

Airway Clearance Techniques: Modified Postural Drainage and Percussion

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. Modified Postural Drainage (MPD) and percussion is an ACT used most commonly in babies and young children who are too young to actively participate in their treatment. Once patients are older, blowing games, deep breathing and active play are incorporated into the treatment with the aim to make it more interactive and effective.

What is Modified Postural Drainage?

MPD involves placing the child in different positions to help move mucus from different parts of the lungs. Using different positions alters airflow and gas exchange, which can also help to move mucus. Traditionally, babies were placed in positions with a head down tip, however research has shown that this may increase the incidence of reflux. Most CF centres now use modified positions so that babies are lying flat or with their head slightly elevated.

What is percussion?

Percussion is firm, rhythmical patting on the chest wall with a cupped hand or fingers to help loosen mucus from the airways and lungs, ensuring the head is always supported. It should only be done over the ribs with a layer of clothing or towel over the area being treated. It should not be painful.

Most young babies enjoy percussion as it is quite soothing. If they are fussing or crying during treatment it is important to continue unless the baby is distressed.

What is the usual routine?

Daily treatment for babies consists of 3 positions in the morning and 3 in the evening, spending 5 minutes in each position.

Treatment should be started when baby is awake but it is ok to keep going if they fall asleep.

Positions

Upright Front: Place your baby in an upright supported position. Pat as high up on the front of their chest as possible. Do both right and left sides for this position, 2½ minutes each side, 5 minutes total.

Upright Back: Place your baby upright, resting over your shoulder or on a pillow on your lap leaning forwards. Pat as high up on the back of their chest as possible. Do both right and left sides for this one position, 2½ minutes each side, 5 minutes total.

Front Bases: Place child on their back with head and shoulders slightly raised (use folded nappy or towel if needed). Make sure you pat with a cupped hand over the nipple area at the top of the chest over ribs. Spend 5 minutes in this position.

Back Bases: Place child on their tummy lying flat or head slightly up (use folded nappy or towel if needed). Make sure you pat with a cupped hand on their back over the ribs. Spend 5 minutes in this position.

Left Middle: Place your baby on their right side either flat or with head slightly raised. Make sure you pat under the armpit and not too low down on their side. It helps to hold their arm forwards, out of the way of your hand. Spend 5 minutes in this position.

Right Middle: Place your baby on their left side either flat or with head slightly raised. Make sure you pat under the armpit and not too low down on their side. It helps to hold their arm forwards, out of the way of your hand. Spend 5 minutes in this position.

Things to remember

It is important to establish a daily routine for airway clearance as soon as your baby is diagnosed with CF, as this will make it easier to continue treatments as they get older.

The type of treatment, number of sessions and length of treatment will vary for each individual, so make sure you discuss your options with your CF specialist physiotherapist.

Useful Resources

- Airway Clearance Techniques Factsheet <https://www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-Airway-Clearance-Techniques.pdf>
- Huff and Cough Factsheet <https://www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-Huff-and-Cough.pdf>
- Nebulisers Factsheet <https://www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-Nebulisers.pdf>
- PEP Factsheet <https://www.cfwa.org.au/wp-content/uploads/2017/12/CF-Fact-PEP.pdf>

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