

# Five minutes of daily breath training improves exercise tolerance in middle-aged and older adults

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Despite the myriad known benefits of exercise, many middle-aged and older adults struggle to meet physical activity recommendations. New research finds potential for high-resistance inspiratory muscle strength training (IMST) to help this population transition to a healthier lifestyle.

The study will be presented this week at the American Physiological Society annual meeting at Experimental Biology 2022.

Although exercise reduces the risk of developing [chronic illness](#) with aging, a 2016 study found 28% of U.S. adults age 50 and older were physically inactive. "Developing novel forms of physical training that increase adherence and improve physical function are key to reducing the risk of chronic diseases with aging. High-resistance IMST may be one such strategy to promote adherence and improve multiple components of health in midlife and [older adults](#)," lead researcher Kaitlin Freeberg, MS, explains.

IMST involves inhaling through a handheld device called a manual breathing trainer that adds resistance to the breath. The research team split 35 adults age 50 and older into a high-resistance group or a low-resistance control group. Both groups used a manual breathing trainer for 30 breaths a day (about five minutes) for six weeks; both groups were able to adhere to the program.

After six weeks, the high-resistance group showed a 12% improvement in a treadmill time to exhaustion test, while the low-resistance control group showed no change. The improvement in the high-resistance group also showed a relationship with changes in 18 metabolites tested in the study, predominantly ones that "play key roles in [energy production](#) and [fatty acid metabolism](#)."

"These preliminary findings suggest 5 min/day of high-resistance IMST is a promising, highly adherable mode of physical training that increases exercise tolerance and modulates metabolic pathways in [middle-aged and older] adults," Freeberg wrote.

**More information:** Experimental Biology 2022: [experimentalbiology.org/](https://www.experimentalbiology.org/)

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