

Bubble Positive Expiratory Pressure (PEP)

This leaflet is for the parents/carers of children who have been advised to use bubble PEP as a treatment for their chest condition.

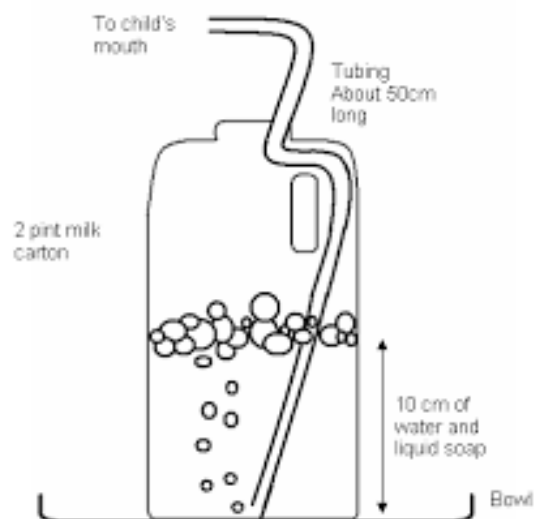
What is bubble PEP?

PEP stands for Positive Expiratory Pressure. Bubble PEP is used in children as a treatment to help clear a build-up of phlegm (secretions) in their lungs. Any child who has difficulty clearing phlegm may be given these exercises. It is commonly used in children who have cystic fibrosis (CF) or have had recent surgery; it can also be used for children suffering with chest infections. It involves blowing bubbles through water, and there are lots of ways to make it fun, which will be explained in the treatment section.

How does bubble PEP work?

On the right is a picture of how to set up a bubble PEP. Your child will be encouraged to blow down the tubing into the water, to make bubbles. By doing this a positive pressure is created back up the tubing and transferred into your child's airways and lungs.

This pressure holds open your child's airways and more air is able to move in and out of their lungs. This allows air to get behind the phlegm and move it from the lungs, into the airways where it can be coughed up and cleared.



How to set up and use the bubble PEP:

Your physiotherapist will show you how to set it up.

1. Fill the bottle (milk cartons are good) with water to 10cm deep with about 5 squirts of liquid soap/washing up liquid. You can add food colouring/glitter or both if you wish.
2. Put the plastic tubing into the water through the handle of the bottle if it has one.
3. Put the bottle into a tray or bowl.
4. Ask your child to take a breath in and blow for as long as they can through the tubing, to create bubbles. Make sure the tubing stays at the bottom of the bottle.
4. Aim to get bubbles spilling out over the top each time – that is why it's best to do in a tray to avoid too much mess but keeping it fun.
5. Repeat 10 times. **This is one cycle.**

6. Let your child catch their breath and then ask them to huff (forced expiratory technique) and cough to clear their phlegm. This should be taught by your physiotherapist.
7. If your child is old enough to spit the phlegm out, this is better than swallowing it. They may not be able to do this until they are around 4 years old.
8. Repeat the cycle 3 times.
9. The bottle, tubing and tray should be washed and left to dry and stored in a clean place until next used. At least once a week the tubing and bottle should be replaced, throwing the old equipment away. **This is important to prevent infection.**

Bubble PEP and safety

- Please ensure that your child understands that they should be **blowing** and not sucking up the contents of the bottle.
- They shouldn't do too many deep breaths in a row, or your child may feel dizzy.
- There have been no reported problems with the use of bubble PEP or any other airway clearance techniques. However, if you are worried about your child's chest please contact their doctor without delay.

Useful links:

Cystic fibrosis information is available at: <https://cysticfibrosis.org.uk/>

If you have any questions about bubble PEP, please contact:

Physiotherapy Department
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University of Reading
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Please ask if you need this information in another language or format.

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Next review due: May 2024