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Parent Information Guide:

Breathing Pattern Disorder: Information for Parents and Patients

What is Breathing Pattern Disorder?

Breathing Pattern Disorder (BPD), also known as dysfunctional breathing (DB), is a condition where the normal rhythm and mechanics of breathing become altered, resulting in an inefficient breathing pattern. It is not a disease of the lungs themselves but rather a change in *how* a person breathes, which can produce a wide range of physical and emotional symptoms.

BPD can affect children, young people, and adults. Symptoms may come on suddenly or build gradually over weeks, months, or even years. While the experience can feel frightening, BPD is not life-threatening, and symptoms typically resolve once a normal breathing pattern is restored.

What Does Normal (Efficient) Breathing Look Like?

At rest, healthy breathing is:

- Automatic and subconscious — you don't have to think about it
- Quiet, effortless, and relaxed
- Done through the nose
- Rhythmical and steady — roughly 12–16 breaths per minute (up to 20 in children)
- Driven mainly by the diaphragm (the muscle under the ribcage), so the tummy gently rises and falls rather than the upper chest
- The out-breath is slightly longer than the in-breath
- Allows you to speak in full sentences without breathlessness

The air we breathe in contains oxygen and a small amount of carbon dioxide (CO₂). The body uses oxygen for energy and releases CO₂ as a by-product — but CO₂ is not just waste. It plays a vital role in regulating the body's chemistry, including blood pH and how oxygen is delivered to tissues.



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What Happens in Breathing Pattern Disorder?

In BPD, breathing becomes:

- Too fast or too shallow
- Driven mainly by the upper chest rather than the diaphragm
- Noisy, with frequent sighing, yawning, or throat-clearing
- Often through the mouth rather than the nose
- Irregular — with breath-holding, gasping, or loss of rhythm

When someone consistently over-breathes (hyperventilates), they exhale more CO₂ than the body needs to release. Lower CO₂ levels trigger the release of stress hormones such as adrenaline, which speed up the heart and breathing further. Over time, the brain begins to accept this lower CO₂ level as "normal," leaving the body in a constant state of alert — even at rest.

Common Triggers and Causes

BPD has no single biological cause. It is often set off — or worsened — by a combination of physical, medical, and emotional factors.

Category	Examples
Medical	Asthma, COPD, pneumonia, chest infection, blood clots, cardiac problems, anaemia, nasal obstruction, reflux/hiatus hernia
Psychological	Anxiety, stress, depression, panic, fear, worry, traumatic events
Lifestyle / other	Pain (especially abdominal or lower back), caffeine, alcohol, nicotine, hormonal changes, strong smells, cold weather, intense exercise

In children, BPD is particularly common alongside asthma — studies suggest it affects between 5% and 18% of children with asthma and may contribute to poor asthma control. Research also estimates that around 20% of teenagers with unexplained shortness of breath may have BPD, with girls affected more often than boys.

Recognising the Symptoms

Symptoms vary from person to person and can appear during activity, at rest, or in response to specific triggers. They include:



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Respiratory

- Shortness of breath, often disproportionate to effort
- A sensation of "not enough air" or air hunger
- Chest or throat tightness
- Frequent yawning, sighing, or throat-clearing
- Dry throat or cough
- Difficulty coordinating breathing with talking or eating

Cardiovascular and neurological

- Palpitations or a racing heart
- Light-headedness, dizziness, or fainting
- Tingling ("pins and needles") in the fingers, arms, or around the mouth
- Cold hands or feet
- Blurred vision
- Headaches

Musculoskeletal

- Chest pain, often around the breast bone
- Muscle tension or aches around the neck, shoulders, or jaw

General and emotional

- Fatigue and difficulty concentrating
- Bloating
- Anxiety, irritability, or panic attacks

Signs Your Breathing Pattern May Be Off

- You breathe through your mouth rather than your nose
- Your breathing is noisy, fast, or shallow
- Your upper chest moves more than your tummy when you breathe in
- You frequently yawn, sigh, or clear your throat
- You struggle to coordinate breathing with speech
- You feel exhausted, tense, or unable to concentrate

How is BPD Diagnosed?

Because BPD shares symptoms with conditions such as asthma, heart disease, and panic disorder, diagnosis usually involves ruling out other causes first. A thorough assessment may include:



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- Detailed history and physical examination — including triggers, lifestyle, and psychological factors
- Lung function tests (spirometry) to exclude asthma or other lung conditions
- Exercise testing — such as a treadmill test or cardiopulmonary exercise test (CPET) — to observe breathing during exertion
- Structured light plethysmography (SLP) — a non-contact way to assess chest wall movement in children
- Laryngoscopy — if an upper airway (laryngeal) problem is suspected, such as inducible laryngeal obstruction (ILO) or vocal cord dysfunction
- Questionnaires — the Nijmegen Questionnaire is the most widely used screening tool; a score of 23 or above suggests hyperventilation syndrome

Diagnosis is best made by a respiratory physician or specialist respiratory physiotherapist.

Treatment and Management

There is no single "cure" for BPD, but most people respond very well to a multidisciplinary approach combining education, breathing retraining, lifestyle adjustments, and — where needed — psychological or speech therapy.

1. Breathing Retraining (Physiotherapy)

The cornerstone of treatment. A specialist respiratory physiotherapist will help you to:

- Recognise your current breathing pattern
- Re-learn nose breathing rather than mouth breathing
- Use the diaphragm instead of the upper chest
- Slow the breathing rate and lengthen the out-breath
- Resist the urge to yawn, sigh, or gasp
- Maintain good posture to allow the diaphragm to work properly
- Carry control into activity — first sitting, then standing, then walking and exercising

A simple breathing control exercise:

1. Sit or lie comfortably, with one hand on your chest and one on your tummy
2. Breathe in gently through your nose — feel your tummy rise more than your chest
3. Hold briefly
4. Breathe out slowly through your mouth, slightly longer than the in-breath
5. Rest before the next breath

Practise for around 10 minutes, twice a day, and whenever symptoms begin. Changing a long-standing habit takes time — consistency matters more than intensity.



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2. Managing Triggers and Lifestyle

- Pace yourself through the day, with rest between tasks
- Don't avoid activity — breathlessness during exercise is not harmful, and avoidance leads to deconditioning, which worsens symptoms
- Reduce caffeine, alcohol, and nicotine
- Eat regularly — large or late meals can worsen symptoms; healthy snacks help stabilise blood sugar
- Improve sleep hygiene — relaxing pre-bed routine, no daytime napping, no late meals or caffeine

3. Relaxation and Stress Management

Because stress and anxiety are both triggers and consequences of BPD, relaxation techniques are essential:

- Visualisation — imagining a calm, pleasant place
- Body awareness — noticing and releasing tension limb by limb
- Contract-and-relax techniques (such as the Laura Mitchell method)
- Yoga, meditation, mindfulness, music, or gentle walking

4. Psychological Support

If anxiety, depression, panic, or trauma are significant, clinical psychology or counselling can help. Cognitive behavioural therapy (CBT) and self-efficacy work have been shown to reduce flare-ups and improve quality of life — especially in adolescents.

5. Speech and Language Therapy

Helpful where there is upper airway involvement — for example, inducible laryngeal obstruction (ILO), exercise-induced laryngeal obstruction (EILO), vocal cord dysfunction, chronic cough, or voice strain.

6. Treating Coexisting Conditions

Optimal control of asthma, reflux, nasal disease, and allergies is essential, as these frequently coexist with BPD and amplify symptoms. In rare cases, surgical options (such as supraglottoplasty for supraglottic collapse, or adenoidectomy for nasal obstruction) may be considered.



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Information for Parents

If your child has been diagnosed with — or is being assessed for — BPD, the following points may be reassuring and useful:

- BPD is not dangerous. Although episodes can look and feel alarming, they do not cause long-term harm to the lungs, heart, or brain.
- Symptoms are real. Your child is not "making it up" or seeking attention. The breathing changes are physiological, even when stress or anxiety contributes.
- Recovery takes practice. Improvement depends on your child doing their breathing exercises regularly between appointments — usually two to three times a day. Gentle encouragement and routine help enormously.
- Don't avoid school or sport. Avoidance worsens deconditioning and anxiety. Work with your child's team on a graded return to activity.
- Treat coexisting asthma properly. Many children with BPD also have asthma, and good asthma control reduces BPD flare-ups.
- Look at the wider picture. Emotional stressors at school or home, sleep, diet, screen time, and exercise habits all influence breathing. Tackling these together produces the best results.
- Specialist clinics exist. In the UK, many children's hospitals run dedicated breathing clinics staffed by respiratory physiotherapists, speech and language therapists, and clinical psychologists. Ask your GP or paediatrician for a referral if symptoms are affecting daily life.

Common Triggers in Children to Watch For

- Exercise or sport (particularly competitive or high-intensity activity)
- Exams, performances, or social pressure
- Cold air, strong smells, allergens
- Poorly controlled asthma
- Nasal blockage or sinus problems
- Reflux
- Anxiety, worry, or recent stressful events
- Following a viral illness (including post-COVID)

Prognosis

BPD does not lead to long-term lung damage or chronic ill health. With the right support — breathing retraining, management of triggers, and psychological care where needed — most children and adults regain control of their breathing and return to full activity, including sport.



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Episodes may come and go over weeks, months, or years, and it is not yet known whether children fully "outgrow" the condition. However, learning the techniques early gives lifelong tools to manage flare-ups when they occur.

When to Seek Help

Contact your GP, paediatrician, or respiratory specialist if:

- Breathing symptoms are interfering with school, work, sleep, or sport
- Your child's asthma seems poorly controlled despite treatment
- Episodes are frequent, frightening, or causing avoidance of activity
- There are signs of anxiety, panic, or low mood alongside breathing changes

In an emergency — sudden severe breathlessness, blue lips, collapse, or chest pain that doesn't settle — call 999 or attend A&E. These are not typical of BPD and need urgent assessment.

Key Takeaways

- BPD is a change in breathing mechanics, not a lung disease.
- It causes real and sometimes frightening symptoms but is not dangerous.
- Diagnosis involves ruling out other conditions and assessing breathing pattern.
- Treatment is centred on breathing retraining, lifestyle change, and psychological support, delivered by a multidisciplinary team.
- Practice and consistency are the keys to recovery — small, regular efforts produce lasting change.
- Parents play a vital role by supporting practice, reducing avoidance, and tackling coexisting conditions.

Enclosed is a link to further parent information:

Parent information on Breathing Exercises:

<https://drwmuller.com/information-for-parents-carers/>

See: **Respiratory:** Breathing Exercises

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