

Airway Clearance Techniques

What are airway clearance techniques?

Airway Clearance Techniques (ACTs) are an essential part of management for people with 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 lung infections, or exacerbations, and prevent permanent lung damage.
- If the mucus stays in the airways it prevents air from getting into and out of the lungs and provides a breeding ground for germs and bacteria.

When should I start ACTs?

- ACTs are started at diagnosis of CF. This is important as it helps establish good routine and prevent build-up of mucus in the lungs.
- 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 you or your child is 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 during an exacerbation 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 child's health. ACTs can be combined with exercise to enhance mucus clearance.

Modified positioning and percussion

- Uses positioning and patting with a cupped hand on your child's chest to loosen and clear lung secretions.
- 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 pressure behind mucus plugs and improve movement of mucus 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 modified postural drainage 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

- Autogenic Drainage Factsheet www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-Autogenic-Drainage.pdf
- Huff and Cough Factsheet www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-Huff-and-Cough.pdf
- Modified Postural Drainage and Percussion Factsheet www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-MPD-and-Percussion.pdf
- Nebulisers Factsheet www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-Nebulisers.pdf
- PEP Factsheet www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-PEP.pdf

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