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**Royal Site**

Prescot Street, L7 8XP

**Broadgreen Site**

Thomas Drive, L14 3LB

**Royal & Broadgreen Tel: 0151-706-2000**

# Breath Stacking and Lung Volume Recruitment Bags



## What is breath stacking?

Breath stacking is an exercise used to improve the size of breath that you can take. This is useful when muscles are weak and taking a deep breath is difficult. It can help to improve the strength of your cough and can even improve the quality of your voice.

Lung volume recruitment bags are a simple piece of equipment which can help you take a bigger breath. They consist of a flexible plastic bag, a one way valve, a filter and either a mask, mouthpiece or tracheostomy connector.

## What is breath stacking used for?

There are many different reasons why breath stacking may be needed including:

- muscle problems that make breathing and coughing difficult.
- bone problems that make the chest small and coughing difficult.

## What are the benefits of breath stacking?

It may help you clear mucus from your chest and may help prevent chest infections.

It helps to keep your rib cage mobile and the muscles that help you breathe and cough will benefit from a full stretch.

## Will I be seen by a Doctor, Nurse or Physiotherapist?

This technique of breathing is usually taught by a physiotherapist, but it may be recommended by a doctor or nurse.

You may be taught the technique either whilst in hospital or as an outpatient.

During this time you will have a full explanation about how to breath stack or how to use the lung volume recruitment bag.

You may be reviewed as an outpatient or at a routine appointment at the ventilation clinic.

You will also receive a list of contact numbers should you have any queries.

## When is breath stacking used?

You will be advised by your physiotherapist about how to use the technique. It is recommended that you do some breath stacking every 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 may be advised to use the technique when you are struggling to clear mucus or regularly through the day.

## When not to use it?

You should not do the exercises within 1 hour of food/drink.

If you are fed by tube directly into your stomach you should stop the feed 1 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.

Do not use the lung volume recruitment bag if you are allergic to latex.

Do not use the lung volume recruitment bag if you have ever had a pneumothorax (hole in lung).

Do not use the lung volume recruitment bag if you have severe COPD.

## 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 therefore follow the advice of the medical professional.

## How do I use these techniques?

### Breath stacking

It is best to do this technique in an upright position. This is a technique of breathing and does not require any equipment to do.

The following steps are an example of how to perform breath stacking but your physiotherapist may make individual modifications for you.

1. Breathe out fully.
2. Take a full breath in.
3. Try to hold your breath for a short moment then try to take another breath on top of the previous one.
4. Repeat step 3 until you feel you have taken as deep a breath as you are able. This may take 2-5 repetitions.

5. Try to hold your breath for 3-5 seconds then gently breathe out.
6. Rest between each breath stacking attempt for at least 30 seconds. Then repeat steps 1-5 up to 5 times in any session.
7. If you feel you have secretions or mucus try to produce a strong cough instead of gently letting the air out.

Rest between cycles as you may feel tired or slightly light headed.

### Individual modifications:

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### Lung volume recruitment bags

It is best to do in an upright position.

The following steps are an example of how to perform breath stacking with a lung volume recruitment bag but your physiotherapist may make individual modifications for you.

1. Breathe out fully.
2. Place the mask over your mouth and nose (or the mouth piece in your mouth using a nose clip if you need to).
3. Take a full breath in whilst gently squeezing the bag.
4. Try to hold your breath for a short moment then try to take another breath, again timed with squeezing the bag. This breath is on top of the previous one.
5. Repeat step 4 until you feel you have taken as deep a breath as you are able. This may take 2-5 repetitions.

6. Once your lungs are full, take the mouthpiece out of the mouth or remove the mask. Try to hold the breath for 3 to 5 seconds and then breathe out gently.
7. Rest between each breath stacking attempt for at least 30 seconds. Then repeat steps 1-6 up to 5 times in any session.
8. If you feel you have secretions or mucus try to produce a strong cough instead of gently letting the air out.

Rest between cycles as you may feel tired or slightly light headed.

### Individual modifications:

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It is advised that you should only use the lung volume recruitment bags if you feel confident to do so. You should have had instruction from a physiotherapist in its use. You should stop treatment immediately should you feel sudden pain that does not go away by its self, or if you become unwell or more breathless. In these events you should seek medical assistance.

If you need further help please contact the physiotherapy team. Please see contact details on page 4 of this booklet.

### What equipment will I be given?

If you are given a lung volume recruitment bag it will include.

- Lung volume recruitment bag
- Mouthpiece and nose clip
- OR full face mask
- Filters

### Patient interfaces



Disposable full face mask



Flexible Catheter Mount



Disposable Mouthpiece



Disposable nasal clip

### Lung volume recruitment bag:



Check the bag before each use to ensure there is no damage to the bag or any parts are missing. If you have any concerns about the bag **do not use it** and contact your physiotherapist for a replacement.

The bag should be replaced if damaged or worn, or at 3 monthly intervals. It is your responsibility to contact your physiotherapist to request a replacement. Please see contact details on page 4 of this booklet.

### Masks:

A standard mask is provided that should fit tightly over your mouth and nose. If your arms are weak you may need help to hold the mask in place as you use the bag. It is possible to use the machine by mouthpiece; this will be discussed with you by your physiotherapist.

It is important to take care of your mask or mouth piece. It is best to wash your mask/ mouth piece after every use in warm soapy water. Replace the mouthpiece or mask if it looks worn or damaged.

### **Filters:**

The filters provided need changing if they become visibly soiled or contain trapped moisture. We would recommend the round filter attached to the bag is changed weekly.

## **Replacement Equipment**

To request replacement equipment e.g. lung volume recruitment bag, masks, mouthpieces or filters, please contact the Physiotherapists or NIV Co-ordinator on the numbers shown below:

We will post replacement equipment out to you, or you can arrange a convenient time to collect any equipment required.

### **Contact numbers:**

For any queries or require advice regarding the use of your machine or the equipment you have been given, please contact the department on the numbers below:

#### **Ventilation Team Physiotherapists**

Tel: 0151 525 5980  
BLEEP 3334

#### **NIV Co-ordinator**

Marie Pearce  
Tel: 0151 529 3504  
Available: Mon – Fri, 9 am - 2 pm

## **Feeling Unwell?**

If you are feeling unwell and need medical advice please contact your own G.P. who will be able to assess and advise you.

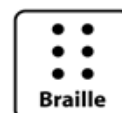
If you are taken acutely unwell and require admission to your local hospital please take your lung volume recruitment bag and this booklet with you.

## **Are there any alternatives to breath stacking?**

Your physiotherapist may be able to teach you exercises, positions or supported cough techniques which may help you to clear mucus.

There is also a device called a cough assist which can be used to help people with weak coughs to clear mucus.

Please ask your physiotherapist if you require any more information about these alternatives.



### **If you require a special edition of this leaflet**

This leaflet is available in large print, Braille, on audio tape or disk and in other languages on request. Please contact:

**Tel No: 0151 529 2906**

**Email: [interpretationandtranslation@liverpoolft.nhs.uk](mailto:interpretationandtranslation@liverpoolft.nhs.uk)**