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Anatomy of the Facial Skin and the New SMAS Facelift

In recent years plastic surgeons have recognized that the skin of the cheek and anterior neck is constituted as an interconnected three-layer unit. This facial skin unit is comprised of the superficial epidermal-dermal layer, the underlying subcutaneous fat, and beneath that, a gliding membrane composed partly of fibro-elastic connective tissue and in part muscle. This gliding connective tissue membrane is called the Superficial Musculo Aponeurotic System, abbreviated SMAS. The SMAS has multiple fibrous extensions that attach through the subcutaneous fat to the superficial epidermal-dermal portion of the skin which causes the three layers to move together as a unit. The SMAS attachment to the epidermal-dermal layer is particularly notable at a line on either side of the upper lip and mouth which is called the nasolabial crease.

In the neck, the SMAS membrane incorporates the platysma muscle which extends from the lower jaw area to the collarbone. The platysma, which is one of several facial muscles included in the skin unit, functions in certain expressive movements involving the lower face and neck. Chronic spastic contraction of the platysma muscle produces neck cords, which with aging can gradually create persistent vertical folds of skin beneath the chin and on the upper anterior neck.

Where the platysma muscle terminates in the cheek, the SMAS membrane continues as a layer of smooth fibrous tissue that reaches to the cheekbone below the eye and attaches to the bone as it extends in front of the ear area. The presence of a gliding plane between the SMAS and the underlying structures of the face allows free movements of the skin unit to create expressions of facial animation. The movements are produced by the superficial muscles of expression which are contained in the SMAS membrane and attach at the corner of the mouth.

As facial skin ages, there is a gradual loss of elasticity in the epidermal-dermal layer of the skin as well as in the SMAS membrane. Gravity produces sagging of the cheek skin unit along the jaw creating fleshy "jowls" and often a "double chin" appears. This is due to the dropping of the fatty portion of the lax skin unit along the anterior and lateral jaw area. At the nasolabial crease, the cheek fat sags forward with aging to increase the prominence of the naso-labial fold which ultimately extends downward below the mouth, lateral to the chin, to become continuous with the jowl. Sagging of the subcutaneous fat and the gliding SMAS membrane contributes as much to the appearance of facial aging as the loss of elasticity in the superficial epidermal-dermal layer.

The classic skin facelift which had been the standard technique until recently, achieves its correction by lifting and tightening only the superficial epidermal-dermal layer of the skin unit. The separation and lifting of the epidermal-dermal layer from the subcutaneous fat (called undermining) does not alter the position of the sagging subcutaneous fat and SMAS-platysma layer. Widely freeing the superficial epidermal-dermal layer and pulling it tightly only effects some improvement of the two deeper layers of the skin unit by compression. However, this very tight skin lift sometimes produces an unattractive stretched or pulled look. The use of deep sutures to gather up the fat and SMAS layers (plication) has been found to add no appreciable long-term improvement to the correction achieved with the standard skin facelift alone.

With the SMAS-platysma rotation facelift technique which was originated by Dr. Owsley, the results of surgery are notably improved with a more natural appearance that is not pulled. Follow-up observation indicates that the benefits of surgery can be expected to last 10 or more years. In the SMAS operation, the three-layer unit of facial and neck skin is freed by undermining at the level of the natural gliding plane just beneath the SMAS layer. After undermining, all three layers are lifted upward together with the tension being placed on the underlying SMAS layer. The SMAS is sutured after trimming away the redundant fat at the level of the SMAS incision which is hidden beneath the skin. The traction placed on the SMAS layer lifts the sagging neck fat and brings the overlying skin layer to an improved lifted position as well. Placing the tension of the lift on the deeper supporting SMAS layer produces a snug, lasting lift in the chin and jawline that is not pulled in appearance. Since it is not necessary to place excessive tension on the superficial epidermal-dermal cheek layer in front of the ear, the skin incision can be placed inside the ear canal making that incision invisible.

Liposuction is a safe and effective supplemental procedure to remove excess fat deposits in the neck and beneath the chin in conjunction with the SMAS facelift. In selected younger patients liposuction of the neck may be beneficial without requiring a facelift.

A recently developed technique of correcting the deep fold lines on the side of the nose and mouth adds lifting of the mid cheek fat pad with suspension sutures to the correction of the jaw and chin line with deep SMAS lift. This technique is the bidirectional facelift as performed by Dr. Owsley.

In summary, the SMAS-platysma rotation facelift has been shown over an extended experience to provide an improved, more natural-appearing result, that is long lasting. There have been fewer problems with bleeding, bruising or excessive scar formation than those formerly encountered with the standard skin facelift.