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LIVE FILL™

# THE PERMANENT FACIAL AGING

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[ WRITTEN BY BRENT MOELLEKEN, M.D. ]

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THERE HAS BEEN A LONG-STANDING NEED FOR FILLER MATERIALS IN THE FIELD OF COSMETIC SURGERY. THESE MATERIALS ARE USED TO FILL IN THE SPACES AND FURROWS CAUSED BY AGING. THEY CAN ALSO BE USED TO IMPROVE THE BEAUTY OR HANDSOMENESS OF THE FACE. THIS ARTICLE REVIEWS MANY OF THE TEMPORARY FILLERS. WE WILL ALSO DISCUSS OUR PERSONAL EXPERIENCE WITH LIVEFILL™ GRAFTS WHICH ARE COMPOSED OF DISARTICULATED (BROKEN UP) FASCIAL (A NATURALLY-OCCURRING STRONG SUPPORTIVE TISSUE) FAT GRAFTS. I DISCOVERED AND HAVE CONDUCTED STUDIES ON LIVEFILL™ GRAFT VIABILITY (ABILITY TO STAY ALIVE) AND ON THEIR LONG-TERM SURVIVAL.

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**T**he facial areas where **LiveFill™** can be used include the lips for lip augmentation; the nasolabial folds (the smile lines, wrinkles or folds that are located between the nose and the angle of the mouth); marionette lines (the puppet-like lines located downward from the corners of the mouth); the glabellar creases (the frown lines located between the eyebrows); temporal hollowing (the concavities located in the temple areas); in the malar (cheekbone) and sub-malar (underneath the cheek bone) areas. LiveFill™ can be used to correct cheek collapse, instead of using artificial cheek implants. LiveFill™ can be used to correct lip corner crinkles. If you have a hollowness in the area located between your upper and lower teeth in the cheeks (known as the buccal area), LiveFill™ can also be used to correct this.

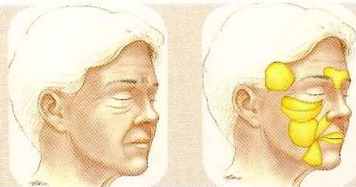
Temporary fillers can be used to enhance the lips; fill in the smile lines and fill in the areas below the eyes. The most

popular filler in use today is collagen. There are many other injectable fillers, including Restylane, Alloderm, Perlane, Juvaderm, Hyaluronic acid products (Captique, Restylane, Hylaform), NuFill, and a number of fillers based either on plastic beads (Artecoll) or silicone (Silikon 1000).

All of these fillers have associated problems and limitations. **Collagen**, although safe in the vast majority of patients, has only temporary effects and usually lasts 3 months, at the most. **Restylane** and other hyaluronic acid products, last approximately 4 to 6 months. All of these fillers disappear and therefore require re-injection. Synthetic materials (**Gore-Tex and SAM**) can leave three-dimensional irregularities in the skin. They may also be felt through the skin. **Alloderm** is made up of cadaver material. **Injectable silicone** tends to migrate over time and it can cause chronic infections.

Any permanent or semi-permanent material (e.g. Artecoll) that does not carry its own blood supply with it,

**Diagram 1:**  
Notice the locations of facial aging.



**Diagram 2:**  
This diagram illustrates the locations where LiveFill can be used to treat facial aging.

can become infected, in the short-term (acutely) or in the long-term (chronically). **NuFill** is made up of a material that has been FDA approved for use in AIDS patients. This NuFill product may provide longer-term, yet only carries temporary filling qualities with it, according to early studies. Unfortunately, NuFill is made up of the same material that makes up absorbable sutures. This product can cause tissue reactions in many patients. Many materials that are used as fillers can grow lumpy. This is especially the case if they are based on bone fragments, contain synthetic material in them, or are not living.

**Fat injections** have become the most popular method for the filling in of defects, wrinkles or tissue augmentation. Fat injections involve the use of autologous fat (fat that is derived directly from the patient and that will be injected back into the same patient). Any method that involves the use of material that comes directly from the patient is extremely appealing.

With the LiveFill™ method, there is no risk of disease transmission (e.g. HIV or hepatitis) since the tissue is taken out of and used on the same patient. Also, there is no fear of the development of autoimmune diseases

(e.g. lupus, rheumatoid arthritis) that has been “associated” with the use of foreign bodies and “synthetic materials”. The possibility of developing an allergic reaction to your own tissue is unheard of. You are highly unlikely to reject your own tissue. Unfortunately, the process that is used to obtain fat for filler injection leaves many of the fat cells disrupted and/or dead. The exact number of fat cells that actually survive this harvesting process has been hotly debated in the plastic surgery world. The fat cells that live vary from between 5% to 50% (according to the plastic surgery literature). This means that from between 50% to 95% of the “fat” that we inject into patients is actually composed of a combination of cellular debris, free fat, dead cells and blood cells. Plastic surgeons need to over-fill or over-correct the concavity, deformity or defect with fat injection due to this poor “take” of the fat cells.

**What difference does it make that dead fat cells are being injected into patients?**

Well, our bodies act in a variety of ways in response



to the injection of dead tissue. Our bodies do not like dead materials being injected into them. In response, the body goes to work to remove the dead cells and free fat until it can either grow a new blood supply or encapsulate (surround with scar tissue) any non-living tissue. The processes that take place in the body include those of inflammation and swelling. This may be the reason why patients notice that they are swollen for many weeks (and even for months) after the fat injection procedure.

In my practice, I have found that the number of fat cells that remained living was only around 25%, even when I carefully harvested them using a variety of methods. The maximum percentage of living cells that will actually become part of the patient and develop their own blood supply is only 25% (minus whatever does not survive the surgical transfer process). This may account for the fact that patients often complain about the lack of results after fat injection. They proclaim, "It didn't last!"

We developed LiveFill™ in our offices four years ago. This procedure involves the transplantation of

100% live grafts that come from the patient's own tissues. Your own tissue is obtained and fashioned into small, delicate grafts that resemble strings of pearls that actually have structural integrity. These grafts are completely different from any rendition of grafted material that has been developed so far.

The face does not age in lines. It ages in areas. Therefore, it is best to fill in complete areas rather than place material underneath a single line. LiveFill™ is placed underneath the areas that need filling. These areas include the lips; the smile lines (folds or wrinkles that are located between the nose and mouth areas); underneath the eye areas and in hollowed out facial areas that develop with age. LiveFill™ is usually taken from an incision in the lower abdomen.

I have personally performed several hundred LiveFill™ grafting procedures. After LiveFill™ has been placed surgically, it becomes an integral part of the patient's tissue. Therefore, the results are permanent. These permanent results have been demonstrated through independent, objective microscopic analysis. The long-term viability has also been confirmed experimentally with



**Preoperative photograph:  
35 year-old white male  
before facial rejuvenation  
with LiveFill.**



**Postoperative photograph:  
6 months after LiveFill to the  
nasolabial folds, marionette  
lines and oral commissures.**



3-dimensional CT scans.

These microscopic studies show that new blood vessels grow into the LiveFill™ cells and become an actual part of the body. These LiveFill™ cells are actually able to combat infection. Since the tissue comes from the patient's own body, there is never a concern about rejection.

What are the potential complications? Minor irregularities can result from the LiveFill™ technique. The chance of this happening is less than 5%. If this happens, the irregularities can easily be corrected under local anesthesia.

Any surgery should be thought over carefully before going forward. The plastic surgeon should have a long discussion with the patient regarding potential risks, benefits and alternatives of surgery, prior to undertaking any surgical procedure.

Healing time is very rapid. No over-correction is necessary like it is needed with fat injection. For sim-

pler procedures, patients typically only require a long weekend to recover. Usually, mild exercise may be begun within two weeks. Full exercise and workouts are possible at six weeks. Patients note that their reliance on temporary fillers drops dramatically after having LiveFill™ since they experience a permanent filling benefit. In all patients, the LiveFill™ can be felt slightly underneath the skin, but only if the patient carefully feels for it.

The cost of LiveFill™ grafts starts at \$4000 and the price goes up. The cost depends on the areas that are treated and the type of anesthesia that is used (general anesthesia versus local anesthesia with or without intravenous sedation). The LiveFill™ procedure can be performed simultaneously during conventional facelifts; during minimally invasive facelifts; with blepharoplasties (eyelid tucks) or during the superficial (not deep) cheek lift operation (which will be discussed in future issues of SKIN DEEP Magazine).



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