

# Testosterone predominance increases prevalence of metabolic syndrome during menopause

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As testosterone progressively dominates the hormonal milieu during the menopausal transition, the prevalence of metabolic syndrome increases according to a new study by researchers at Rush University Medical Center. The study suggests this may be a pathway by which cardiovascular disease increases during menopause. The study is published in the July 28 issue of the *Archives of Internal Medicine*, one of the *JAMA/Archives* journals.

Cardiovascular disease is the primary cause of death in women in Western countries. Women tend to develop the disease about 10 years later than men with a marked increase through the menopausal years. Cardiovascular disease is rare among women younger than 45 years, but women older than 55 years are more likely than men to have cardiovascular disease.

Metabolic syndrome is a summary measure of important cardiovascular disease risk factors that frequently coexist. The syndrome is evident in 20% to 30% of middle-aged women and has been linked to the development of cardiovascular disease and diabetes.

The longitudinal, 9-year-study of 949 participants in the Study of Women's Health Across the Nation (SWAN) shows that the incidence of metabolic syndrome increased progressively from six years before to six years after the final menstrual period, independent of aging and other known cardiovascular disease risk factors. The increase is steeper during the menopausal transition compared to the post menopausal years.

"Menopause-related testosterone predominance appears to be implicated as a key hormonal change that is associated with the incidence of metabolic syndrome," said lead investigator Imke

Janssen, PhD, assistant professor, Department of Preventive Medicine at Rush University Medical Center.

It was previously thought that estrogen exerted a direct positive effect on cardiovascular disease risk in women, a benefit that was lost as women transitioned from a premenopausal to a postmenopausal state and experienced a loss of estrogen.

Source: Rush University Medical Center

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