

Patient Information

Vocal Fold Sulcus

What is Vocal Fold Sulcus?

Vocal fold sulcus is a condition in which a groove or indentation forms on one or both of the vocal folds (also known as vocal cords). The groove can be shallow or deep and can affect the normal vibration of the vocal folds, leading to voice problems.

The vocal folds are two muscles in the larynx (voice box) that vibrate to produce sound when air passes through them. If a sulcus forms, the groove can disrupt their smooth movement and cause changes in the voice, such as hoarseness or weakness.

Causes of Vocal Fold Sulcus

The exact cause of vocal fold sulcus is often unclear, but several factors are believed to contribute to its development:

1. **Congenital Sulcus:** In some cases, vocal fold sulcus is present from birth (congenital). This may be due to developmental issues during foetal growth, which lead to an abnormality in the vocal fold structure.
 2. **Acquired Sulcus:** In other cases, vocal fold sulcus develops later in life. Possible causes include:
 - **Vocal trauma:** Excessive or improper vocal use, such as shouting or speaking loudly for extended periods.
 - **Vocal overuse:** Constant use of the voice without proper vocal care, often seen in singers, teachers, and speakers.
 - **Inflammation:** Long-term inflammation from conditions such as chronic laryngitis or gastroesophageal reflux disease (GERD) can cause tissue changes in the vocal folds.
 - **Surgical injury:** Surgical procedures involving the vocal folds, such as those done for other voice conditions, may lead to scarring or the development of sulcus.
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Symptoms of Vocal Fold Sulcus

Vocal fold sulcus can cause a variety of symptoms, depending on the severity and extent of the groove. Common symptoms include:

- **Hoarseness:** A rough or raspy voice, especially when speaking or singing.
- **Voice fatigue:** Feeling like your voice becomes tired or weak after speaking or vocalising for a while.
- **Reduced vocal range:** Difficulty reaching higher or lower pitches, especially when singing.
- **Breathiness:** A weak or airy voice, as the vocal folds may not come together properly due to the groove.
- **Throat discomfort:** A feeling of tightness or discomfort in the throat, especially when speaking for long periods.
- **Frequent throat clearing:** A tendency to clear the throat frequently due to irritation or a sensation of something in the throat.

In more severe cases, vocal fold sulcus may cause significant voice impairment, making it difficult to communicate effectively.

Diagnosis of Vocal Fold Sulcus

If you are experiencing voice changes or symptoms like hoarseness or vocal fatigue, it's important to consult an **ear, nose, and throat (ENT) specialist** or **laryngologist** for a thorough evaluation. The doctor will typically perform the following tests:

1. **Laryngoscopy:** A flexible camera (endoscope) is inserted through the nose or mouth to visualize the vocal folds. This allows the doctor to identify the presence of a sulcus and assess its severity.
 2. **Stroboscopy:** A special type of endoscopy that uses flashing light to capture the vibrations of the vocal folds in real-time. This helps to assess how well the vocal folds are vibrating and how the sulcus affects their movement.
 3. **Voice assessment:** A **speech-language therapist (SLT)** may evaluate your voice function, vocal range, and vocal fatigue. This is helpful in determining the extent of the impact on your voice and planning treatment.
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Treatment for Vocal Fold Sulcus

Treatment for vocal fold sulcus depends on the severity of the condition and the symptoms you are experiencing. Treatment options include:

1. Conservative Treatment

For less severe cases, non-surgical treatments may help manage symptoms and improve vocal quality:

- **Voice rest:** Giving your voice time to rest and recover is essential. Avoid excessive talking, shouting, or any activities that put strain on the vocal folds.
- **Hydration:** Keeping your vocal folds moist by drinking plenty of fluids and using a humidifier can help alleviate dryness and irritation.

- **Voice therapy:** A **speech-language therapist** can work with you to teach proper vocal techniques, such as breath support and relaxation exercises. These techniques can reduce strain on the vocal folds and improve voice quality.

2. Surgical Treatment

In cases where symptoms are severe or do not improve with conservative treatment, surgery may be considered. Surgical options for vocal fold sulcus include:

- **Microsurgical repair:** This involves a delicate procedure in which a surgeon may remove or repair the sulcus, depending on its depth and impact on vocal fold function.
- **Vocal fold augmentation:** In cases where the sulcus causes a significant loss of tissue in the vocal fold, augmentation may be performed. This involves injecting a material (such as fat or collagen) to fill the groove and restore the shape and function of the vocal fold.

Surgical treatment is typically considered after voice therapy has been attempted and in cases where there is significant functional impairment of the voice.

Risks and Complications of Treatment

As with any medical procedure, there are risks and potential complications to consider:

- **Voice changes:** While treatment (especially surgery) is intended to improve voice function, there may be temporary or permanent changes in the voice, including increased hoarseness or breathiness.
- **Scarring:** Surgery to repair the vocal fold sulcus can lead to scarring, which could affect the voice quality. However, surgeons use precise techniques to minimise scarring.
- **Recurrent sulcus:** In some cases, the sulcus may return after treatment, especially if the underlying cause (such as vocal overuse) is not addressed.

Prevention of Vocal Fold Sulcus

While vocal fold sulcus may not always be preventable, the following tips can help reduce the risk of developing this condition:

- **Proper voice technique:** Learn proper speaking and singing techniques to avoid vocal strain. If you use your voice extensively (such as in teaching, singing, or public speaking), consider working with a vocal coach or speech therapist.
- **Voice rest:** Avoid excessive talking, shouting, or singing for long periods. Give your voice time to recover after heavy use.

- **Hydrate:** Drink plenty of water to keep your vocal folds moist and prevent dryness.
- **Avoid irritants:** Minimize exposure to smoking, alcohol, and other irritants that can damage the vocal folds.
- **Manage reflux:** If you have **gastroesophageal reflux disease (GERD)**, work with your doctor to manage acid reflux, which can irritate the vocal folds and contribute to sulcus formation.

Prognosis

The outlook for individuals with vocal fold sulcus depends on the severity of the condition and the treatment used. Many people experience improvement in their voice with proper treatment, particularly voice therapy.

In more severe cases, surgery can significantly improve voice quality, although some residual symptoms (like breathiness or mild hoarseness) may remain. The key to a positive outcome is early diagnosis, appropriate treatment, and good vocal hygiene.

When to See a Doctor

If you experience any of the following symptoms, it's important to consult a doctor or ENT specialist:

- **Persistent hoarseness** or voice changes lasting longer than two weeks
- **Voice fatigue** or weakness after speaking or singing
- **Difficulty singing** or reaching higher or lower pitches
- **Throat discomfort** or the sensation of something being stuck in the throat
- **Breathiness** or a weak voice

Summary

What is Vocal Fold Sulcus?	A groove or indentation on the vocal folds that affects voice quality
Causes	Congenital, vocal trauma, overuse, inflammation, or surgical injury
Symptoms	Hoarseness, voice fatigue, reduced vocal range, breathiness, throat discomfort
Treatment	Voice rest, hydration, voice therapy, surgical repair (if needed)
Prevention	Proper voice technique, hydration, avoiding irritants, managing reflux

What is Vocal Fold Sulcus?	A groove or indentation on the vocal folds that affects voice quality
Prognosis	Positive with treatment; voice therapy and surgery can improve symptoms

If you have concerns about your voice or suspect you may have vocal fold sulcus, please contact your doctor or an ENT specialist. Early diagnosis and treatment can improve your voice quality and prevent long-term issues.