

Patient's Guide to Facelift Surgery

FAQs (frequently asked questions)

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This booklet has been assembled to provide you with information on surgery to rejuvenate the face, and answers to commonly asked questions regarding facelift surgery and related procedures. It is part of our effort to provide you with the information you need to make informed choices regarding aesthetic surgery. Please feel free to share it with friends and family or anyone you know who might be interested.

The decision to undergo plastic surgery is an important one and plastic surgery of the face often warrants expert care performed by a specially trained surgeon. Please don't hesitate to contact us for additional information. We welcome your questions, and should you decide to undergo surgery, we promise to take care of you as if you were family.

The information contained herein are views as expressed by Timothy J Marten, M.D., and are not intended to constitute definitive or complete descriptions of the procedures he performs, nor specific medical advice. Information applicable to specific individuals can only be given after consultation and appropriate examination.

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How is a facelift performed?

In simplest terms, a facelift repositions the skin, muscle and fat in the cheek and jaw line area that has sagged as a result of time and gravity, and removes the excess skin that has accumulated as a result of aging stretching.

Does a facelift help the forehead, eyes, and neck?

The term “facelift” is misleading in the sense that most people understandably think of their face as including the forehead, eyes, and neck. The facelift operation technically is a lift of the cheek, corner of the mouth and the jaw line areas only however, and separate procedures are needed to address aging in the forehead, eyes, and neck, if problems are present in these areas. While many patients who undergo facelift surgery also have surgery on their forehead, eyes, and neck, they typically use the term “facelift” to refer to this group of procedures.

How has the way facelifts are performed changed?

Traditional facelift techniques have, for many decades, relied upon the tightening of aging skin to elevate and support sagging, deeper facial tissue. Although initial results from these procedures often appeared good, early recurrence of facial sagging was common and poor scars and healing problems were frequently seen. These “one layer” “skin only” procedures also typically produced an easily recognized tight or “face lifted” appearance that was usually made worse when subsequent procedures were performed.

As plastic surgeons have pursued improved outcomes our understanding of the aging process has grown and facelift techniques have evolved. Experience has since shown that an attractive and natural appearing result is not possible without diverting tension away from the skin to deeper tissue layers. For most patients an improved result is also obtained if scars are placed inconspicuously along natural anatomic interfaces, the facelift is designed to include correction of the aging mid-face, and age related loss of facial fat is concomitantly corrected with fat grafting (“fat injections”), or by other means.

Why do so many facelifts look tight and unnatural?

The fundamental flaw with traditional “skin only” “one layer” facelifts, “mini-lifts” and other procedures typically performed by plastic surgeons is the fact that skin was meant to serve a covering function and *not* a structural or supporting one. Skin is inherently elastic and was intended to stretch and move as we express ourselves. It was not intended to support sagging muscle, fat, and other structures lying underneath it. Attempts to use skin to support sagging deep layer tissue corrupts its covering function and results in abnormal skin tension and related problems including poor scar formation, distortion of ear anatomy, earlobe malposition, and a tight and unnatural appearance. Skin tension also flattens facial contours, rather than restoring them, and because skin stretches as tension is applied, objectionable hairline displacement is common when “skin only” techniques are used. In addition, because skin is inherently elastic and not capable of providing a sustained support of deep facial tissues the results of most “skin only” facelifts and “mini-lifts” are usually short lived.

How can a tight and unnatural look be avoided?

Directly below the skin and facial fat layer (“subcutaneous fat”) lies a firm, inelastic, fibrous layer known as the *superficial musculoaponeurotic system*. This layer is usually referred to by the acronym “SMAS” and it is most conveniently thought of as a thin, flat tendon that lies on top of, and is attached to, the muscles and fat of the face. The name is not as important as understanding that this layer can be used to lift sagging facial muscles and fat back up where they once were in their natural arrangement, while simultaneously diverting tension away from the skin.

Using the SMAS to lift sagging facial tissues and to restore facial contour avoids the problems associated with procedures in which skin is tightened as it is an *inelastic* structural layer capable of providing meaningful and sustained support. Although skin must be removed in SMAS procedures, only skin that is truly redundant is sacrificed, and closure of incisions can be made under normal skin tension. Facial skin so treated will distribute itself naturally over new contours and is capable of self-repair and contraction. This “two layer” approach averts a tight or “lifted” appearance and adds further to the end result.

Why do so many facelifts seem to produce only temporary improvement?

The majority of facelifts performed today are performed as “one layer” procedures in which an attempt is made to lift sagging facial fat and muscles by tightening the skin or by placing suspension sutures only. When this is done the patient will initially appear improved, but because skin relaxes and suspension sutures eventually cut or tear through tissue, initial improvement seen is quickly lost.

Is there a way of performing a facelift so that it lasts longer?

Using the SMAS, the fibrous layer lying under the skin, to elevate sagging facial tissues and to create contour in the face and neck areas provides a scheme in which sustained support can be obtained from non-elastic, strong, structural tissue, and one in which tension can be transferred away from the skin. Diverting tension away from the skin and to the SMAS results in a soft, natural facial appearance, high quality scars, and often doubles, triples, or even quadruples the lifespan of improvement obtained. Diverting tension to the SMAS and away from the skin also prevents ear and ear lobe distortion, and minimizes displacement of temple and sideburn hairlines. In addition, unlike “skin only” facelifts and “mini-lifts” in which subsequent procedures worsen skin tightness and problems associated with it, SMAS facelifts can theoretically be repeated as often as needed without producing skin tightness and abnormal appearances. This removes the “two facelift limit” set by many surgeons performing skin only procedures, and allows patients to undergo procedures at an earlier age and more frequently, if desired.

How long will a SMAS facelift last?

It is not possible to provide a precise answer to this question as everyone has their own genetic rate at which they age, and this will be affected by dietary and lifestyle factors. In general, fair skinned, blue-eyed northern Europeans do not age as well as dark-eyed individuals of Mediterranean ancestry, and people of Asian and African ancestry tend to age better than dark skinned Caucasians. The rate at which one ages will also vary depending on whether one smokes or not, how much alcohol one drinks, and how much sun one is exposed to. It is also true that everyone has their own definition of when their procedure needs to be repeated, and a model or actor or other individual whose face comprises their professional instrument will typically return sooner than the average person undergoing the procedure.

How long a facelift lasts is also very much dependent on how it is done. If the procedure consists only of a “one layer” tightening of the skin or suspension suture placement patients often find they need the procedure repeated as soon as a few years thereafter. If the facelift is performed in two layers and elevation of sagging facial fat and muscles is achieved by lifting the deeper SMAS layer and not the skin, the lifespan of the facelift is often quadrupled, and for many patients is extended to the 10 to 15 yr range.

Is there any permanent benefit from a facelift?

Yes, but facelift surgery only turns back the clock and does not stop it. That said, if a person has an identical twin and she or he had a facelift and their twin did not, they would both continue to age but the twin having the surgery would look better than the twin who did not for the rest of their lives, even if not additional surgery was ever performed.

What about lifting the face with sutures only?

Sustained and attractive support of the deep layers of the face cannot be predictably obtained by the placement of “suspension”, “cable”, and “barbed” sutures, even if soft, partially elastic, materials are used. These “suture lift” procedures have led to a variety of problems for many patients including asymmetries, contour irregularities, traction dimples, visible bowstringing, nerve injuries, chronic pain syndromes and abnormal appearances during animation. Suspension sutures placed in the neck can also create a tight or choking feeling, and can result in difficulties in speaking and swallowing. In addition, if large, stiff, permanent sutures are used, the suture knots and the sutures themselves can often be felt beneath the skin. In some cases these suture knots can erode overlying skin necessitating their removal.

The fundamental flaw in “suture lifts” is that one must rely on a small rigid thread to support a large area of delicate, inherently soft, mobile facial tissue. Over time these sutures cut or tear through tissues they were intended to support and can injure facial structures. Suspension sutures also prevent natural downward movement of facial tissues, impeding certain expressions and creating strange sensations and unnatural appearances. Unlike suspension suture placement, SMAS elevation allows for a secure and balanced elevation of facial tissues without disruption of their natural relationships. Tissue anchoring is achieved through direct tissue contact and healing, not distant point suspension by a suture. SMAS elevation also allows natural gliding and depression of tissue and more natural appearances during facial movement.

What is a subperiosteal facelift?

The periosteum (“pear-e-os-tee-um”), the dense fibrous layer lying on top of facial bones, has been advocated by some plastic surgeons as the layer beneath which facelift surgery should be performed. When properly performed these procedures divert some tension away from the skin and avoid some of the problems associated with “skin-only” procedures. This layer is a conceptually illogical choice for overall rejuvenation of the face however, in that it is densely adherent to the facial bones and is not closely associated with the intermediate layers of the face where most of the aging is known to occur. In addition, its dissection typically results in marked and prolonged swelling, and generally portends a longer period of recovery for the patient after the procedure.

Unlike the periosteum, the SMAS is closely associated with tissues that sag as the face ages and actually envelopes many, if not most, of those of concern. It is thus a more logical layer to use to restore them to a more youthful position, and is generally associated with less and a quicker recovery.

What is a “deep plane” facelift?

“Deep plane” was once the name of a particular facelift technique that is no longer performed by the surgeon who developed it. The term has since come to be used generically to describe any procedure in which some layer other than skin (most often the SMAS) is used to lift the face.

What is a “laser facelift”? Are there any advantages to using a laser?

The term “laser facelift” is a confusing and ambiguous one that has no specific medical meaning. Generally physicians advertising “laser facelifts” are referring to non-surgical treatments of the skin surface only with some type of laser light. In these procedures lasers, red-hot beams of intense light, are used to sear the skin surface primarily to reduce fine surface wrinkles and irregularly pigmented areas. Although many patients are led to believe that these treatments also tighten and shrink the skin, over two decades of clinical and experimental study has shown this effect to be minimal, and many dermatologists have abandoned traditional forms of aggressive facial laser procedures. It should also be noted that these laser procedures only produce smoother skin, and do not address sagging facial muscle and fat. In this sense they are not true facelifts.

Newer “laser facelifts” being marketed the last few years are typically what are medically referred to as “non-ablative” techniques, a term that means that the laser device is designed to preferentially burn the inner layers of the skin, but not the skin surface. Although these showed initial promise, they have also produced a number of problems including damage to fat lying under the skin. They are generally administered as a series of treatments, and like more aggressive ablative laser procedures they do nothing to address sagging facial muscle and fat, and are not true facelifts.

Over the past two decades many surgeons have also tried to use laser light to perform the cutting and dissecting typically performed with a scissors or scalpel during the facelift procedure. Unlike the procedures mentioned above, these technically qualify as true “laser facelifts” in that tissue is actually cut and redundant tissue is removed. Most surgeons have abandoned these procedures however. The reasons are numerous and include the fact that laser beam is broad and indiscriminate and does not allow precise separation of the delicate interfaces between tissue layers they way a scissors or a scalpel does. The laser is also a bulky, hard to maneuver piece of equipment and requires that the surgeon wear dark tinted glasses. This makes precise cuts difficult and can needlessly slowdown the procedure. The overriding reason “laser facelifts” have fallen out of favor however, is that they have not produced the improved outcomes or quicker healing times that their advocates originally hoped for and promised.

What is a “mid-face” lift?

The mid-face is a medical term for an inverted triangular area situated over the upper cheek that encloses a specialized collection of fat referred to as the “malar fat pad”. In healthy, youthful appearing individuals this area is full and it is confluent with the adjacent cheek and lower eyelid. As one ages however, and as men and women enter their early mid life and beyond, there is generally a deflation and loss of volume from this area. Over time this results in a loss of the smooth transition for lower eyelid to cheek and, eventually, in an ill, haggard, and elderly appearance. Mid-face deflation is felt by some surgeons to also be accompanied by *drooping* of mid-face tissues, and this erroneous assumption has led to procedures in which an attempt is made to lift the mid-face area and the malar fat pad.

The recognition of mid-face deflation as a significant component of the changes occurring in the aging face, combined with the realization that the traditional SMAS facelift produced little or no improvement in the mid-face region, has led to a variety of procedures designed to specifically target the mid-face area. Many of these techniques are now being performed as isolated procedures, or are being performed in conjunction with lower eyelid surgery.

Why are fewer mid-face lifts being performed?

Although there is merit in the idea of rejuvenating the mid-face, isolated mid-face lift procedures are still evolving, and have not been perfected. Most procedures have a steep learning curve and have been fraught with complications, especially when performed through an eyelid incision. These complications include eyelid retraction (pulling down of the eyelid), eyelid eversion (turning out of the eyelid), canthal displacement (change in slope of the eye), and dry eye problems. As a result, many mid-face lift techniques have come to incorporate potentially problematic aggressive adjunctive surgical maneuvers (canthotomies, canthoplasties and orbicularis oculi muscle suspensions) to prevent these problems from occurring. These maneuvers often result in a "changed look" that is disturbing to many patients however, and carry a high risk of significant and troublesome complications of their own.

Can a mid-face lift be performed in place of a facelift?

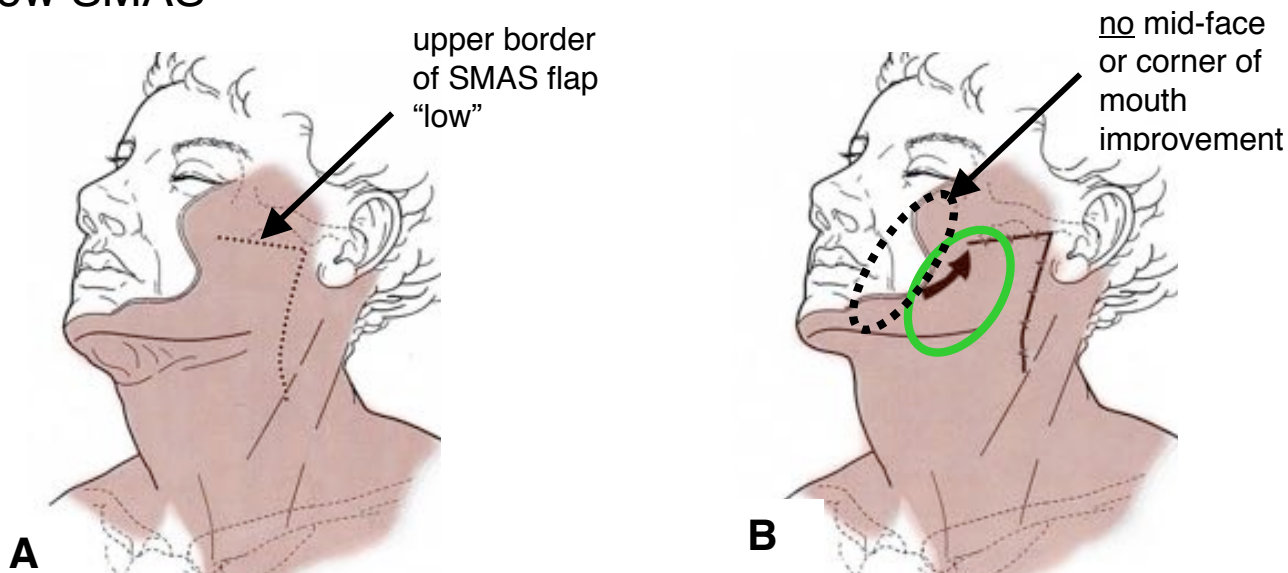
Careful evaluation of most patients who need or request a mid-face lift will show that they also need a facelift. It is rare to encounter a patient with mid-face aging who does not also have sagging in the cheek and jaw, and mid-face lifts are arguably more logically performed in conjunction with a formal facelift procedure. When this is done improvement is more balanced, and a more harmonious and natural appearing result is usually obtained. Healing is also faster and complications are less likely if mid-face improvement can be obtained through the facelift incision, rather than by using an eyelid or intra-oral (through the mouth) approach.

In the end analysis most mid-face lifts are also conceptually flawed in that they erroneously assume the problem seen in the aging upper cheek to be solely one of sagging of the malar (upper cheek) fat pad. Failure to acknowledge the fact that malar fat pad *atrophy* (deflation) is present to a significant degree in most cases has led to general disappointment following many procedures for both patients and surgeons, and has resulted in the addition of dermis fat grafts, orbital fat transposition, and "septal resets" to mid-face "lift" procedures. It is questionable and remains to be answered however, whether these procedures can produce a restoration of lost volume as simply, naturally, and effectively as can be obtained with fat injections.

Does lifting the SMAS lift the mid-face?

The conventional "low" cheek SMAS flaps elevated low in the cheek suffer the drawback that they cannot, by design, have an impact on tissues of the mid-face and under eye areas. Low designs target the lower cheek and jaw only and produce little if any improvement in the upper cheek area. Planning the flap "higher" in the cheek overcomes this problem, and produces a more balanced and improved result (**Fig 1 ABCD - illustration**).

Low SMAS



High SMAS

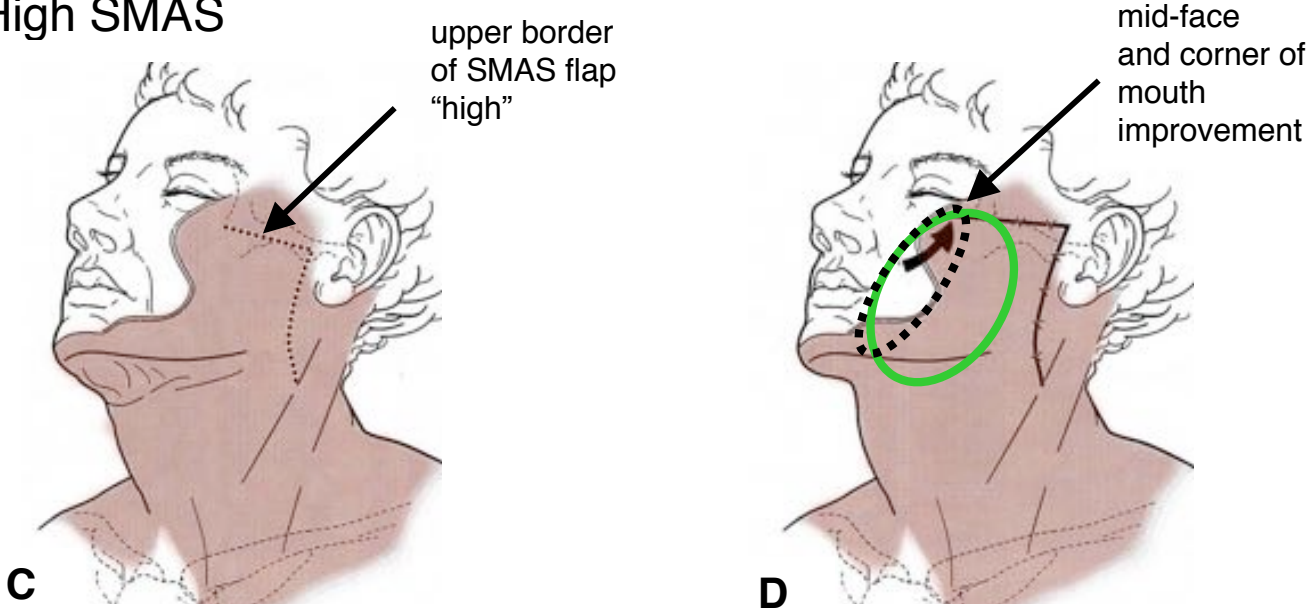


Fig 1 ABCD "High" and "Low" SMAS Techniques Compared .

- A) Plan for **Low SMAS** procedure. Note that upper border of the flap lies *below* the cheek bone arch
- B) Low SMAS flap after dissection and suspension. Area of flap effect (green solid circle) is limited to the lower cheek and jawline and no improvement is obtained in the mid-face, under-eye, or corner of the mouth regions (black dashed circle).
- C) Plan for **High SMAS** procedure. Plan for Low SMAS procedure. Note that upper border of the flap lies *over* the cheek bone arch
- D) High SMAS flap after dissection and suspension. Area of flap effect (green solid circle) includes not only the cheek and jawline, but the mid-face, under-eye, and corner of the mouth regions (black dashed circle) as well.

Benefits of a high SMAS plan include restoration of youthful upper cheek contour, an aesthetically significant fill of the under eye area, increased support of the lower eyelid and improved correction of the “nasolabial” (cheek) fold, and these benefits can be obtained without the need to perform a separate mid-face lift procedure. High SMAS procedures are also readily combined with mid-face fat grafting (“fat injections”) since surgical dissection is not made in the mid-face and under eye area. This averts the need to perform complex and potentially problematic procedures in which eyelid fat is transposed, or “reset”.

What is the best way to use the SMAS?

A number of specific strategies have been devised for utilization of the SMAS that merit consideration. These include “composite” procedures in which the SMAS and skin are elevated as a single, one layer unit and advanced in the same direction, and two layered “lamellar” procedures in which skin and SMAS are elevated as separate layers and advanced “bi-directionally” in different directions. Composite type dissections have the purported advantage that they are quicker to perform. These procedures have the distinct disadvantage however, that skin and SMAS layers must be advanced the same amount, in the same direction, and suspended under more or less the same amount of tension. Because skin and SMAS age at different rates and in different directions however, optimal treatment of each layer is generally not possible when one layer composite techniques are used, and skin over-shifting, skin over-tightening, hairline displacement, “wrinkle shift” from the neck to the cheek, and other objectionable occurrences and unnatural appearances can result.

Two layer “lamellar” procedures offer the distinct advantage that skin and SMAS can be advanced different amounts, in different directions, and suspended under differential tension as circumstances indicate. This allows each layer to be addressed individually, and skin tension, hairline displacement, and objectionable “wrinkle shifts” can be avoided. This in turn results in a more natural appearance, a more comprehensive rejuvenation, and fewer telltale irregularities. “Lamellar” techniques suffer the potential drawback that the procedure is technically more demanding and time consuming to perform.

Why don’t all plastic surgeons perform a SMAS facelift?

Although SMAS procedures have revolutionized how facelifts are performed and allow plastic surgeons to produce natural appearing, long-lasting outcomes unobtainable by other means, they are time consuming, require special training, and a detailed knowledge of the anatomy of the face. As such many surgeons don’t know how to perform these procedures, don’t perform them often enough to become proficient in the technique, or don’t want to take the extra time required to perform them properly.

Are SMAS procedures more dangerous than simpler facelift procedures?

Some surgeons have made this claim but they are typically non-plastic surgeons who are not trained in how to perform the procedure, and there is no evidence to support these claims. In fact, the available evidence suggests that complications are actually fewer when SMAS procedures are performed, and this is thought to be due to the fact that SMAS procedures are generally performed by more experienced surgeons.

I know some people who say they had a SMAS lift, but it didn't last very long and I don't think they look very natural. Why is this?

Many surgeons know that patients are looking for surgeons who use this technique and some stretch the truth about actually performing it. Others will dissect the SMAS layer timidly and inadequately to properly release it and obtain the desired benefit, but feel they are warranted in referring to the procedure as a SMAS procedure. In these and similar situations, tension is not transferred off the skin to the SMAS layer and the procedures amount to little more than an old fashion one layer "skin lift."

When does someone need a facelift, or some other procedures to rejuvenate the face?

Recognizing the changes that occur with age and appreciating the underlying anatomical abnormalities is essential to choosing appropriate treatment. Careful analysis will reveal that most changes will fall into three broad categories: 1) aging and breakdown of the skin surface, 2) facial sagging, skin redundancy, and loss of youthful facial contour, and 3) facial *atrophy* (deflation and wasting) and age related loss of facial fat. Proper treatment will depend upon the types of problems present, the patient's priorities, and the time trouble and expense the patient is willing to go to obtain the desired improvement.

Patients primarily concerned with *surface aging* of their face may not require formal open surgery and may achieve the type of improvement they desire through salon care and dermatologic surface treatments of the skin. These treatments include skin peels, skin resurfacing, Botox injections, injection therapy (Collagen, Restylane, Juvederm, etc), and various forms of laser and other treatments designed to remove or reduce "age spots", "spider veins", wrinkles, and other age related skin surface imperfections.

Patients primarily concerned with facial sagging, skin excess and *loss of facial contour* will achieve marginal improvement however, if surface treatments only are employed. They will require formal surgical lifts in which sagging tissue is repositioned and redundant tissue is removed if these problems are to be properly corrected and attractive and natural appearing improvement is to be obtained. The misapplication of surface treatments of the skin to the sagging face with excess tissue will produce little more than a smooth saggy face with no improvement in contour. This "smooth-saggy look", typically seen in the older patient who has undergone laser resurfacing, is inconsistent with a natural appearance as patients with loss of facial contour generally also have concomitant skin surface aging. It is arguably more attractive and natural appearing to have a well-contoured (lifted) face with a few wrinkles and surface imperfections, than a smooth but saggy one.

Many, if not most, of the changes associated with loss of facial contour represent primarily "deep layer" problems that will be inadequately corrected with traditional one layer "skin only" or "low SMAS" techniques however. Regrettably, surgeons unfamiliar with deep layer techniques often employ "skin only" facelifts or "mini-lifts", and resort to misguided and misapplied ancillary procedures to overcome the shortcomings of these methods. These procedures include facial liposuction, "buccal" (deep cheek) fat extraction, cheek implant placement, "pre-jowl" implant placement, "Gortex" strip implantation, and various types of suspension suture ("barbed suture") placement. Although some of these procedures are at times indicated, they will be unnecessary in the majority of cases if a high SMAS facelift and deep layer rejuvenation is performed

(Fig 2 - photos).



before



after

Fig 2. High SMAS Facelift.

- A) 47 year old woman before surgery. Note loss of youthful contour.
- B) Same patient following high SMAS facelift, neck lift, forehead lift, upper and lower eye lifts, fat injections and chin implant. Sagging tissues have been repositioned, youthful jaw line contour restored, and redundant skin excised without a tight or pulled appearance.

*All surgical procedures performed by Timothy J Marten, MD, FACS
Courtesy of the Marten Clinic of Plastic Surgery*

A doctor told me I don't need a facelift and that my skin can be tightened with some kind of laser treatment. Is this true?

Advances have been made in surface treatment of the skin and there is now a wide array of non-surgical treatments purported to improve facial appearance being recommended to patients. These treatments generally only produce smoother, clearer skin however, and don't address sagging facial muscles and fat, loose and redundant skin, and facial atrophy.

Recently, “non-ablative”, “minimal down time” laser and radiofrequency technologies have been introduced that manufacturers claim can tighten the skin. These claims have not been conclusively proven scientifically however, and problems have occurred following these treatments. These include damage of facial fat, damage to facial skin, skin discoloration, and skin scarring. Even the best results that have been presented show subtle improvement only. Typically patients are excited for a few months after the treatment while mild swelling is present, but are disappointed when swelling abates and the perceived improvement is lost.

A more accurate characterization of these treatments is that they likely produce modest improvement in some cases, but that they cannot produce the type of improvement seen with formal surgical procedures, and that they are not a substitute for them.

Is it better to do everything all at once, or to do it a little at a time?

This will depend on the philosophy of the treating plastic surgeon and the patient’s own notion of what is best. Dermatologists and other non-plastic surgeons often claim that an ongoing sequence of small procedures in conjunction with surface treatments of the skin and the regular injection of fillers is best. Too often this approach requires a considerable commitment of the patients time however, and results in modest improvements that are short lived. It can also result in a tell-tale unnatural appearance, chronic reactions to filler materials, and skin and deep tissue damage making future surgical procedures more difficult.

Most plastic surgeons feel that surgery is superior to non-surgical treatments, but some feel that not everything need be done at the same time. For some patients such an approach is possible, but in many cases it can result in a situation analogous to only painting two walls in a room and leaving the other two unpainted – treated areas draw attention to those that were not, resulting in a disharmonious and unnatural “surgical” or “done” appearance.

Most plastic surgeons specializing in rejuvenation of the face recognize that the whole face ages, not just parts of it, and they rightly feel that in most cases comprehensive improvement is superior and more natural appearing than trying to spot rejuvenate only part of it. It is a bit of a paradox, but doing more surgery can actually look like less due to the fact that a more balanced, harmonious and natural appearance is obtained.

Undergoing multiple procedures at the same time has other advantages as well. When multiple procedures are performed at the same time there is typically a substantial saving on the additional surgeries and the overall cost is significantly lower. Even more important for many patients is that only one time need be taken off from their personal and professional lives to recover.

What is the best age to have a facelift? Is it better to do a facelift at the first signs of aging or to wait until one is older and the problem is more advanced?

How one ages will vary depending on their own genetics, how much time they have spent in the sun, how much they drink, if they smoke or not, and even factors such as how expressive their face is. It is also true that each patient has their own definition as to when their time has come. A model, actor, performer or public figure whose face is their professional instrument will typically seek surgery to rejuvenate their face before the average person typically would.

Traditionally patients were led to believe that it was best to “hold off” as long as possible, often until they were in their sixties or seventies and an aged appearance was well established, and then to undergo a major “reconstructive” procedure after which it was obvious to everyone that something had been done. Many patients now wish to avoid waiting until an advanced problem is present however, and undergo surgery at an earlier age. The goal of these patients is to preserve a youthful appearance, rather than lose it and then regain it

again, and to undergo a “*maintenance*” procedure at an earlier age and at a time in their life when the result of the surgery is most personally and professional beneficial, and when the change associated with it will be more subtle and less likely to be noticed by others. For these patients it often makes sense to undergo surgery in their forties or fifties.

That said, the best answer as to what age is best is when the patient knows in their heart their time has come and that they are ready. Patients should not undergo surgery at the insistence of, or to please another person. Patients should also not be seduced by discounts or special offers, or succumb to sales pressure exerted by a member of the doctor’s office staff.

Does a facelift accelerate the aging process?

Although it does not stop the aging process, a properly performed SMAS facelift provides a lifelong benefit to the patient and does not accelerate the aging process. Unfortunately most “week-end”, “short scar”, “skin-only” and “mini” lifts don’t address underlying anatomical problems and as a result tend to create tell-tale secondary deformities that can make patients look unnatural, and operated on as they get older. In this sense these “quick fix” procedures, especially when not performed carefully, can make patients look older than they should or would later in life.

Once someone has a facelift do they have to keep having them?

No, having a well-performed facelift does not obligate one to continue having them. However, because most “week-end”, “short scar”, “skin-only” and “mini” lifts do not address underlying deep layer problems they typically result in modest improvement that is short lived, and many patients undergoing these procedures feel that the surgery needs to be repeated every few years to maintain the result.

In a high SMAS facelift sagging facial muscles and fat are elevated in their natural relationships as a unit by raising the strong SMAS layer to which they are attached. This results in a balanced outcome that is more long lasting and ages naturally over time.

How many facelifts can a person have?

The older style “skin-only” “week-end”, “short scar” and “mini” facelifts still performed by many surgeons have the distinct disadvantage that because they do not address deep layer problems they produce a short term improvement. As a result patients undergoing these procedures often return for a second procedure a few years later. Unfortunately repeating these procedures further exacerbates facial tightness and the tell-tale “face-lifted” look commonly associated with them, and as a result surgeons using these techniques often set a lifetime limit of two or three procedures.

SMAS procedures however, more directly address the anatomic layers at which aging is occurring and produce a more sustained and long lasting improvement. Because of this SMAS procedures don’t need to be performed as often. Also, because SMAS procedures divert tension away from skin to deeper structural layers, the skin tightness and related abnormalities typically seen with older style lifts are avoided. Theoretically at least, a patient having a skillfully performed SMAS facelift could have it repeated as many times as needed or desired without it resulting in skin tightness, as the repeat lifts would be made by lifting the SMAS layer, and the skin would then be trimmed to fit under natural skin tension.

When are fat injections (“fat transfer”, “fat grafting”) needed?

Patients with significant age related loss of facial fat, an occurrence medically known as *facial atrophy*, will generally achieve suboptimal improvement from both surface treatments of facial skin and surgical lifts. Smoothing skin will not hide a drawn appearance due to loss of facial volume, and it is difficult to create natural and attractive contours by lifting and repositioning tissues that have abnormally thinned with age. Restoring lost facial volume using fat injections is a powerful technique that has gained increased acceptance by plastic surgeons and other physicians engaged in treating the aging face, and many now consider fat transfer to be the most important advance in rejuvenation of the face since the introduction of the SMAS facelift. Properly performed, replenishing fat in areas of the face that have thinned with age can produce a significant and sustained improvement in appearance unobtainable by other means.

Won't fat injections make a person's face look fat?

No, the purpose of fat transfer is to replace fat that was present in youth but lost with age, not to make the face bigger, and fat is only injected where it is needed.

How are fat injections performed?

Fat transfer is performed by removing fat from diet and exercise resistant areas of the patient's own body with a small, specially designed, hollow, blunt, toothpick sized needle attached to a small syringe, and then re-injecting it into areas of the face where it is needed. The idea is to harvest intact, living fat cells from areas of the body where the fat is biologically programmed to always be present, and to move it to areas of the face where fat is biologically programmed to thin with age.

Fat must be harvested, processed, and injected in a special way using specially designed instruments if fat cells are to be expected to live, and the desired effect is to be obtained. Harvested fat is then processed in a special centrifuge machine to separate the intact, living fat cells from fat cells damaged during the harvesting process. If a sharp needle is used, or if fat is harvested carelessly under high vacuum, most of the fat cells will be damaged and a temporary effect only will be obtained.

Properly harvested and processed fat must also be injected in a special way for fat cells to survive and persist. If fat is injected like a “Restylane” or “flu” shot the fat cells will be bunched together and most won't be able to get needed oxygen and nutrients from adjacent tissue. For fat cells to survive they must be scattered as individual, small, pin head sized pieces of tissue so that each piece sits in its own tiny compartment.

Where is the fat taken from?

Fat is typically harvested from the hip, outer thigh and abdominal areas, and even though small amounts are usually needed, fat is removed from areas that will improve the patient's silhouette in and out of clothing.

Is fat only taken from one side?

Fat is usually harvested symmetrically from both sides of the body, and unless the patient is unusually thin, a bit more fat than needed is removed and the unused fat later discarded. When this is done the patient will often notice improved contour in the donor areas and, in essence, gets a bit of free liposuction.

Can more fat be taken off than is needed for the fat transfer procedure?

Yes. If the patient would like larger amounts of fat to be removed from donor areas, this can usually be done at the same time as fat harvest.

What is the difference between “fat transfer”, “fat grafting”, “autologous fat grafting”, “fat transplantation”, “fat injections”, “lipo-filling”, and “lipostructure”?

These are all terms coined to describe transferring living fat from one part of a person’s body to another, and for the most part mean more or less the same thing. We typically use the term “fat injections” or “fat transfer” due to the fact that these are straightforward, descriptive terms that do not include medical jargon, and are most easily understood and remembered by our patients.

Fat “grafting” is a medically correct description of the fat transfer technique, but is an older generic term that includes procedures in which fat is harvested and implanted as large pieces or chunks. It also tends to give patients the mistaken impression that fat is taken from another person. The word “autologous” is a term that means fat is taken from one’s own body. Although this is a proper medical description of the fat transfer technique, it is a mouthful for many patients to say and difficult for most patients to remember. The term “lipo” is a latin medical prefix for “fat”, but, as in the case of “fat grafting”, the term “lipo-filling” does not emphasize how fat cells are actually transferred or that they are the patient’s own fat cells. “Lipostructure” is the specific name given by a plastic surgeon to describe his own personal fat injection technique and was coined, in part, to emphasize that transferring fat into the face not only adds volume, but improves underlying facial structure.

Can fat be donated by someone else?

No, fat cannot be donated by someone else or taken from another person, and this is why many plastic surgeons avoid using the term “fat transplantation”.

Can some of my fat be frozen and used later?

No. Although some physicians do this, it is not considered optimal technique or a proper medical practice. Most plastic surgeons feel that freezing fat damages the majority of the fat cells harvested and compromises the ultimate outcome of the fat injection procedure. When fat is frozen and stored there is also the risk that it is mislabeled, contaminated, or not stored at the proper temperature. If a patient elects to have additional fat transfer procedures, it is easiest and best to have “fresh”, living fat harvested from their body each time.

How long does transferred fat last? Doesn’t the fat go away?

Fat injections, when properly performed, is intended to be a transfer of living fat cells from one area of the body to another. Like hair transplants, in which hair follicles are transplanted from an area of the scalp where they are abundant to an area where they are absent, transferred fat is intended to take hold at the site it is transferred to and persist as living tissue. It is not intended to be a temporary treatment.

Like hair transplants, the fat transfer procedure does not stop the aging process however, and as a person ages they will continue to lose facial fat in certain areas. In such situations additional procedures may be desired. This is not a failure of the treatment, it is merely a change resulting from ongoing aging.

The fat injection procedure also results in swelling that can produce a temporary smooth, full, and very youthful facial appearance. Patients often mistake the subsequent resolution of swelling as fat absorption, and failure of the treatment. In most cases, however, a careful examination of the patient's before and after photographs will show that they have benefited from the procedure, and that they had forgotten how hollow their face had become in certain areas before the procedure. Adding volume to the face by transferring fat to it also produces a subtle change involving the play of light and shadow on it that is not as immediately obvious as lifting the neck or jawline, and thus not as easily recognized or appreciated by some patients.

Can the fat move or fall overtime?

No, fat is living, particulate, cellular, tissue, not a liquid or oil, and as such it cannot move or fall over time. For fat cells to survive they must stick to adjacent tissues to obtain oxygen and nutrients. Fat cells that move or are somehow displaced will die and be absorbed by the body over time.

Is the fat lumpy?

No, transferred fat is typically very soft and natural appearing, and the fat transfer technique is quite forgiving and usually produces a soft, natural, uniform result. Lumps and irregularities can occur but these are rare.

Why not have cheek implants instead of fat injections?

Cheek implants are specially shaped plastic wafers placed on top of the cheekbones that are used to enhance and fill the cheek area. For many years implants were the only way to add volume to the face, and they are still useful today to enhance the cheeks in patients born with markedly flat cheekbones.

For many patients however, facial flatness and shrinkage with age is the result of loss of facial fat, and it makes better sense to replace what has been lost with what was once there. Fat injections also typically produce a softer, more natural, and youthful appearance than cheek implants do, especially in women and patients with thin faces. Fat injections offer the additional advantage that it can be used to treat other areas of the face, and not just the cheeks.

Can fat transfer and cheek implants be done together?

Yes, and this can be a very effective plan for some patients. The cheek implants can be used to correct flatness in the cheek area and augment the bony foundation of the face. Fat injections can then be used to provide natural softness, and to fill in other areas of the face that have thinned and atrophied with age.

Can fat injections be done instead of a facelift?

Age related loss of facial fat rarely exists as an isolated event in a healthy person and thus most patients troubled by it are not logically or appropriately treated by fat injections alone in my opinion. Fat injections alone are also arguably of questionable benefit to the patient troubled by significant facial sagging and skin redundancy.

Although aggressive filling of the sagging face with fat can produce improved contour and smoother appearing skin, it generally results in an unusually large, overfilled face that appears both unnatural and unfeminine. Such an overfilled face can be hard to correct at a later date, and it is both more logical and practical in my opinion to perform fat grafting in conjunction with a face lift if needed, and after sagging facial tissues have been repositioned and redundant tissue has been removed. When a high SMAS technique is used in conjunction with fat injections both loss of contour and age related facial shrinkage can be corrected and optimal improvement can be obtained.

Are fat Injections always needed when a facelift is performed?

No, but they can enhance the result in the majority of cases. The need for fat injections are determined by the degree of age related thinning and shrinkage of the face. Fat injections can also be performed after a facelift if needed.

What areas of the face are is fat typically transferred to?

Fat injections are targeted at each patient's own individual problems and thus the treatments vary from patient to patient. Areas frequently treated are the under eye area, "mid-face", cheeks, "nasolabial creases" (lines running from nose to corner of mouth), lips, lip lines, and "drool lines" (lines running down from corners of mouth). Other areas often of benefit to patients include the temples, frown lines, upper eyelids, chin, and jaw line.

Do fat injections have any benefits other than filling deflated areas of the face?

It appears that this may indeed be the case and that fat injections may have a rejuvenating and anti-aging effect. For many years surgeons performing fat transfer have noticed that patients seem to have an unexplained improvement in the quality and texture of their skin above and beyond what would be expected by the addition of volume alone to the face. Fat injections are now also being used successfully to treat problem wounds and tissue damage elsewhere on the body including breast skin damaged by radiation treatments, frostbite, and chronic ulceration of the legs.

This beneficial effect of fat injections is now believed to be mediated through a "stem cell" effect, and due to an increase in the adult stem cell population in the treated areas. Stem cells are specialized cells that can transform themselves into other tissues and are an area of intense research interest. There are two basic types of stem cells – "embryonic" and "adult". Embryonic stem cells are the current focus of most research as they can divide and become almost any tissue in the body. They currently must be obtained from embryos however, and thus the medical breakthroughs expected to come from their use are still many years off. Fat cells contain *adult* stem cells, and the benefits they provide can be obtained here and now when fat injections are performed. Adult stem cells can only partially differentiate into other tissues, but it seems that the stem cell effect obtained by the transfer of fat cells has a rejuvenating effect on tissues the fat is injected next to. This effect is now thought to impact on all layers of the face, including bone, muscle, facial fat, and skin, and it appeals to me that by injecting fat as part of the facelift procedure we can not only turn the hands of the clock back, we may be slowing them down.

Does a facelift fix everything, or are other procedures needed?

Rarely does isolated aging occur in the in the cheeks and along the jawline and many patients requesting facelift surgery undergo forehead, eyelid, and neck surgery as well. Many patients are confused by the term "facelift", however, and take it to imply correction will be made in all areas. These patients must be counseled carefully as the facelift itself will produce no improvement in forehead, eyelid and neck problems, and tends to unmask and draw attention to them.

It is not uncommon for patients focused on aging in their face and neck to question the need to undergo forehead surgery. Many unconsciously optimize their forehead appearance when looking in a mirror by raising their eyebrows, or try to conceal eyebrow drooping by aggressive plucking or waxing of the outside of their eyebrows, or with forehead concealing hairstyles. Although Botox can smooth forehead expression lines, and in some cases be used to produce some elevation of the outer part of the eyebrow, it cannot correct moderate or severe eyebrow droop. Failure to properly advise patients and perform forehead surgery when needed can result in a disharmonious appearance often referred to in medical circles as the "young face - old forehead deformity".

Can patients just have a neck lift if they are only concerned about their neck?

It is not uncommon for patients to request that surgery be performed upon their neck only. Although such a plan is acceptable for some men, failure to concomitantly restore attractive cheek contour and lift sagging jowls in most women typically results in an unbalanced, unnatural and unfeminine appearance, and a square, "bottom heavy" facial appearance. In addition, if an aggressive isolated neck lift is performed, sagging in the cheeks and jowl area can actually be accentuated, as neck tightening under the chin exerts a downward pull on tissue in these areas.

That said, some younger women with full necks and poor neck contour, but minimal droop of their face and jowl are candidates for neck lift surgery only. In these cases this procedure can usually be performed though a small incision under the chin and no incisions are needed elsewhere.

Can patients just have liposuction on their neck instead of a neck lift?

Liposuction is a technique in which fat is vacuumed out of the body using special hollow metal tubes attached a source of suction. It can sometimes produce excellent results in well-selected younger patients with good skin, tight neck muscles, and accumulations of "baby fat" situated under the skin and not deep in the neck. Although these patients are uncommon and the exception, their before and after photographs are typically shown in magazines, plastic surgery promotional materials, and on plastic surgery websites, and patients who are not good candidates for the procedure are left with the impression that this is the type of improvement they will obtain if they undergo the procedure.

Most patients in their thirties and beyond, and patients who have a lifelong history of poor neck contour and a full neck, have fat accumulation deep in the neck that cannot be removed by the liposuction technique, in addition to laxity of the muscles that support the neck. In these situations liposuction typically does little more than strip out the superficial fat lying under the skin that makes the neck appear soft and youthful, and exposes neck muscle laxity (see below). If liposuction is performed aggressively the neck can appear unnatural and deformed. This situation is difficult for the patient to conceal and a challenge for a plastic surgeon to correct.



Fig 3. ABCD Liposuction of the Neck and Neck Lift Compared. Figures A and C on the left show patient age 39 after liposuction of her neck has been performed by another surgeon. Fat that made the neck appear soft and feminine had been inappropriately removed and the patient was displeased that lax muscles were exposed and that redundant skin was still present. Figures on the right show the patient age 41 after a neck lift was performed. Lax muscles under the skin have been tightened and excess skin removed. Note that the patient has a more fit, athletic, and appealing appearance.

Neck lift surgery performed by Timothy J Marten, MD, FACS. Courtesy of Marten Clinic of Plastic Surgery.

Stop here

Unlike liposuction, a neck lift allows fat from the deeper layers of the neck to be removed and lax neck muscles to be tightened. Skin can also be removed in instances when indicated. This allows actual underlying problems to be addressed, and preserves precious fat lying immediately under the skin.

If a patient has had their eyes done in the past will they have to have them done again when a facelift is performed?

Facelift surgery can unmask other existing age related changes and create a need to perform additional procedures. This is commonly seen over the lower eyelid where the sagging cheek often smooths the lower lid skin by pulling it down. A properly performed repositioning of the cheek obtained as part of a facelift will usually result in some lower lid wrinkling and redundancy not present before surgery. This can be demonstrated prior to surgery by elevating the cheek to the predicted after surgery position while examining the lower eyelid in a mirror. In the majority of cases it will be evident that some removal of lower eyelid skin must be made, even if the lid appears smooth before surgery, if lower lid wrinkling is to be avoided afterwards.

Is it always necessary perform “the works”, or can some patients have only part of the job?

Only surgery that is needed, wanted, and approved by the patient is performed. It is a fact however, that the whole face ages, not just part of it, and that spot rejuvenation of just part of it is not always appropriate and can result in abnormal and unnatural appearances. It is also a fact, although a bit of a paradox, that doing more surgery can actually look like less in that a harmony and balance is maintained in the face that is holistically rejuvenated, and not treated in piecemeal fashion. This is not always the case when only part of the job is done.

It is understandably the hope of many patients, of course, that undergoing just one procedure can somehow naturally rejuvenate their face, even though this is rarely the case. It is also true however, that most patients come to understand that additional procedures are needed if a natural and balanced appearance is to be obtained when it is clearly explained to them. It is, in fact, a “secret weapon” of most experienced plastic surgeons that they see the need to treat the face in its entirety, perform multiple procedures as indicated, and that they can communicate the need to do so to their patients.

The typical patient presenting for rejuvenation of her aging face is usually best served when procedures are performed on her forehead, eyes, face, and neck so that a balanced and natural appearance is obtained. Some areas will require more aggressive treatment than others, and sometimes procedures need not be performed on all parts of the face. Some patients will additionally require treatment of the mouth area, or fat grafting to replace fat lost with age. Performing these procedures together does not necessarily mean that the patient will take a longer time to recover, however.

If a patient is not doing “the works”, are their certain combinations of procedures that are better to do than others?

Yes, it is usually better to do the eyes, or the forehead and eyes first, as our eyes are our window to the world and improvements in the eye area result in rested, agreeable and happy appearance that is generally of highest artistic priority. These procedures are also less involved than work on the face and neck, and generally are less expensive and have a faster recovery.

Conversely, it is generally a hollow victory to lift a woman’s face and neck and leave her with un-rejuvenated forehead and eye areas. Although a good jaw line and neckline is important to a fit and vibrant appearance, if the upper face looks tired improvements in the lower face are usually mostly negated.

Is a facelift performed the same way for every patient?

It is not possible to design a “universal” facelift technique. Each patient will present with a unique set of problems that require precise diagnosis and an appropriately planned and individualized surgical repair. Plastic surgeons who treat all patients the same and use a “cookie cutter” approach fail to recognize this fact and are destined to produce inferior outcomes. Committed study, careful planning, and a custom designed

procedure that address the anatomic basis of each patient's problems will maximize improvement and limit potential problems and complications.

Where are facelift incisions made and why are these necessary?

There are four general parts to the facelift incision – a temporal part (part above the ear), a part in front of the ear, a part behind the ear, and a part under the chin. The temporal part, and part in front of the ear, provide surgical access to the SMAS layer in the cheek, and are the sites at which excess skin on the cheek and jawl areas are removed. The incision behind the ear provides surgical access to the sides of the neck and is where excess skin on the neck is removed. The incision under the chin provides access to the front of the neck. Skin is not removed at this location.

Do the scars show?

Traditionally facelift incisions were made in visible areas and patients were expected to do their best to conceal the resulting scars with make-up, hair, and bulky jewelry. Because traditional facelift techniques were also only performed in one layer and relied on obligatory skin tightening to lift sagging facial tissues, incisions typically healed as thick scars that stretched and widened over time. Scars were thus often visible to others on casual inspection and from a distance, and patients often felt “marked” or “branded” as having had plastic surgery. Unfortunately, the majority of surgeons still perform face lifts in a similar way and scar visibility remains a persistent problem for many patients having the procedure.

Experienced surgeons concerned with these problems have since developed techniques to conceal facelift scars by placing them in inconspicuous locations and diverting tension away from the skin to deeper tissue layers. When this is done the scars heal as fine lines that are typically not detectable in social situations, and make-up, contrived hairstyles, and bulky earrings and jewelry, are not needed to camouflage them (**see Figs 11, 12 and 18**).

Are staples used?

Staples are not used on any surgery to rejuvenate the face when an experienced surgeon seeking the best possible result performs the procedures. Although staples allow incisions to be closed quickly, they were designed for use by general surgeons and intended to be used to close incisions made perpendicularly into the skin of the abdomen and extremities. They were not intended to be used in more delicate plastic surgery procedures in which incisions are frequently made on hair bearing scalp to hide the resulting scars.

The problem with using staples is that incisions on the scalp or at skin scalp interfaces must be beveled (cut at an angle) if they are to be made parallel to hair follicles to prevent injury to them. When stapled, the edges of beveled incisions tend to override each other, and proper alignment cannot be obtained. Staples are also often uncomfortable for the patient after surgery and removal can sometimes be painful. Although it takes a bit longer, it is best if incisions are carefully aligned with sutures.

I have seen patients who have no sideburn hair after a facelift. Can this be avoided?

The temporal portion of the facelift incision has traditionally been placed within the temporal scalp in a well-intended, but sometimes counter productive attempt to hide the resulting scar. When cheek skin redundancy is small and abundant temple and sideburn hair is present, such a plan is can be used without producing objectionable sideburn elevation and temporal hairline displacement. Patients best suited for this incision plan are usually young and troubled by mild cheek laxity only. In other situations however, larger skin shifts and the presence of sparse temple hair can result in unnatural and tell-tale displacement of the temporal hairline and sideburn if such a plan is employed (**Fig 3 AB - photos**)



Fig 3 A B. Displacement of the Sideburn and Temple Hair due to Poor Incision Planning. The temporal portion of the facelift incision was made in the temporal scalp in a well-intended effort to hide the resulting scar. Because cheek flap redundancy was large and skin elasticity poor, advancement of the cheek skin flap has resulted in objectionable hairline displacement. An incision along the hairline would have prevented this deformity.

*(note: these procedures were **not** performed by Dr Marten and were performed by other surgeons)*

Proper analysis, careful planning and the use of an incision along the hairline, when indicated, can avert this problem without compromising the overall outcome of the procedure (**Fig 4 AB - photos**).

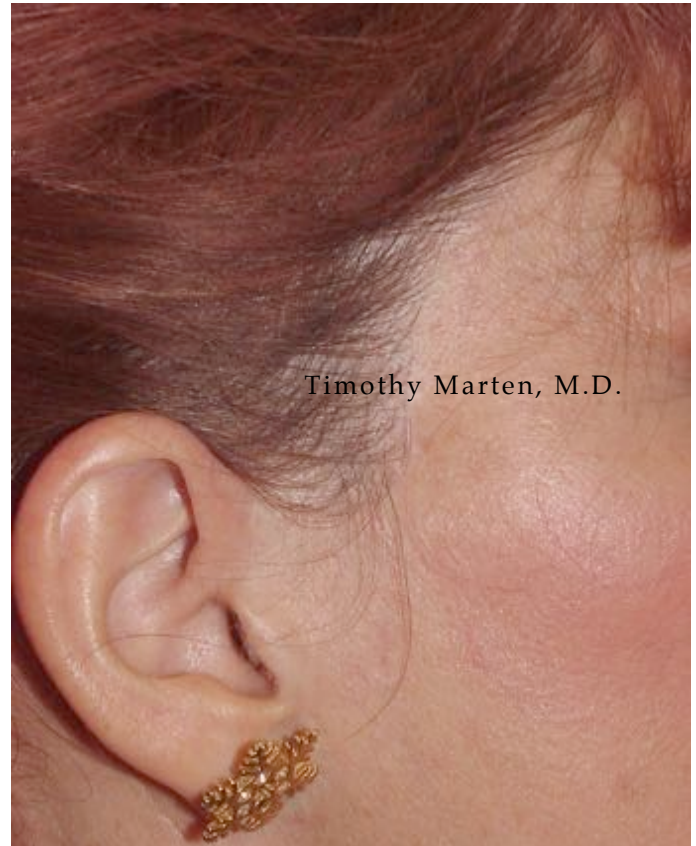
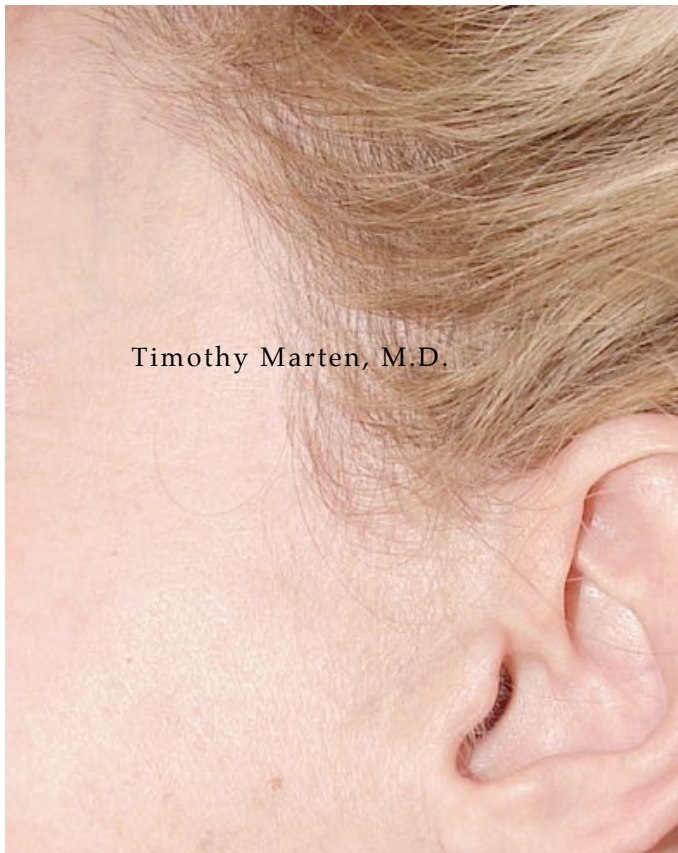


Fig 4 A B. Healed Incisions Along the Temporal Hairline. The use of an incision along the hairline, when indicated, can prevent hairline and sideburn displacement without compromising the end result (see also Fig 7). Although a fine scar is present along the hairline in each of these patients, it is not evident upon casual inspection. Note the preservation of lush temple hair and a full, youthful, natural appearing sideburn (compare to Fig 3)

*Surgical procedures performed by Timothy Marten, MD, FACS
 Courtesy of the Marten Clinic of Plastic Surgery*

What determines where the temple part of the facelift incision should be made?

In choosing the location of the temporal portion of the facelift incision it is important to consider the distance between the corner of the eye and the temporal hairline (**Fig 5**) as this distance is aesthetically significant and increases with age.



Fig 5 Assessing "Temporal Skin Show". The distance between the corner of the eye and the temple hairline and how it will change with cheek skin lifting must be considered when planning the temple portion of the facelift incision. Failure to properly assess these factors can result in objectionable hairline displacement or sideburn elevation.

In healthy, youthful appearing individuals it usually measures no more than 1 1/2 to 2 inches but in older patients, or in those whom have had a prior facelift, it will often be seen to be considerably more.

Equally important as the distance from the corner of the eye to the temporal hairline, is the surgeon's estimate of the skin redundancy over the upper cheek, and thus, the skin shift that will occur when the facelift flap is lifted. This can be assessed by pinching up redundant skin and measuring it. Skin redundancy over the cheek, when considered in conjunction with the amount of existing temporal "skin show", allows rational selection of the best site for temporal incision placement.

When can the temporal part of the facelift incision be hidden in the hair?

In patients in whom minimal or modest temporal skin shift will occur and for whom the temporal hairline will remain within 2 inches of the corner of the eye, the temporal portion of the facelift incision can be placed in the traditional location 2 to 3 inches within the temporal scalp, extending upwards from the upper ear (**Fig 6**).



Fig 6. Plan for Incision on Temporal Scalp. This plan is used for patients predicted to have minimal or modest shift of sideburn and temple hair after elevation of the cheek skin flap. Although it can be used in many cases, it will not be appropriate for all patients.

When is the temple incision placed along the hairline?

When the temporal hairline is predicted to be moved more than 2 inches away from the corner of the eye however, and/or the sideburn hair shifted above the junction of the ear with the scalp, consideration should be given to placing the incision along the hairline (**Fig 7**) rather than within the temporal scalp.



Fig 7. Plan for Incision along the Temporal Hairline. An incision along the temporal hairline should be considered whenever objectionable displacement of the sideburn and temple hair is predicted (see Fig 3 AB).

This incision will accommodate large upward skin flap shifts and allows maximum improvement in the upper face and temple area to be made. If it is made with care and closed under no tension, the resulting scar is usually inconspicuous and far less troublesome for the patient than a displaced hairline. (see Fig 3)

What are the advantages and disadvantages of placing the temple incision in the hair and along the hairline?

Options for the placement of the temporal portion of the facelift incision should be considered in any patient in whom significant displacement of the temporal hairline or elevation of the sideburn might occur. Incision placement is best considered as a choice between two imperfect alternatives, and the final decision as to where the incision will be located is usually made in conjunction with the patient after appropriate discussion has been made.

Placing the incision in a traditional location within the temporal scalp will help conceal the scar, but sometimes at the expense of a large and objectionable displacement of the temporal hairline and sideburn, and compromised improvement over the upper cheek and temple parts of the face. This inevitably results in an old and unnatural appearance and is usually immediately obvious, even upon a casual glance and at a distance. An incision along the hairline however will prevent hairline displacement, and although a scar will be present where the incision was made, it is usually inconspicuous and will generally not be noticed by others. In addition, although a sub-optimally healed incision along the hairline can be concealed with makeup or tattooed or revised, a significantly displaced hairline is difficult to conceal and a challenge to correct. It has been my experience that most patients are disturbed by the prospect of temple and sideburn hair displacement, and recognize this occurrence as a tell-tale sign that a facelift has been performed. When counseled properly and given the choice, many readily consent to incision placement along their hairline when it is needed.

Generally speaking most patients undergoing their first facelift are able to have the temporal portion of their facelift incision hidden in their hair and do not need an incision along the hairline. Older patients, patients with considerable amounts of excess skin, and patients having a second or third facelift often need the incision placed along the hairline.

Where is the incision by the ear made? Is a scar in front of the ear necessary?

Open to scrutiny, the portion of the facelift incision made in front of the ear exists as a frequent point of reference for those seeking to identify a facelift patient. Traditionally, incisions here are made well in front of the ear (**Fig 8**).

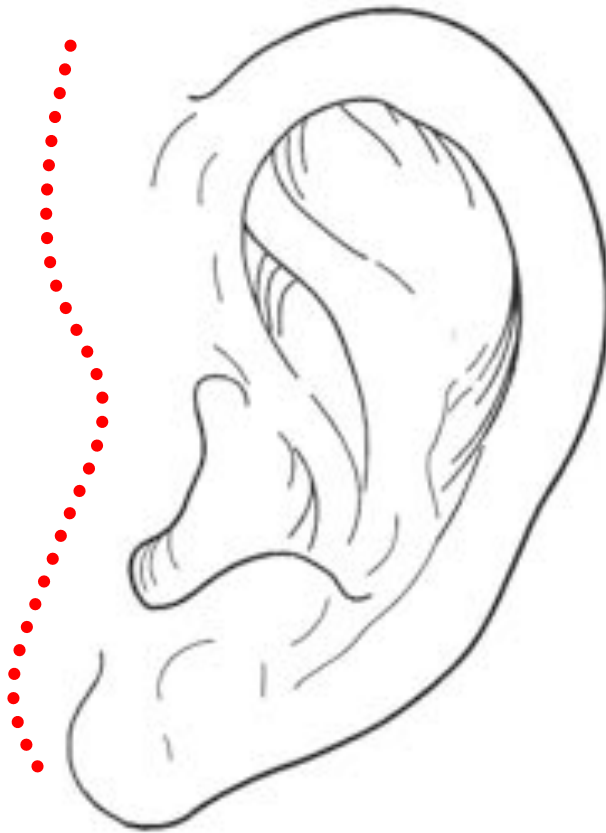


Fig 8 Traditional Location of the Facelift Incision. This places the scar in an area open to inspection by others and “brands” the patients as having had facelift surgery. This incision plan is not used by Dr Marten.

This plan, however, works well only for the unusual patient with cheek and ear skin of similar characteristics who, in addition, exhibits favorable healing. Unfortunately, most patients have a marked gradient of color, texture, and surface irregularities over these areas and a tell-tale mismatch will be evident, even in the presence of an inconspicuous scar. These mismatches cannot always be hidden with make-up as the scar will be smooth and the adjacent skin porous in texture. For these reasons, and in all but the unusual case, this portion of the

facelift incision should be precisely placed along the natural contours of the ear, rather than in front of it (**Fig 9**).

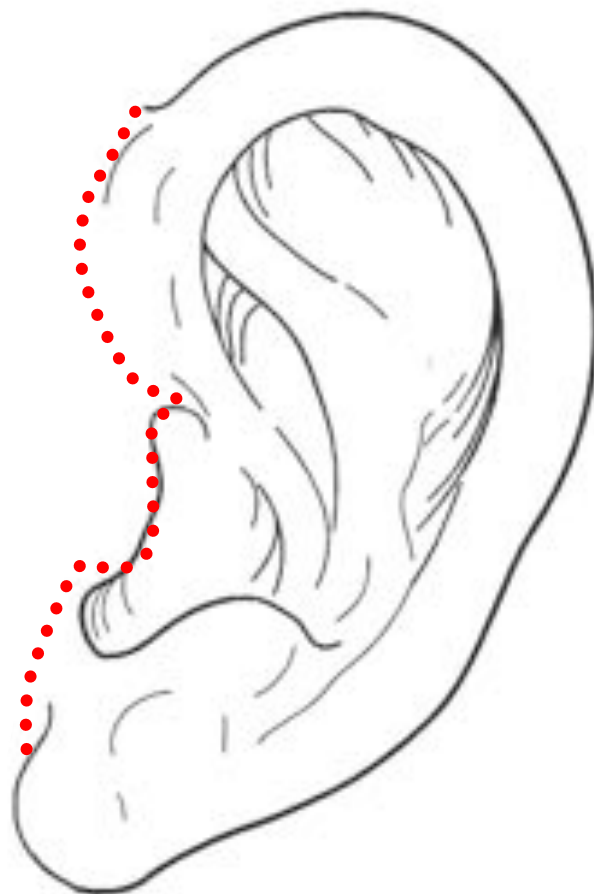


Fig 9. Dr Marten's "Retro-tragal" Plan for Hiding the Part of the Face-lift Incision in front of the Ear. Placing the incision along natural ear crevices and contours conceals the scar and disguises differences in color and skin texture on each side of it.

In this location a mismatch of color, texture, or surface irregularities will not be noticed and the scar, if visible, will appear to be a reflected highlight (**Fig 10 AB**).

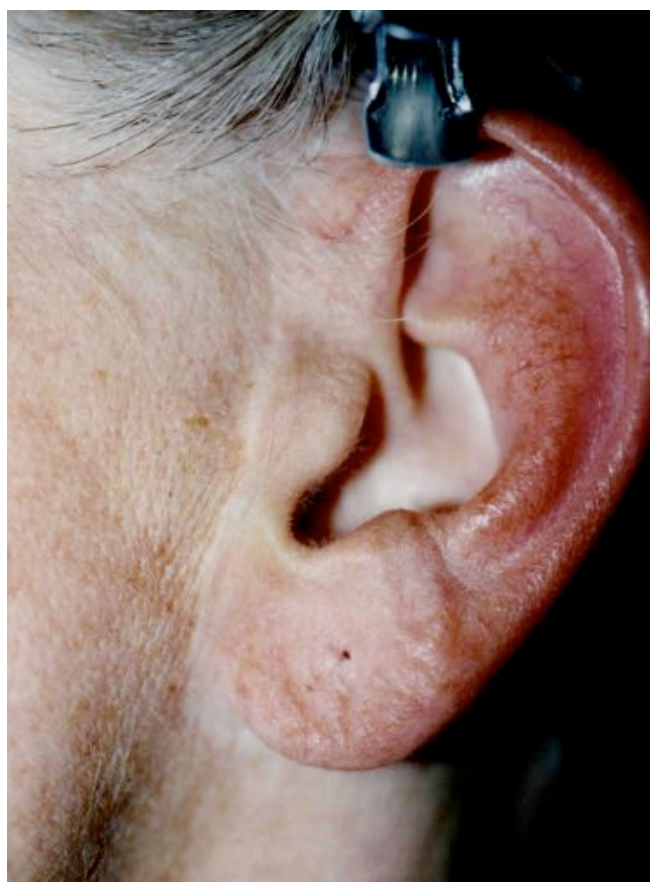
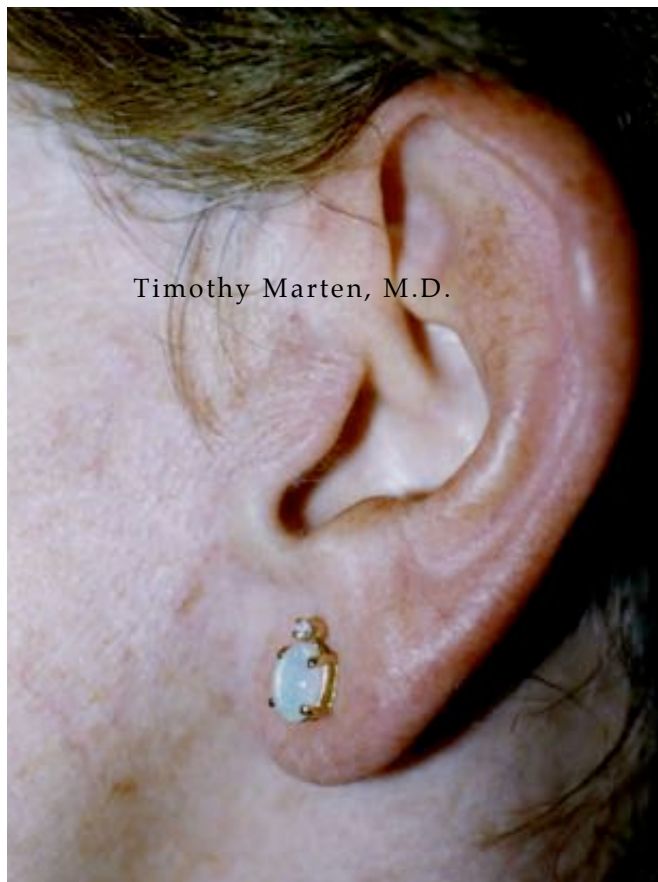
**A****B**

Fig 10. "Pre-tragal" (left) and "Retro-tragal" (right) Incisions Compared.

- A)** Pre-tragal incision in front of the ear has is visible due to differences of color and texture on each side of it.
(note: this procedure was not performed by Dr Marten and was performed by another surgeon)
- B)** Same patient after "redo" facelift in which the incision was moved inside the ear ("retro-tragal" position). Color and texture differences, and the scar itself, are now hidden along natural anatomic interfaces
*"redo" surgery performed by Timothy Marten, MD, FACS
Courtesy of the Marten Clinic of Plastic Surgery*

In addition, a properly planned and performed incision inside the ear will not interfere with hearing or result in other problems (**Fig 11 AB**)



Fig 11. Healed “Retro-tragal” Facelift Incisions. Close-up views of facelift patients after surgery with incisions along natural ear contours. Scars are well concealed and difficult to detect (see Fig 9 for diagram of scar locations).

*Surgical procedures performed by Timothy Marten, MD, FACS
 Courtesy of the Marten Clinic of Plastic Surgery*

Where is the facelift incision in front of the ear made in men?

Because men typically wear their hair short and don’t wear make-up it is very important that a scar in front of the ear is not made and that a “retro-tragal” incision plan is used (**Fig 12**).

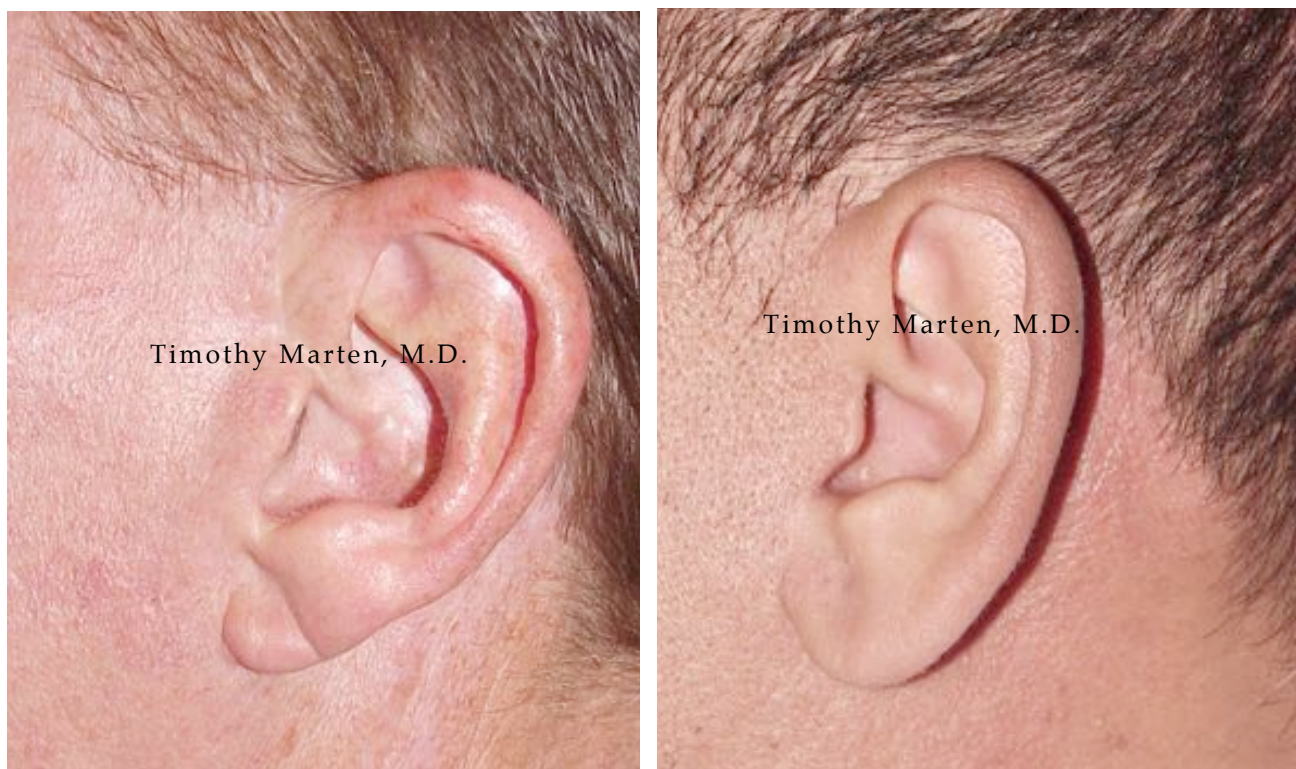


Fig 12. Healed “Retrotragal” Facelift Incisions in Male Patients. The incisions have been made along ear contours, rather than in front of the ear (see Fig 9 for diagram of location of scar). This results in well-concealed scars even in men with short hair

*Surgical procedures performed by Timothy Marten, MD, FACS
 Courtesy of the Marten Clinic of Plastic Surgery*

Are the ears removed and reattached when a facelift is performed?

No, the ears are left attached to the head in their original positions. Only the skin around the ears is lifted and removed.

Why do the ears sometimes look different or unnatural after facelift?

The upper portion of the facelift incision should be planned as a soft curve paralleling the curve of the upper portion of the ear. This will result in a natural appearing “width” to the upper ear and the resultant scar, if visible, will appear to be a natural highlight. As the mid portion of the ear is approached, the mark for incision is carried along the inner margin.

At the lower portion of the ear the incision should turn forward and then again down, into the crease between anterior earlobe and cheek. If a more relaxed plan is made, or if a straight line incision is used in this location, skin settling and scar contraction will result in a tell-tale, elongated and “chopped off” appearance of the tragus (the flap of tissue covering the ear hole) (**Fig 13**). Irregularities such as these are the reason patients often must wear their hair over their ears after surgery, and are doing so in many “after” surgery photos shown by inexperienced or oblivious surgeons.



Fig 13. "Chopped off" Tragus Deformity. If the incision is not properly planned, or the skin not carefully tailored to fit at the time of incision closure, the "tragus" (the flap of tissue covering the ear hole (arrow)) will appear abnormally flat and unnatural

(note: this procedure was not performed by Dr Marten and was performed by another surgeon)

Where is the incision around the earlobe made?

To obtain a natural appearance about the earlobe, it is essential to preserve the natural groove between the earlobe and the cheek, and to avoid damage to this and aesthetically important anatomic subunit. This is accomplished by making the incision just below this junction. All other factors being equal, a superior result will be obtained when such a plan is used, in comparison to any plan in which the incision is placed directly in the groove between the earlobe and cheek and an attempt is subsequently made to directly join thin, soft earlobe with coarse, thicker cheek.

Why are earlobes sometimes in unnatural positions after facelift?

There is perhaps nothing as tell-tale and aesthetically objectionable as abnormal position of the earlobe after facelift surgery, and these types of deformities must be assiduously avoided. In the artistically ideal, "non-surgical" appearing ear, the long axis of the earlobe sits approximately 15 degrees behind the long axis of the ear itself in the side view. As this angle is reduced or shifted forward, or if the earlobe is mistakenly placed too low in the cheek, an old, unnatural and "facelift look" is produced (**Fig 14 AB**).

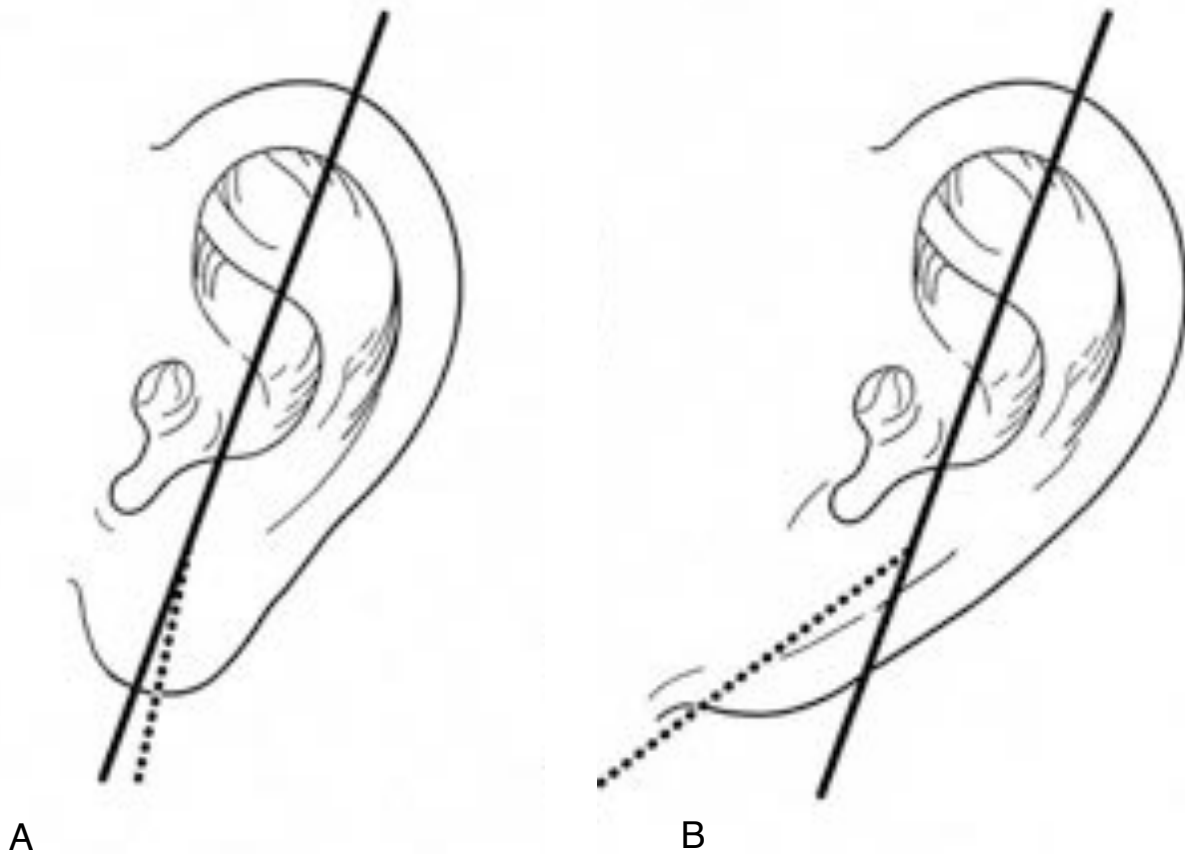


Fig 14 A B. Proper and Improper Positioning of the Ear Lobe.

- A)** In the artistically ideal “non-surgical” appearing ear the long axis of the earlobe (dotted line) sits approximately 15 degrees *behind* the long axis of the ear itself (solid line) in the side view.
- B)** As the axis of the earlobe is shifted in front to the long axis of the ear, or if the earlobe is placed too low into the cheek, an old, unnatural and “facelift look” is produced.

Why do some people who have had facelifts have strange looking “pixy” earlobes?

“Pixy” ear is a term sometimes used to describe the unnatural impish appearance of the ear that occurs when the earlobe is improperly placed in a pulled down position (**Fig 15**). It is one of the most objectionable and obvious signs that an amateurish facelift has been performed. Typically, the problem is the result a lack of artistic sensitivity and/or a technical mistake, and it is a common reason why patients are wearing oversized earrings in many “after” surgical photos shown by inexperienced surgeons.



Fig 15. “Pixy” Earlobe. “Pixy” ear is a term sometimes used to describe the unnatural impish appearance of the ear that occurs when the earlobe is improperly placed in a pulled down position. It is one of the most objectionable and obvious signs that a facelift has been performed and it is a common reason why patients are wearing oversized earrings in many “after” surgical photos.

(note: this procedure was not performed by Dr Marten and was performed by another surgeon)

It seems that the earlobes of some facelift patients look OK at first, but then droop and look unnatural with time. What is the cause of this and can it be avoided?

It is true that not all abnormal appearing “pixy” earlobes are the result of improper placement by the surgeon at the time of surgery. If a “one layer”, “skin-only” “mini-lift” facelift is performed in which the skin is used in a misguided attempt to lift sagging facial muscles and fat, a normally placed earlobe can in time be pulled down into an abnormal position as the cheek skin stretches and sags after surgery. This can be avoided by using a “2-layer” technique in which sagging facial tissue is lifted by elevating the SMAS, a strong inelastic layer lying under the skin, and skin is re-draped under normal tension. Unlike skin, the SMAS is capable of providing strong, sustained support of facial tissues, and the cheek skin when re-draped under normal tension, will not droop over time and drag the earlobe down with it.

If a patient has large earlobes can they be made smaller? How is this done?

As many people age their earlobes enlarge and add to an overall aged and elderly appearance. Reducing them restores a more feminine, balanced, and youthful appearance. Earlobe reduction is easy to do, can be done at the time of a facelift procedure, and can add to the overall improvement obtained with the surgery. It can also be done as a separate procedure at a later date if desired.

The procedure involves removing the redundant part of the earlobe and suturing it back together so that the scar is located on the inner edge of the earlobe margin. Healing is typically excellent in the earlobe area, and the scar in this position is well concealed and difficult to find. If a patient has pierced ears the pierced hole is often removed as part of the earlobe reduction procedure, and the earlobe re-pierced in a higher location after healing is complete.

If a patient has a torn ear piercing can this be fixed at the same time a facelift is performed?

Yes, this is a common request and easily performed at the time of facelift surgery. Both an enlarged hole, and a complete tear can be repaired.

If a patient's ears stick out can they be pinned back at the same time as a facelift?

Yes. Typically this problem is due to abnormal folding of the cartilage in the upper ear. Correction can be made through an incision on the back of the ear and involves thinning the cartilage where it is stiff and securing it in proper position with special sutures.

What determines where the part of the facelift incision behind the ear should be made?

Traditionally, the portion of the facelift incision behind of the ear has been made over the back of the ear. This was done as part of a well-intended effort to offset downward migration of the scar that occurred when skin behind the ear was tightened in an attempt to improve neck contour. Many surgeons have come to realize that such a plan embodies erroneous assumptions and can result in undesirable effects including poor scarring and webbing behind the ear.

Planning the location for the portion of the facelift incision in the hair behind the ear is conceptually similar to that of the temple region and the incision plan must address similar concerns of hairline displacement and scar visibility. Traditionally this incision is arbitrarily placed on the scalp, in a well-intended but usually counter-productive attempt to hide the resultant scar (**Fig 16**).

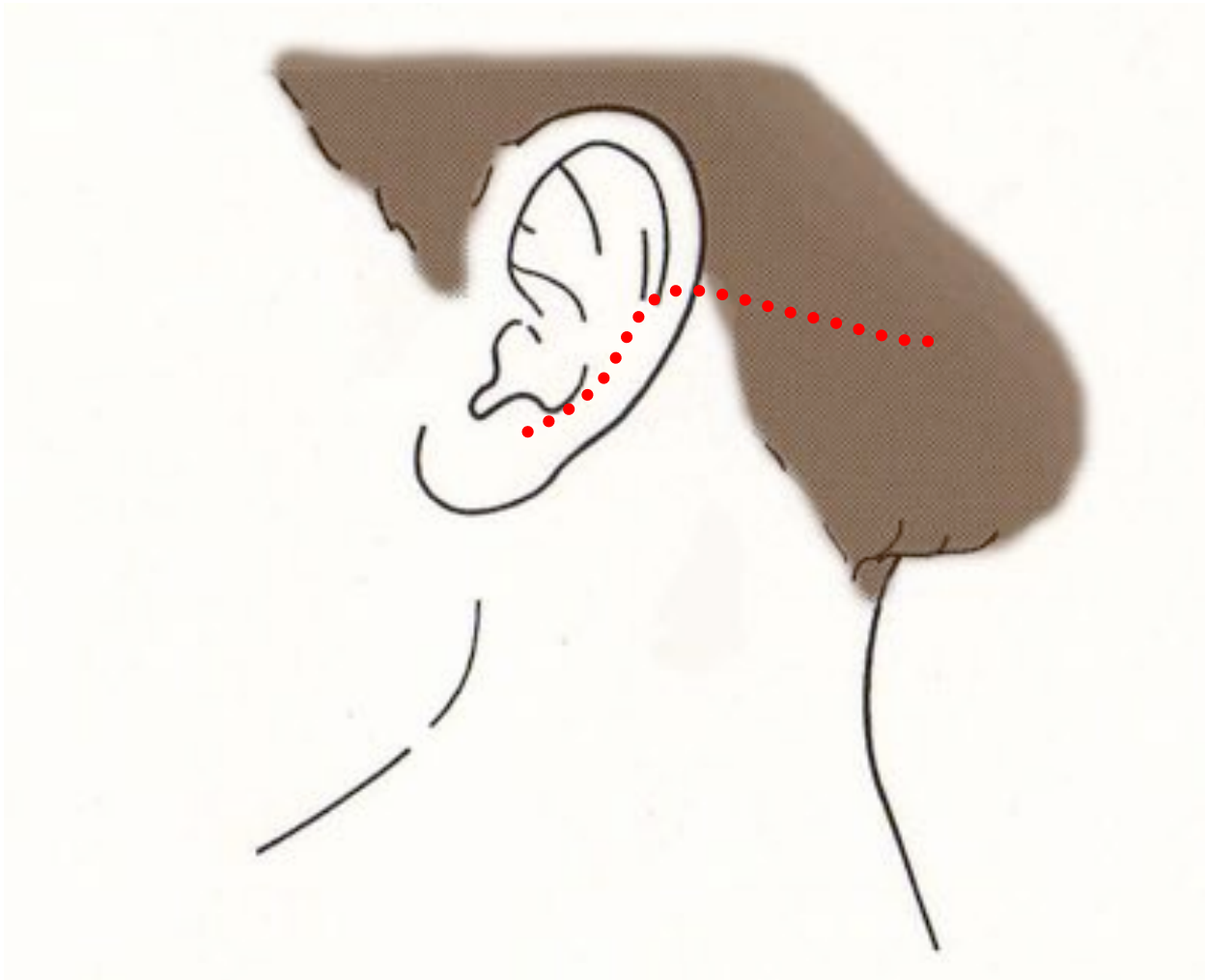


Fig 16. Traditional plan for the portion of the face-lift incision in the hair behind the ear. The incision is placed on scalp in a well-intended but usually counter-productive attempt to hide the resultant scar.

When can the incision behind the ear be made in the hair?

For patients in whom neck skin redundancy is small and removal of skin is unnecessary, such a plan is appropriate and will result in a well-concealed scar. Patients in this category are usually young and troubled by minimal neck redundancy only. In these situations *the incision is used for access to the outer portion of the neck only, and not as a means to remove skin.*

Why do some patients have wide scars and step-offs in the hairline behind their ears. Can the surgery be done so a scar won't show in this area?

Skin removal using the traditional plan with the incision "hidden" in the hair will predictably result in the advancement of neck skin into the scalp behind the ear and "notching" of the hairline in most cases (Fig 17).



Fig 17. "Notching" of the Hairline Behind the Ear due to Improper Incision Planning. Examples of "notching" of the hairline seen in two patients whose surgeons used traditional occipital incision plans.

(note: these procedures were not performed by Dr Marten and were performed by other surgeons)

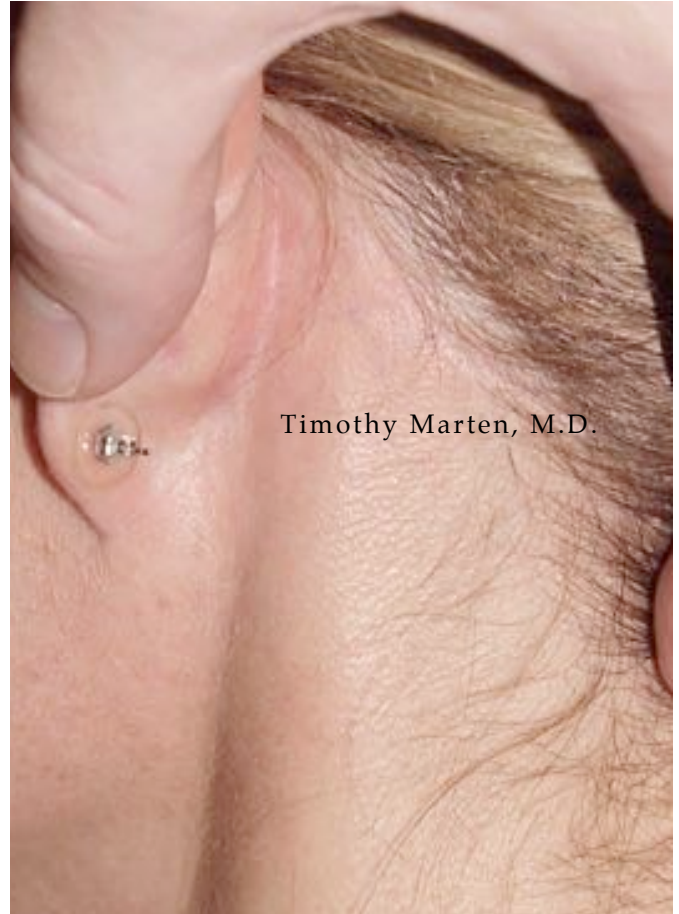
This hair has not fallen out, it has been displaced and discarded as a result of a poor incision plan. Although not all patients will recognize this deformity for what it is, most are nonetheless self conscious of it, especially those who wear their hair up or back or who lead active lives out of doors where wind, water and outdoor activities may displace camouflaging wisps of remaining hair.

Can hairline displacement and notching behind the ear be avoided?

Yes, proper analysis, careful planning and the use of an incision along the hairline, when indicated, can avert this problem without compromising the end result (Fig 18).



Timothy Marten, M.D.



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Fig 18. Healed Incisions Along the Hairline Behind of the Ear. Both patients are seen after surgery using an incision along the hairline. Note that if this incision is planned carefully and properly closed an inconspicuous scar will result.

*Surgical procedures performed by Timothy Marten, MD, FACS
Courtesy of the Marten Clinic of Plastic Surgery*

When should the incision behind the ear be made along the hairline?

In choosing the location of the portion of the facelift incision behind the ear one must estimate the skin redundancy on the sides of the neck along the predicted upwards and backwards direction of skin shift. If $3/4$ of an inch or less of excess neck skin is present, a "traditional" incision extending back into the scalp (see **Fig 16**) will, in most cases, not result in objectionable disruption of the hairline. If more than $3/4$ of an inch of neck skin redundancy is present, however, the incision is best placed along the hairline but designed in such a manner that a tell-tale scar will not be visible in front of the fine hair on the nape of the neck. This can be accomplished by turning the lower portion of the incision back into the scalp at the junction of thick and thin hair. (**Fig 19**). From a practical standpoint the traditional incision behind the ear on the scalp should be used for access to the neck only and closed with out shift or advancement. Any patient with significant neck skin redundancy will require an incision along hairline if hairline displacement is to be avoided.

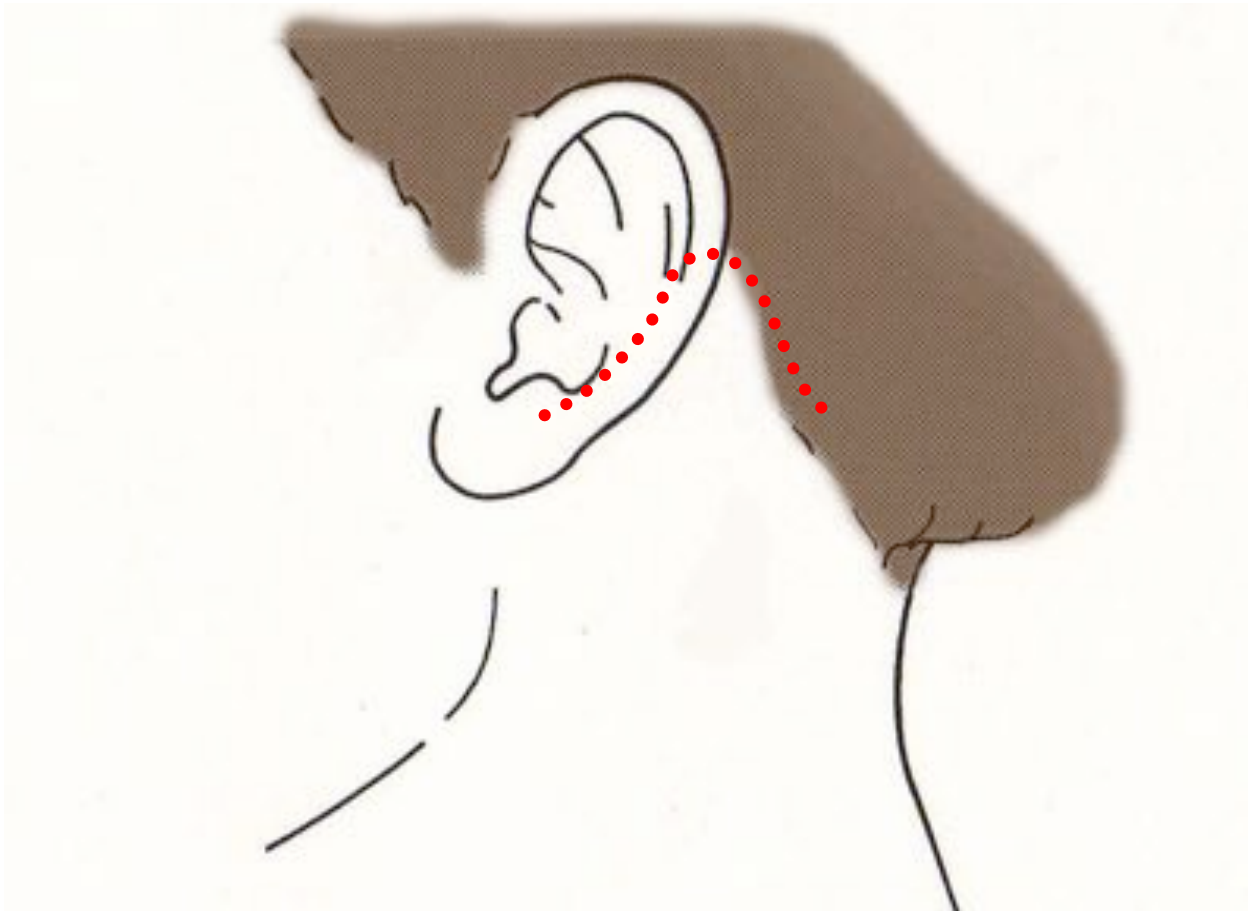


Fig 19. Plan for Incision Along the Hairline behind the Ear. The incision is planned so that its lower portion turns into the scalp at the junction of thick and thin hair. This plan prevents hairline displacement but results in a well concealed scar.

What are the advantages and disadvantages of placing the incision behind the ear in the hair and along the hairline?

As is the case with temporal incision placement, options for the placement of the portion of the facelift incision behind the ear is best considered as a choice between two imperfect alternatives, and the final decision as to where the incision will be located is usually made in conjunction with the patient, after the advantages and disadvantages each have been discussed.

Placing the incision within the scalp may help conceal the scar, but will usually result in objectionable displacement of the hairline behind the ear. And although an incision along the hairline is usually inconspicuous, even on close inspection, a scar will be present where it was made. While a sub-optimally healed incision along the hairline can be revised, tattooed or easily concealed with an appropriate hairstyle, a significantly displaced hairline is difficult to conceal and a challenge to correct. In all, it has been my experience that most patients are disturbed by the prospect of hairline displacement behind the ear and recognize it as a telltale sign that a facelift has been performed. When properly counseled and given the choice, most will readily consent to a hairline incision and are best served with such an incision plan.

Can the way the patient's hair is cut after surgery help conceal the scars behind the ears?

Yes, but if incisions are planned and skillfully closed as outlined above patients should be able to wear their hair up or back without concern for scar visibility.

When is a “short scar” facelift performed?

The idea of shortening the incisions used to perform procedures to rejuvenate the face is appealing to patients and surgeons alike. Indeed, the first facelift procedures performed over a century ago consisted of the removal of small sections of skin in front of the ear along the forehead hairline, and along hairlines behind the ear. Ironically, and despite the many amazing advances in techniques to rejuvenate the face that have been made over the past century, as non-plastic surgeons have begun to perform aesthetic surgery procedures and market their services, a new emphasis has been placed on ill-conceived “short scar” procedures of questionable value that are nonetheless appealing to most any patient. Although some short scar techniques such as limited incision forehead lift have merit and have provided new and better options to certain patients, skin redundancy remains a consistent and undeniable problem for the surgeon seeking to rejuvenate the cheeks and neck, and shorter incision plans involve significant compromises in the overall improvement that can thus be obtained.

Short scars incision plans suffer the drawback that they limit access to deep layer structures that need to be lifted if tension is to be diverted away from the skin and a natural appearance is to be obtained. Short scar procedures also prevent redundant skin from being shifted in proper directions that produce the most improvement and most natural appearance. In addition, shorter incisions require that skin be gathered up when sutured and prevent it from being removed in a smooth, well-tailored fashion. This can result in objectionable puckering and gathering. A “longer” scar, conversely, allows skin to be shifted in a geometrically correct fashion and for it to be removed without these problems (see Fig 16).

Ironically, most short scar procedures have placed their focus on the area behind the ear and seek to shorten the incision in that area. This incision is situated in a well-concealed area and if tension is diverted to deep layer tissue and skin removal is carefully planned, an inconspicuous scar will almost always result. This scar is arguably less obvious and less disturbing to the patient than is a shorter, but irregular and puckered scar. Shortening a scar under these circumstances in a concealed area is of questionable value to the patient.

Perhaps the most difficult to understand aspect of “short scar” incision plans is that to minimize puckering and gathering behind the earlobe the cheek skin flap is shifted in an overly upward direction necessitating a scar along the less well concealed sideburn and temporal hairline. Although an incision is sometimes required in this area in some patients to prevent hairline displacement, shortening a scar in a concealed area by shifting it to a more visible area is also arguably of dubious value to the patient who might not have required it.

When is an incision under the chin needed?

Many facelift patients will need work on their neck that requires fat removal from deep layers of the neck and tightening of the muscles in the neck region that can only be performed through an incision under the chin, and optimal improvement in neck contour can generally not be obtained unless such an incision is made.

Where is the incision under the chin made?

Traditionally the incision under the chin is placed directly in and along the existing chin crease in a well intended but ultimately counter-productive attempt to conceal the resulting scar (Fig 20).

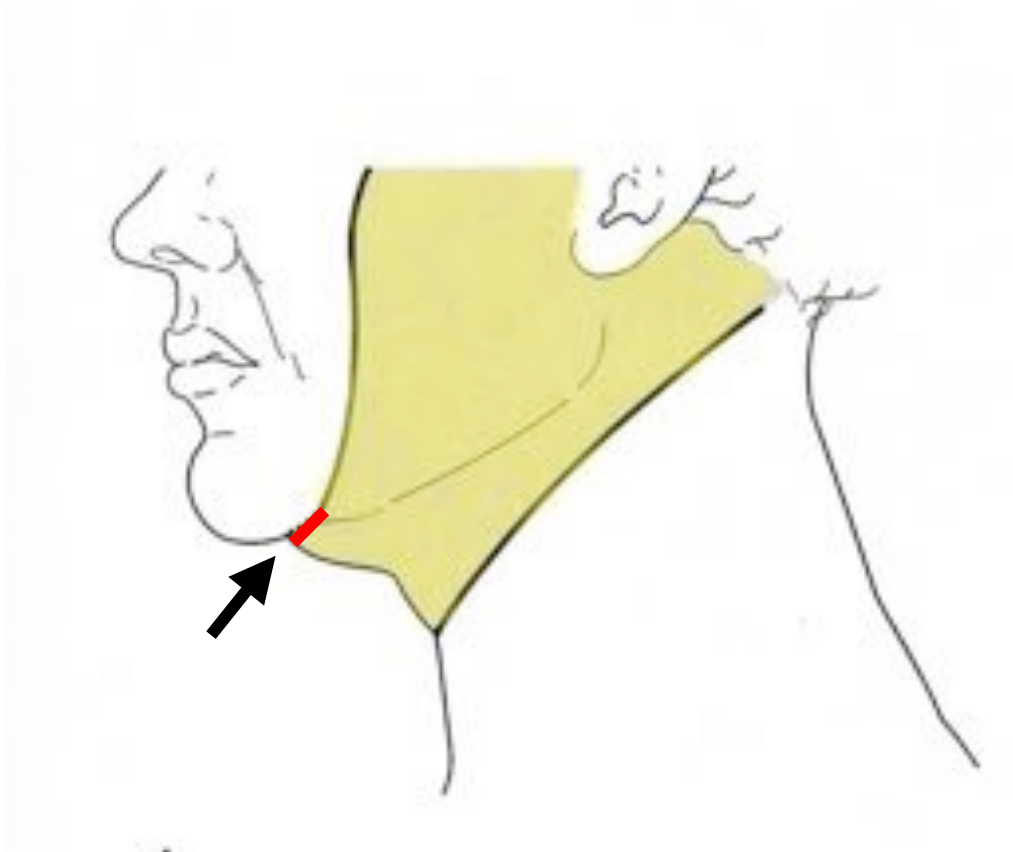


Fig 20. Traditional, but Incorrect Plan for the Incision Under the Chin. Most facelift patients will require fat removal from deep layers of the neck and tightening of the muscles in the neck region that can only be performed through an incision under the chin. This incision should not be placed directly along the crease under the chin as this will reinforce it and accentuate a "double chin" appearance. Note that typical plan for skin release (shared area) also promotes a double chin because the crease is not released and retaining ligaments along the crease remain intact.

This incision plan should be avoided, however, as it will surgically reinforce the crease and accentuate a "double chin" or "witch's chin" appearance. Surgical exposure of the neck region will also be compromised, and difficulty will be encountered when the surgeon is suturing or dissecting in the neck area. Placing the incision behind the chin crease will eliminate these problems, but still result in an inconspicuous and well-concealed scar (Fig 21 and 22).

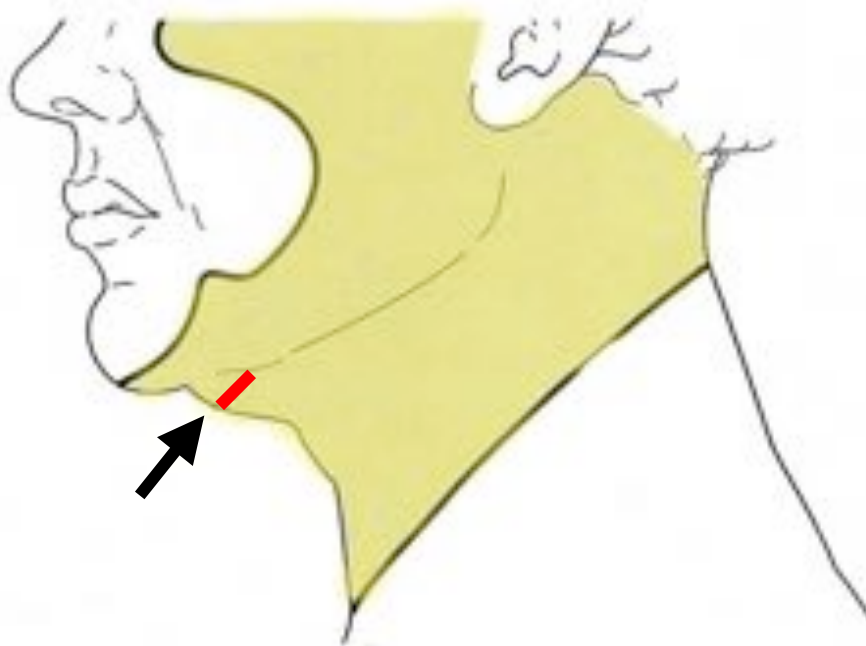


Fig 21. Correct Location for the Incision Under the Chin. Placing the incision under the chin behind the chin crease prevents accentuation of the “double chin” and “witch’s chin” appearance and provides for easier dissection and suturing in the neck (compare with Fig 20). Note that this incision plan allows the chin crease to be released and the fat of the chin pad and neck to be blended.

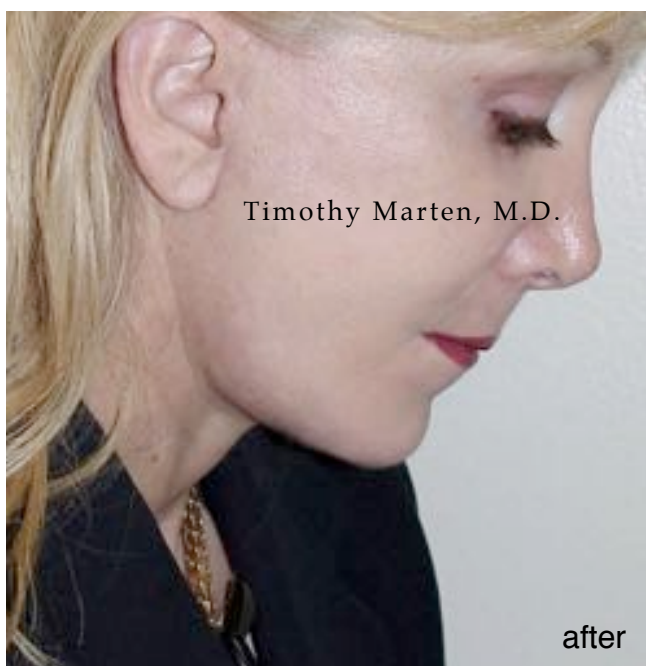
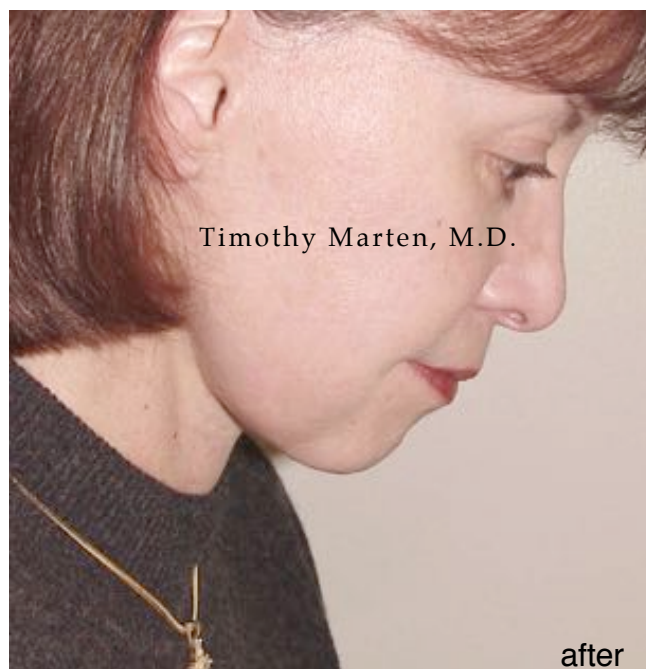


Fig 22. Correction of the "Double Chin" Appearance.

- left) Patient with "double chin" seen pre-operatively (before surgery)
 right) Same patient seen after face and neck lift. The incision under the chin was made *behind* the chin crease to allow the crease retaining ligaments to be released and the fat of the chin and neck to be blended..

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Fig 23. Plan for the Incision Under the Chin.

When a neck lift is performed an incision under the chin is needed. This incision (solid red line) should be placed behind to the chin crease (dotted line) so that the crease can be released and a “double chin” appearance avoided.

The incision under the chin is approximately one inch to one and a half inches in length, but may be shorter or longer in some patients. Healing is best, and the scar will be best concealed and look most like a natural wrinkle, when this incision is made as a straight, and not as a curved line (**Fig 24**).



Fig 24. Healed Incision Under the Chin.

Placement of the incision behind the chin crease will typically result in an inconspicuous, well-concealed scar (arrow). Note how the scar appears to be a natural skin crease.

*Surgical procedure performed by Timothy Marten, MD, FACS
 Courtesy of the Marten Clinic of Plastic Surgery*

How is the SMAS procedure done?

All patients undergoing a facelift, regardless of age or amount of drooping and laxity present will benefit from an upward advancement of the SMAS layer and this maneuver serves as the fundamental step in rejuvenation of the face upon which all others are based (**Fig 25 AB**).

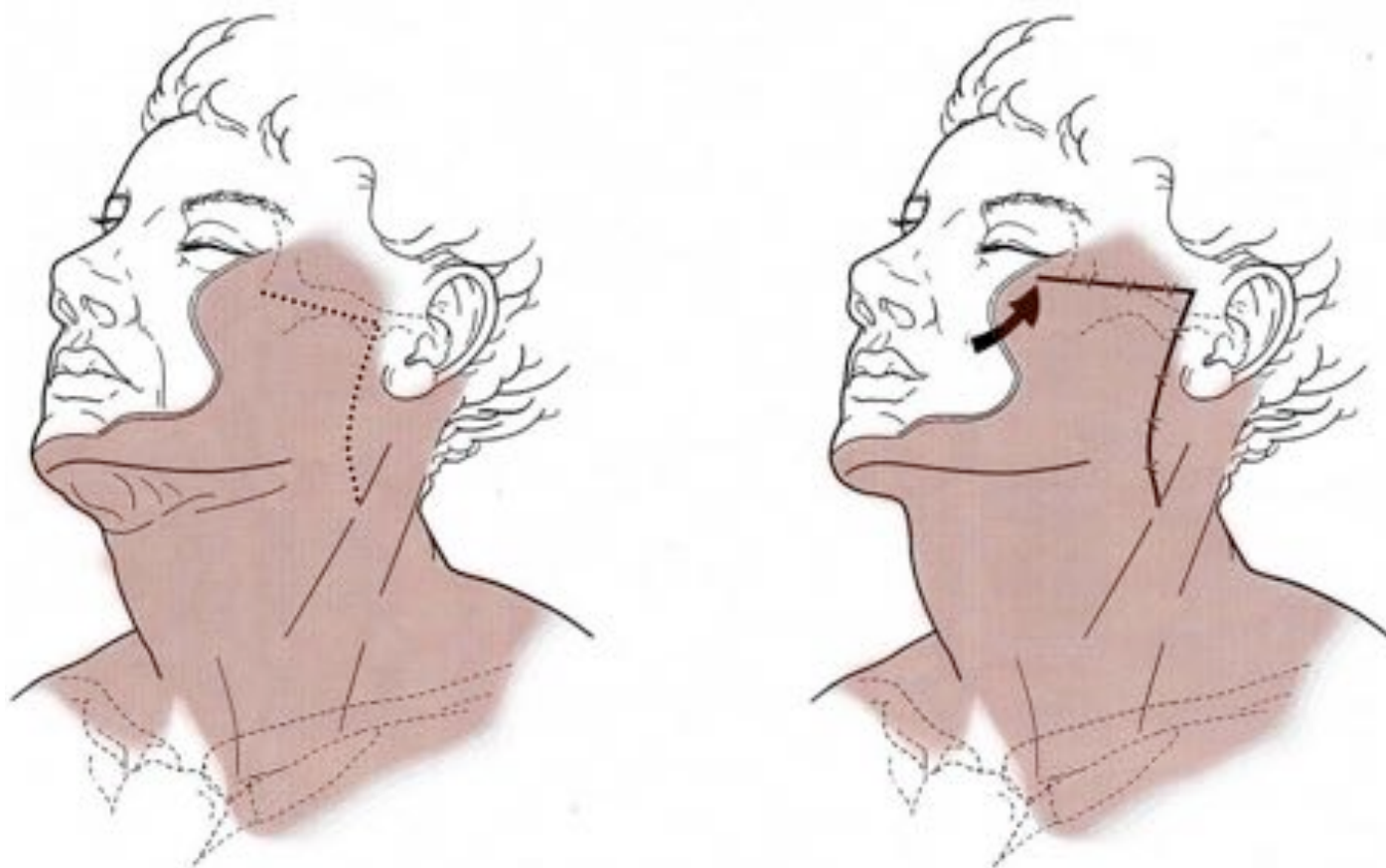


Fig 25 A B. "High" SMAS Flap

The SMAS, a firm, fibrous layer laying under the skin (shown here as shaded areas) lays on top of and is attached to the muscles and fat of the face, is used to reposition sagging tissues to a more youthful position. Lifting the face with the SMAS layer allows skin to be put down under normal skin tension and avoids a tight or pulled appearance.

- A) Plan for basic high SMAS Flap..
- B) High SMAS Flap after advancement and suturing.

SMAS advancement provides a natural appearing and long-lasting correction in the cheek and jowl areas and will consolidate the lower face. When a "high SMAS" plan is used facial tissues are raised in their natural arrangement and improvement can be obtained in the mid-face and under eye areas without the need for a separate mid-face lift procedure. For some patients SMAS flap advancement alone will provide appropriate correction. Others, however, will require additional maneuvers or modifications of this step if their problems are to be adequately addressed.

When is a neck lift needed?

The neck region must be carefully examined both at rest and during neck muscle activation if complete assessment of neck problems is to be made. Frequently an insignificant appearing problem at rest will be obvious upon muscle activation (**Fig 25**). Failure to recognize and appropriately correct these "dynamic bands" is the reason too many facelift patients appear improved in repose, but unnatural or bizarre in conversation and during other activities that result in neck muscle activation.

How is the neck tightened?

It is a common misconception that tightening the skin of the neck will produce a sustained improvement in neck contour and this is, in fact, the way most plastic surgeons attempt to rejuvenate the neck. Unfortunately, such a plan ignores the fact that the majority of neck contour problems have their origin in neck muscle laxity and loss of the muscle “hammock” that supports the neck.

If neck support is poor or optimal improvement in the neck is desired, *platysmaplasty* (suturing the inner edges of the platysma muscles together) is performed (**Fig 28**). Platysmaplasty helps consolidate the neck and improve neck contour but is not adequate or effective in the treatment of platysma (neck muscle) bands.

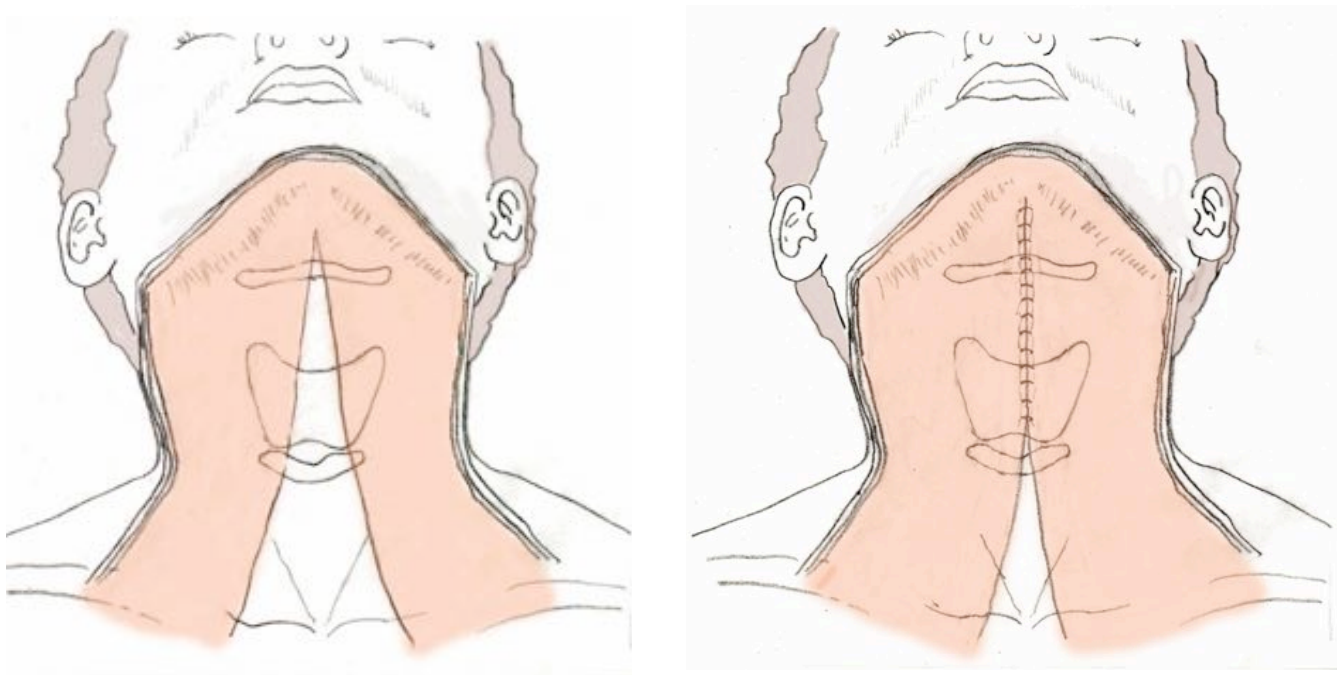


Fig 28 AB. Platysmaplasty. Suturing the separated inner borders of the platysma muscle together improves neck support and helps consolidate the neck. It is not adequate or effective treatment of platysma bands however.

When optimal improvement in neck contour is desired, a *post-auricular transposition flap* of cheek SMAS is used. The post-auricular transposition flap is created by splitting off redundant tissue from the margin of the cheek SMAS flap (**Fig 29**). It insures that the platysma muscle is draped smoothly and snugly over the neck and helps to further consolidate it. If properly constructed and secured, this flap will provide dynamic

reinforcement and tightening of the upper neck areas when the patient looks down. When used in conjunction with platysmaplasty (see above), the post-auricular transposition flaps result in a continuous ear to ear “hammock” of muscle support across the upper neck.



Figure 29 Plan for Post-auricular Transposition Flap. The Post-auricular Transposition Flap is used to accentuate the jawline and tighten the neck.

- A) Plan for Post-auricular Transposition Flap
- B) Elevation and transposition of flap to area behind the ear
- C) After SMAS elevation and suturing

Can fat in the neck area be removed by liposuction?

Traditional face and neck lift techniques do not adequately address many aspects of aging under the chin and in the neck area, and it is not enough in most situations to limit treatment of the neck to liposuction and skin tightening as is frequently done. For most patients fat accumulation under the superficial muscle layer of the neck (“subplatysmal fat”) is the fat that is primarily responsible for neck fullness, and this fat cannot be removed using a liposuction technique. In addition, in many necks salivary gland enlargement

("submandibular gland hypertrophy"), and thickening and enlargement of certain neck muscles, will contribute to the neck contour problem and necessitate additional treatment if optimal improvement is to be obtained.

Perhaps the most common cause of an unsatisfactory result in the neck is the surgeon's failure to appreciate the distribution of fat in the neck area and subsequent removal of fat from the wrong place. Fat is present in three distinct layers – under the skin ("pre-platysmal" or "subcutaneous fat"), under the thin muscle layer covering the neck ("sub-platysmal fat"), and deep within the neck muscles ("intra-digastric fat"). In all cases fat removal must be performed conservatively in the layer under the skin and from the deep neck area, particularly in women, if a soft, natural, youthful, and attractive appearance is to be obtained.

Liposuction is a technique in which fat is vacuumed from under the skin using thin, hollow, blunt metal tubes attached to a suction source. Liposuction can only remove fat from under the skin and it cannot remove it from the intermediate or deep layers. For many patients fat in the layer under the skin has actually thinned with age and little if any should be removed. If aggressive liposuction is performed in a misguided attempt to improve neck contour under these circumstances, or if too much fat is removed by other means, the patient's neck will appear gaunt, unnatural, and masculine.

Is all fat from the neck removed, or just some of it?

Removing fat from the neck is a technically demanding maneuver that requires patience, perseverance and artistic sensitivity, and a properly performed neck lift can sometimes encompass several hours of operating room time. The technique by which fat is removed is not as important as the contours created and it must always be the aim of the surgeon to produce an attractive neck, and not simply one devoid of fat.

In most patients the majority of fat in the neck is present in the intermediate sub-platysmal layer. Fat in this layer cannot be removed by liposuction and thus is not removed in "mini-lifts", "short scar" lifts, "week-end" lifts, "fast lifts", "feather lifts", "MACS " lifts, "suture" lifts, and similar and related procedures in which liposuction is performed. Fat removal from this layer requires a formal neck lift procedure be performed through an incision made under the chin in which the superficial layer of neck muscles are lifted and the fat under them removed.

Removal of fat from the intermediate sub-platysmal layer is artistically powerful in that it is fat in this layer that is predominantly responsible for a "full neck" and loss of attractive neck contour in most patients. Sub-platysmal fat accumulations are universally present in patients with firm, full necks whom have been troubled by lifelong neck fullness. Removing fat from this layer allows the surgeon to uncover the limits of the patient's own anatomy, and obtain the best neck contour possible.

What can be done about large glands in the neck?

Neck salivary glands ("submandibular glands") must be assessed before surgery as they often contribute to the appearance of a full neck and are frequently evident as lumps under the jaw line.

Large salivary glands are most easily seen in the patient who has had prior facelift that included aggressive liposuction of the neck (**Fig 30**). In these patients the large glands have been uncovered and made more obvious by fat removal. Large glands are frequently hidden by fat under the neck skin or lax neck muscles in the patient with a full neck presenting for a first time procedure however, and an surgical plan that does not recognize this fact will lead to disappointing and unexpected bulges in under chin area after surgery.

Submandibular glands can usually be felt as firm, smooth, discrete, mobile protrusions in the upper neck area, just under the jawline, on each side. Submandibular glands that do not protrude and disrupt neck contour will usually not require treatment.



Fig 30 Protruding “Submandibular” Salivary Glands. Submandibular glands are usually evident as protrusions in each side of the upper neck area just under the jawline.

- A) Patient with protruding submandibular gland after facelift and liposuction of the neck
(note: surgical procedure was not performed by Dr Marten and was performed by another surgeon).
- B) Patient with protruding submandibular gland after a “week-end neck lift”
(note: surgical procedure was not performed by Dr Marten and was performed by another surgeon).

How are protruding glands in the neck treated?

Experience has shown that protruding submandibular salivary glands have enlarged with age, and are not drooping. Neck muscles contribute little to their support and attempts at tightening them to lift a protruding gland usually results in modest improvement that is short lived. Attempts to suspend protruding glands directly with sutures has also proven to be ineffective.

The most effective treatment of enlarged submandibular glands is to remove the protruding portion, much in the way that a bump is removed from the bridge of an oversized nose, and for experienced neck surgeons reduction of the gland is a standard part on many procedures. Only a small portion of the gland itself is typically removed, and to date, there is no evidence that this has resulted in problems for the patient. The protruding part of the gland is removed through the incision under the chin and no additional incisions or suturing are required.

When should a patient have enlarged glands in the neck reduced?

The decision to perform submandibular salivary gland reduction is best made during surgery after appropriate discussion of the advantages and disadvantages of the procedure have been made. Patients should know that the procedure may rarely prolong neck swelling, and carries a small theoretical risk of causing bleeding, fluid collection, and dry mouth symptoms.

What tests are needed before surgery?

Healthy patients under 50 years old require no lab tests before surgery. All patients 50 years or older, or any patient with significant health problems, must have a pre-operative physical evaluation by an internist or their personal physician before their procedure is performed. A few basic lab tests are also needed.

What medications must be avoided before surgery?

Patients must avoid medications known to increase the likelihood of bleeding including, but not limited to, medications containing aspirin, Motrin (ibuprofen), Alleve (ketoprofen), Naproxyn (naproxen), NSAIDs (non-steroidal anti-inflammatory medications), and Vitamin E for two weeks prior to surgery. Salt and alcohol intake should also be limited during this time.

Should patients stop smoking?

Patients who smoke are asked to quit 4 weeks before their procedure and are required to avoid smoking and all second hand smoke for 2 weeks after surgery. Patients who smoke, or have smoked in the past but have quit, are higher risk of certain serious complications, including infection, poor healing, flap breakdown ("necrosis"), and blood clots, than non-smokers.

When can patients color their hair?

Patients should not color, "perm", or otherwise chemically treat their hair during the two week period before and after surgery. Failure to do so may result in hair breakage and hair loss.

Are patients allowed to shower and shampoo their hair the night before surgery?

Yes, patients shower and shampoo their hair night prior to surgery. Patients are allowed to use their usual hair care products, and are asked to wash their face, neck and ear areas with antibacterial soaps (Dial, Safeguard, etc).

Should patients lose weight before surgery if they need to? What happens if a patient gains or loses weight after surgery?

When traditional one layer, "skin-only" facelifts are performed there is a balance between how tight the skin is and the amount of fat in the face, and for patients undergoing these procedures weight loss after the procedure can cause the face to droop and have other negative effects on the outcome. When a two-layer SMAS technique is used however, facial fat is elevated along with the SMAS and the overall outcome becomes, for the most part, independent of skin tension and weight loss. Patient undergoing the type of procedure Dr Marten performs need not be at their ideal weight when it is performed, need not lose weight before having it, and need not be concerned about spoiling the result if they lose weight afterwards.

Where are the surgeries performed?

Most procedures are performed in our specially designed, fully accredited, state of the art, private, outpatient surgical facility. Our facility is conveniently located immediately adjacent to our Clinic and is licensed for all levels of anesthesia. Its design incorporates many special features including dedicated heating and cooling systems, special air filtration system, special lighting, ceiling mounted warming panels, and a back-up electrical system.

Why is the surgery not performed in the hospital?

Several compelling arguments can be made for performing surgery in our surgical facility rather than at the hospital. First, our facility is specifically laid out and designed for plastic surgery and features special lighting and other equipment. Hospital operating rooms are typically built and equipped for general surgery. Second, the staff at our facility is specially trained for plastic surgery whereas hospital staff typically lack specialized skills. Third, hospital anesthesiologists typically use full general anesthesia for their procedures. This is not necessary for most of the procedures we perform. Fourth, hospitals have an ongoing problem with infections due to the high volume of sick people coming and going through their facilities, and due to the type of “dirty” surgeries they often perform. Finally, it is not possible to control costs at the hospital. Typically hospitals sell patients a “cosmetic surgery package” that is an estimated, and not fixed, price. If the procedure takes longer than expected to perform, or if the patient takes longer to wake up than expected, the patient is billed not only for extra time in the Operating Room, but for anesthesia and Recovery Room overtime as well. In some cases, these charges can add several thousand dollars of unexpected charges to the patient’s bill. When procedures are performed in our facility fixed fees apply to the surgeon’s fee, operating room, and anesthesia charges.

Is having surgery in an outpatient surgery center safe? What if a problem occurs?

As a fully accredited and state licensed facility we are required to have back-up power, specialized life saving equipment, and undergo regular inspections and equipment checks. Staff members must also be cardiac life support trained and we are required to have regular drills for fire, disaster, and medical emergencies.

As a practical matter plastic surgery patients are typically healthy people undergoing low risk procedures, that don’t require full hospital style general anesthesia.

In the unlikely event that a medical problem or complication occurred the patient would be stabilized in our facility and then transferred to the hospital a few blocks up the street.

What type of anesthesia is used?

Most facelifts are performed in a gentle, very deep state of sedation using a “LMA” (laryngeal mask) technique. This technique allows the patient to be heavily sedated without compromise of their breathing and, unlike anesthesia typically used in the hospital, patients need *not* be placed on a breathing machine. This technique is also less likely to trigger coughing and nausea and vomiting when the patient emerges from their anesthetic.

Once the patient has been sedated and is too sleepy to feel anything, the face is injected with a long acting local anesthetic (“numbing medicine”) to make it numb similar to the way a dentist makes a tooth numb. Local anesthetic is also injected at the end of the procedure to insure the patient is comfortable afterwards.

Who administers the anesthesia?

Anesthesia is usually administered by a Board Certified Anesthesiologist – a doctor who specializes in giving anesthesia. Although anesthesia can be administered by a nurse or nurse anesthetist at a lower cost, we believe our patients’ comfort and safety is worth the added cost of have an anesthesiologist present. On occasion, facelifts and related procedures are performed using “twilight” anesthesia (local anesthesia with sedation).

Do I need full general anesthesia?

In full, hospital style general anesthesia patients are typically given drugs to paralyze their muscles, a tube is placed down their windpipe, and they are placed on a breathing machine. While this may be necessary for

some surgical procedures, it is not necessary when plastic surgery of the face is performed, and can be avoided in all but the unusual case. Avoiding this type of anesthesia lowers the likelihood of certain complications including nausea, vomiting, and blood clots.

Will I be able to hear anything, feel anything or see anything?

Most patients have no recall of any part of the procedure and are too heavily sedated to hear anything, feel anything or see anything. In addition, after anesthesia is begun the patient's face is injected with local anesthetic solution ("numbing medicine").

Is nausea common after surgery?

Nausea is uncommon when hospital style general anesthesia is *not* used and when other precautions are taken. Anti-nausea medicine is also given routinely at the beginning of each procedure, and patients with a history of nausea after surgery are usually given several types. Sometimes wrist acupressure is used. Patients are also provided anti-nausea medicine to take at home with them.

Are vital signs monitored during surgery?

During the procedure, state-of-the-art monitoring equipment checks the patient's blood pressure, pulse, tissue oxygenation, carbon dioxide levels, temperature and electrocardiogram. Monitoring is continued throughout the patient's stay in the recovery room.

Who does the surgery? Is any part done by assistants, nurses, or students?

All procedures performed in the Marten Clinic of Plastic Surgery are performed personally by Dr Marten, and no part of the procedure is done by another doctor, a surgical assistant, nurse, plastic surgeon in training, or student. While as many as five or six nurses, operating room technicians, and medical assistants are involved in the typical facelift patient's care and are indispensable members of the operating room team, they are all assisting Dr. Marten in some way and do not perform any part of the actual procedure.

This is not the case in many other practices however where a "ghost" or assistant does one side of the face while the plastic surgeon does the other. Although this may allow the procedure to be completed in a shorter period of time, it is a formula for asymmetries and other problems. Some plastic surgeons also allow a nurse, "fellow", or student to do some suturing or other parts of the procedure. This is also not the case in our Clinic.

Are drain tubes used?

Drain tubes are small, spaghetti sized, perforated soft plastic tubes that are placed under the skin of the neck and brought out behind the ear. They are connected to a small lemon sized reservoir that is pinned to the patient's clothing that puts gentle suction on the tube.

Drains serve the important purpose of vacuuming up any blood or fluid that oozes under the skin after the surgery, and thus markedly reduce the amount and duration of bruising and swelling after the procedure. Using a drain also eliminates the need for the traditional bulky, uncomfortable facelift dressing.

Drain tubes are typically not a bother to patients and are usually removed a few days after the surgery. Drain removal is not painful and typically results in mild, momentary discomfort.

Is “tissue glue” used?

“Tissue glue” is claimed by some surgeons to reduce bruising, swelling and fluid collections and preclude the need for drain tubes but this has not been shown to true in controlled clinical studies, nor in our experience. Tissue glues have the specific disadvantage that they are derived from pooled human serum and plasma, and thus pose the potential risk of transmission of blood borne illness including hepatitis and HIV. Although donor serum used in tissue glue manufacture is tested and screened, the risk of transmission is still present, and not warranted for an unnecessary and unproven treatment used in a cosmetic surgery procedure.

Is a dressing needed after surgery?

After all planned procedures have been completed the patient’s hair is washed with shampoo and rinsed. Conditioner is then applied and the hair carefully detangled with a wide toothed comb.

No dressing is needed or applied. Patients are typically discharged with a hat, scarf and sunglasses. If dermabrasion (sanding of skin wrinkles) or lip augmentation has been performed a rigid disposable surgical “allergy” mask that rests off of the treated area is also provided.

Where do patients recover after surgery?

Performance of the procedure itself fulfills only part of the obligation to the patient and the care received post-operatively is as important as the surgery itself. Unlike hospitals and surgery centers where patients recover in a remotely located, common, busy, noisy room separated from other patients by only a small curtain, patients at the Marten Clinic of Plastic Surgery recover in quiet, individual, private recovery rooms located directly adjacent to our Operating Room with special amenities including specially designed adjustable recovery chairs (instead of uncomfortable hospital “gurney” beds), radiant ceiling heat panels to keep patients warm while recovering, private in-room hand wash area (instead of a communal hand wash sink), soothing high-fidelity music, and state of the art vital signs monitoring equipment. Patients recover under the supervision of a Recovery Room Nurse and the Anesthesiologist for approximately one hour after the procedure.

Where do patients go after they have recovered from surgery?

Although many plastic surgeons send their facelift patients home after surgery or keep them in the hospital overnight, patients at the Marten Clinic of Plastic Surgery are moved to our luxurious, private Overnight Recovery Suite after they have been discharged from our Recovery Room where they stay the night with a specially trained Nurse. The Overnight Recovery Suite is adjacent to our recovery Room and has a direct, private entrance. It is attractively appointed and includes hypoallergenic wall to wall carpet, an electrically adjustable queen sized bed, fine linens, wide screen plasma TV, DVD player, music system, dedicated heating and air-conditioning, private bathroom and shower, and kitchenette with microwave, dishwasher, refrigerator, freezer, icemaker, and other amenities.

Staying in our overnight recovery unit means that patients need not travel by car to their home or hotel, or by ambulance or medical transport service to a patient wing of the hospital or to an off site overnight aftercare facility.

While in the Overnight Recovery Suite the aftercare specialist monitors the patient’s recovery, places cold compresses on their eyes and face, helps them to the bathroom, prepares food if they are hungry, and provides other care as directed by Dr Marten.

When do patients go home after facelift surgery?

Patients from the Bay Area are typically discharged the following morning to the care of their family. Out of town patients, or local patients wishing to spend a few days away from home, are transferred to the hotel or recovery center of their choice. If desired, private duty nurses are available to assist patients with their care, as well.

How long do patients from out of town have to stay in the San Francisco area?

Patients from out of town typically stay 7 to 9 days until suture removal is complete before returning home.

Are ice packs used after surgery to reduce swelling?

Patients are asked to rest quietly and apply iced compresses to their eyes for 15 to 20 minutes of every hour they are awake for the first 3 days after surgery. A special, soft, gelatin eye mask and other supplies are provided for this purpose. For most patients, swelling peaks at about this time. It is not necessary or productive to apply ice compresses continually throughout the day, or at night. It is also not necessary to apply iced compresses to the cheeks, neck, or forehead unless fat grafting has been performed in these areas.

A special thermostatically controlled, water-cooled mask is also available for patients who elect to use it. This has the advantage that it provides continuous cooling at just the right temperature, and avoids the constant application of drippy wet compresses or heavy ice bags. Many patients are able to sleep the night through with a water-cooled mask in place and running.

Is facelift surgery painful?

Most prospective patients are surprised to learn that facelift and related surgeries (forehead lift, eye lifts, neck lifts and fat injections) are not painful, and that generally only mild pain pills are needed for a few days. After the procedure is complete, but before the patient wakes up, the face is injected with a long acting local anesthetic ("numbing medicine"). When this is done the patient typically wakes up in the recovery room with little or any pain.

While in the recovery room patients are kept comfortable by giving pain medication in a pre-emptive, preventive manner, and this is continued throughout the night in the Overnight Recovery Suite. Patients are provided pain medication to take at home if needed, and encouraged to take it every 6 hours for the first three days, even if they are not having discomfort. When this is done pain can usually be mostly prevented.

Are other medications needed?

All patients are provided strong and mild pain pills, sleeping pills, medication for nausea, eye ointment, and lubrication eye drops with instructions for their use. Patients are required to use eye ointment each night for the first three weeks after surgery or until all signs of eye irritation have abated. Eye drops are used throughout the day as needed.

How should facelift patients sleep after surgery?

Patients are asked to sleep flat on their backs without a pillow. A small cylindrical neck roll is permitted if the patient prefers it. This assures a chin up position and prevents folding and creasing of the neck skin that inevitably occurs if a pillow is used. In addition, swelling will drain to the back of the head instead of the neck

in this position, where it is not harmful, less noticeable and more rapidly transmitted away from the head and neck area when the patient sits upright. This results in a faster recovery then when a traditional "head elevated" position and multiple pillows are used.

What are patients allowed to eat after surgery?

Patients are allowed to take a soft diet as tolerated after surgery but are encouraged to avoid salty, sweet, sour, and difficult to chew foods. Patients are asked to abstain from the intake of alcohol for 2 weeks after surgery and until they are no longer taking pain pills (acetaminophen ("Tylenol") included) or sleeping medication.

How soon after surgery can patients shower and wash their hair?

After completion of the surgery, but before the patient is awakened and transferred to the Recovery Room, their hair is shampooed, conditioned and blown dry. This assures clean hair and scalp in the recovery period.

Patients may begin showering and shampooing their hair themselves the morning after surgery if they wish, and no later than three days after their procedures. This helps remove any crusts on suture lines, keeps incisions clean, and usually improves the patient's general overall well-being. Patients need not be as thorough as usual when washing their hair after their procedure, and they need not attempt specifically to clean the suture lines. Shower water, shampoo and conditioners are not harmful and will not cause infection, and no special hair care products are required. Showering and shampooing are permitted even while drain tubes are still in place.

When can patients wear make-up?

Patients are allowed to wear make-up 9 to 10 days after surgery.

When are sutures removed?

Sutures are removed in two visits over a period of 7 days. Fine sutures in the eyelid area and around the ears are removed on the first visit 4 to 5 days after surgery. The remaining sutures are removed on the second visit 7 days after the procedure.

Why aren't absorbable sutures used?

Absorbable sutures are intended to be used inside the body and not on the skin surface. They are made of reactive, inflammatory materials and, although they can be broken down by the body and don't need to be removed, they cause inflammation and redness on the skin surface, and can sometimes leave permanent marks on sutured areas. For these reasons they are not used.

Special small, non-reactive sutures are used that produce minimal inflammation and provide for the best healing possible. Although they must be removed, suture removal is not painful and is easily completed at the routinely scheduled follow-up visits.

What precautions must patients take with hair care after surgery?

After surgery the patient's skin and scalp may be partially numb and that they must be careful when bathing that shower water is not too hot and that hairdryers are not used on high heat settings. "Hot curlers" and

"curling irons" must be used with care for several months as patients can unknowingly burn their foreheads and scalps using them.

How soon after surgery can patients color or perm their hair?

Patients are instructed not to "perm", tint, dye, highlight, color or otherwise chemically treat their hair for two weeks after surgery as these treatments can result in hair breakage or hair loss during this time.

When can patients return to work after a facelift?

When patients return to work and their social lives will depend upon their tolerance for surgery, their capacity for healing, the type of work they do, the activities they enjoy, and how they feel overall about their appearance. Patients are asked to set aside 2 to 3 weeks, to recover from surgery and additional time off is recommended before an important business presentation, family gathering, vacation, or like event.

If the patient is doing well and not experiencing problems, they are allowed to return to light office work and casual social activity 9 to 10 days after surgery. It is recommended that they begin with a limited workday at first and to adjust their schedules thereafter. If a patient's job entails more strenuous activity or physical labor, a longer period of convalescence may be required.

When are patients completely healed?

Patients are usually pleased with their appearance, look good in a photograph, and can be seen at an important event 2 to 3 months after surgery. They are advised to expect some numbness and firmness in the face and neck areas for 6 to 9 months after surgery however.

When can patients drive a car after facelift surgery?

Patients are advised not to drive for the first 10 days after surgery and until they are feeling well, their vision is clear and they are no longer taking pain medications.

How soon after facelift surgery can patients exercise?

Patients are advised to avoid all strenuous activity during the first two weeks after surgery including heavy lifting, stooping, straining and bending forward. Two weeks after surgery patients are allowed to begin light exercise and gradually work up to their pre-surgical level of activity. Four to six weeks after surgery they are allowed to engage in more vigorous activities, including most sports, as tolerated.

On behalf of all of us at the Marten Clinic of Plastic Surgery I would like to thank you for your interest. It is our sincerest hope that this booklet has provided helpful information. Please don't hesitate to contact us with any questions you may have.

A handwritten signature in black ink on a light-colored rectangular card. The signature reads "Timothy J. Marten MD" in a cursive script.