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Difference in arterial health seen in highly active college-age people compared to inactive peers

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Indiana University researchers found that people in their 20s already began to demonstrate arterial stiffening—when arteries become less compliant as blood pumps through the body—but their highly active peers did not.

The researchers made a similar discovery with middle-age men and women, finding that highly active study participants did not show the arterial stiffening that typically comes with aging, regardless of their gender or age. A reduction in compliance of the body's arteries is considered a risk factor, predictive of future cardiovascular disease, such as high blood pressure and stroke. This new study is the first to examine arterial stiffening in a young, healthy population.

"It was surprising," said Joel Stager, professor in the Department of Kinesiology in the IU School of Public Health-Bloomington. "The college-age group, which reflected the general population, already showed a difference in the health of their small arteries. Compliance of the small arteries, in particular, is seen as an effective predictor of future cardiovascular disease."

The researchers looked at compliance of large and small arteries. For the middle-aged study participants, typical stiffening was seen in both types of arteries for those who were inactive and moderately active, but not for the highly active. In the younger groups, the stiffening was seen only in

the smaller arteries for the less active group.

"This indicates that the effect of exercise reported for aging populations seems to exist in young populations as well," the researchers wrote in their report. "That small artery compliance is low in the less active young population should be of general concern, as low small arterial compliance is recognized as an index of cardiovascular risk."

More information: Findings from "Arterial Compliance in a Young Population" were discussed during a poster presentation on Wednesday.

Provided by Indiana University