

Positive Expiratory Pressure and Assisted Huffs for Infants

Information for parents and carers

Why do we need airway clearance?

We all have mucus in our lungs to help keep them moist and free of dirt and bacteria. Normally this mucus is free to move and we are only aware of it when we are unwell. In certain conditions the body can produce more mucus than is needed or in conditions such as Cystic Fibrosis, it can be thicker and stickier and therefore doesn't move as easily.

The aim of airway clearance is to get sufficient air moving through the lungs in order to stop this mucus getting stuck and clogging up the airways. In other conditions, the airways are floppier and need some extra pressure to hold the airways open. The PEP mask helps provide this.

Positive Expiratory Pressure (PEP) Mask

One of the best ways to get air moving around the lungs is by using positive expiratory pressure or PEP therapy. It creates a small positive pressure in the airways by making your baby work a little bit harder when they breathe out. This helps hold open the airways, open airways that have closed over and encourages mucus to move.



Pari PEP and mask



RMT PEP Mask

Size of resistor = _____

How to use the PEP Mask

If your child is very young, cradle them in your arm and place the mask over their mouth/nose. It is important during PEP therapy to keep a good seal around your baby's nose and mouth with the mask. As they get a little older you may have to hold their arms down during treatment. Once your baby has head control, you can sit them on your knee facing out.



As your baby grows they will need a bigger mask. Children can be good at trying to break the seal of the mask against their face. We have a couple of different types and shapes of mask that may help with this. Ask your physiotherapist if you think this is an issue.

How long should airway clearance take?

Aim to hold the mask on for around and completesets. It can be done at any time of the day, unless advised otherwise by your physiotherapist.

How often should I do it?

Airway clearance should be carried out at least every day but your physiotherapist will advise you for your own child. You should avoid doing airway clearance for at least half an hour after feeding.

Cleaning the PEP mask

After every use, take the PEP mask and resistor apart and wash in hot, soapy water. Rinse and then leave out to drip dry on some paper towel.

Once a week sterilise all parts with your baby's bottles or boil it up for 10 minutes.

Helpful hints

Try to make physiotherapy sessions a positive experience- playing music that they enjoy or letting them watch a favourite TV programme while they do it can help them have a more positive view of their therapy as they get older. Singing songs and chatting to them throughout also help the child and others to view it as a positive time.

Getting family members involved helps your child to see their therapy as a normal part of their everyday life. Your physiotherapist can help with this teaching.

If your baby cries during treatment, don't worry as they will settle in time and the mask actually works well if they are crying. Always try to start airway clearance when your baby is awake. If they fall asleep during treatment, you can still finish the session. If you are finding it difficult to carry out your baby's airway clearance, speak to your physiotherapist as they may have suggestions to help make it easier.

Assisted huffs

If your baby has more mucus or stickier mucus than normal in their lungs, encouraging them to huff can help to move the mucus up high enough to cough and clear it. Babies and young children can find this difficult to do by themselves, so the aim of assisted huffs is to increase the speed of your child's breath out. By applying a gentle pressure to your child's chest on the breath out, it creates a faster breath and helps to move the mucus along the airways. This should never be forced as your child will just resist the movement.

How to do assisted huffs

The idea is to encourage your child to breathe into the smaller airways where the mucus tries to hide. To do this, place a constant gentle pressure around their chest to ensure they don't take too big a breath in. This can either be done cradling your baby in the crook of your arm, over your shoulder or sitting on your knee once they have head control. Ensure your hands are over the chest, not the stomach.



While keeping the gentle pressure on throughout, give an extra little push as they breathe out to create a gentle 'huff' sound. It can be difficult to co-ordinate with their breathing as young babies breathe quite quickly. Rocking them gently can help them to breathe in time with the huffs.

Once your child has head control, you can sit them on your lap, facing out and gently bouncing them on a gym ball. The bouncing can help the 'huff' sound and babies tend to be settled by the movement.

Keep the gentle pressure around your child's chest throughout the set of assisted huffs so you are never fully letting go until the end of the set.

Combining PEP mask and assisted huffs

PEP therapy encourages the air to flow around the lungs. Combining this with the assisted huffs helps to push the mucus up towards the back of the throat to allow your baby to clear them.

Normally 2 minutes of PEP therapy followed by 2 minutes of assisted huffs makes one set of airway clearance. You should do this for 4 sets and then finish with a further minute of PEP mask.

Contact telephone numbers

This leaflet is a guide to PEP therapy, which should be taught to you personally by a skilled Physiotherapist. If you have any concerns or questions, please contact the Physiotherapy Department on 0131 312 1079

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