

## CAUSES OF FAILURES IN VOLUMETRIC REDUCTION OF THE INFERIOR TURBINATE

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**Abstract:** *The inferior nasal turbinate represents anatomical structures located at the sidewall of the nostrils with a role in air filtration, purification, humidification and warming. They also play a role in directing airflow to the upper airway. Their hypertrophy is a common pathology in which surgical treatment is preferred when drug therapy does not work. The present paper aims to evaluate the leading technologies used in the surgical treatment of hypertrophy of inferior nasal cornices through an endoscopic approach together with the exposure of the advantages and disadvantages of their use. Submucosal turbinoplasty with the use of a shaver or with the help of the coblation probe has the best results because they are less traumatic, the intraoperative and postoperative bleeding is low, and the local complications are minimal. In the case of specific surgical techniques, postoperative complications such as synechiae, mucosal atrophy or necrosis of the bony part of the inferior nasal turbinates were found.*

**Keywords:** *inferior nasal turbinate, endoscopic techniques*

## CONCHA BULLOSA – AN OVERVIEW

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**Abstract:** *Concha bullosa or pneumatized middle turbinate is a commonly found anatomic variation of the middle turbinate, but can be also found in inferior or superior turbinates, much less often. It is best diagnosed on the CT scan. The presence of a concha bullosa has an important anatomical and physiological impact. Concha bullosa may suffer such an extensive growth that it fills the space between septum and the lateral nasal wall. It can block the osteomeatal complex and create areas of mucosal contact that can predispose to sinus infection.*

*The best approach of diagnosing concha bullosa, like any other anatomical variants of the paranasal sinuses, is a CT scan. The nasal endoscopy is not as effective as it, because it can lead to misdiagnose, due to the lack of correspondence between the middle turbinate dimensions and the presence of concha bullosa. Presence of complications is linked to the level of concha bullosa growth, this way, consequently sinus disease or rhinogenic headache may occur in some patients. Concha bullosa is best to be excised, because the obstruction of drainage may lead to mucocele formation and keeps the osteomeatal complex blocked. Surgical techniques may vary from total resection, lateral resection or medial resection, turbinoplasty, crushing. There is not a clear consensus for the best surgical technique, each one of them having its own advantages and disadvantages.*

*Among the complications that may result after the excision or during the procedure, we remind: CSF rhinorrhea, nose bleeding, excessive pain, fibrous synechiae, adhesions between the middle turbinate and the septum or orbital damage during the intervention. Concha bullosa needs to be treated in order to reestablish the function of the osteomeatal complex and the normal drainage of the paranasal sinuses.*

**Keywords:** *concha bullosa, middle turbinate hypertrophy, endoscopy*

## ENDOSCOPIC ADENOIDECTOMY - TECHNIQUE AND OVERVIEW

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**Abstract:** *The adenoids represent a mass of lymphatic tissue located in the upper posterior part of the nasopharynx. This lymphatic tissue is part of the Waldeyer's ring along with the tubal, palatine and lingual tonsils. Adenoidal hypertrophy causes nasal airway obstruction that can lead to mouth breathing, nasal discharge, congestion of the nasal mucosa, snoring, recurrent rhinosinusitis, sleep apnea, persistent or recurrent otitis media, tonsillitis, laryngitis or bronchitis. The diagnosis of adenoidal hypertrophy is based on the correlation between the symptoms and the endoscopic examination of the nose and the rhinopharynx. The surgical treatment is represented by adenoidectomy. For a long time, ENT surgeons performed conventional curettage adenoidectomy using an adenoid curette, a headlight and a transoral mirror but nowadays, with the development of medical technology, adenoidectomy under endoscopic control is more often performed. In this article, we will review the endoscopic adenoidectomy approach and the various technologies available for hypertrophic adenoid tissue removal.*

**Keywords:** *adenoidal hypertrophy, surgery, endoscopic control*

## ENDOSCOPIC APPROACH OF THE ETHMOIDAL SINUS— TECHNIQUES OVERVIEW

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**Abstract:** *Endoscopic surgery is a minimally invasive surgery and the essential method for the treatment of ethmoidal inflammatory disorders and rhinosinusal tumours. The endoscopic rhinosinusal approach was imagined in the 1950s. The development of rhinosinusal surgical techniques began in the '70s when the pioneers of this minimally invasive surgery were Messerklinger and Wigand. This direction has been bringing benefits because it sustains the good knowledge of the anatomy and pathophysiology of the sinuses. However, as with the introduction of any new surgical technique, it takes both time and experience to gain specific skills that are implied to be known when performing this procedure. This article aims to evaluate the techniques of the endoscopic approach of the ethmoidal sinus. Transnasal ethmoidectomy consists of the removal of the ethmoidal cell septa, including the middle turbinate, and a broad fenestration of both the sphenoid sinus and the frontal infundibulum. The significant advantage of intranasal endoscopy is that it allows a magnificent view of the osteomeatal region and the frontal recess. The use of power loops for performing intranasal ethmoidectomy has several advantages, including direct ocular vision and visualization of the external anatomic landmarks. There are many other advantages which include: minimally invasive surgery, long-lasting results, minimal pain, no outward scarring of the nose, few surgical complications, little post-surgical bleeding and less tissue removal. All surgery carries some risks from anaesthesia and possible infection. With an ethmoidectomy, you may have bleeding after the surgery. There are some risks of a cerebrospinal fluid leak, and other intracranial severe lesions to the brain can not easily be repaired. Due to the localization of the sinus near the eyes, there is a high risk of injuring the muscle that controls the eye movements as well as the optic nerve. This injury is also hard to repair once it has been made. Even bleeding into the eyes can affect your vision if it's not treated right away. In sporadic cases, patients lose some or all of their sense of smell.*

**Keywords:** ethmoidal sinus, endoscopic surgery

## **ENDOSCOPIC APPROACH OF THE MAXILLARY SINUS - TECHNIQUE OVERVIEW**

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**Abstract:** Chronic disease of the maxillary sinus can have different etiologies. However, thanks to the endoscopic approach available nowadays, sinus ventilation and normal function can be restored in a minimally invasive manner. The complication rate of this procedure is proven to be lower than that for conventional sinus surgery.

**Keywords:** maxillary sinus, endoscopy.

## **ENDOSCOPIC APPROACHES OF THE SPHENOID SINUS – OVERVIEW**

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**Abstract:** Endoscopic techniques have improved and gained popularity among rhinologists. Their minimally invasive role in surgery has, in most communities, been widely accepted. The sphenoid sinus is a mucosal lined variably pneumatized posterior extension of the paranasal sinuses. Anatomic variations in the nasal cavity and the sphenoid sinus make preoperative imaging evaluation not only useful for diagnosis, but also valuable for surgical mapping to ensure safe access and improved surgical outcomes. Evaluation with rigid or flexible optic and radiological CT and MRI clues to the nature of the pathological lesions in the sphenoid sinus, and are essential for a good endoscopic outcome. There are many techniques to be considered while selecting the appropriate endoscopic approach to the sphenoid sinus. Surgeons should rely on easily recognizable anatomic landmarks to guide the surgery. They are quickly and easily standard endoscopic sinus surgery landmarks. These simple markers may prove useful in all endoscopic surgery involving the sphenoid sinus, but especially so in cases with distorted or complicated anatomy. Endoscopic sphenoidotomy is a direct surgery, with minimal blood loss, reduced operating time, and decreased morbidity. Visualization is as good, or better than, direct vision or microscopic intranasal surgery.

**Keywords:** endoscopy, transethmoidal, sphenoid sinus, transseptal transnasal

## **MINIMALLY INVASIVE DCRS TECHNIQUES**

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**Abstract:** Nasolacrimal duct obstruction represents a pathology that can affect both children and adults. This pathology represents a borderline between the ophthalmologist and the

otorhinolaryngologist due to its communication between the internal eye angle and the nasal fossa. The first intervention of decompression of lacrimal duct is dated in the early 1900s by Toti. For many years the “gold standard” for nasolacrimal duct obstruction was represented by external dacryocystorhinostomy. The development of the endoscopic nasal surgery helped also improve the approach of this disease with better results. This article aims to present how we manage the patient with nasolacrimal duct obstruction with an endoscopic decompression. The procedure we perform is under general anaesthesia, using different degree angled rigid video endoscopes and also the Kerrinson’s punch. There are several controversies regarding the external and the endonasal dacryocystorhinostomy approach. In our clinic, the outcomes of the endonasal procedure was much reliable with a better overall result for the patient. The downside of this manoeuvre is represented by the long learning curve of using the rigid endoscopes and also the costs. We consider that a better aesthetic result, avoiding external scars, a faster hospital discharge and a minimal risk of infection are enough motives in order to perform when possible an endonasal procedure

**Keywords:** dacryocystorhinostomy, DCRS, endoscope, Kerrinson’s punch

## MINOR SALIVARY GLANDS SURGERY - AN OVERVIEW

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**Abstract:** In the head and neck area more than 1000 minor salivary glands are described; they are distributed in numerous sites and can be affected by a various range of pathology from inflammation and infection to benign and malignant neoplasm. The symptoms can vary a lot depending on the location of the minor salivary gland affected. The main purpose of the paper is to present data about the surgical techniques used for minor salivary gland pathology (especially benign and malignant tumor). Due to the various location of the minor salivary gland in the head and neck region the surgical approach should be adapted to each region. Malignant minor salivary gland tumors impose wide excision of the lesion with tumor-free resection margins, modified radical neck dissection when lymph node metastasis are present, and local/loco-regional reconstruction of the defect with different types of flaps. Due to the various location of the minor salivary gland in the head and neck region the surgical approach should be adapted to each region. The surgical technique and the surgical technologies used for each case should also take into account the location of the size of the tumor, the histologic type and the grading of the tumor, the relation with the surrounding structures, and the presence of cervical lymph node metastasis.

**Keywords:** minor salivary glands, malignant tumors, surgical techniques

## ORBITAL DECOMPRESSION – EXTERNAL SURGICAL TECHNIQUES

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**Abstract:** Orbital decompression is addressed to treat the proptosis of diverse pathology. To achieve this, we can perform different external surgical techniques. The main approaches discussed in this paper are medial wall decompression (transantral, transcutaneous or

*transcaruncular approach), orbital floor decompression (transcutaneous lower eyelid or a transconjunctival lower eyelid approach), lateral wall decompression and roof wall decompression. If the correct type of surgical technique is chosen, then an adequate outcome can be accomplished.*

**Keywords:** orbital decompression, proptosis, periorbita

## **PAROTIDECTOMY-TECHNIQUES OVERVIEW**

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**Abstract:** *Salivary gland tumors can be found in any of the salivary glands but a great percentage, approximately 80%, affect the parotid gland. Regarding the histological nature of this tumors about 75-80% are benign tumors. The difficulty of establishing the benign or malignant nature of the tumor with the use of noninvasive or minimal invasive techniques is the main reason why the clinical practice is to operate upon tumor masses in order to obtain a histological diagnostic. The most important risk element that makes the parotid surgery challenging is the presence of the facial nerve that can be easily damaged when performing a parotidectomy, especially with the modified anatomy by the tumor and in the case of recurrence. The aim of the article is to overview the parotidectomy techniques discussing the advantages and disadvantages of each technique.*

**Keywords:** Parotidectomy, Facial nerve, Parotid tumor

## **REVISION NASAL SEPTAL SURGERY TECHNIQUES**

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**Abstract:** *Nasal obstruction is one of the most frequent ENT complains, and the deviation of the nasal septum represents one of the most common causes of nasal blockage. Studies show that up to one-third of the population suffers from nasal obstruction and surgical treatment is performed on a quarter of those patients.[1]*

**Keywords:** revision surgery, septal deviation

## **SEPTAL SURGERY - A CONTINUOUS CHALLENGE**

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**Abstract:** *Nasal septal deviation is a well-known health issue worldwide, and it can seriously affect the quality of life of the ailing patient. Many approaches have developed along the years for this widespread condition, and the greatest challenge for the surgeon represents the accomplishment of both functional and aesthetic results. This kind of operation always requires a proper surgical technique, to keep in mind all types of complications and to have the skills to repair any intraoperative incidents.*

*Keywords: septal, deviation, surgery*

## **SUBMANDIBULAR GLAND SIALOENDOSCOPY - TECHNIQUE OVERVIEW**

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*Abstract: Sialoendoscopy is a minimally invasive technique that, in the past ten years has gained increased importance in the treatment of obstructive salivary gland conditions. The use of this procedure has led to a higher number of salivary gland preservation. The aim of this paper is to review the technique and provide a pertinent opinion on its' use.*

*Keywords: submandibular gland, sialoendoscopy*

## **THE MANAGEMENT OF UNILATERAL VOCAL FOLD PARALYSIS**

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*Abstract: Unilateral vocal cord paralysis has an essential impact on the patient's medico-social integration. Regardless of the cause that determines it, the management of this pathology is a complex one and involves both a rigorous initial evaluation, as well as an adaptation of the therapeutic conduct in relation to the treatment options, the benefits brought by them and the patient's own resources offered by the associated comorbidities and compliance with the attitude medical-surgical of the attending physician. The present paper intends to highlight the main elements of the management of the unilateral paralysis of the vocal cord, as well as the notions currently introduced in the specialized literature regarding the medical-surgical cure of this pathology. The evolution of the techniques and technologies used as treatment methods in this situation allows the LASER CO2 surgery to be highlighted as a therapeutic modality adapted to the carefully selected cases of paralysis of the unilateral vocal cord.*

*Keywords: unilateral vocal fold paralysis, surgical approaches, posterior cordotomy, LASER CO2 surgery*

## **VIDEOENDOSCOPIC PREOPERATIVE EVALUATION TECHNIQUES IN VOCAL FOLD CARCINOMAS**

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*Abstract: Laryngeal cancer in general and vocal fold carcinomas in particular continue to represent an important health problem nowadays, especially in our country. According to available data, laryngeal cancers represent up to 40% of the head and neck cancers and 3% of the total number of malignancies. One of the main issues concerning this pathology is*

*represented by the non-specific symptoms of the disease, which in turn are a common cause for late presentation to the physician. Advanced stage diagnosis is the main cause for the invalidating character of this disease. If by the time the diagnosis is established the patient is already a candidate for total laryngectomy the intervention will be an extensive one, associating a lower quality of life, difficult reinsertion into society and decreased adherence to treatment. That is why the current approach of these patients aims for a diagnosis in early stages, added by modern technological means. The purpose of this article is to present modern videoendoscopic techniques that are helpful for both an early diagnosis and a minimal invasive intervention, that will allow a complete resection in cases of vocal fold carcinomas.*

**Keywords:** *vocal fold carcinoma, videoendoscopy, evaluation*

## **VOLUMETRIC REDUCTION OF THE INFERIOR TURBINATE. TECHNIQUE OVERVIEW**

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**Abstract:** *Hypertrophy of the inferior turbinate is one of the most common causes for nasal obstruction in the current medical practice, and is one of the most frequent symptoms that bring the patients to doctor. The volume enlargement of the inferior turbinates is, most frequently, due to: chronic hypertrophic rhinitis, allergic rhinitis or vasomotor rhinitis. The main purpose of our paper is to present the surgical techniques available today that can be used for volumetric reduction of the inferior turbinates. An overview of the recent data from the literature is made. The techniques that we described were depending on the each patient and the comorbidities. The most used surgical techniques used for volumetric reduction of the inferior turbinate are: submucosal diathermy, cryosurgery, submucosal resection with lateral displacement, radiofrequency surgery of the nasal turbinates, LASER surgery, coblation. In conclusion, there are many ways and procedures to reduce the volume of the inferior turbinate. The surgical management is individualised for each patient and for his own benefit. The surgeon's personal experience is also very important.*

**Keywords:** *inferior turbinate hypertrophy, inferior turbinate reduction, partial or total turbinectomy, turbinoplasty, submucosal diathermy, cryosurgery, radiofrequency coblation technique, laser.*

## **WARTHIN'S TUMOUR OF THE PAROTID GLAND: SURGICAL TECHNIQUES**

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**Abstract:** *Warthin's tumor is the second most frequent benign tumor located in the parotid gland, after pleomorphic adenoma. It can present bilateral or multifocal growth. Histologically, it consists of oncocytic epithelial cells arranged in double layers and lymphoid tissue with germinal centers. The treatment for this pathology is surgery. The location of the tumor determines the appropriate extent of the surgical procedure. Although it is a benign neoplasm, the parotid location of Warthin's tumor makes it difficult to approach, with high intraoperative risks. In this*

*article, we will present the steps and risks of the surgical procedures performed in patients diagnosed with Warthin's tumor.*

**Keywords:** *Warthin's tumour, parotid, surgical techniques*