

Interest Growing in Barbed-Suture Suspension Techniques for Facial Rejuvenation

By Devon Schuyler

A variety of barbed-suture suspension techniques are being used to rejuvenate the aging face without large incisions or a lengthy recovery time. But how safe and effective are these procedures, and who are the best candidates?

The basic procedure involves threading barbed sutures under the skin. When the sutures are pulled and anchored, the barbs catch on the tissue and suspend it. Barbed sutures can be used to lift the cheek, jowl, and brow, and to reduce nasolabial folds and melolabial creases.

"They're good for people who aren't ready for a facelift, but are starting to see jowling and cheek drooping," said Marcello Hochman, MD, of the Facial Surgery Center in Charleston, SC. He said that the most common age range for the procedure is 35 to 50.

"I recommend them for people who do not have a heavy face, and who need just a bit of elevation," said David Ellis, MD, Professor of Otolaryngology at the University of Toronto in Ontario, Canada. "Usually that means people under 45."



"I most often combine threading with a brow lift."—Marcello Hochman, MD

Several Variations on Standard Sutures

The most popular barbed sutures in the United States are Contour threads and Aptos threads. Contour threads are clear with unidirectional barbs and are attached to a straight needle on one end and a curved needle on the other. They were approved by the Food and Drug Administration in 2004. Aptos threads are blue and are advanced through a separate hollow needle. Endo-Aptos sutures (sometimes called Isse Endo-Aptos sutures), which have unidirectional barbs, have largely replaced Aptos Featherlift sutures, which have bidirectional barbs. All of the barbed sutures are variations on standard 2.0 polypropylene; the procedure can also be performed using polypropylene sutures and Gore-Tex anchors.

Dr. Ellis, who has performed thread lifts for about two years, said that his thread of choice is the Contour. He's used the threads

in about 60 patients over the past year. He told *ENToday* that he has also tried the Aptos Featherlift and Endo-Aptos sutures, but wasn't happy with the degree of improvement with the Featherlift. "I've also seen some complications with them," he said.

Dr. Hochman, who has been using the Endo-Aptos sutures for about a year and a half, said that he has operated on about 60 patients. He hasn't used the Featherlift threads, which have fallen out of favor, or the Contour sutures, which he said were more expensive and less versatile than the Endo-Aptos sutures. "I don't like having the sutures and the needles attached to each other; it limits what you can do," he said.

Performing the Procedure

Dr. Ellis explained that the Contour thread procedure begins with an injection of a local anesthetic such as lidocaine; sedation can also be used.

To lift an area such as the cheek, the surgeon makes one or two cuts in the temple behind the hairline. The straight needle is then inserted into the incision, pushed through the subcutaneous layer, and drawn

out through the cheek.

"You have to wiggle the needle in horizontally to get the suture through the subcutaneous layer," Dr. Ellis said. The surgeon inserts a second suture next to the first and cuts off both the straight needles. The next step is to fix the threads to the fascia at the temples, tie the threads together, and cut off the curved needles. After that, the surgeon massages the skin upwards to allow the individual barbs to catch on the soft tissue. The surgeon cuts the dangling ends of the suture, and the threads retract below the skin's surface. "Sometimes you have a little dimple, but you can gently squeeze the tissue to get rid of it," Dr. Ellis said.

Dr. Hochman explained that the Endo-Aptos procedure works similarly, except that the threads do not have attached needles. Instead, the surgeon inserts a 20-gauge spinal needle into the incision. The needle is passed through the subcutaneous layer and brought



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to the surface. After the surgeon introduces the suture into the hollow needle, the needle is removed, leaving the suture in place. The suture becomes embedded in the skin when the distal end is pulled and anchored. "It's like a Contour thread kit, but in separate pieces," he said. Another difference is that there's no need to massage and elevate the skin.

Dr. Hochman said that the standard technique involves drawing the suture all the way through the skin and cutting off the excess, just as with the Contour threads. But he doesn't like the dimpling that this approach can produce. In order to eliminate the problem, he has revised his technique so that the leading end of the suture stays beneath the skin's surface.

Good Early Results and Minor Complications

Few studies have been published on barbed-suture suspension techniques, so it's difficult to know how long results will last and the exact nature and prevalence of complications.

"Early on, the results are really good," said Dr. Ellis. But he said it's important for patients to know that their results may not last, and to have realistic expectations. "People with heavy skin and fat on their faces can relapse after two or three months," he said.

Dr. Hochman said that he prepares patients for the possibility of fleeting results by presenting them as a benefit. "I tell my patients that as gravity does its thing and the tissues drop down, it's a big advantage that we can open those little incisions and pull the sutures back and retighten them." Dr. Hochman retightened sutures in 8 of his 60 patients within the first year.

Dr. Ellis said that he used to have a problem with the Contour threads breaking and gradually migrating to the surface of the skin. The patient would feel something sharp in their face, reach for it, and pull out a thread. "It didn't cause any scarring, but it sure as hell scared them," he said. He said that he's solved that problem by testing all the threads during surgery. "We pull hard and try to rip them out before we trim them. Since we've been doing that, we've had no prob-

lems." He said that it remains possible for a patient to snap a suture after surgery, however, so he instructs his patients to minimize facial movements after surgery.

The Endo-Aptos threads also can break during insertion, Dr. Hochman explained, so he counsels his patients to eat and move their faces carefully after surgery, and to avoid facials and facial massage for a month. When a thread breaks during surgery, he warns the patient that it will appear in a few weeks as a blue dot under the skin. Removal requires a trip to the surgeon, who makes a tiny incision in the skin to pull the thread out.

Dr. Ellis said that bruising is always a possibility, although some patients have no discoloration and are able to go back to work the same day. Another potential complication is dimpling at the skin's surface, which is easily fixed. Other potential complications, which he has not experienced, include facial asymmetry, damage to facial nerves, infection, and being able to see the color or texture of the threads under the skin.

"I guess it's possible for the threads to show through if the surgeon places them too superficially," said Dr. Hochman. "But from my point of view, the procedure itself is a good one."

The Icing on the Cake

In addition to being used on their own, surgeons are starting to use thread lifts as a supplement to facelifts.

"I most often combine threading with a brow lift," said Dr. Hochman. He avoids using sutures in the forehead, where it's difficult to get them deep enough below the skin. Instead, he'll often combine a traditional brow lift with threading in other areas of the face, such as the cheek or jowl. "I've also done cheek lifting in combination with a neck lift or mini facelift," he said.

"When I do a facelift now, I put in threads almost one-hundred percent of the time," said Dr. Ellis. He said that many patients benefit from threads to lift the cheek pads and neck, and improve melolabial creases after a facelift. "The threads are like the icing on the cake," he said. **ENT**