



Giving Voice to people with upper airway disorders

Upper airway disorders can significantly affect quality of life and place an unnecessary financial burden on health services if unidentified or misdiagnosed. Speech and language therapists have an important role in supporting people with upper airway disorders by contributing to differential diagnosis and the management of these disorders.

What is the upper airway?

Vocal cords enable us to speak, breathe, cough and swallow safely. They are located in the throat (larynx), behind the voice box. They sit in a V-shape at rest; shut gently to prevent unwanted material entering the lungs during swallowing; and shut forcefully to cough unwanted material out of the lungs.

What are upper airway disorders?

Upper airway disorders affect the co-ordination of muscles in the throat (larynx). They can occur independently, or co-exist with lower respiratory disease – for example, asthma, COPD or bronchiectasis (a long-term condition where the airways of the lungs become abnormally widened, leading to a build-up of excess mucus that can make the lungs more vulnerable to infection).

Upper airway disorders are thought to result from heightened sensitivity in the throat and hyperactivity of throat muscles, which can result in the vocal cords shutting unnecessarily. They include:

- Inducible laryngeal obstruction (ILO, previously known as vocal cord dysfunction): A choking sensation/wheeze (typically when breathing in) caused by throat muscles squeezing together and obstructing airflow in the throat.
- Chronic cough: Dry coughing bouts which persist for longer than eight weeks and do not respond to medication.
- Throat clearing: Often in response to an irritation in the throat that will not clear.
- Globus pharyngeus: Lump sensation in the throat in the absence of a physical lump.
- Voice difficulties (dysphonia): Typically due to muscle tightness, inflammation, structural lesions or neurological disorders.
- Swallowing difficulties (dysphagia): Dysphagia or pseudodysphagia, often associated with altered laryngeal sensitivity.

Why is management complicated?

Upper airway disorders and lower respiratory disease can co-occur or present independently. Misdiagnosis of upper airway disorders is common due to several symptoms (e.g. cough, wheeze,

breathlessness); and triggers (e.g. exertion, cold air, irritants) which can mimic lower respiratory disease making it difficult to differentiate between the two. Lack of understanding from patients and professionals regarding upper airway disorders further risks misdiagnosis.

What is the role of SLT?

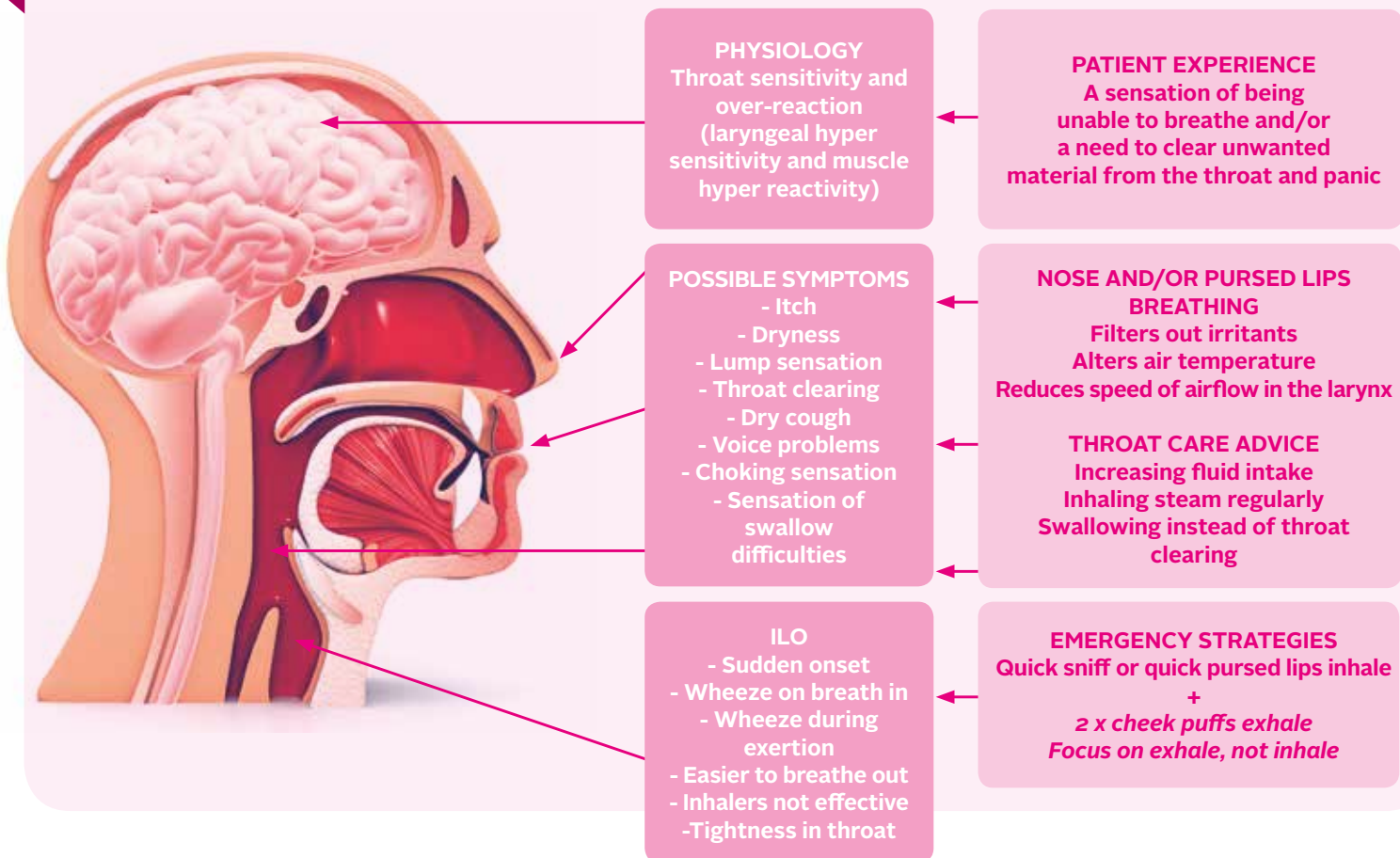
Speech and language therapists (SLTs) have a key role to play in the assessment, differential diagnosis and treatment of upper airway disorders. Timely and appropriate input from SLTs can reduce the frequency and severity of symptoms and reduce health costs.

- SLTs work within a multidisciplinary team of respiratory experts, including doctors, nurses, physiotherapists, lung physiologists and clinical psychologists.
- SLTs perform videolaryngeal examinations, to observe laryngeal pathology and assess function and sensation, which is essential for the differential diagnosis of upper airway disorders.
- SLTs support people with respiratory conditions through teaching them rescue breathing strategies, throat and upper body relaxation exercises, giving advice on how to maintain a healthy larynx including throat care advice, behaviour change techniques and offering psychological support.

The case for SLT input

- The World Health Organization identifies a need 'to minimise symptom burden of incurable chronic respiratory diseases'.¹
- The British Thoracic Society's guidelines for asthma management recommend controlling asthma using 'the lowest possible doses of medication'.²
- The NHS England Severe Specification for Asthma identifies a 'need for a speech and language therapists within the severe asthma multi-disciplinary team'.³
- The RCSLT Respiratory Position Paper recommends that 'patients with ILO should have access to an effective and timely respiratory speech and language therapy service'.⁴
- The James Lind Alliance Priority Setting Partnerships promotes a need to 'explore the role of complementary therapies for asthma management, including breathing exercises'.⁵
- Research has shown that laryngeal retraining by SLTs significantly reduced A & E attendances and hospital admissions. It also reduced GP visits by almost 50%.⁶
- A recent Cochrane review identified two randomised controlled trials for management of chronic cough. The one with only SLT intervention revealed significantly reduced laryngeal symptom burden post-intervention. The one with combined SLT and physiotherapy intervention revealed a significant reduction of cough counts and scores.⁷

WHAT SYMPTOMS MIGHT PEOPLE WITH UPPER AIRWAY DISORDERS EXPERIENCE AND WHICH MANAGEMENT STRATEGIES CAN HELP?



Inducible laryngeal obstruction (ILO) and speech and language therapy

ILO, previously known as vocal cord dysfunction, is a debilitating upper airway disorder that imposes a great burden upon patients and health services. Speech and language therapists (SLTs) working within a respiratory multidisciplinary team are identified as the cornerstone treatment option for ILO.⁸ They play a crucial role in the assessment and management of ILO, including triggering an attack while looking at the vocal cords (provocation laryngoscopy), which is identified as the only definitive diagnostic test.⁹ Accordingly, speech and language therapy supports diagnostic accuracy, clinical outcomes and offers cost-saving incentives.

What is ILO?

ILO is the abnormal closure of the vocal cords during respiration, most commonly when breathing in.¹⁰ It can result in a choking sensation, wheezing and breathlessness¹¹ and has also been linked with voice disorders (dysphonia),^{12,13} swallowing disorders (dysphagia)¹⁴ and chronic refractory cough.¹⁵ SLTs have expertise for the management of all such symptoms.

Co-occurring conditions

ILO can occur independently but commonly co-occurs with respiratory disease, heartburn (acid reflux and/or silent reflux), nasal disease, neurological disorders, psychological disorders and/or thyroid surgery.^{16,17,18}

Triggers

ILO is considered to be of equal importance to asthma in the management of exercise related wheeze.¹⁹ It can also be triggered by chemicals, odours, anxiety, vocal tasks and psychological stress.

What are the links between ILO and chronic respiratory disease?

ILO symptoms can mimic those of asthma, COPD and bronchiectasis. Severe ILO symptoms closely resemble an asthma attack,²⁰ often resulting in misdiagnosis and mismanagement.²¹ Identifying triggers and specific characteristics of breathlessness can help to differentiate between ILO and lower respiratory disease.²² Laryngoscopy is essential for differential diagnosis.

The true prevalence of ILO is thought to be underestimated but the official joint European Respiratory Society and European Laryngological Society statement reports that between 24% and 53% of patients with severe asthma have ILO.²³ Thus, with an estimated 8 million asthma sufferers in the UK, between two and four million people in the UK may have ILO.

What is the impact of ILO on individuals?

Over-treatment of primary airways disease, in the absence of accurate ILO diagnosis, can drive many symptoms. People with ILO are at risk of:

- Significantly reduced quality of life, as it can cause frustration, embarrassment, avoidance of social situations or absence from work.²⁴

Diane's story

Diane presented to hospital with her second presumed asthma attack in six months. She had attended hospital previously and, on that occasion, had been prescribed injectable steroids. These can have undesirable side effects, including diabetes, bone wasting, mood swings, and thinning of the hair and skin. Diane said that she experienced anxiety and panic every time she went out in public as she was afraid of choking; she avoided socialising and this made her feel isolated and upset. During her second hospital admission, her respiratory nurse identified that her wheeze and cough appeared to be occurring in her throat, as opposed to her lower airways. A speech and language therapist carried out a laryngoscopy which diagnosed inducible laryngeal obstruction (vocal cord dysfunction). The speech and language therapist taught Diane rescue breathing strategies on how to open her throat muscles to allow air to flow freely into her lungs. Throat relaxation and habitual breathing strategies were also introduced, alongside counselling to improve her confidence, allowing her to return to social activities. Since receiving speech and language therapy, Diane has not been re-admitted to hospital, her injectable steroids have stopped, and she reports feeling much more confident managing her symptoms.



Chronic cough

Chronic cough is a persistent cough (feeling the need to cough over and over again) lasting eight weeks or more. It is thought to affect approximately 12% of the UK population.²⁸

Cough presents a considerable financial burden, with acute cough costing approximately £979 million in the UK, including £875 million in loss of productivity and £104 million in healthcare costs.²⁹ The cost of chronic cough to the economy remains unclear.

Determining the cause of chronic cough is crucial to effective treatment. In many cases, more than one underlying condition may be causing it. The most common causes are:

- Dripping from the back of the nose into the throat (postnasal drip).
- Asthma.
- Reflux disease.

These three causes are responsible for up to 90% of all cases of chronic cough. Less common causes include infections, medications and lung diseases (for example, bronchiectasis).

Despite extensive assessments and medical management, in up to 20% of chronic cough cases the cough persists³⁰ and does not respond to medical treatment.

There is emerging evidence to show that non-pharmacological treatment approaches and specifically speech and language therapy interventions can improve/eliminate the chronic cough.³¹

The aim of speech and language therapy intervention is to improve an individual's control over cough, as well as to address symptoms associated with dysphonia and ILO.³²

The speech and language therapy intervention for chronic cough management consists of the following elements:³³

- Education.
- Symptom control techniques.³⁴
- Reducing laryngeal irritation with vocal hygiene.³⁵
- Managing stress and/or anxiety (psychoeducational counselling).³⁶

- Panic.²⁵
- Anxiety (41.8%) and Depression (23.3%).²⁶

What is the impact of misdiagnosed ILO on health services?

Misdiagnosis of ILO risks increasing costs to the wider health system, including through:

- Over-prescription of medication, some of which is inappropriate.
- Inappropriate hospital admissions.
- Excessive medical assessments.
- Inappropriate hospital reviews.
- Prolonged hospital stays.
- Avoidable patient and family distress.

What impact can SLT management of ILO have on the wider health economy?

The RCSLT Respiratory Care Position Paper highlights how SLT management has been shown to produce economic benefits²⁷ due to the following:

- Providing correct diagnosis, and preventing misdiagnosis and incorrect management.
- Reducing the frequency of ILO attacks.
- Reducing dependency on medication.
- Reducing hospital admissions and appointments.
- Reducing length of hospital stay.
- Reducing use of tracheostomy/ventilation.

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