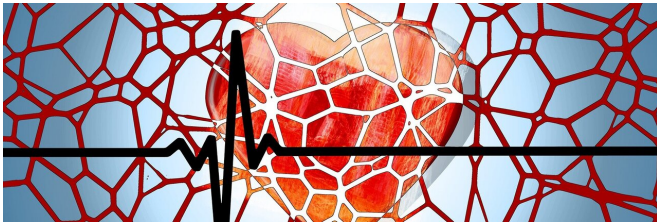


# Work-related stress linked to increased risk for peripheral artery disease

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People who reported work-related stress were more likely to be hospitalized for peripheral artery disease compared to those who did not report work-related stress, according to new research published today in the *Journal of the American Heart Association*, an open access journal of the American Heart Association. The article appears in a special spotlight issue exploring different aspects of the complex relationships between psychosocial factors and cardiovascular health.

Peripheral artery disease, or PAD, is a [cardiovascular disease](#) that occurs when cholesterol or other fatty substances in the blood build up in the blood vessels away from the heart, usually the legs, impeding blood flow. Symptoms often include leg pain while walking. Left untreated, [peripheral artery disease](#) increases the likelihood of heart disease and stroke. Worldwide, peripheral artery disease affects more than 200 million people, including more than 8.5 million in the United States. Despite the considerable burden of peripheral artery disease, the evidence on specific [risk factors](#), including potential primary preventive targets, for this disease is scarce, according to researchers.

Work-related [stress](#), or job strain, refers to psychological and social stress at work, often from high expectations combined with lower levels of personal control. Previous studies have linked

work-related stress to other forms of atherosclerotic disease; however, few have specifically analyzed its effects on peripheral artery disease. This study focused on the relationship between work-related stress and hospital treatment for peripheral artery disease.

The researchers evaluated the records of 139,000 men and women (36.4% men; average age of study participants range 39-49) participating in 11 separate studies from 1985-2008 in Finland, Sweden, Denmark and the United Kingdom. Participants included in the analysis had no previous history of peripheral artery disease when the respective studies began. Individual information for each participant included age, sex, BMI, smoker or nonsmoker, [alcohol consumption](#), physical activity level, diabetes status, socioeconomic position, data on hospitalizations and the questionnaire on work-related stress.

During an average 12.8 years of follow up, 667 people (0.2 to 1.8% of participants) were hospitalized for peripheral artery disease. Researchers found that people with work-related stress were 1.4 times as likely as those without work-related stress to have a record of peripheral artery disease in the hospitalization register, after adjusting for age, sex and lifestyle variables.

"Our findings suggest that work-related stress may be a risk factor for peripheral artery disease in a similar way as it is for heart disease and stroke," said lead study author Katriina Heikkilä, Ph.D., senior researcher at the Karolinska Institute, Stockholm.

Stress is associated with increased inflammation and higher blood glucose levels. So, although there is limited evidence linking work-related stress to heart disease, stress could be contributing to complications and exacerbations of peripheral artery disease.

The investigators measured work-related stress based on participants' ratings of statements to describe psychosocial aspects of their job. This information was compared to records on peripheral artery disease hospitalizations across nearly 13 years of hospital records.

Overall, nearly one-fourth of participants with no previous hospitalization for peripheral artery disease reported [work-related stress](#) at the beginning of the 11 studies.

Researchers noted increased risk among men, those with high socioeconomic position and smokers, but noted such subgroup analysis was limited by the small number of people with peripheral artery disease.

Limitations of this study are that it included hospital-treated peripheral artery disease only, which means that the results cannot be generalized to less severe forms of the [disease](#). Also, certain health information, such as blood pressure and cholesterol levels, was unavailable.

**More information:** *Journal of the American Heart Association* (2020). [DOI: 10.1161/JAHA.119.013538](#)

Provided by American Heart Association

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