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Boost in vigorous exercise fails to improve lung function in cystic fibrosis

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Increased vigorous physical activity did not improve lung function for sedentary patients with cystic fibrosis, according to study findings published in the *American Journal of Respiratory and Critical Care Medicine*.

"Changing physical activity behavior in the general population or people with cystic fibrosis is difficult due to a plethora of perceived barriers, such as lack of time, tiredness, stigma and demoralization. In general, a multicomponent intervention has the potential to elicit beneficial effects," **Helge Hebestreit, MD,** professor in the pediatric department at the University Hospitals Würzburg, Germany, and colleagues wrote. "There is evidence that motivational interviewing, counseling, a written activity plan and regular feedback from pedometers or diaries are beneficial."

ACTIVATE-CF, an international, parallel-arm, multicenter, randomized controlled trial, enrolled 117 relatively inactive patients aged 12 years and older with cystic fibrosis. All patients were randomly assigned to an intervention group (n = 60; mean age, 25.3 years; 55% female), in which patients added 3 hours of vigorous physical activity per week, or the control group (n = 57; mean age, 22.8 years; 56% female), in which patients did not change their physical activity behavior.

The primary outcome was change in percent predicted FEV_1 at 6 months. Secondary outcomes included physical activity, exercise capacity and motives, time to first exacerbation, exacerbation rates, quality of life, anxiety, depression, stress and blood glucose control.

Compared with the intervention group, patients in the control group demonstrated higher FEV_1 at 6 months (P = .04). However, patients in the intervention group reported increased vigorous physical activity compared with the control group. In addition, patients in the intervention group had higher exercise capacity at 6 (0.32 vs. 3.42; P = .025) and 12 months (3.24 vs. 1.72; P = .25) and had higher physical activity in total steps at 12 months (1,022 vs. 438; P = .26).

Researchers observed no effects on all secondary outcomes during the study period.

"Our findings indicate that a steep increase in vigorous physical activity represents the wrong approach to improve lung health for the majority of people with cystic fibrosis who are relatively sedentary," the researchers wrote. "In contrast, the significant but counterintuitive improvement in FEV_1 in the control group possibly induced by a moderate increase in physical activity suggests a less stringent 'motivational approach' may effectively modulate an increase in physical activity."