

Achilles tendon may be window into heart disease severity

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For people with coronary artery disease, the thickness of the Achilles tendon may be an indicator of the severity of their disease and how likely they are to have a heart attack, new research suggests.

The Achilles tendon—the longest and strongest tendon in the body—connects the calf muscles to the heel bone. The study, presented recently at the American Heart Association's Scientific Sessions meeting in Chicago, looked at the association between severity of [coronary artery disease](#) and thickness of the Achilles tendon in 241 [people](#) who had received a stent to open a blocked blood vessel in their heart.

The researchers identified participants with an Achilles tendon thickness of 9 millimeters—about a third of an inch—or more. About 80 percent of those patients had more than one heart artery that was blocked, placing them at higher risk for a [heart attack](#). Among those with a thinner Achilles tendon, 58 percent had more than one blocked

heart artery.

People with a thick Achilles tendon also were more likely to have left main coronary artery disease, which is associated with the highest risk of heart disease and death.

The study's lead author, Dr. Takuya Hashimoto, a [cardiologist](#) at the Kitasato University School of Medicine in Tokyo, said that a diagnosis of Achilles tendon thickness could potentially be used to identify people at risk of heart disease.

But he said this study couldn't confirm that because it included patients already with coronary artery disease and did not look at patients with Achilles tendon thickening due to other causes.

Another study presented at the conference looked at the best way to diagnose familial hypercholesterolemia, or FH, by measuring Achilles tendon thickness.

FH is an inherited disorder that causes dangerously high cholesterol levels. Achilles tendon lumps caused by cholesterol deposits, known as xanthomas, are a known indicator of coronary artery disease in people with FH.

X-rays are generally used, but the new study found that ultrasound imaging may be better at detecting the genetic condition among people who needed a heart stent.

Dr. Philip Ades, a cardiologist at the University of Vermont College of Medicine who was not involved with either study, said the research addresses an association that has intrigued [heart](#) doctors for years.

"As a clinician, if I see a patient with a very thickened Achilles tendon or xanthomas, I'll tell myself, 'If they're depositing cholesterol in their tendons, it's very likely they're depositing lipids

elsewhere, such as in their coronary [arteries](#)," he said.

But given that there already are numerous ways to predict which patients are more likely to develop coronary artery disease, Ades said he doesn't see screening for Achilles tendon thickness as something likely to become routine.

"Sending people to the hospital for a fancy X-ray of their Achilles isn't warranted when we already have these simple measures to tell us who is more likely to have coronary disease," he said.

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