Video Stroboscopy

Care for Your Voice: The Professional Voice  If you think about it, whose voice is not professional? Although we often take verbal communication for granted, the use of one's voice is critical in our daily activities and interactions with others. Poor voice quality can lead to an array of problems ranging from difficulties with talking or breathing, fatigue, and even throat pain. This, in turn, can lead to behavioral changes in an effort to compensate for ineffective sound projection or simply a change in how we sound to others.

The Anatomy of Our Sound  Our voice box (or larynx) is centered in the neck at about the level of the Adam’s apple. The larynx contains the vocal cords, also known as vocal folds, which are thin, white structures made up of muscle and fibrous ligaments. They work as a pair to accomplish two main functions. Located at the opening to our trachea, the vocal cords are the gateway to our lower airway and lungs. When open (or in the abducted position) they allow air to pass into our lungs. When closed (the adducted position) they keep foreign material out of our lower airway. During exhalation, the vocal folds remain adducted but vibrate against each other. This function is similar to a reed on an oboe or a saxophone which vibrates in order to make a musical tone.

Vocal Abuse  Many factors can reduce the quality of our voice. These factors can be irritants (smoking or stomach acid), hydration (water intake), trauma, medical conditions, and behaviors used to project or sustain our voices. Often, when we overuse our voice or speak too loudly or for too long we can damage our vocal folds. This is commonly called vocal abuse. Any of these factors can cause an alteration in the vocal folds which can lead to hoarseness. Other and often more subtle symptoms of vocal cord dysfunction include loss of range, cracking, voice fatigue, coughing, and even difficulty breathing.

Who Needs Video Stroboscopy?  Video stroboscopy is often recommended when a person experiences hoarseness, a change in his or her normal voice, or a difficulty in reaching full range. Other indications for video stroboscopy are when a person experiences difficulty with the flow of speech or when he or she runs out of breath too quickly. Video stroboscopy has proved beneficial for many people in restoring or improving their voices. The use of video stroboscopy can:
- Assist in diagnosing vocal fold nodules and pre-cancerous lesions
- Confirm anatomical problems leading to voice changes
- Aid in the comparison of pre and post treatment changes of the vocal folds
- Allow for laryngologists and speech-language pathologists to bring together their expertise to produce a personalized, appropriate treatment plan

The Team Approach  The video stroboscopy examination will be performed by trained medical professionals. Often, a speech-language pathologist is present to help facilitate both in the diagnosis and the treatment of the problem. The goal is a comprehensive, individualized treatment plan to help restore or achieve the voice you want: Your Professional Voice.

Diagnosing Voice Problems: Video Stroboscopy  The vibrations of the vocal folds resemble ocean waves (called mucosal waves). This wave pattern moves so rapidly that it is very difficult to visualize with the naked eye; similar to an airplane propeller at full speed. One method used to capture and study the mucosal wave is video stroboscopy. This technology allows for an in-office evaluation of vocal fold motion. Video stroboscopy takes a continuous motion picture of the vocal folds during a wave cycle. Adding the strobe light allows various phases of the wave to be photographed in rapid sequence as a series of very short still pictures. When these pictures are viewed in sequence, the vocal folds appear to be moving in slow motion. A similar process or experience is a strobe-light on a dance floor. Using this technology, the laryngologist can detect small, subtle problems with the function of the vocal folds that otherwise would have gone unseen and untreated.