

FAT AND STEM CELL HARVEST AND TRANSPLANTATION TO TREAT FACIAL AGING AND FACIAL ATROPHY



The search for the ideal filler replacement goes on and injecting one's own fat can provide the best result. There has been a paradigm shift in the approach to facial aging. This consists of a trend away from subtractive (cutting out-excisional) facial surgery techniques and a newer focus on restorative replacement procedures. As the face matures over time, facial fat loss, and volume depletion contribute to an aged and sunken facial appearance.

Female aging process with deflation of the face due to facial fat atrophy with drooping and sagging.



Interestingly, men age differently than women. Possibly due to continued hormonal stimulation (Testosterone), daily shaving which performs microdermabrasion, stimulates as a collagen replacement, and a gradual aging process.

To restore the loss of facial volume and contour, esthetic surgeons have been searching for the ideal filler to rejuvenate and correct wrinkles, scars, depressions and creases. Fillers have been used since the **1700's** when the French used paraffin (wax) injected under the skin to fill the deflated areas. To date, no filler has been deemed perfect; all soft tissue fillers currently on the market have disadvantages.

Fat transfer, taking fat from an area of the patient's body where it is plentiful, and transferring it-transplanting it to an area of volume loss, can be a good way to replace youthful appearance. For more than a century, free autologous fat transfer (referred to as fat grafting, liposculpture, micro lip injection, and fat injection [also known as numerous trade names]) have been performed to correct facial defects. Previous techniques of harvesting and injection lead to lumping and poor viability. With newer techniques, utilizing micro fat grafting, more fat lives and lumpiness diminishes although it is a possibility.

Transferring a patient's own fat has no allergic reactions, the fat is readily available, is inexpensive, and a variety of conditions can be treated, including facial volume loss, atrophic aging of the hands, postsurgical defects, posttraumatic defects, and post liposuction defects. When performed appropriately the procedure can yield excellent cosmetic results.

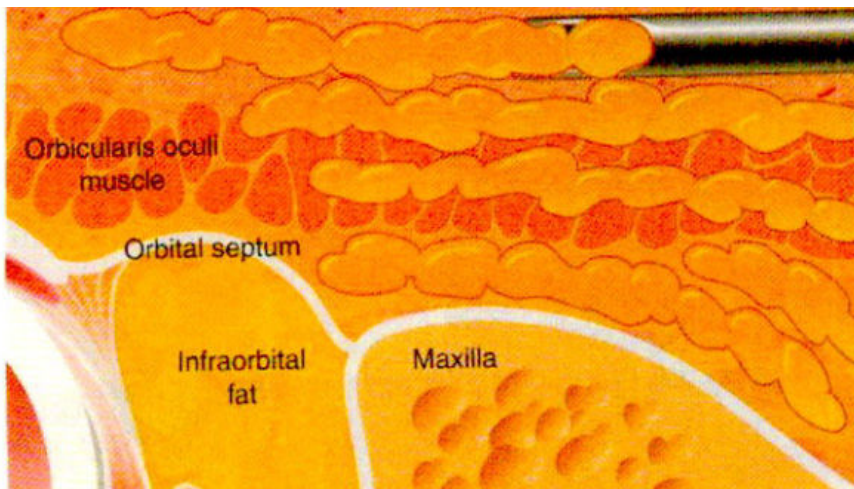
Some of the main benefits of fat transfer include minimal pain or discomfort, short recovery time, minimal risk, the ability to treat all skin types, long lasting results, cost effectiveness (especially in combination with other procedures), and elimination of risk of allergies or rejections. The main disadvantages of the fat transfer in the past have been the unpredictability of the volume of transferred fat that the patient's body will reabsorb and the length of time the fat will remain in place.

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THE FAT TRANSFER PROCEDURE

Fat transfers are (2) procedures performed in a single session that lasts from 1 hour to 3 hours.

1. The first procedure is fat harvesting. A small amount of fat between **30-50 ml** is harvested from a donor site that is anesthetized with local anesthesia. Anesthetized solution not only makes the procedure pain free, but also minimizes the likelihood of bruising and bleeding at the donor site. The preferred donor sites are the abdominal and hip areas where fat cells have a high concentration of anti-lipolytic receptors and are therefore less likely to be reabsorbed. The fat is then processed either in a specially designed cell device that allows the surgeon to harvest, filter, wash and transfer the fat gently in a specially designed syringe or centrifuging, filtering, and separating the fat.
2. After the fat has been prepared, it is injected into the recipient site. The area to be augmented is first given a local anesthetic. The freshly harvested fat is then carefully injected into the desired area in very tiny amounts until the desired volume is reached. Moderate micro droplet threading injections have improved the results by increasing the longevity of grafting material. The location is very important with a multilevel volume enhancement approach, yielding the best outcome. Layering injections in the deep tissues on top of the bone and periosteum and into the muscle and moving outward into the more superficial areas will restore facial volume in a **3-dimensional** manner.



There is no method to predict how much fat will be resorbed and how much fat will be vascularized and remain. Over **50%** is the goal with up to **75-80%** possibly surviving the Alive Tissue transplantation process. Taking vitamins and stopping smoking will enhance the survivability of the fat.

Recovery time is usually very short, there is usually minimal swelling and bruising. The major complications associated with fat transfer are infection and bruising, asymmetries and contour irregularities

with a possibility of permanent discoloration and possible calcification of the transferred fat. Fat embolism is a rare and serious complication that can occur when the fat is mistakenly injected into a blood vessel.

Hopefully, with this information and further counseling, you will consider fat transfer and transplantation as part of your rejuvenation process.