# Cystic Fibrosis Research News

**Title:**

Clinimetric evaluation of muscle function tests for individuals with cystic fibrosis: a systematic review


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## What was your research question?

Our aim was to evaluate the accuracy of the different tools that are used to measure muscle function in people with cystic fibrosis (CF).

## Why is this important?

The use of tools that can accurately describe the muscular status of people with CF is essential for an appropriate detection of muscle dysfunction. Moreover, accurate tools may be able to appropriately evaluate the effectiveness of various rehabilitation interventions. The use of imprecise tools may be misleading in identifying the people who will benefit from specific muscle training interventions and may miss the medical complications of muscle dysfunction.

## What did you do?

A complete review of the medical literature available was computed. The previous studies that addressed the precision of the different tools used to measure muscle function in people with CF were reviewed. The studies reviewed measures of the respiratory muscles, upper limb

muscles and lower limb muscles. Several components were measured like the extent to which a tool will provide similar results in various conditions or the ability to detect changes after an intervention.

### What did you find?

We found that few of the tools used to measure muscle function have been evaluated for accuracy, except for the measurement of the maximal strength of the inspiratory muscles (muscles that help expand the chest cavity) and quadriceps muscle (at the front of the thigh) that showed the best results in adults with CF. On the other hand, none of these tools have been evaluated for accuracy in children with CF. Simple tests have recently been described to measure the quadriceps strength in adults with CF but should not be recommended until further description of their accuracy has been made.

### What does this mean and reasons for caution?

Measures of the strength of the inspiratory muscles and quadriceps should be used in clinical practice. A strong recommendation regarding the other tools described cannot be made.

### What's next?

Future studies should be done to evaluate the accuracy of the tools that are routinely used to evaluate muscle function in people with CF, and especially in children. This will enhance the ability to detect muscle weakness and to propose adequate treatments.

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