



Thyroplasty: A Surgical Procedure for Vocal Fold Paralysis

Klaus Andrew*

Department of Surgery, Valencia University, Valencia, Spain

*Corresponding Author: Klaus Andrew, Department of Surgery, Valencia University, Valencia, Spain; E-mail: andrewklaus@gmail.com

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Description

Thyroplasty is a surgical procedure performed to improve voice quality and restore vocal function in individuals with vocal fold paralysis or paresis. Vocal fold paralysis occurs when the nerves controlling the muscles of the larynx are damaged or impaired, leading to vocal fold immobility. This manuscript aims to provide an overview of thyroplasty, including its indications, procedure, outcomes, and potential complications.

Indications for thyroplasty

Thyroplasty is primarily indicated for individuals with unilateral vocal fold paralysis or paresis, where one vocal fold is immobile or weak. It may be considered when non-surgical interventions, such as voice therapy or injection laryngoplasty, have not yielded satisfactory results. The procedure aims to improve vocal fold closure, restore glottic competence, and enhance voice quality.

Procedure

Preoperative assessment: Before performing thyroplasty, a comprehensive evaluation is conducted, including a detailed history, physical examination, and diagnostic tests such as laryngoscopy and imaging studies. These assessments help determine the underlying cause of vocal fold paralysis and evaluate the suitability for surgery.

Anesthesia: Thyroplasty is usually performed under general anesthesia, although local anesthesia with sedation may be considered in specific cases.

Approach and incision: The surgeon makes a small incision in the neck, typically in the thyroid cartilage region, to access the vocal fold. The incision is usually made in the midline or through a lateral approach, depending on the surgeon's preference and the specific case.

Implant placement: Various techniques and materials can be used for implant placement during thyroplasty. The most commonly used technique is medialization thyroplasty, where an implant, such as a silicone block or hydroxyapatite implant, is inserted to reposition the paralyzed vocal fold closer to the midline. The implant provides structural support and improves vocal fold closure.

Adjustment and suturing: Once the implant is positioned, the surgeon assesses the vocal fold position and adjusts it for optimal

voice production. Fine-tuning of the implant position is crucial to achieve the desired voice outcome. The implant is then secured in place using sutures or other fixation techniques.

Closure and recovery: After the implant placement and adjustment, the incision is closed with sutures, and the patient is carefully monitored during the postoperative recovery period. Voice therapy may be recommended postoperatively to optimize vocal fold function and enhance vocal rehabilitation.

Outcomes and complications

Thyroplasty can lead to significant improvements in voice quality and function for individuals with vocal fold paralysis. The specific outcomes vary depending on factors such as the underlying cause of paralysis, the patient's overall health, and the expertise of the surgeon. Some common outcomes of thyroplasty include improved voice projection, reduced breathiness, increased vocal endurance, and improved swallowing function.

As with any surgical procedure, there are potential risks and complications associated with thyroplasty. These may include infection, bleeding, vocal fold scarring, implant displacement, implant extrusion, changes in voice quality, or aspiration. The overall incidence of complications is relatively low, and the majority of patients experience successful outcomes with minimal complications.

Postoperative care and rehabilitation

Following thyroplasty, patients are typically advised to rest their voice for a period of time to allow for healing. Voice therapy may be initiated after the initial healing phase to optimize voice outcomes, facilitate vocal fold coordination, and promote effective vocal technique. The duration and intensity of voice therapy depend on individual needs and the recommendations of the treating healthcare professionals.

Thyroplasty is a surgical procedure used to improve voice quality and restore vocal function in individuals with vocal fold paralysis or paresis. It is indicated for individuals with unilateral vocal fold immobility or weakness who have not achieved satisfactory results with non-surgical interventions. The procedure aims to improve vocal fold closure and enhance voice quality.

During thyroplasty, the surgeon makes a small incision in the neck to access the vocal fold. An implant, such as a silicone block or hydroxyapatite implant, is placed to reposition the paralyzed vocal fold closer to the midline, improving its function. The implant is adjusted and secured in place, and the incision is closed. Postoperative care includes voice rest and, if necessary, voice therapy to optimize vocal fold function and promote vocal rehabilitation.

Thyroplasty has shown positive outcomes, including improved voice projection, reduced breathiness, increased vocal endurance, and improved swallowing function. While complications can occur, such as infection, bleeding, or changes in voice quality, they are generally rare. Thyroplasty is a surgical procedure that offers significant benefits for individuals with vocal fold paralysis or paresis. It provides an opportunity to restore vocal function and improve voice quality, leading to improved communication and quality of life for affected individuals.

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