Assessing the Options for Lip Augmentation

The author prefers autologous tissue from a combined SMAS/fat graft for lip augmentation. However, he considers Alloderm the best alternative. Here he describes his technique and compares Alloderm with other available materials. (Aesthetic Surg J 2004;24:65-66)

In my ongoing search for a reliable off-the-shelf material for use in lip augmentation, I began using AlloDerm (LifeCell Corp., The Woodlands, TX) several years ago. AlloDerm is freeze-dried human tissue that has been decellularized to eliminate the risk of inflammation and rejection. It is said to retain vital elements of tissue structure (collagen, elastin, proteoglycans), and to have a shelf life as long as 2 years.

**AlloDerm Application**

Intrigued by how easily AlloDerm can be used, I began to examine the longevity of the material when it is implanted in lips. After performing this procedure, I observed that graft absorption was variable. Most patients experienced at least 60% graft absorption in 6 months. Many, however, still demonstrated palpable material after 1 year.

Here is my method for implanting AlloDerm in the lips:

1. Reconstitute the material in accordance with the manufacturer’s suggestions. The graft size I find most useful is 3.5 by 7 cm. This size is sufficient for both the upper and lower lips; frequently some material is discarded.
2. With the patient under general anesthesia, or oral sedation and regional nerve blocks, infiltrate the oral commissures and dry vermilion with 1% lidocaine with 1:100,000 epinephrine to effect hydrodissection and to provide hemostasis. I believe that the presence of blood in the pocket substantially affects both autologous and allogenic graft survival.
3. Make a 3-mm transverse incision in both oral commissures and dissect a submucosal tunnel with blunt-tip tenotomy scissors or a Freer periosteal elevator (Padgett Instruments, Kansas City, KS).
4. Pass the graft with a curved graft retriever (Byron Medical, Inc., Tucson, AZ). The graft should be palpable at the vermilion cutaneous border but not above. Close the incisions with chromic catgut.
5. Use routine perioperative antibiotic coverage, local wound care, and diet advancement.

I have expanded my clinical application of AlloDerm to include skeletal augmentation of the malar, infraorbital, and mental areas, as well as correction of asymmetries and contour deformities of the nasal dorsum and sidewall. I found substantial improvement in graft survival with minimal absorption. I attribute this improved survival to my placing the grafts in areas of virtually no mobility. Another application I have used with success is the placement of large sheets of AlloDerm between a breast implant and its surrounding capsule to camouflage wrinkling.

**Alternative Materials and Methods**

My preferred material for lip augmentation is autologous tissue, when it is available (combined SMAS/fat grafts). However in some patients there may not be sufficient tissue to supply the necessary volume. I have used injectable fat grafts and found their survival in the lips unpredictable. I also tried Softform implants (McGhan Medical, Santa Barbara, CA), which resulted in my removing almost as many as I inserted. They felt unnatural and were always palpable. If not positioned perfectly, they also appeared unnatural.

The introduction of Cymetra (LifeCell Corp.) appeared to answer the need for a reliable injectable soft tissue filler material with a survival rate exceeding that of injectable collagen. However, my experience with this
material was not favorable. Cymetra was rapidly absorbed, and patients were disappointed. I no longer use this material.

In a recent article, Duncan\(^1\) provides a novel method of lip and perioral rejuvenation in which she divides the acellular graft into small particulate grafts, permitting augmentation by means of injection. This may be a better alternative than Cymetra.

The European, Canadian, and South American experience with Restylane (Qmed AB, Uppsala, Sweden) and Perlane (Qmed AB) offers hope for another user-friendly soft tissue filler.

**Conclusion**

Alloderm is user-friendly, with variable absorption, depending on tissue handling and the recipient area (Figure). Particulate Alloderm seems to be a reasonable alternative when the use of injectable material is indicated. Autologous material is preferred when available without added morbidity and when expected survival exceeds that of acellular allogenic grafts. ■

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**Figure.** A, Preoperative view of a 57-year-old woman. B, Postoperative view 9 months after Alloderm upper lip augmentation, midface lift, bilateral lower blepharoplasty, and lower face and neck lift.

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**Reference**


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