

# THE EFFECT OF RMT ON RESPIRATORY MUSCLE STRENGTH COUGH POST STROKE

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Coughing protects the lungs from aspiration, but is less effective in people with respiratory muscle weakness. Aspiration can lead to pneumonia, a common complication after stroke. Post stroke pneumonia leads to increased mortality, hospitalization rates, worse functional outcomes, and increased care needs. It should be noted that ability to cough requires coordinated activation of inspiratory, expiratory and intrinsic laryngeal muscles. To help improve this ability in patients, then, research regarding the ability to improve respiratory function is important.

Respiratory muscle training (RMT) was tested to improve cough function and recovery of respiratory muscles after stroke.

## Key Findings

- Cough protects the lungs from aspiration.
- Stroke leads to respiratory muscle weakness and impaired cough function.
- Poststroke pneumonia due to aspiration is a common complication and leads to increased mortality and hospitalization.
- Respiratory muscle training improves respiratory muscle strength and cough function in acute stroke patients.
- Low patient adherence during RMT reduces effectiveness of RMT.
- RMT improves cough and respiratory function after stroke, but adherence presents a challenge.

## Study Methods

Maximal inspiratory and expiratory pressure and peak cough flow were tested before and after four weeks of inspiratory and expiratory muscle training (using two different devices) in patients with acute stroke and compared to a control group (low intensity RMT).

## Study Results

All parameters improved over time, but were not significantly different from the control group, probably due to low adherence.

In conclusion, RMT improves respiratory muscle strength and cough post stroke, but is associated with low adherence.

## References

Kulnik ST. Does respiratory muscle training improve cough flow in acute stroke? Pilot randomized controlled trial. *Stroke*. 2015 Feb;46(2):447-53.