

Breathing Advice and Exercises: Children with Neuromuscular Conditions



This leaflet is designed for parents and children to read together. When your physiotherapist gives you this leaflet they will show you the best exercises for you.

Why do we need to do breathing exercises?

Respiratory issues are relatively common in people with neuromuscular conditions. The age at which this happens varies greatly depending on the type of condition and its severity. The muscles involved in breathing, swallowing and coughing can be affected and as they get weaker, properly clearing the lungs of phlegm gets harder and risk of chest infection increases. Chest shape can also impact on the ability to clear phlegm effectively so those who have postural issues such as scoliosis are at greater risk of respiratory problems.

It is therefore important to look after your lungs as well as your posture to help reduce the risk of getting chest infections and to know how to effectively clear your chest when needed.

If you start practicing good breathing techniques when you are well you can help keep your breathing muscles stronger, ribs more pliable, and your lungs fitter and healthier. If you can incorporate some form of exercise for your lungs into your daily routine you can help keep them fit and healthy for longer.

This guide is designed to give you a few ideas of fun exercises and activities you can do to help exercise your lungs and keep your chest clear of phlegm. You will also then know what to do if you do start to get a cough, cold or chest infection to make it easier for you to clear your chest.

Hydration – it is very important to be well-hydrated to help clear your lungs of any phlegm so make sure you drink plenty or have enough fluid in your feed. Some people are prescribed medications such as mucolytic or saline nebulisers to also help.

Blowing games – these are fun for any age but younger children usually love them!

A fun way of exercising your lungs is to play blowing games.

You could use:

Bubbles – blow them, how many bubbles can you blow in one breath, how big a bubble can you make?



Party whistles – this is noisy but great fun! – how long can you keep the sound going for in one breath?

Bubble PEP / Milk Volcanoes – messy but fun!

Use an old, clean drinks bottle (500ml) or open cup (even messier so use it in a bowl!) filled with 10cm of water or milk and a straw. You can add food colouring and a couple of drops of washing up liquid to make cool coloured bubbles but be careful to blow not suck!

- How long can you blow through the straw in one breath?
- Can you fill the bottle /overflow the cup with bubbles in one breath?
- Do a set of 3 big, long breaths out followed by a rest to allow breathing to return to normal before doing another set. Repeat until a cough is generated and phlegm is cleared if needed.



Bubble Painting – Great for those arty crafty types! (and again, remember to blow, not suck!).

Try mixing some ready mix (child safe!) paint with washing up liquid. Gently blow bubbles using a straw. Once the bubbles are over the top of the container you can remove the straw and press paper over the top to print the bubbles!



Blow football – just make sure you use a flat surface so the balls don't roll away!



Use ping pong balls or cotton wool balls and straws to play a game of blow football. Practice your dribbling techniques – how far can you keep the ball rolling for in one breath. You could make a pitch or goals using construction toys...challenge your friends and family to a tournament...

Playing wind instruments – this could be for fun at home with a simple instrument like a recorder, or take up music lessons – playing an instrument is great for exercising our lungs and learning breathing control!



Singing - can be great fun and free, or you may like to take up lessons, its up to you!



Getting active

Depending on how mobile you are, there are different ways to get active which are really beneficial for keeping your chest clear.

Cycling and swimming - great for general exercise and getting active as well as getting you to take deeper breaths! It is best to choose activities where you use both sides of your body equally (symmetrical) rather than rely on one arm or leg (such as scootering). Also, avoid lifting heavy weights or trampolining to help protect your muscles and avoid unnecessary damage to them.



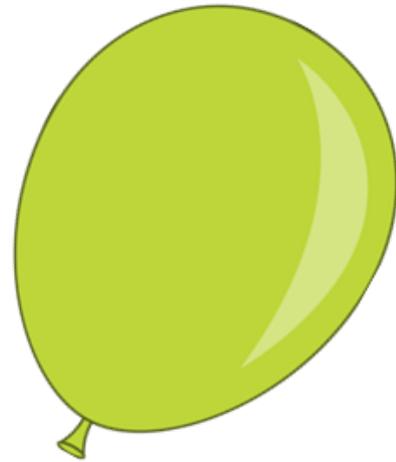
Wheelchair exercises – self propelling, reaching out of your seat with your arms – up , down, sideways.

Any form of exercise that makes you take deeper breaths will be helping to exercise your lungs too.

If able, you could go for a walk or play some fun games that involve moving around

Whether you can stand or not, any activity that involves reaching upwards and over your head is also great to give those ribs and lungs a stretch

Keepy-Uppy – how long can you keep a balloon up in the air by patting it with your hands



Bubble chase - blow some bubbles up into the air, chase them and pop them. You score more points for popping the ones up above your head.

Action songs – “The Grand Ol’ Duke of York”, “Way down South, where bananas grow”, “Heads, shoulders, knees and toes” and other songs where actions involve stretching your arms out to the sides, up above the head and down towards your toes are great for expanding your ribcage and exercising those lungs.

Breathing exercises

Breathing properly is really important and it is amazing how people don't do it!

Abdominal breathing is the best way to breathe – follow the guidance below to give it a try.

Take notice of how you breathe – get in a comfortable, sitting position (this can be upright or slightly reclined) with your shoulders relaxed with enough support to keep you in a good posture, place your hands gently on your chest and tummy just below your rib cage. Which hand moves more? Do they both move the same? We are aiming for the hand on your tummy to move more so that your lungs stretch and exercise in the most effective way.

Breathing Control - Learning to breath (from your tummy)

In a comfortable, well supported, sitting position (upright or reclined slightly) with your shoulders relaxed (remember you should be aiming for a good posture too!) place hands on your chest and tummy to feel what your breathing is doing.

Take slow, gentle breaths in and feel you lower ribs and tummy hand move up and out. You can imagine you are blowing up a balloon in your tummy. Aim to breathe in for a count of 3.

Pause, before slowly breathing out through your nose (or mouth if you can't) – don't force it, let the air "fall out" – your lower ribs and tummy hand should move back in and down. Pause again before your next breath in.

Try these fun breathing exercises:



Elephant Breaths - If you are able, stand with your feet apart. Take a deep breath in, as you do so, lift your arms out in front of you and above your head like an elephant lifting their trunk ready to trumpet! As you breath out, swing your arms back down.

Snake breaths – take a deep breath in, then as you breathe out, hiss through your teeth to hiss like a snake - how long can you keep the hiss going?



Bunny Breaths – Instead of taking one big breath in, take 3-5 sniffs in one after the other, like a bunny sniffing the air. Each sniff is stacked on top of the previous one so you get a good deep breath – don't let the air escape between sniffs!

Formal Breathing exercises

There are also more formal breathing exercises which can be very helpful in maintaining and helping you to clear your chest of phlegm. They can be useful techniques to learn when you are well so you can use them easily if you have a cough, cold or chest infection.

Active Cycle of Breathing (ACBT) – is a method of deep breathing designed to open up your airways to get more air in and help bring phlegm higher up in your chest and clear using what is known as a forced expiratory technique (huff). This technique allows phlegm to be shifted and cleared without the need for lots of coughing which can be difficult, tiring and sometimes painful.

Autogenic drainage (AD) – is another technique designed to clear your chest of phlegm this time by concentrating on different areas of the lungs at a time to really expand them, get air in and move phlegm up higher. It is a bit more tricky than ACBT but works really well once you get the hang of it.

Your Specialist Children's Neuromuscular or Respiratory Physiotherapist can teach you these techniques and give you specific information sheets on these as appropriate.

Manual Techniques and Other Mechanical Adjuncts

If you are needing a bit more help clearing phlegm you should be referred to a Specialist Children's Respiratory Physiotherapist. They can teach you some more hands-on techniques which can be used alongside the other techniques discussed in this booklet. For example, percussions, vibrations and shakes. Some people also use lung volume recruitment bags, manually assisted cough and/or cough assist machines. You should always be taught these techniques by a specialist children's respiratory physiotherapist as they can tailor the treatment to your individual needs.

If you would like to talk to anyone about the information in this booklet or seek referral to a Specialist Children's Respiratory Physiotherapist please contact your Specialist Children's Neuromuscular Physiotherapist as detailed below or speak to your Paediatrician.

Your **Specialist Neuromuscular Physiotherapist** is:

Contact number:

Useful resources:

Muscular Dystrophy UK

<https://www.musculardystrophyuk.org>

Spinal Muscular Atrophy UK

<https://smauk.org.uk/>



South West Neuromuscular Operational Delivery Network

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The South West Neuromuscular Operational Delivery Network is hosted by North Bristol NHS Trust.

Specialist clinics are held at the following Trusts:

North Bristol NHS Trust

University Hospitals Plymouth NHS Trust

University Hospitals Bristol NHS Foundation Trust

Royal Cornwall Hospitals NHS Trust

Cornwall Partnership NHS Foundation Trust

Gloucestershire Hospitals NHS Foundation Trust

Taunton and Somerset NHS Foundation Trust

Royal Devon and Exeter NHS Foundation Trust

Torbay and South Devon NHS Foundation Trust