



**University Hospitals Birmingham**  
NHS Foundation Trust



# Breathing Pattern Disorder

**Building healthier lives**

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# Breathing

Breathing is an automatic function which can be consciously altered. At rest our breathing should be calm, quiet and efficient. Our breathing then naturally adapts to meet the demands of the situation, for example an acute illness or taking part in exercise. When our breathing becomes altered it can become stuck in an inefficient pattern. This can lead to increased breathlessness alongside many other symptoms. This booklet will look at why breathing patterns change and how you can help yourself to return to an efficient breathing pattern.

## Efficient breathing

What does an efficient breathing pattern look like at rest

- Gentle breathes in through the **nose**, which controls the volume of air and allows it to be filtered, warmed and humidified
- Breathing from the **diaphragm**, which causes the tummy to expand slightly as you take a breath in
- Shoulders and **upper chest remain still**
- Breathing is **quiet**
- Breathing is calm and **slow**, approximately 12–15 breathes a minute

A relaxed breathing pattern can change to become deeper. Triggers can include illness, exercise, stress or pregnancy

- Breath size increases (**deeper** breathing)
- Rate of breathing increases (**faster** breathing)
- Air enters the lungs quicker by inhaling through the **mouth**
- Additional muscles (such as the shoulders and neck muscles) contract causing **the upper chest to move**

These changes to your breathing are all normal responses of the body to meet the increased demand. However, following the stressor, breathing should then return to a relaxed breathing pattern.

## Breathing pattern disorders

In some individuals some of the features of deeper breathing become the new baseline, meaning that breathing does not return to relaxed breathing at rest. This often occurs after multiple or prolonged illnesses or periods of stress. The body becomes stuck breathing in excess of the demand. This is what we call a breathing pattern disorder.

Breathing pattern disorders can cause a wide variety of symptoms:

- **Breathlessness** – the body has less reserve to adapt breathing to meet exercise demands and so breathlessness comes on quicker
- **Fatigue** – deeper breathing patterns require large amounts of energy and so you may feel fatigued from breathing alone
- **Aching** – additional breathing muscles are not designed for continuous use, meaning they often become overworked leading to neck, back or shoulder pain
- **Pins + needles, palpitations, dizziness** – when we breathe out we blow off carbon dioxide. Taking deeper or faster breathes can cause us to blow off too much carbon dioxide. This is termed hyperventilation and can cause the above symptoms
- **Increased bladder urgency** – deeper breathing can push our body into a ‘fight/flight’ response, which triggers symptoms such as a relaxation of the bladder muscles
- **Increased infection risk** – breathing through the mouth does not filter the air (as the nose does), meaning there is an increased risk of inhaling dust, bacteria or viruses which could cause a chest infection
- **Coughing and throat irritation** – breathing through the mouth does not warm or humidify the air, which can cause it to irritate your airways or trigger coughing, this is particularly common in asthmatic patients
- **Anxiety and Irritability** – when our breathing intensifies our brain becomes unable to rationalise thoughts as it normally would, which can leave us feeling more irritable or anxious
- **Air hunger** – you may notice yourself sighing, gasping or yawning as your body tries to take in extra air, we call this air hunger

**What is the treatment?**

Your physiotherapist will guide you through techniques to retrain your breathing pattern. However, it requires commitment and frequent practise at home to reinforce a new pattern. It can take several weeks to notice an improvement and many months before you are able to fully implement these exercises.

**Will I get better?**

With regular practice it is possible to change your breathing pattern, which will allow you to work towards resolving any associated symptoms. Breathing pattern disorders are often re-triggered by illness, stress or pregnancy. Therefore, you may need to revisit your exercises at several points in the future.

If you have any further questions, please ask your physiotherapist:

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Name of physiotherapist: .....

Contact number:.....

# Breathing control

## In lying:

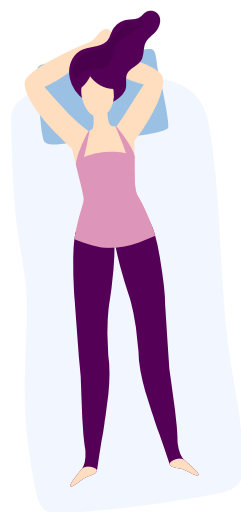
Make yourself comfortable in lying and place your hands on your tummy and upper chest. Allow your arms to relax. As you breathe in you should feel your hand on your tummy rise slightly. Try to remain relaxed.



Your upper hand should not be moving. If this is challenging, try placing your hands behind your head (imagine you are lying on the beach). Once this feels easier re-try with your hands on your upper and lower chest, again aiming to keep your upper chest still.

Focus on breathing in and out through your nose, gently and quietly. These exercises should feel relaxed not effortful.

Try to allow for a small pause after your breath out before your next breath in. Once you are confident with this technique you can progress to breathing control practise in sitting.



**In sitting:** sit comfortably in a supportive chair, relax back into the chair and place your hands behind your head. Try to complete gentle breathing as above. It is normal for it to feel more challenging in sitting than lying initially. You can progress this exercise by bringing your hands down to hold the base of your ribs, aiming to feel a gentle outwards movement as you breathe in.

**In standing:** you can further progress this exercise by practising the above techniques in standing. Feedback from your hands can be challenging in standing.

You might find it helpful to try standing with your tummy resting gently on a secure surface, such as a kitchen worktop. This can help you to feel your tummy fill and empty. You could also use a mirror for feedback on your breathing pattern.

## **Other ways you can help to improve your breathing**

If you struggle with nasal congestion nasal rinsing or douching can help. Ask your physiotherapist for more advice.

Try to become more aware of your breathing. It is helpful if you can identify if there are certain times or situations when your breathing changes.

If you notice your breathing changing, try and use the above exercises to manage your breathing.

When you are speaking, try to slow down, and use the natural punctuation in a sentence (commas, full stops etc) to take a small breath. Try to avoid or postpone sighing, yawning or gasping by swallowing.

Relaxation is important to help you gain control of your breathing. Try using any relaxation tools which you find helpful. There are several videos online for example Mindfulness.

It is important to have a balanced diet. Try to avoid drinks that contain caffeine (tea, coffee, cola) as these can encourage over-breathing.

Exercise is a great tool to improve confidence and mood. It is also important to maintain your fitness levels, which is vital to reducing your breathlessness. If this is difficult for you, discuss this with your physiotherapist.



## Helpful contacts

### **Physiotherapy for BPD**

[www.physiotherapyforbpd.org.uk](http://www.physiotherapyforbpd.org.uk)

See 'Resources and Media' for example videos

### **Breathing Freely**

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

### **Asthma and Lung UK**

[www.asthmaandlung.org.uk](http://www.asthmaandlung.org.uk)

[helpline@asthmaandlung.org.uk](mailto:helpline@asthmaandlung.org.uk)

0300 222 5800 (Monday to Friday, 9am to 5pm)

### **NHS Direct (Non-Emergency)**

Telephone: 111

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