

Cystic Fibrosis Research News

Title:

A SINGLE BOUT OF MAXIMAL EXERCISE IMPROVES LUNG FUNCTION IN PATIENTS WITH CYSTIC FIBROSIS

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What was your research question?

Improving lung function is a continual goal of providers working in the cystic fibrosis (CF) community. Understanding this, we wanted to understand if a single session of maximal exercise has the ability to improve the lung function in individuals with CF.

Why is this important?

Individuals with CF who participate in a long-term exercise program may or may not show improvements in lung function. There are many options for engaging in exercise, each level of training may have a different impact on lung function. Understanding the impact that a single session of exercise provides to individuals living with CF may provide valuable information, potentially aiding us to understand the best way to improve lung function through exercise therapy.

What did you do?

Lung function was evaluated before and shortly after completing a maximal bout of exercise on a stationary bicycle in 33 patients with CF. Lung function was assessed using a number of different tests which allowed us to examine the function of both the large and small airways of the lung. For the exercise bout, patients began cycling at an easy workload which increased in difficulty every minute until they could not pedal anymore.



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What did you find?

We found that both the large and small airways of the lung improved following maximal exercise. We also found that the individuals who were able to exert the most effort had more improvement in lung function following the bout. Interestingly, disease severity prior to exercise did not affect the change in lung function following exercise.

What does this mean and reasons for caution?

This means that a single session of exercise can improve lung function in patients with CF. Our results pave the way for future studies to focus on different types, intensities, and durations of exercise that provide the greatest improvement in lung function to patients with CF. We are unsure how long the improvement in lung function lasts following a single session of exercise or how lung function changes over a short period of time without exercise.

What's next?

Based on our findings, future studies can now use a single session of exercise to evaluate different types of exercise and determine the best approach to improve lung function instead of conducting long expensive exercise training studies.

Original manuscript citation in PubMed

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