Facelift treatments are constantly changing to adapt to the desires of the public. Today's sophisticated patients, accessorized with cell phones and personal digital assistants, want maximal improvement and minimal downtime. This trend has resulted in the explosive demand for microdermabrasion and Botox® and collagen injections. For some patients, these self-improving essentials are becoming part of their routine errand runs, fitted in between hair appointments and trips to the dry cleaner. Rapid advancements in nonablative resurfacing methods and development of new applications for traditional devices (e.g., ultrasound, radiofrequency) make clear that the medical profession has responded to patients' requests for more convenient facial treatments. However, many patients and physicians are recognizing that these techniques may fall short of expectations. In the past, patients desiring further improvements were relegated to more aggressive means, such as CO₂ laser resurfacing and facelifts. Unfortunately, these procedures come with the added expenses of longer downtime and risk for significant postoperative complications. The chasm between no-downtime procedures and the more traditional rejuvenating surgeries has left patients and physicians searching for different techniques that combine the benefits of both.

Patients are requesting treatments that produce facial rejuvenation better than what is possible with "lunchtime procedures" and without the invasiveness, extended healing time, and risks inherent in traditional surgical techniques. Likewise, physicians are seeking treatments that can be performed efficiently, with minimal risk, with consistently positive outcomes, and without expensive instrumentation. This article describes some of the newer techniques addressing these needs.

Over the past few years, interest in minimally invasive suture suspension facelift techniques has been renewed. Today, many of these techniques are trademarked and advertised under clever nomenclatures. Surprisingly, these techniques are not new—they were the subject of experiments years ago, and then they fell out of favor, for whatever reason. Today's surgeons, armed with scientific advancements, a better understanding of anatomical structures, and improved suture materials, can adopt these methods into their evolving armamentarium.

Modern surgical methods of facelifting are designed to lift deeper tissues and reposition them in a more youthful position. Excess skin advanced with the deeper tissues is excised, and the remainder is neatly tailored and tucked down without tension. However, some authors question the need to mobilize deeper tissue to reposition the more superficial tissues. Hoefflin stated, "Pulling on the SMAS [superficial musculoaponeurotic system] is like repositioning a living room sofa by pulling on the carpet. It's easier to just pick up the sofa and position it where you want it."

Using suture suspension techniques, which sweep back cheek and temporal skin, seems to produce the look that patients want. These techniques can be performed as an adjunct to traditional open approaches, through minimal-access incisions, or with the aid of needles placed percutaneously. Younger patients with early jowling and minimal platysmal laxity seem to be the most appropriate candidates for minimal-access and percutaneous suture suspension facelifting. Patients with heavy jowling and turkey gobbler neck deformities may not get adequate correction when isolated suture suspension techniques are used. These patients are still best treated with more traditional facelifting methods.

Suture suspension facelift techniques have been described in the cosmetic surgery literature. An S-lift involves excising preauricular skin in the shape of an S.

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Puppet Facelifting

Figure 1. Left, A 50-year-old male with redundant neck tissue. Right, 1 year after cervical suspension suture.

Limited undermining and reapproximation of skin using vertical and lateral advancements tighten cheek skin. In addition, placating purse-string sutures in the SMAS in the shape of a U in the preauricular area to lift the platysma and placating an O directed into the midface lift the jowls and tighten the neck. The recommended nonresorbable sutures are threaded through the SMAS and are anchored down to the fixed zygomatic periosteum. This technique has shown promise as a minimally invasive procedure that provides improvement in select patients with limited face-lifting needs. As minimal skin elevation is required and the SMAS is not dissected, risk for skin necrosis and motor nerve injury is very low. Limited incisions make postauricular alopecia or hairline irregularities unlikely. Also, the robust blood supply in the skin is mostly left intact, allowing for optional simultaneous facial resurfacing. Although bruising and swelling are limited, patients can enjoy a quicker return to normal daily routines. A few physicians’ boastful claims that this technique represents a “weekend alternative” may not be completely realistic. Honest explanations may reveal a slightly longer recovery but certainly less time than that associated with traditional face-lifting procedures.

Excess redundant neck skin, thick cordlike neck banding, and excess submental fullness can be challenging to correct even with traditional submentoplasty procedures. Many surgeons use an anchored expanding cervical suspension suture either in combination with traditional neck treatments or on its own as a quick, low-risk, technically straightforward method for rejuvenating the neck (Figure 1). Through a submental incision, a suture is fixed to the medial border of one end of the platysma and is passed transversely within a subdermal tunnel over the opposing platysma and out the opposing sides of the postauricular incision, where it is anchored to the mastoid periosteum. A second suture is placed through the other platysmal border and is fixed to the opposing mastoid. The two sutures, headed in opposite directions, are interlocked in the midline. A well-defined cervical mental angle is created. Tension can be adjusted before knotting down the suture to vary the sharpness of the newly created neckline. When combined with aggressive submental liposuction, this technique can provide significant improvement in the neckline and jowls with minimal downtime and little risk.

A similar method for providing a sharp cervical mental angle involves using a spanning Gore-Tex® (W.L. Gore and Associates, Newark, Del) sling placed within a submental tunnel from mastoid to mastoid. The reported benefit of this method allows for adjustment over time so that, if laxity recurs, the surgeon can make a

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small incision over one end of the sling in the mastoid region, pull the sling tighter, discard the excess Gore-Tex, and reanchor the free edge down.

Excitement and enthusiasm surround a recently reported series involving suture suspension techniques aided by percutaneous needle placements. This method promises minimal risk and limited downtime and represents an alternative to repositioning the difficult-to-correct ptotic midfacial tissues. Sasaki and Cohen7 and Keller et al8 both reported on large series of patients who were satisfied with their improved melolabial folds and cheek pad positions. The procedure involves suspending a subcutaneous suture with an anchoring Gore-Tex pad from the temporal fascia through the melolabial fold and back out the temporal fascia. The treatment is conceptually simple and seems to have a shallow learning curve. "The procedure can be reversed, augmented or modified in the postoperative period quite easily." The results of both studies seemed to last more than one year, and no major complication were reported.

Another incredibly simple concept to grasp is the "nonsurgical brow suspension." This technique, reported on by plastic surgeons from Istanbul, Turkey, involves elevating and suspending the lateral brow with a subcutaneous suture placed through the superior border of the lateral brow and anchored up in the hairline.9 The procedure takes 15 minutes to perform, can be done in an office setting, and requires only local anesthesia. The only supplies needed are suture material and an angiocatheter. The results are lasting and can be easily reversed or modified if necessary (Figures 2–3). The procedure seems ideal for patients not accepting of surgery. As is not the case with traditional forehead-lifting, significant postoperative edema, bruising, and risk for facial nerve injury are eliminated.

A new and novel technique that originated in Russia but is yet to appear in the US literature involves threading a barbed 2-0 Prolene® (Ethicon Inc., Somerville, NJ) suture subcutaneously.10 The suture travels in one direction only, and soft tissue is uniformly gathered on the suture and fixed in place, creating a new volumetric contour. The suture, placed strategically, can rejuvenate the midface, neckline, forehead, and periorbital areas. In the Russian study, there were no permanent or serious complications. Results were seen immediately in the operating room. In their work with 186 patients, the investigators found that tissue remained in place "for a considerable length of time."

All these techniques have both fantastic potential and certain limitations. A lot of excitement surrounds these
celebrated techniques, as they are attractive options for physicians who want to offer their patients low-risk, minimally invasive, no-downtime facelifting treatments. However, these techniques need to stand the test of time. Other concerns include asymmetries, suture ruptures, and infections. Although some authors have described excellent results, lack of complications, and procedures technically not difficult to perform, we should note that these same authors have a mastery of facial anatomy and seasoned surgical skills. Still, we clearly have a progressive patient population demanding both quality and convenience. As these procedures can be performed with the patient under light or local anesthesia in an office setting—with consistent results, low risk, and minimal downtime—we can expect to hear a great deal more about them in the next few years.

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REFERENCES


