

# Office-based laryngeal procedures: An integrated approach

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In this editorial article we are describing office based laryngeal procedures as an integrated approvals between phoneticians and diagnosis with special emphasis on our experience in office based laryngeal procedure in Cairo university.

### Keywords:

office based laryngeal procedure, injection laryngoplasty, vocal fold paralysis

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The surgical management of superficial epithelial diseases of the vocal folds was primarily performed in the surgeon's office in the 19th century and in the operating room in the 20th century. This paradigm shift in the administration of care was due to the development of the surgical technology and anesthetic procedures [1].

In 2001, the office-based treatment for routine management of laryngeal papillomatosis and dysplasia under local anesthesia was used by Zeitels and colleagues. Office-based procedures were revisited once again and the scope was widened as the years passed and more and more groups joined in the field all over the USA and European countries [1].

The practice of medicine is continuously being reassessed as we look to use more cost-effective treatments. The field of laryngology has been no exception. Although phonosurgical vocal fold injection is traditionally performed under general anesthesia, it can be performed nowadays in an office-based setting [2].

This technique is relatively new, but it holds distinct advantages over the traditional operating room-based approach. The procedure is performed with the patient awake and seated upright; a precise judgment can be made about the amount and location of material to inject [2].

With the patient able to phonate, the injection is titrated according to the vocal quality in office injection, thus allowing a real-time monitoring of the voice outcomes of the injection medialization laryngoplasty

by permitting immediate adjustments in the amount of injected material [2].

This type of feedback is impossible when injection laryngoplasty (IL) is performed under general anesthesia in the operating theater. Moreover, this obviates the facility and anesthetic fees associated with an operating room setting IL. The increased precision and ease for the patient afforded by office-based IL has served to popularize it among a small group of otolaryngologists practicing in today's increasingly patient focused, customer friendly, and outcome measure-driven medical environments [2].

Injections can be given in awake patients for two purposes, as medialization procedures, whether temporary or permanent in various phonatory gaps secondary to vocal fold paralysis or botulinum toxin injection in various neuromuscular disorders causing vocal fold mobility disorders (vocal dystonia, vocal fold tremors, spasmodic dysphonia).

Office-based laryngeal procedures are also used for 'diagnosis' as a replacement for direct laryngoscopy under general anesthesia. High definition, three-chip, distal chip cameras, and video endoscopies in addition to video stroboscopic examination can be used during the procedures to ensure maximum visualization on the laryngeal pathologies being addressed.

It can be used for the diagnosis of sensory functions of the laryngopharynx in awake patients by performing fiberoptic endoscopic evaluation of swallowing (FEES) with sensory testing, by taking cultures and various biopsies from the laryngopharynx, by evaluating

vocal fold mobility, gaps, bowing, and by performing laryngeal electromyography (EMG) in various cases of vocal fold mobility disorders such as 'vocal dystonia – spasmodic dysphonia'.

Various laser treatments can also be applied in awake patients, according to Gregory Postma, MD, in office. Laser excision of various benign and precancerous lesions of the larynx can be performed through the side channel of the endoscope to ablate or at least debulk–shrink them. Various minimum associated pathological lesion (MAPLs), papillomatosis, and dysplasias can be excised by laser in awake patients according to various leading laryngologists – 'Postma, Zeitels, Klein, Woo, Hess'. Pulsed dye laser and pulsed KTP laser can be used effectively in-office-based procedures 'courtesy to Steven Zietels, MD'.

Gregory Postma, MD, one of the pioneers of office-based laryngology said, 'You need to take your time with topical anaesthesia, and let your patient know everything you are going to do'; another pioneer Adam Klein, MD also mentioned that 'Due to the accessibility of the larynx and new technology, we are able to perform a variety of procedures in the awake setting'; Steven Zietels, MD also commented that 'Simple biopsies, laser treatments and injections are the most common in-office laryngeal procedures performed in awake patients'.

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### **Our journey with office-based laryngeal procedures: how it all started?**

Three years ago, the pioneer laryngologist professor Dr Mohamed Rifai had a vision about introducing the field of office-based laryngeal procedures into the Kasr El Ainy hospital. This vision was considered as a leap into the future at that time. Many people thought that investing in the operating rooms was a far wiser decision, but nevertheless he insisted on his vision and pursued his mission.

Two young laryngologists (ENT surgeon and phoniatician) were sent to the USA to learn the basics of office-based laryngeal procedures, and thereafter teach others. This was to emphasize the idea of team work and the integrated four-hand technique approach. Unfortunately, the political and security unrest in

Egypt intervened between turning this dream into a reality during the next 2 years.

In 2013, the dream was once more pursued and a fully equipped room was established in the operating suite in the ENT department as the first highly specialized office-based laryngeal procedures unit according to the knowledge of the author in a tertiary hospital in Egypt. Several workshops and highly specialized training were attended by the team working in this room in-office-based vocal fold augmentation procedures in awake patients.

This reality was a turning point and the start of a learning curve in several other procedures that once mastered, will help in serving more and more patients, saving the limited number of beds and limited resources and hands of highly skilled surgeons to the management and cure of far more advanced pathologies of the larynx and head and neck region in general. More than 20 patients successfully underwent vocal fold augmentation procedures (injection laryngoplasties) under local anesthesia and left the unit within less than an hour, making this procedure not just cost effective, but also patient friendly and time saving for the surgeon, assistant, and patient.

This is the ultimate goal of every institution to provide the best quality to most patients within the shortest hospital stay and with minimum resources. The cost benefit equation is the basis of all office-based laryngeal approaches. The four-handed technique of vocal fold injection is just a start for a long learning curve and a journey of revisiting laryngology on many more younger generations to widen their scope of expertise and their ability to help more and more patients within the limited economical status of the health authorities in Egypt.

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### **Acknowledgements**

#### **Conflicts of interest**

None declared.

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