

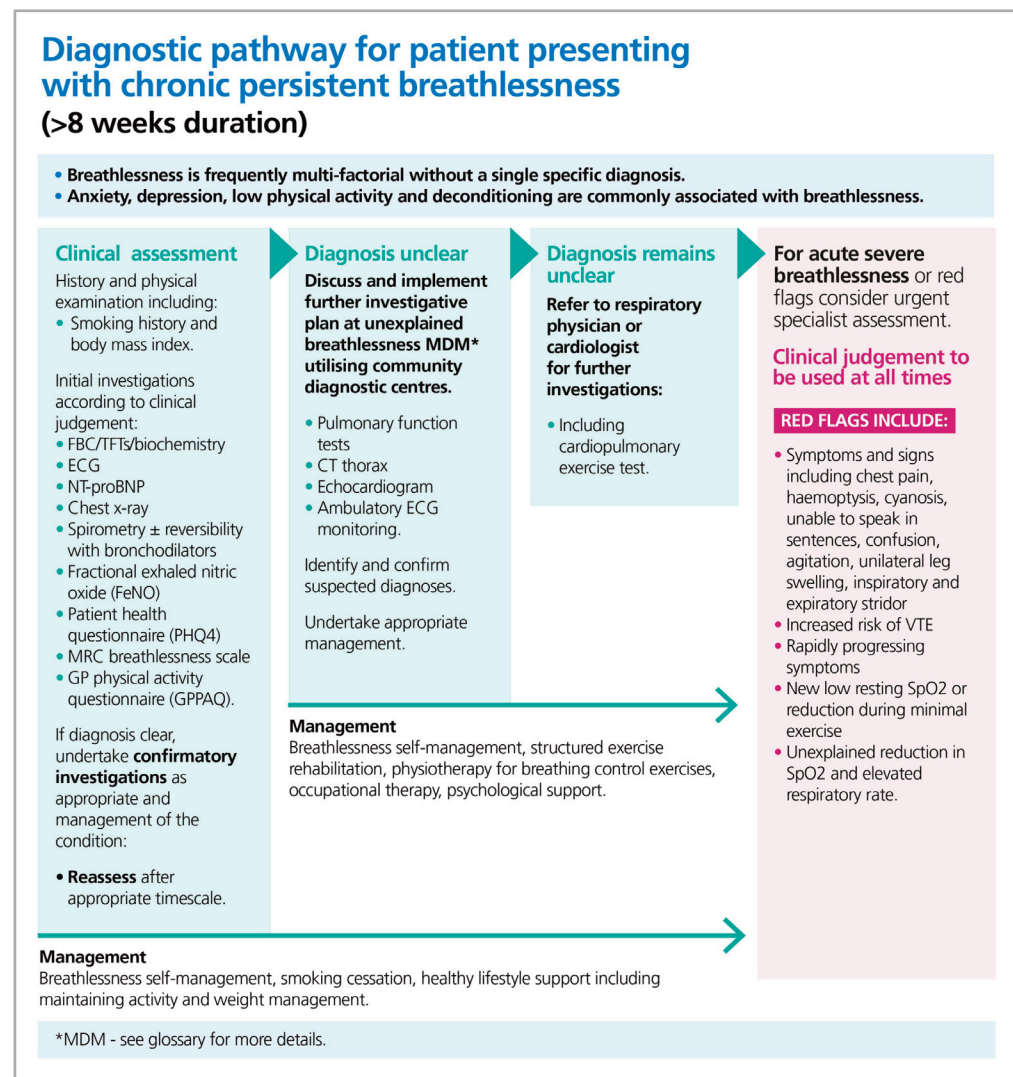
# The Breathing Thinking Functioning Model to Support the Management of Breathlessness



**Siobhan Hollier**, PCRS Respiratory Leaders Programme Lead,  
Clinical Specialist Respiratory Physiotherapist, East of England

## Introduction

Breathlessness is a common presenting symptom in primary care, and there are many causes. Early and accurate diagnosis is critical to ensuring patients receive the right treatment at the earliest opportunity. In May 2023, the NHS published a pathway to support the diagnosis of breathlessness:



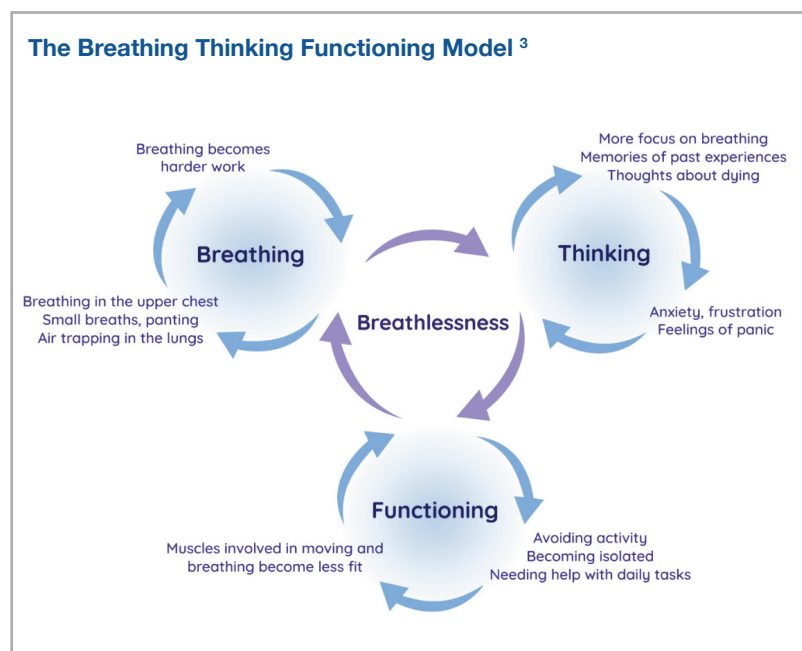
Source: NHS England: <https://www.england.nhs.uk/long-read/adult-breathlessness-pathway-pre-diagnosis-diagnostic-pathway-support-tool/> Published April 2023.

Whilst early diagnosis is critical, breathlessness can be an ongoing complex and challenging symptom for many long-term conditions that affect individuals' physical, emotional, and social well-being. Conditions such as chronic obstructive pulmonary disease (COPD), asthma, heart failure, and anxiety disorders frequently manifest in breathlessness, leading to significant morbidity.<sup>1</sup> Effective management requires addressing both physiological and psychological factors.

Where breathlessness cannot be cured it is important to provide tools and options to help patients effectively manage and mitigate breathlessness.

The Breathing Thinking Functioning (BTF) model is a research-based tool for healthcare professionals to help them to support patients with breathlessness developed through a collaboration with the Cambridge Breathlessness Intervention Service at Addenbrookes Hospital, Cambridge and the Primary Care Unit at the Department of Health and Primary Care at the University of Cambridge.

The tool offers a holistic approach that combines breathing techniques, cognitive interventions, and functional enhancement to improve the overall management of breathlessness<sup>2</sup> and represents a comprehensive approach to managing breathlessness through the integration of various therapeutic techniques. By addressing the multifactorial nature of dyspnoea, healthcare providers can enhance patient outcomes and improve the quality of life for those affected by this debilitating symptom.



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## Breathing

The "Breathing" component of the model emphasises techniques that can optimise respiratory function. Effective strategies include:

- **Diaphragmatic Breathing:** Engaging the diaphragm to promote deeper and more efficient breaths can reduce the perception of breathlessness.<sup>4</sup>
- **Pursed-Lip Breathing:** This technique slows down exhalation, which helps maintain airway patency and reduces respiratory rate.<sup>5</sup>
- **Breathing Exercises:** Structured exercises can enhance lung capacity and respiratory muscle strength, improving overall breathing efficiency.<sup>6</sup> This may include inspiratory Muscle training (IMT).
- **Positioning:** To ease the work of breathing, relax the shoulders and upper chest and optimise the use of the diaphragm.<sup>7</sup>

## Thinking

The "Thinking" aspect focuses on cognitive strategies to manage the perception and emotional response to breathlessness:

- **Cognitive Behavioural Therapy (CBT):** CBT can help individuals reframe negative thoughts associated with dyspnoea and reduce anxiety.<sup>8</sup>
- **Mindfulness, Relaxation and Distraction Techniques:** Mindfulness practices can decrease anxiety and improve coping mechanisms for managing breathlessness.<sup>9</sup>

## Functioning

The "Functioning" component addresses the performance of practical aspects of daily life and aims to break the cycle of deconditioning:

- **Energy conservation techniques such as Activity Pacing:** Teaching patients to pace their activities can prevent overexertion and subsequent breathlessness.<sup>2</sup>
- **Exercise:** Pulmonary Rehabilitation is a highly clinically effective intervention to improve exercise capacity and empower patients to continue safe and effective exercise habits<sup>10</sup>.
- **Goal Setting:** Collaboratively setting achievable goals can empower patients and enhance their participation in daily activities.<sup>11</sup>

The BTF model provides a comprehensive framework for managing breathlessness through an integrated approach that targets physical, cognitive, and functional aspects. Findings from research studies conducted using the model<sup>12</sup> suggest that combining breathing techniques with cognitive strategies and functional training can lead to significant improvements in patients' ability to manage dyspnoea effectively. Future research should explore the long-term impacts of the BTF model and its applicability across diverse patient populations.

Where breathlessness continues or worsens healthcare professionals should always consider secondary causes of breathlessness and investigate accordingly. For example, evidence of the association between COPD and lung cancer development has been extensively observed in population-based studies.<sup>13</sup>

## Further Information

The University of Cambridge and Cambridge University Hospitals NHS Trust have a helpful website dedicated to the Breathing Thinking Functioning Model available at <https://www.btf.phpc.cam.ac.uk/>. They host regular courses on the management of breathlessness.

## Tips for Patients

Asthma and Lung UK provides helpful advice for patients on managing breathlessness including advice on breath control, seated, lying and standing positions to aid breathlessness, and patient videos providing help and advice - <https://www.asthmaandlung.org.uk/symptoms-tests-treatments/symptoms/breathlessness/how-can-i-manage-my-breathlessness>

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