

Americans can slow aging with regular exercise

October 6 2015, by Marc Ransford

The average American loses about 10 percent of cardiorespiratory fitness a decade after they turn 20, says a Ball State University study.

"Reference standards for cardiorespiratory fitness measured with cardiopulmonary exercise testing" show that Americans lose about 10 percent of their VO₂max – the maximum amount of oxygen that an individual can use during intense exercise – each decade from their early 20s to late 70s.

This study provides the first true reference standards for interpreting measured [cardiorespiratory fitness](#), allowing the healthcare community to help people as they age, said Leonard Kaminsky, director of Ball State's Fisher Institute for Wellness and Gerontology.

VO₂max is measured as milliliters of oxygen used in one minute per kilogram of body weight. This measurement is generally considered the best indicator of a person's cardiovascular fitness, he said.

"You see people breathing hard when exerting themselves, bringing oxygen into the lungs. The body sends that into the blood stream via the heart pumping at a fast rate," he said. "As we age, the heart, lungs and muscles work less effectively, reducing VO₂max levels.

Cardiovascular fitness is a more powerful predictor of risk for disability and death than other traditional factors, including hypertension, lipid abnormalities, smoking, physical inactivity, obesity and diabetes.

Improved fitness might add years to life

While cardiovascular disease is the No. 1 killer of Americans, Kaminsky pointed out that relatively small improvements in cardiovascular fitness also have been associated with reductions in mortality of about 10 to 25 percent.

The study will be published in the November issue of *Mayo Clinic Proceedings*, one of the nation's premier peer-reviewed clinical journals in general and internal medicine. It analyzed treadmill tests from almost 7,800 participants without [cardiovascular disease](#) for a national fitness database created at Ball State.

The study also found:

- Across the age span (20 to 70) highly fit individual have 50 to 60 percent higher cardiovascular fitness capacity compared to lower fit people
- Over the decades, cardiovascular fitness remains higher for men than women, but still both decline at similar rates.
- In comparing data from a similar study in Norway, that country's residents had better cardiovascular fitness their American counterparts.

Fitness and activity assessments needed

Kaminsky noted that recent studies focusing on cardiovascular fitness have led health authorities to recommend and some U.S. health systems to mandate [physical activity](#) assessment and counseling as part of clinical visits since staying active is the key for higher cardiovascular fitness rates.

"However, despite the fact that low cardiovascular fitness is one of the most important determinates of health outcomes, it is often neglected in favor of risk markers more familiar to more clinicians who are likely to focus on conditions treatable with drugs or invasive procedures," he said.

Eight laboratories from across the U.S. contributed the data for the study to the Fitness Registry and the Importance of Exercise: A National Database (FRIEND), compiled by Ball State's Clinical Exercise Physiology Laboratory and housed at the University of Illinois-Chicago.

Kaminsky believes the new data will provide accurate information that healthcare professionals can use to help their patients improve quality of life when aging.

"The data provide us information that can be used as a baseline to help monitor [cardiovascular fitness](#) for individuals," he said. "Knowing an individual's exercise capability relative to their peers' will not only help optimize risk evaluation but also can provide support for physical activity counseling."

More information: "Reference Standards for Cardiorespiratory Fitness Measured With Cardiopulmonary Exercise Testing." *Mayo Clinic Proceedings* DOI: [dx.doi.org/10.1016/j.mayocp.2015.07.026](https://doi.org/10.1016/j.mayocp.2015.07.026)

Provided by Ball State University

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