

Airway Clearance Techniques

Airway clearance techniques (ACTs) are an essential part of management for people with cystic fibrosis (CF). Performing regular airway clearance helps loosen the thick, sticky mucus from the airways so it can be cleared more easily with huffing and coughing.

Why Do I Need to Do ACTs?

Removing mucus from the airways is important to reduce the risk of infections, or exacerbations, and prevent permanent lung damage. If the mucus stays in the airways it provides a breeding ground for germs and bacteria.

When Should I Start ACTs?

ACTs are usually started at the time of CF diagnosis. This is important as it helps establish good routine and prevent build-up of mucus in the lungs. Some families may take longer to start ACTs as other issues may be more of a priority. Your CF team will make this decision.

Parents will be taught how to do ACTs with their child by their specialist CF physiotherapist. As they get older, children will become more independent, so they are eventually able to carry out their own ACTs.

How Often Should ACTs Be Done?

It is recommended that ACTs are performed every day, depending on health. The primary care team at your CF centre will work with you to decide the frequency of treatment each day.



The number of sessions per day may increase when unwell.

How Long Will It Take to Do ACTs?

The length of time taken to complete ACTs will vary depending on the technique chosen, the amount of mucus and how well you or your child is. ACTs may take longer when unwell as there may be more mucus to clear or it may be thicker and more difficult to clear.

What Are the Different Types of ACTs?

There are lots of different ACTs and your specialist CF physiotherapist will help create an individualised program that best suits your/ your child's health. ACTs can be combined with exercise to enhance mucus clearance.

Positioning and Percussion

Uses positioning and patting with a

cupped hand on your child's chest to loosen and clear mucus. Most commonly used in babies and young children when active participation in airway clearance is not possible.

Positive Expiratory Pressure (PEP)

PEP devices provide resistance to the breath out to splint open airways and get air behind mucus plugs. The aim is to move mucus upwards in the airways, towards the mouth so it can be more easily cleared. There are many different PEP devices including mouthpiece PEP, PEP mask, vibrating PEP and bottle PEP.

Active Cycle of Breathing Technique (ACBT)

ACBT combines deep breathing, relaxed breathing and huffing and coughing to help clear mucus from the lungs. It can be done in a variety of positions.

Autogenic Drainage (AD)

AD is a controlled breathing technique that involves breathing at different lung volumes to move mucus from the small airways to the larger airways.

Summary

ACTs are essential for all people with CF. The type of treatment, number of sessions and length of treatment will vary for each individual. Make sure you discuss your options with your CF specialist physiotherapist.

Useful Resources

- [CFWA Airway Clearance Factsheets](#)

Last reviewed October 2020.

Cystic Fibrosis WA
The Niche
11 Aberdare Road
Nedlands WA 6009

T: +61 8 6224 4100
E: info@cfwa.org.au

Disclaimer: This publication is for general education and information purposes. Contact a qualified healthcare professional for any medical advice needed.
© Cystic Fibrosis Western Australia 2020