

# Standard heart disease risk tools underrate danger in rheumatoid arthritis

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Heart disease risk assessment tools commonly used by physicians often underestimate the cardiovascular disease danger faced by rheumatoid arthritis patients, a Mayo Clinic study has found. Inflammation plays a key role in putting those with rheumatoid arthritis in greater jeopardy for heart disease, yet many cardiovascular disease risk assessment methods do not factor it in, the researchers note. More work is needed to figure out what drives heart disease in rheumatoid arthritis patients, and more accurate tools to assess that risk should be developed, the authors say. The study is published online in the *American Journal of Cardiology*.

In [rheumatoid arthritis](#), the [immune system attacks](#) tissues, inflaming joints. It can also affect other parts of the body. Rheumatoid arthritis patients have a higher risk of early death than the general population, and previous research suggests cardiovascular disease is the main reason. The Mayo study gauged the accuracy of two commonly used tools for assessing heart disease danger — the Framingham and Reynolds risk scores — and found they substantially underrated cardiovascular disease danger in women and men with rheumatoid arthritis, particularly in older patients and people who test positive for rheumatoid factors, proteins produced by the immune system and often associated with rheumatoid arthritis.

"This study emphasizes that patients with rheumatoid arthritis are at higher risk for heart disease, and that conventional predictors of risk are not adequate for estimating this risk. Physicians caring for patients with rheumatoid arthritis should be aware of this heightened risk even when

conventional risk factors seem to indicate no increased risk, and consider measures to assess and lower CV risk in these patients," says co-author Eric Matteson, M.D., chairman of Mayo Clinic's rheumatology division.

Among those studied were 525 patients over 30 who were diagnosed with rheumatoid arthritis between 1988 and 2007 and had no previous history of cardiovascular disease. The study used medical records from the National Institutes of Health-funded Rochester Epidemiology Project, whose resources make Olmsted County, Minn., one of the few places in the world where researchers can examine medical data on virtually everyone in a defined geographic population to find the true frequency of certain conditions and the success of treatments.

The patients' 10-year risk of developing cardiovascular disease was measured using the Framingham and Reynolds risk scores. The mean follow-up period was 8.4 years; 84 patients developed cardiovascular disease during that time. The observed [heart disease risk](#) turned out to be twice as high among women and 65 percent higher in men than the Framingham risk score predicted, and the Reynolds tool had similar shortcomings, researchers found. Patients 75 and older proved to be three times more at risk than the Framingham score indicated. Patients with positive rheumatoid factor also had more [heart disease](#) events than the risk scores predicted.

"Ongoing research is attempting to determine how [inflammation](#) leads to increased cardiovascular risk in rheumatoid arthritis, and what treatments for rheumatoid arthritis might reduce this risk," Dr. Matteson says. "Further work must also evaluate just how patients with rheumatoid [arthritis](#) should be managed to detect and reduce their risk for cardiovascular disease."

Provided by Mayo Clinic

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