**Title:**

Be it resolved airway clearance cannot and should not be replaced by exercise in the era of CFTR modulators – Summary of a Pro/Con Debate

**Lay Title:**

Can exercise replace airway clearance (chest physiotherapy) in the era of CFTR modulator medications – summary of a Pro/Con debate

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**What was your research question?**

This work is a summary of a debate that was held at the 2024 North American Cystic Fibrosis (CF) Conference, which discussed whether the teams felt that exercise was a suitable replacement for completing airway clearance (also known as chest physiotherapy).

**Why is this important?**

The question as to if completing exercise is a viable replacement for doing airway clearance is currently being asked frequently as many people with CF are feeling better and have less sputum to clear due to taking CFTR modulator medications. It is one of the top twenty research priorities which were identified by the CF community in 2022 and it is important for healthcare professionals and people with CF to know if it is safe and helpful to substitute airway clearance with exercise as many people are keen to increase exercise and drop airway clearance.

**What did you do?**

Team exercise summarised the evidence for the wider physical and mental health benefits of exercise, including improvements in fitness levels, wellbeing, strength and lung function. They emphasized the importance of an individualise exercise programme to benefit each person with CF. They also highlighted the ability of exercise to loosen secretions based upon research evidence.

Team airway clearance emphasized that even if a person was well with no sputum, there may be times when they need airway clearance, such as if they become unwell with a chest infection. They highlighted that while exercise has been shown to loosen sputum, it has not been shown to be as good at clearing sputum from the lungs as airway clearance.

**What did you find?**

The teams summarised the lack of evidence as to if exercise is a suitable substitute for airway clearance, but that what evidence there is stated that a key part of clearing sputum was “huffing” (breathing out forcefully – a technique taught in airway clearance exercises) and that as a minimum huffing should be included with exercise, if using exercise as airway clearance.

The teams also emphasised that every individual with CF should know a traditional airway clearance technique for times when they have sputum and may be unable to exercise with huffing, for example if they were unwell with a chest infection.

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

Research is yet to be completed that fully investigates the long-term viability of replacing traditional airway clearance techniques with exercise, even exercise with huffing included. Currently recommendations remain that all people with CF are taught a traditional airway clearance technique, so they are able to effectively use them as needed and that exercise is included in daily routines. How often airway clearance is needed, and what type of exercise to complete, needs to be decided on an individual basis in partnership with CF healthcare teams.

**What’s next?**

Research is needed to investigate the long-term effects of replacing time spent completing chest physiotherapy with time spent exercising for individuals with CF who are stable on CFTR modulator medications.

**Original manuscript citation in PubMed**

<https://pubmed.ncbi.nlm.nih.gov/40382306/>