

# Information for patients and carers

## Breath Stacking and Lung Volume Recruitment Bag

A decorative graphic at the bottom of the page consisting of three overlapping, wavy bands of blue. The top band is a light blue, the middle is a medium blue, and the bottom is a dark blue.

## What is breath stacking?

Breath stacking is an exercise used to improve the volume of air that you can breathe in. This is useful when the muscles are weak, and you may struggle to take a full breath. It can be used to help improve your cough strength and may even improve your voice quality.

If it is done as part of a daily programme, breath stacking will not only make you feel better but can help prevent chest infections. When breath stacking is used it can help your breathing muscles feel they have had a full stretch. It allows air to get to every corner of your lungs which can help you feel like you are breathing better.

Breath stacking can be done by delivering several (usually 3 or 4) in breaths which are “stacked” on top of one another or one single big breath in followed by a full breath out. It is done either voluntarily (i.e. with no equipment) or with the help of a modified self-inflating bag (the lung volume recruitment bag).

## When to do it?

It is recommended that you do some breath stacking every single day. You can do it between 1 – 4 times a day, but you may choose to do it more often if you find it beneficial. You need at least 10 minutes between each session to avoid hyperventilation (breathing rapidly).

## When not to do it?

You should not do the exercises within one hour of food / drink. If you are fed through a tube directly into your stomach or nose, you should stop the feed one hour before doing the exercises. You should not do your exercises if you feel any acute chest pain or see any blood in your phlegm. If this occurs, please seek medical attention. Do not use the lung volume recruitment bag if you have any of the conditions used below, contact the team providing the bag for advice.

**Contra-indications-** these are conditions where using the bag is not advised

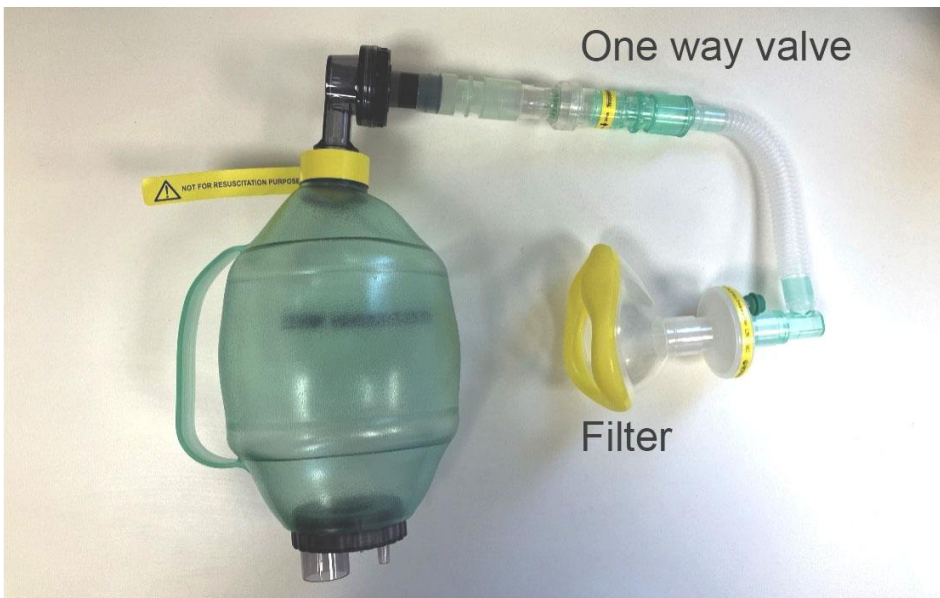
- Cardiac instability

- Previous pneumothorax (collapsed lung)
- COPD
- Latex allergy
- Asthma
- Lung trauma or recent lung surgery
- Undrained pleural effusion
- Raised intra-cranial pressure
- A person with impaired consciousness or unable to communicate

## Are there any risks?

There are very few risks with the breath stacking technique. Lung volume recruitment bags can cause a pneumothorax if used incorrectly or against medical advice, so it is very important that you closely follow the advice of the physiotherapist.

## Lung Volume Recruitment Bag

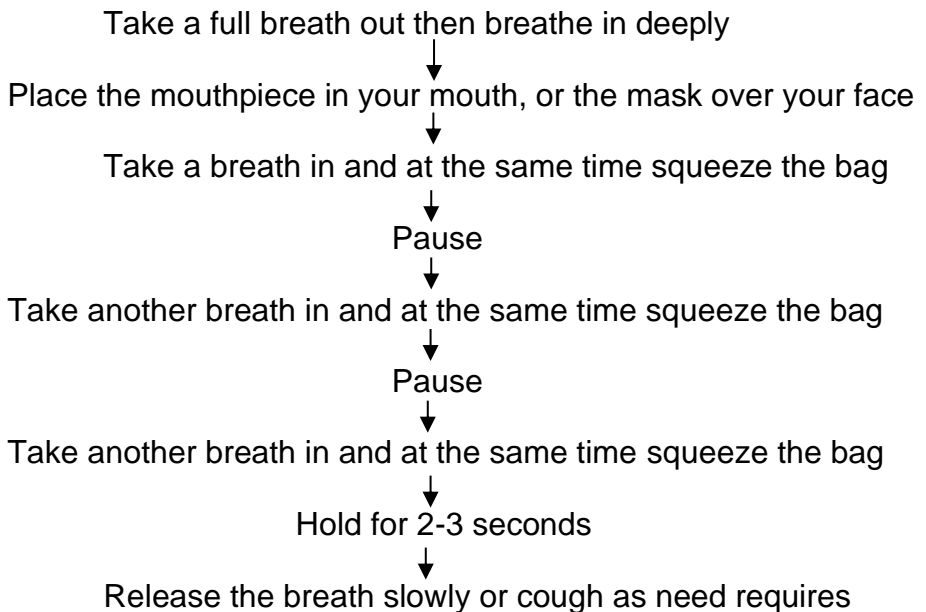


## How to use a breath stack

It is best to do these exercises in a relaxed upright position where possible.

If someone is helping you with the exercises (using the bag for you) then you need to establish a way of communicating the event of wanting to stop the procedure.

The following steps are an example of how to do the exercise, but be aware that your physio may alter this to suit your individual needs:



You may feel that by the last full breath, there are some secretions to cough up so instead of letting go of the full breath slowly, try and force the air out and generate a strong cough. If you have a suction unit at home, it is useful to have it to hand to remove any secretions that come into your mouth.

If you are unable to breath stack (i.e., have difficulty holding your breath) then just aim to do one big breath in, whilst squeezing the bag to reach the deepest breath you can manage.

The mask and mouthpiece can be washed in hot water after each session and the filter should be changed monthly or sooner if visibly soiled. Always use as recommended by your physiotherapist and only the people who have been shown should use the circuit.

## Looking after your lung volume recruitment bag

- The bag should not be used for resuscitation purposes
- The bag is single patient use
- Always check the bag and components before use, if any part is damaged discontinue use and contact the team for a replacement
- Change the filter if it looks soiled or contaminated with saliva or secretions
- Wash the mouthpiece or mask daily in warm soapy water, do not wash any other part of the system

## Contact details

Should you require further advice or information please contact:

MND Team: **01772 522545** / [MNDteam@lthtr.nhs.uk](mailto:MNDteam@lthtr.nhs.uk)

Long-term Ventilation Team: **01772 523838** /

[lccventilation@lthtr.nhs.uk](mailto:lccventilation@lthtr.nhs.uk)

## Sources of further information

[www.lancsteachinghospitals.nhs.uk](http://www.lancsteachinghospitals.nhs.uk)

[www.nhs.uk](http://www.nhs.uk)

[www.accessable.co.uk](http://www.accessable.co.uk)

[www.patient.co.uk](http://www.patient.co.uk)

[www.lancsteachinghospitals.nhs.uk/veteran-aware](http://www.lancsteachinghospitals.nhs.uk/veteran-aware)

[www.mndassociation.org](http://www.mndassociation.org)

**Lancashire Teaching Hospitals NHS Foundation Trust is not responsible for the content of external internet sites.**

Lancashire Teaching hospitals Trust video instructions on how to breath stack can be found here (Link & QR code):

[https://www.youtube.com/watch?v=c\\_HJsAiPitk](https://www.youtube.com/watch?v=c_HJsAiPitk)



**Follow us on social media @lancshospitals**

All our patient information leaflets are available on our website for patients to access and download:

[www.lancsteachinghospitals.nhs.uk/patient-information-leaflets](http://www.lancsteachinghospitals.nhs.uk/patient-information-leaflets)

Lancashire Teaching Hospitals is a smoke-free site. Smoking is not permitted anywhere on any of our premises, either inside or outside the buildings. Our staff will ask you about your smoking status when you come to hospital and will offer you support and advice about stopping

smoking this will include Nicotine Replacement Therapy to help manage your symptoms of withdrawal and the opportunity to speak to a nurse or advisor from the specialist Tobacco and Alcohol Care Team.

If you want to stop smoking, you can also contact Smokefree Lancashire on Freephone **08081962638**

**Please ask a member of staff if you would like help in understanding this information.  
This information can be made available in large print, audio, Braille and in other languages.**

Our patient information group review our leaflets regularly, if you feel you would like to feedback on this information or join our reading group please contact on email address:  
[patientexperienceandinvolve@LTHTR.nhs.uk](mailto:patientexperienceandinvolve@LTHTR.nhs.uk)

**Department:** MND Neurology  
**Division:** Medicine  
**Production date:** February 2025  
**Review date:** February 2028  
**JR 1266 v1**