The Buteyko breathing technique has been shown to help people control asthma symptoms and could be incorporated into asthma reviews by practice nurses.

Buteyko technique use to control asthma symptoms

In this article...
▷ What the Buteyko breathing technique is
▷ The evidence base for this complementary approach
▷ Key elements of the method

The Buteyko Breathing Technique (BBT) is a system of breathing exercises and holistic advice that lower patients’ minute volume by reducing both respiratory rate and depth. In simple terms, this means learning to “breathe less”.

The BBT is designed to re-educate patients’ breathing patterns and reduce the symptoms of asthma and other breathing disorders (Brindley and Oliver, 2008). Hyperventilation and/or dysfunctional breathing can aggravate symptoms and adversely affect control of asthma (Thomas et al, 2009; Holloway and West, 2007). Patients are taught to normalise their breathing pattern at rest, and to control their breathing and limit hyperventilation when breathlessness occurs due to exertion, contact with asthma triggers or at the onset of an asthma attack.

Development of the technique
Professor Konstantin Buteyko, the Russian physician (1923-2003) who developed the technique, believed that people with breathing disorders were hyperventilating, leading to hypocapnia – abnormally low levels of carbon dioxide (CO₂). This causes bronchoconstriction and numerous other systemic changes, directly and indirectly, due to the resulting respiratory alkalosis (Bruton and Holgate, 2005; Foster et al, 2001; Lum, 1978). Buteyko believed shallow breathing and breath-holding techniques, which are components of the BBT, raised CO₂ levels and reversed bronchoconstriction, although this has not been conclusively demonstrated in published research.

The BBT spread to Australia and New Zealand in the 1990s, where the first randomised controlled trial was carried out (Bowler et al, 1998). Five RCTs (Cowie et al, 2008; Cooper et al, 2003; McHugh et al, 2003; Opat et al, 2000; Bowler et al, 1998) found it could benefit people with symptomatic asthma by improving quality of life and symptom control, as well as enabling them to reduce dependence on inhaled bronchodilators. However, no study has shown that the BBT can alter lung function or airway hyper-responsiveness, which suggests that it does not affect the underlying disease process of asthma.

The BBT is included in the British Thoracic Society and Scottish Intercollegiate Guideline Network (2008) guideline for asthma, which recommends it may be considered to help with asthma symptom control. Physiotherapists and other clinicians have seen the benefits of breathing control techniques in clinical settings for many years (Holloway and West, 2007; Hough, 2001), particularly in patients who, despite large quantities of inhaled and oral steroid medication, have difficulty in asthma control due to concomitant hyperventilation and breathing pattern disorders.

Although BBT appears to have potential benefits in asthma, it is still not widely

5 key points
1 The Buteyko technique encourages patients to breathe less
2 The aim is to re-educate patients’ breathing patterns using a series of breathing exercises
3 Buteyko can improve asthma symptom control and quality of life
4 The technique can be used in conjunction with conventional medicine
5 It can be used for both adults and children
Ian Jenkins (not his real name), aged 54, was diagnosed with asthma aged 14. He was taking a combination inhaler (fluticasone and salmeterol 250mcg/2 puffs twice a day) as well as a short-acting bronchodilator (salbutamol 100mcg/4-6 puffs a day). His vital signs at first assessment were heart rate 65bpm, oxygen saturation (SpO2) 96% and blood pressure 138/78.

His asthma control questionnaire score was 1.5, which suggests uncontrolled asthma. His Nijmegen hyperventilation questionnaire (van Dixoorn and Duivenvoorden, 1985) score, was 18/64 – a score over 23 suggests hyperventilation.

Mr Jenkins received five sessions of BBT over five weeks, which included breathing exercises with periods of relaxed and reduced breathing.

After three weeks, he reduced his use of the salbutamol inhaler but still carried it with him. Before BBT training, he had been using more than two canisters of salbutamol per month. Afterwards, he used less than one per month.

After the programme, Mr Jenkins’ Nijmegen score was 14/64, and his asthma control questionnaire score was 0.66, a value for controlled asthma.

Indications for use

The BBT is commonly delivered as a five-week programme to people experiencing asthma symptoms despite pharmacological treatment. It is particularly useful to those who are unable to achieve good asthma control at step 2 of the asthma BTS guidelines. It is at this stage that dysfunctional breathing should be considered, particularly if spirometry is normal.

Astonia symptoms commonly trigger a cycle of mouth breathing, hyperventilation and breathlessness. This pattern of “over-breathing” can dry out the delicate mucous membranes of the lungs, leading to irritation, coughing and further inflammation. The BBT aims to reverse this vicious cycle and re-educate patients with asthma on their breathing technique.

The research base centres around asthma, but anecdotally the BBT has been shown to benefit those with other breathing disorders, including those with chronic obstructive pulmonary disease. Many physiotherapists are using it in pulmonary rehabilitation and encouraging patients with COPD to breathe through their nose. Patients are advised to stop or slow down while exercising to allow them to regulate their breathing. Nose breathing makes it easier to overbreathe so can help to prevent hyperventilation and panic.

Nose breathing takes practice and this needs to be reinforced to patients;

» Patients whose breathing is audible are likely to be hyperventilating and should be advised breathing should be quiet.

» Explain that a dry cough is often exacerbated by mouth breathing and, although it may feel helpful, repeated coughing can lead to upper airway irritation, which can lead to further coughing;

» Explain how poor posture can change breathing; sitting slumped at a computer squashes the abdominal organs, which leads to breathing with the upper chest and through an open mouth. MT

References


“I Take care of yourself so you can meet the emotional and physical demands of the job”

Jane Reid p26