*primary studies - published RCT*

# Reflex zone stimulation reduces ventilation inhomogeneity in cystic fibrosis: A randomised controlled cross-over study.

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### Study design (if review, criteria of inclusion for studies)

Randomised controlled single-centre interventional trial

### Participants

21 paediatric CF patients with normal baseline spirometry.

### Interventions

Reflex zone stimulation technique (RST). The effect of 30 minutes of RST was compared to that of sham therapy in a crossover design. The interventions were performed in random order and planned 6 months apart.

### Outcome measures

The primary outcome was a change in global ventilation inhomogeneity after intervention, assessed by lung clearance index (LCI(2.5) ) derived from a nitrogen multiple breath washout test. Secondary outcomes included changes in regional ventilation inhomogeneity (indices of acinar [Sacin*Vt] and conductive airway [Scond*Vt] inhomogeneity) and spirometry parameters (inspiratory capacity, forced vital capacity, and forced expiratory volume in 1 second). Trunk deformity was assessed by physiotherapists at study entry.

### Main results

After the RST intervention, the LCI(2.5) (p = 0.004) and Scond*Vt (p = 0.009) decreased significantly, while inspiratory capacity increased (p = 0.012). In the sham-therapy group, none of the parameters changed significantly. Trunk deformity was seen in 76.5% of all patients, and 92.9% of those with trunk deformity showed a decrease in LCI(2.5) after RST.

### Authors' conclusions

RST has multiple positive short-term effects on lung function, especially in CF patients with trunk deformities. This article is protected by copyright. All rights reserved.

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### See also

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### Keywords

Reflex zone stimulation; non pharmacological intervention - devices OR physiotherapy;