



# FAT & FABULOUS

**Stem Cells'** miraculous role in **facial rejuvenation** and **cosmetic surgery**

BY VICTORIA KARLINSKY, M.D.  
FOR BODYLINE MEDICAL SPA

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**J**ust say it and see how you feel: "fat." Is there any other word so fraught with responses? Shame, heart disease, helplessness, diabetes, embarrassment, back problems, shopping frustrations, high blood pressure, name calling, osteoporosis, self-loathing – there are a lot of reactions to "fat," and not many of them are positive. But new developments in clinical research are convincing cosmetic surgeons to see fat in very different terms: radiance, regeneration, healing.

As reported by leading surgeons at the recent World Congress on Liposuction Surgery in Washington, DC, fat has extraordinary characteristics that make it perfectly suited to transform facial features, skin texture, scarring, and wrinkles that even botulinum toxin can't treat. Fat's secret is that it not only has the ability to contour aging faces with youthful volume, but also that it contains miracle ingredients: stem cells.

## MIRACLE CELLS

There is little wonder that stem cells are so coveted in medicine. They are phenomenal in their ability to differentiate and grow into different types of tissues – they have a wide potential application in the treatment of everything from cancer to Parkinson's disease, as reported by many ongoing studies in Europe.

Most of us know about stem cells via controversy. For years, these

amazing, transformative cells have been prime targets in the widely-reported debate over the ethics of extracting them from frozen embryos. Recent research has shown, however, that stem cells can also be extracted from fat. And their power to transform, facilitate new blood supply formation, and promote healing can be downright miraculous.

Over the past decade, leading cosmetic surgeons and clinical researchers have discovered fat's role in facial rejuvenation. When cosmetic surgeons first began using fat to add naturalistic facial contouring in facelift operations, they observed that it provided youthful facial volume rather than "shrinking" the aging face by pulling back its skin – the key difference between simply removing signs of age and actually restoring the appearance of youth.

But they also began to notice that use of fat also appeared to breathe new life into surrounding facial tissue, making it look fresher, rosier, and thicker. Pore size was reduced. Skin damage and wrinkles caused by the sun – virtually impossible to correct entirely with surgery or Botox – were healed. Scarring was minimized or disappeared.

### **STEM CELL "FACELIFT"**

Today, according to cosmetic surgeons around the world presenting at the World Congress on Liposuction Surgery this October, research indicates that stem cells congregating in the grafted fat are responsible for facilitating this renewal. Moreover, the results, while they do take longer to manifest than botulinum toxin

or facial filler injections, may last for years.

It appears that fat, and from all indications, the stem cells, continue to repair and renew for a long time. They engage in a physiologic process in that initially "fills in" the skin, making the face look younger in terms of volume. Then, this process apparently continues by repairing the damage that the stem cells detect.

The process has become known as "stem cell facelift." While this is a misnomer – since fat stem cells do appear to rejuvenate skin, but cannot correct the sagging that a facelift does indeed correct – the possibilities for fat stem cells in facial rejuvenation are exciting and wide in variety.

Cosmetic surgeons are able to use the fat removed from a patient in one procedure and, using an in-office centrifuge, extract the portion of it where stem cells reside most densely. Injecting damaged, wrinkled, even scarred facial areas with the resulting "liquid gold" (as it is now increasingly called in the field), the patient is treated to results previously impossible with standard injection treatments such as botulinum toxin and facial fillers.

A patient coming into the surgeon's office for a liposuction procedure, for example, now has the option of waiting for an hour post-operation, while the fat stored from her operation is sterilized and transformed into a stem cell "serum." She can then be treated with a "stem cell facelift," using the fat from her own body. In another scenario, a patient who has elected to have facelift surgery is able to choose to have a liposuction

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## LIP AUGMENTATION

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sionals. First, despite best efforts, complications (such as infection) can arise. The problem here is that if it is determined that the prosthetic material must be removed, because of tissue fingerpost, this can be very difficult and can cause severe deformities. Second, the material is somewhat palpable. In other words, you can, at times, actually feel it under the native tissue. In a location like the nasolabial fold (the relatively thick skin between the corner of the nose and the corner of the mouth) it may be hard to detect. In the extremely soft, delicate, and mobile tissue of the lips, however, it can be all too easy to feel. Many plastic surgeons, therefore, have abandoned this procedure. Considering the extremely elective nature of this process, any potential complica-

tion that cannot be easily resolved or is self remitting, is unacceptable.

A different surgical approach is available, however; that of a dermal-fat graft. Once again, the surgery is often performed under local anesthesia (although, at times, some sedation is employed) and on an ambulatory basis. Once again a surgical "pocket" is created in the lips. A graft of skin and underlying fat is then harvested (usually from the groin area, lower abdomen, or any previous area of scarring), de-epithelialized (the epidermis is removed leaving only the deep dermis and fat), trimmed to fit the "defect" in the lips, and fed into the pocket.

This provides the most "permanent" solution available without the use of prosthetic materials previously mentioned. Although some resorption does occur, the loss of correction is the slowest and least noticeable among the available procedures. The drawbacks include standard surgical risks, although bleeding is extremely unlikely, and any infection is easily treatable because there is no prosthetic material involved. Small (3 - 4 millimeter) scars may form on the corners of the lips (the entry ports for the grafts), and a donor-site scar will be present where the graft was taken. All in all, this is a fairly safe, predictable procedure that routinely delivers very satisfactory results.

Since plastic surgeons have a wide variety of surgical and non-surgical options to choose from (as do their patients), very often a combination of the above-mentioned processes are utilized. It is my practice to suggest a "trial" application of hyaluronic acid material before any more extensive and permanent solution is considered. If, for any reason, the patient does not care for the effect of the augmentation, the material will reabsorb in a few months. No harm. No foul. If the patient likes the effect, then she can approach a more conclusive (and involved) procedure with confidence.

**IMAGE**

## NEW LOOK, NEW LIFE

I take very seriously my role in assessing groundbreaking medical techniques that offer my patients the best treatment available in the field. I firmly believe in innovation that yields more natural, lasting results than previously available; indeed, this goal is at the heart of our practice. But my top priority is maintaining the highest level of safety and comfort and providing patients with experienced and personalized medical counsel.

The "stem cell facelift" meets both those requirements. Hopefully patients will see fat in a whole, new radiant light.

**IMAGE**

*December / January 2011*