

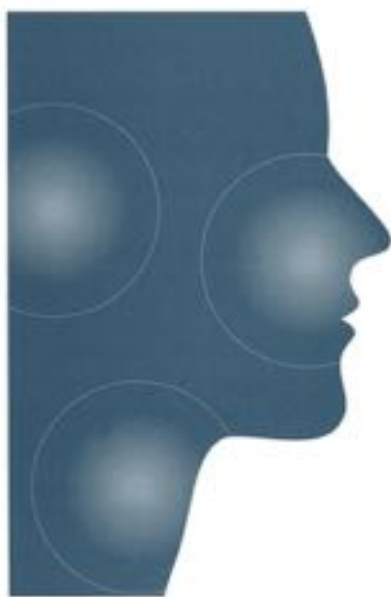
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TREATMENT UPDATE

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## **RHINOPLASTY**



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## Rhinoplasty

The aim of Rhinoplasty is to establish certain aesthetic results while maintaining or improving nasal function. For most patients, taking the step to have a Rhinoplasty is a major life experience. They have either had cosmetic or functional problems that they have been unhappy with all of their lives, or as a result of injury have had alteration to their face which has lowered their overall confidence and self esteem.

The nose is the central and most important structure of the face and any significant cosmetic deformity has proportional impact on overall facial harmony and aesthesis. The guiding principle must always be to enhance cosmesis but not at the expense of function.

### PATIENT SELECTION

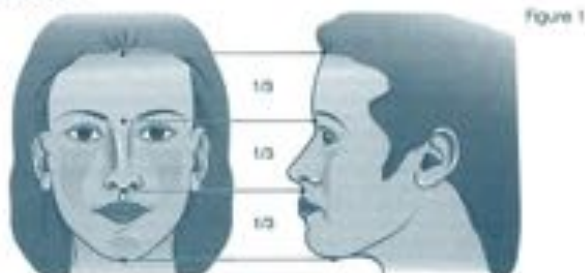
The most important component in terms of facial aesthetic surgery and Rhinoplasty in particular is patient selection. Patients who have unreal expectations are not appropriately treated surgically. It is very important either as a primary care Physician or as an aesthetic facial Surgeon to discuss patients expectations in the context of a reasonable outcome and to come to a conclusion as to whether the patient fully understands what is involved in a operation, what the impact is likely to be on their facial cosmesis and on their nasal function and to have an appropriate understanding of how this will impact on the overall quality of life. Anyone who thinks that a cosmetic facial procedure will "turn their life around" is more appropriately treated by counselling than surgery.

This monogram is designed to provide basic information to primary care Physicians and patients about Rhinoplasty in an attempt to demystify the procedure and to facilitate a more realistic understanding of the procedure and cosmetic and functional outcome.

### FACIAL PROPORTIONS

The proportionality of the face is defined by the ratio of the forehead to the mid face to the lower third of the face and by a number of angles. Figure 1 shows that the upper third of the face should be roughly equal to the middle third which in turn should be roughly equal to the lower third.

The facial angles outlined in Figure 2 are meant to serve as a guide rather than an absolute in terms of what is generally considered to be optimal aesthetic proportions.



### CHANGE OF FACIAL PROPORTIONS WITH AGE

There are certain criteria of the ageing face which are outlined in Figure 3, as we grow older hairline recedes so the upper third of the face tends to expand. The nose droops due to loss of cartilaginous compliance and the drooping of the nasal tip gives the impression of nasal elongation.

Loss of teeth and lower jaw bone reabsorption reduces the lower third of the face causing a characteristic disharmony. With an aging population there will be increasing pressure to address these age related changes and to once again approximate the one third, one third, one third ratio which is considered aesthetically optimal.



### **OPERATIVE PLANNING** (see Figure 3)

Obviously any surgical procedure must be preceded by thorough analysis of the problems to be remedied, counselling of the patient as well as detailed and documented patient information regarding the planned procedure. Nowadays extensive standardised photo documentation prior to surgery is essential. The usual views of the face are from the front, the bottom, both sides with the optional addition of smiling lateral views and a view from 45 degrees ahead of the subject (the  $\frac{3}{4}$  view). This enables the patient to see the problem from different angles and perspectives and allows the patient and the Surgeon to map out ideal surgical outcomes. It also facilitates for objective assessment when preoperative and postoperative photographs are compared.

Some Surgeons prefer to undertake computerised modeling of the nose. This involves capturing the aforementioned photographs digitally and on one of a number of commercially available computer generated programmes manipulating the images to approximate the postoperative result. It is very important for patients to realise that computerised digital image enhancement is an approximation and there is no guarantee that the final surgical result will be exactly the image that they see on the computer screen.

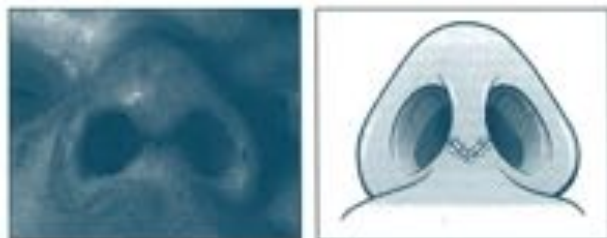
### **RHINOPLASTY PROCEDURE**

In the vast majority of cases Rhinoplasty is undertaken under general anaesthesia. The operation takes between 1 and 2 hours, obviously longer if supplementary procedures are undertaken.

There are two basic surgical approaches to Rhinoplasty. One is the so called closed or endonasal approach which involves no cuts on the outside of the nose. The incisions are made within the nostrils, the skin and lining of the nose is separated from the underlying bony and cartilaginous framework and appropriate surgical correction to both of these components in turn is undertaken. The advantage of this approach is the lack of any external scarring. The disadvantage is that the operation is performed through subcutaneous tunnels and exposure to the vital structures of the nose is somewhat limited.



The external or open structure approach to Rhinoplasty was pioneered by Wilf Woodman in Toronto Canada in the early 80s and has been increasingly used in Australia since 1990. It involves a small incision in the columella (the skin between the nostrils) and the skin overlying the nose is elevated. This allows excellent exposure of the cartilaginous and soft tissue components of the nose and enhances exposure of the bony nasal vault. The disadvantage of this approach is that it takes longer than an endonasal approach and the patient is left with a fine scar, often barely visible, between the nostrils.



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## Procedures often performed with rhinoplasty

### NASAL SEPTAL RECONSTRUCTION

Nasal Septal Reconstruction is performed in conjunction with Rhinoplasty in over 80% of cases. Deviation of the nasal septum is the most common cause of nasal obstruction. Various studies have shown that 15 in every 100 children born via natural vaginal delivery have subluxation of their nasal septum at birth and as their noses grow and develop this deviation becomes more pronounced. Nasal trauma, often trivial, is the other major cause of septal deviation. A significantly deviated septum can impact on the cosmetic appearance of the nose by causing twisting of the nose. If Septoplasty is performed intercurrently with Rhinoplasty it adds approximately 20 minutes of operating time. The incisions to perform Nasal Septal Reconstruction are done either endonasally with a closed Rhinoplasty technique or sometimes by the external Rhinoplasty approach where the cartilaginous framework of the nose is separated and the nasal septum can be removed and repositioned. Intercurrent Nasal Septal Reconstruction does not mean that the nose has to be packed postoperatively. Often the lining is placed over

the reconstructed septum, stitched in place and if there is good haemostasis packing is not necessary.

### **TURBINATE REDUCTION**

Many people undergoing Rhinoplasty have nasal obstruction not only on the basis of septal deviation but have specific or non specific allergic rhinitis causing enlargement of the inferior turbinates. That being the case this is often addressed at the time of primary surgery. The most efficient contemporary way of dealing with turbinate hypertrophy is an endoscopic technique using powered instrumentation. Inferior Turbinoplasty or turbinate reduction adds approximately 15 minutes of operating time and because the risk of haemorrhage after Turbinoplasty is significant often means that either absorbable or non absorbable packing is left in the nose.

### **INTERCURRENT SINUS SURGERY**

Minor problems with sinus ventilation and plumbing can be corrected at the time of Rhinoplasty but if there is significant infection and/or pus in the sinuses it is not prudent to perform elective cosmetic operation at the same time as significant sinus surgery because the risk of infection is increased and the consequence of getting infection in cartilage or in bone is very significant.

### **NASAL VALVE RECONSTRUCTION**

Sometimes the cartilaginous abnormality contributing to the cosmetic deformity of the nose interferes with the nasal valve. The nasal valve is a critical part of the nose where the lower lateral cartilage (the limits of the nostril) abuts onto and joins the nasal septum. During maximal inspiration if the nose pinches in, this is what is known as nasal valve collapse. This indicates that the cartilaginous structures lack sufficient strength to withstand the negative pressure of inspiration and need to be reconstructed or reinforced at the time of Rhinoplasty. Minor nasal valve reconstruction involves suturing. If it is more significant it involves importing tissue either from the nasal septum or from earlobe cartilage to reinforce the cartilage already present in the nose. Exuberant reduction in the cartilaginous nose by inexperienced Surgeons often leads to nasal valve reconstruction months or years after surgery and is something that must be avoided at all costs.

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## Post-operative period

When the patient wakes up in Recovery they will have a plaster or splint on the nose immobilising the nasal bones that have been reset, reshaped and repositioned. Depending on the amount of haemorrhage and/or the ancillary procedures performed they may have no packing in the nose, absorbable packing, non absorbable packing and/or plastic sheeting to hold things in place. The packing usually comes out Day 1 postoperatively, plastic sheeting, depending on why it was inserted, anywhere between Day 1 and Day 5 postoperatively. It is common to have some degree of facial bruising or black eyes.

The plaster stays on the nose for a period of about a week. If an external or open structure Rhinoplasty is performed the stitches are usually removed on the 5th postoperative day (sometimes absorbable stitches are used). When the plaster comes off, the patient can get an inkling as to the final shape of their nose, but there is still significant bruising and swelling. The skin is rarely resected at the time of Rhinoplasty and although the infrastructure of the nose is significantly altered it takes a period of weeks to months for the skin to shrink down and appropriately drape over the new nasal contour. Nasal airflow should be near normal at the end of the first postoperative week and if nasal obstruction was a symptom prior to surgery, or one of the reasons for the operation, significant improvement should be apparent at that point in time.

### IMPLANTS

It is becoming increasingly common to use Alloplastic (synthetic) implants at the time of Rhinoplasty. This is more so the case in secondary or revision procedures.

Any Alloplastic implant carries the risk of infection and/or extrusion and patients need to discuss very carefully with their Surgeon whether organic material exists that can be used; implants probably should be a last resort.

## **ANCILLARY SURGICAL PROCEDURES**

Ancillary surgical procedures are appropriately performed at the time of the Rhinoplasty. This may involve minor procedures such as the injection of fillers like fat or collagen, injection of Botox for forehead or facial wrinkles and/or the insertion of implants to either enhance the contour of the cheeks and/or of the chin. These procedures add increased operation time and carry a small but finite risk of infection, extrusion or migration and the patient must be very comfortable with knowing what these potential risks are, how they are managed and what impact they would have on the final outcome of their surgery.

## **CONCLUSION**

The improvement in Rhinoplastic techniques, the improvement in the training of Ear Nose and Throat and Facial Plastic Surgeons opens exciting new horizons with regards to the possibilities of improving nasal cosmesis and nasal function. The primary care Physician should have a good overview of what is involved in cosmetic and functional Rhinoplasty, should play a key role in patient counselling and selection and should direct their patients towards Surgeons with experience and a proven track record both in terms of obtaining desirable cosmetic and functional results.