Vocal cord nodules and polyps

This information sheet from Great Ormond Street Hospital (GOSH) explains the causes, symptoms and treatment of vocal cord nodules and polyps and where to get help.

The vocal cords, also known as vocal folds, sit at the top of the windpipe (trachea). They are two folds of tissue stretched across the voice box (larynx). They vibrate, adjusting the flow of air from the lungs, to produce speech sounds.

Vocal cord nodules and polyps are tissue masses, which grow on the vocal cord. Nodules usually appear on both vocal cords at the same level, opposite one another. Polyps tend to be found on one vocal cord only. They both interfere with the vibration of the vocal cords, affecting speech.

Vocal cord nodules are quite common – and are often in the news when a singer is affected. They can affect people of any age, but in children they occur when the voice is misused. Polyps are less commonly seen, again with a background of misuse or trauma.

What causes vocal cord nodules and polyps?

Vocal cord nodules are the most common cause of chronic (long term) hoarseness in children. They are usually caused by using the voice strenuously, for example, yelling or screaming, speaking very loudly or in a strained voice or repetitive coughing or throat-clearing.

Abusing the voice or misusing it makes the vocal cords close together with a lot of force. Where they meet is usually where the nodules start to form. At an early stage, the tissue may look red on examination but quickly turns into swelling or thickening on the edge of the vocal cords. Over time, the swelling turns into a lump or nodule, which can become harder and more fibrous without treatment.

Less commonly, vocal cord nodules can also be caused by vocal cord paralysis, where the vocal cord nerves lose their function, or long term sinus or allergy problems. Breathing in smoke can also lead to vocal cord nodules, as can certain conditions such as hypothyroidism or gastro-oesophageal reflux disease (GORD).

Vocal cord polyps, however, tend to form as a result of localised fluid build up in a part of the vocal cord that has been traumatised,
for example by singing or shouting loudly. A blood blister forms which then settles down to form a pocket of tissue fluid.

What are the signs and symptoms of vocal cord nodules and polyps?
Any change in the voice that does not improve could be a sign of vocal cord problems. Particular signs and symptoms include a breathy or husky cry, hoarse speech or pain on speaking. Speech may also become ‘wobbly’ with the voice cracking unexpectedly or may reduce in range, losing high or low notes.

How are vocal cord nodules and polyps diagnosed?
Vocal cord nodules and polyps are diagnosed using a procedure called a microlaryngoscopy and bronchoscopy (MLB). An MLB is a test that allows the doctor to look into your child's airway (larynx and bronchi) using a small telescope and light. This is contained in a piece of equipment called an endoscope. Along with an MLB, a speech and language therapist and an ear, nose and throat (ENT) specialist doctor will carry out a full voice examination.

How are vocal cord nodules and polyps treated?
For nodules in children, the main forms of treatment are non-surgical. If it is needed, surgery should be delayed until the child is old enough to benefit from voice training or understand how to look after their voice. Non-surgical ways of treating vocal cord polyps includes humidification (using steam to soothe the vocal cords), voice training and treatment of any underlying allergies or sinus problems to reduce swelling. Gastro-oesophageal reflux disease (GORD) will also need non-surgical treatment, usually with medicines. If non-surgical treatment does not improve things, nodules can be removed, often during an MLB procedure. While the endoscope is in place in your child's throat, an additional tool is inserted to snap off the nodules. Usually one side is treated first and allowed to heal before the nodule on the other side is removed. This stops a laryngeal web, where the vocal cords stick together as they heal, forming. Polyps usually require surgical treatment as above, because they are less responsive to speech therapy and other non-surgical treatments.

What happens next?
Voice training is essential – whether or not your child needs surgery – to learn how to use the voice properly and protect it from unnecessary strain. Polyps can return, especially if the voice continues to be misused.

Compiled by the Ear, Nose and Throat Department in collaboration with the Child and Family Information Group

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