Laryngoscopy and Videostroboscopy

What is laryngoscopy and how is it performed?

Laryngoscopy is the process of examining the larynx, the voice box. Because of its position deep in the throat, the larynx is not as easily examined with a flashlight, as the mouth and nose are. Special instruments are needed to evaluate this difficult-to-see area. Laryngoscopy is performed by using a light connected to either a mirror or a special tool, called a laryngoscope, which can visualize the larynx.

Mirror laryngoscopy is performed by gently placing an angled mirror into the back of the mouth. Light is shone into the mouth and reflects off the mirror and downward towards the larynx. Mirror laryngoscopy has been performed since the late 1800's and requires a mirror, a light source and gentle steady hand. Sometimes, mirror laryngoscopy can be challenging for both the physician and the patient, but it provides the most accurate color representation of the larynx; this can be helpful in diagnosing and monitoring treatment of disease that affect the larynx.

Flexible laryngoscopy is the most commonly performed procedure for visualizing the larynx. In this case, a flexible endoscope (called a flexible laryngoscope), is typically inserted into one of the nostrils, into the back of the nose, behind the palate (and the gag reflex) and placed into position just above the larynx. Sometimes, anesthetic and decongestant medications are used to facilitate patient comfort. This examination gives an excellent birds-eye-view of the structures and functions of the voice box, allowing for the patient to speak, swallow and breathe naturally. The patient performs directed vocal tasks to allow for the clinician to fully assess the larynx, giving information about movement and any apparent abnormalities (i.e. masses, injuries, swelling).

Rigid laryngoscopy is performed by placing the endoscope through the mouth. The tongue is held slightly out while the physician inserts the scope to the back of the tongue. Then scope end points down to visualize the larynx. The patient is asked to say "e" and the function of the larynx is assessed.

What happens when laryngoscopy fails to reveal the problem in a patient with a throat problem?

Videostroboscopy: When laryngoscopy is insufficient at determining a person's voice or throat problem, videostroboscopy is performed. Vocal folds vibrate far too quickly to be seen by the naked eye. Videostroboscopy is the process of using a special light to observe the vocal folds vibrating in apparent slow motion. This procedure helps detect subtle abnormalities resulting in voice and other throat problems.

Videostroboscopy can be performed either with a flexible laryngoscope (discussed above) or with a rigid laryngoscope placed painlessly in the mouth. This examination is viewed on a video screen and recorded for later review and analysis.