

# USING PEPTEST® FOR THE RAPID, NON-INVASIVE DIAGNOSIS OF LARYNGOPHARYNGEAL REFLUX

*Case study from a consultant speech & language therapist*

Inflammation of the larynx hinders the ability to speak normally, making the voice hoarse, rough, strained, breathy or weak. It can also lead to discomfort on speaking, tightness and dryness, as well as the sensation of a blockage in the throat. A variety of factors may cause the larynx to become inflamed, including infections, alcohol abuse, exposure to smoke or pollutants, various allergens and laryngopharyngeal reflux (LPR). During LPR, bubbles containing an aerosol of stomach contents travel upwards beyond the oesophagus into the laryngeal and pharyngeal regions. Strong digestive enzymes that are normally only present within the stomach – such as pepsin – then begin to break down the tissues in the throat, causing damage and inflammation.

Peptest is a non-invasive diagnostic tool for reflux that uses a double monoclonal antibody capture technique incorporated into an easy-to-use lateral flow device. The test can detect the presence of pepsin in samples from the upper digestive and respiratory tracts, providing a fast, reliable and accurate measure of the severity of reflux, and aiding timely treatment. Jane Shaw is a consultant speech and language therapist (SLT) based at Doncaster Royal Infirmary, one of the four hospitals that make up the Doncaster and Bassetlaw Teaching Hospitals NHS Trust. She has been using Peptest in routine clinical practice for several years to help identify whether LPR is the underlying cause of a patient's vocal problems.

## Difficulties in LPR diagnosis

Patients will often first visit their general practitioner (GP) when experiencing symptoms related to their throat and voice. Unfortunately, clinicians in primary care will typically have a very short time slot with the individual, limiting their assessment and the amount of education that they can provide to the patient. They will usually have a discussion with the individual about their symptoms, and may ask them to complete a reflux symptoms index (RSI) – a self-reported questionnaire rating LPR-associated symptoms and their impact on quality of life over the preceding month.<sup>1</sup> A brief physical examination of the throat may also be carried out, but GPs do not generally have access to nasendoscopy equipment, so they are unable to examine the larynx directly.



Jane Shaw, Consultant speech & language Therapist, Doncaster and Bassetlaw Teaching Hospitals NHS Trust.

*“ As an SLT specialising in voice disorders, I work collaboratively with other clinicians in the ENT field to conduct thorough assessments – including digital laryngoscopy – to identify the underlying causes of voice problems, and to plan tailored treatments. ”*

**It can be difficult for a GP or non-voice specialist ENT consultant to distinguish between the potential causes of laryngeal damage on the spot, with the limited time and diagnostic evidence available to them, making it challenging to formulate a timely and effective treatment plan.**

If there are no red flags in the patient's case history, then the GP will typically make a preliminary diagnosis of LPR, and prescribe an alginate oral suspension and a PPI – such as omeprazole, lansoprazole or esomeprazole – twice a day to see if this improves symptoms. The GP will also often refer the individual to secondary care services for a full ear, nose and throat (ENT) examination.

The symptoms commonly associated with LPR are non-specific, for example hoarseness, excess throat mucus, difficulty swallowing and breathing difficulties, usually accompanied by a persistent dry cough and the feeling of a lump in the throat.<sup>2</sup> The lack of unique symptoms makes it difficult to confidently exclude or identify LPR in primary care, which can result in the over-diagnosis of reflux, unnecessary use of medication, and potential delays to treatment for other conditions. Patients who have been diagnosed with LPR by their ENT consultant will frequently be referred to a specialist SLT for further input. An initial appointment often takes up to an hour and typically includes an in-depth voice assessment, collecting a comprehensive patient history and sometimes a flexible digital nasendoscopy.<sup>3</sup> During this procedure, a small camera on the tip of a thin flexible scope is passed through the nose allowing visualisation of the vocal structures. These investigations help to establish the exact cause of the voice disorder and direct the therapeutic interventions that follow.<sup>4</sup> While extremely useful in identifying

the often multiple aetiologies of voice disorder, these procedures are quite invasive for patients, and are also time consuming and costly for healthcare providers.

### Peptest: a personalised approach to care

Jane finds it beneficial to enhance these standard diagnostic approaches to LPR by supplying the Peptest kit to the individuals under her care. She gives her patients, step-by-step instructions in how to collect saliva samples at home first thing in the morning, as well as at intervals later in the day. The samples are then sent in the secure packaging provided with the kit to the dedicated laboratory for analysis. Jane receives the test results directly from the lab, so she can make a fast diagnosis and design personal treatment and follow-up plans. Certain foods, drugs, health conditions and lifestyle habits – such as smoking and drinking alcohol – can exacerbate reflux, as they may have a relaxing effect on both oesophageal sphincters and increase gastric acid production. Taking saliva samples at intervals throughout the day provides a clearer picture of the triggers of an individual's reflux, whether it's their sleeping position at night, or the food and drink that they are consuming throughout the day. Jane can therefore use the Peptest results to design a personalised treatment plan consisting of both medication and lifestyle components – such as dietary modifications, changes to sleeping position or cessation of smoking – allowing for more effective control of this lifelong condition.

### Revolutionising the management of LPR

Peptest's rapid turnaround time and high accuracy make it the ideal solution for confidently diagnosing or excluding reflux without uncomfortable and time-consuming invasive procedures, such as 24-hour pH monitoring. The test gives SLTs valuable insights into the causes behind each patient's symptoms, and presents a way to detect and quantify the impact of reflux on the vocal tract. Peptest also provides Jane and her colleagues with specific, quantitative results that can be used to inform appropriate and timely treatment, supporting them in restoring and preserving their patients' vocal health.

#### References:

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2. Doncaster and Bassetlaw Teaching Hospitals NHS Trust. Silent Reflux. Published online January 2016.
3. The Royal College of Speech & Language Therapists. Voice – overview. <https://www.rcslt.org/speech-and-language-therapy/clinical-information/voice/#section-1>.
4. Royal College of Speech and Language Therapists. RCSLT position paper: Speech and language therapy endoscopic evaluation of the larynx (EEL) for clinical voice disorders. [https://www.rcslt.org/wp-content/uploads/media/docs/clinical-guidance/RCSLT\\_Endoscopy-position-paper.pdf](https://www.rcslt.org/wp-content/uploads/media/docs/clinical-guidance/RCSLT_Endoscopy-position-paper.pdf).