

THE WORLD'S MOST UNIQUE BEAUTY MAGAZINE

# NEWBEAUTY<sup>®</sup>

THE NUMBER ONE  
PRODUCT  
THAT CONQUERS  
AGING

page 62

SCULPT  
THE PERFECT  
BODY

MELT FAT IN MINUTES

page 148

\* LOOK 10 YEARS  
YOUNGER  
IN 2010

THE NEWEST ANTI-AGING BREAKTHROUGHS page 178



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**DID YOU KNOW?**

The term stem cells is used quite often but according to Marc Hedrick, president of Cytori Therapeutics, in order to reap the beauty benefits of stem cells, they must be used in conjunction with other substances like epithelial cells and growth factors. "In studies, using raw embryonic cells on their own, with no other cells, can cause tumors to form, but this is not the case with adipose-derived stem cells," he says.

# STEM CELL TREATMENTS

## THE NEW **CONTROVERSY-FREE SOURCE**

AT THE FOREFRONT OF SCIENCE, STEM CELLS OFFER A HOST OF BEAUTY BENEFITS, IN ADDITION TO THE HEALTH ADVANTAGES THEY ARE KNOWN FOR. A NEW DISCOVERY HAS DOCTORS IN THE AESTHETIC INDUSTRY ECSTATIC, AND FOR GOOD REASON. RESEARCH SHOWS THAT FAT CONTAINS HIGHLY COVETED STEM CELLS THAT WERE ONCE ONLY THOUGHT TO BE OBTAINABLE FROM EMBRYOS, FETUSES, BLOOD AND BONE MARROW. FAT-DERIVED STEM CELLS ARE A MODERN WAY OF DEFYING THE SIGNS OF AGING AND POSSIBLY, ONE DAY, PREVENTING AGING ALTOGETHER.

### **+** THE DISCOVERY

"The interest in stem cells among plastic surgeons started a few years ago when studies came out that adipose (fat) cells contained large amounts of stem cells," says Boca Raton, FL, plastic surgeon Jason N. Pozner, MD. "Plastic surgeons have easy access to fat through liposuction. Instead of discarding the unwanted fat or transferring it to deficient areas, we can put it to better use by extracting stem cells." Stem cells can be injected into tissue on their own or mixed with fat and injected. "When fat stem cells are used, other regenerative cells in the fat are preserved like endothelial cells, growth hormone secreting cells and smooth muscle cells, which all contribute to the regenerative process," says Beverly Hills plastic surgeon Renato Calabria, MD.

The use of stem cells in plastic surgery is becoming a big trend, but as Dr. Calabria points out, "it's not as easy as just taking some fat and putting it where it's needed. This is a multistep procedure that is technique-dependent." While it's always important to seek out a qualified board-certified doctor, it's especially important to seek treatment with a doctor who has experience with stem cells since most applications are still experimental.





**SMALLER PORES**

When stem cells are used, the pores become tighter, discoloration is lessened and the skin looks smoother overall.

**MORE EVENLY TONED SKIN AND BETTER TEXTURE**

Dr. Calabria says that he's seen an improvement in skin tone and texture as soon as a few weeks post-procedure. "It definitely has the potential to rejuvenate the skin. It's almost as if the stem cells have jump-started the rejuvenation process." Whether stem cells offer better skin-improving qualities has yet to be scientifically proven.

**BETTER SKIN**

Fat grafting alone is often unpredictable, but when fat is mixed with stem and regenerative cells, and injected into the deep layers of the face, volume is replaced. "A few months after the fat has settled, there is a noticeable difference in the skin's quality and texture," says Dr. Pozner.

**THE BEAUTY BENEFITS**

When extracted from fat and injected into the deep layers of the tissue, stem cells rejuvenate the skin and provide benefits like:

- > Smaller pores
- > Improved tone and texture
- > Less discoloration

**WHAT ARE STEM CELLS?**

Stem cells are specialized cells that act as the primary source for how every cell in the body develops. Stem cells can be differentiated or "programmed" into skin cells, bone cells and even tissue cells to repair damaged cells and replace them with ones that function properly. Stem cells can be found in embryos and fetuses (commonly used for experimental medicine or in trials), in blood, bone marrow and now, fat.

**TWO TYPES OF STEM CELLS**

Stem cells derived from embryos are the most widely used type for noncosmetic purposes. Fat is also rich in stem cells.

**1****EMBRYONIC STEM CELLS**

These are derived from embryos that are created in vitro and donated for research purposes. They are highly controversial due to their origin.

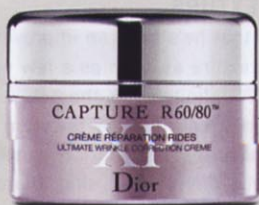
**2****FAT STEM CELLS**

Fat-derived stem cells are mature and are believed to function similarly to embryonic stem cells, but they can't be programmed for reproduction purposes. "There is no controversy associated with these stem cells because they are sourced from your own body and nothing is harmed during the extraction process," says Dr. Calabria.



## STEM CELL PRODUCTS

Creating a beauty product with living adult stem cells would be nearly impossible because of preservation problems. Instead, beauty companies have found a way to activate the stem cells we already have with ingredients that purportedly strengthen existing stem cells or prompt the production of new ones.



### THE SKIN REPAIRER

Using liposome stem cell technology—which drives the active ingredients deeper into the skin—**Dior Capture R60/80 XP Rich Crème** infuses the skin with reparative ingredients to target damaged stem cells, in turn smoothing the skin's surface and plumping up wrinkles. The cream purportedly begins to work just an hour after application—six hours later, the skin is allegedly smoother and tighter as cell regeneration is activated. After six months of use, the company claims that approximately 100 million new cells are created. **\$80, dior.com**

### THE ANTI-AGING CREAM

An intense regenerating cream, **Lancôme Absolue Precious Cells Advanced Regenerating and Reconstructing Cream SPF 15** harnesses the power of the brand's Reconstruction Complex and Pro-Xylane, which has been shown to improve the condition of the area around the stem cells and stimulate cell generation. When used daily, according to the company, wrinkles are reduced and radiance is restored to the skin. **\$145, lancome-usa.com**



### THE AGE DEFIER

Packed with stem cells derived from the rare Swiss Uttwiler Spatlauber apple, **GlyMed Plus Cell Science Stem Cell Power Serum** works to reprogram aging skin at a cellular level so that skin stem cells are protected. The powerful serum also contains peptides to stimulate new cell growth and increase collagen production in addition to skin-queching ingredients like hyaluronic acid to keep the skin hydrated. **\$125, glymedplus.com**

## THE FACELIFT THAT USES STEM CELLS

STEM CELLS ARE USED IN FAT TRANSFER, AND NOW FACELIFTS TO ENHANCE RESULTS, PROVIDE VOLUME AND TRANSFORM THE SKIN'S TONE AND TEXTURE.

"This procedure is more practiced in Japan and throughout Europe right now," says Dr. Pozner, since the device used for the procedure is not yet FDA-approved. During the surgery, loose tissue and muscle are elevated to a more youthful position and excess skin is removed. Then, fat is removed from the butt, stomach or thighs, and the stem cells are separated out so a concentrated version can be injected into the face. "The main advantage of placing stem cells in the face is that it further enhances the results of the facelift and/or fat grafting and does wonders for the skin," says Dr. Calabria, who has performed the technique on patients in Italy. "Fat grafting alone can sometimes be unreliable because of the absorption rate and the risk of irregular contours." In 2003, San Diego plastic surgeons Steven Cohen, MD, and Ralph Holmes, MD, experimentally performed eight cases of fat-derived stem cell transfer to the face for rejuvenation and reported no complications. In fact, one patient had persistent improvement in her nasolabial folds and lip lines, six years later. The use of stem cells in facelifts is a new technique and long-term data needs to be collected to determine the end results they offer.

### THE DOWNSIDE OF STEM CELLS

Like any surgical procedure, fat-derived stem cells used in conjunction with cosmetic surgery are not without their risks. Just extracting stem cells, to make a concentrated formula, can take three to four hours. "Although the concentrated graft is, in my opinion, easier to use, it has to be placed deep within the tissue to avoid irregular contours from forming," says Dr. Calabria. "I always place it under the muscle in an area where there is high vascularity so it has a better survival rate."



### THE BENEFITS OF BELLY FAT

According to the journal *Plastic and Reconstructive Surgery*, some areas of the body, like the lower abdomen and inner thighs, contain the greatest concentration of stem cells. When fat was removed from these areas with liposuction, it was found to contain more stem cells than fat tissues sourced from other parts of the body. The study concluded that the lower abdomen contains five times more stem cells than the upper abdomen.

### DID YOU KNOW?

Some doctors market facelifts that utilize fat transfer as stem cell-enriched facelifts, which they technically can't do since there are no systems currently FDA-approved.

## BETTER BREASTS WITH STEM CELLS

TRADITIONALLY, BREASTS ARE AUGMENTED WITH EITHER SILICONE OR SALINE IMPLANTS. AND WHILE THE USE OF FAT TO AUGMENT THE BREASTS IS STILL BEING STUDIED, STEM CELLS MAY ALSO BE A WAY OF ENLARGING THEM. "FAT GRAFTING MAY BE EASIER FOR RECONSTRUCTION PURPOSES BECAUSE THERE IS NO BREAST TISSUE, AND SEPARATED STEM CELLS MAY MAKE THE PROCEDURE EVEN THAT MUCH EASIER," SAYS DR. CALABRIA.

### FOR RECONSTRUCTION

While the only current viable option for breast reconstruction is implants, stem cells may one day serve as a way to create bigger breasts. Fat injections are considered helpful in improving skin texture in the breast where there had been damage by radiation therapy to treat cancer. In Britain, trials are underway using fat-derived stem cells to restore breasts that had cancerous lumps removed. The procedure can only address fullness to some degree. And since only one-quarter of the extracted stem cells can be used, they must be mixed with fat to get a decent amount of concentrate. "You're not going to be able to get a big size because you can only improve the breast by about one cup size," explains Dr. Calabria.

### FOR AUGMENTATION

It is not yet known if fat transfer to the breast with stem cells is feasible for those with healthy breasts seeking enlargement. "The studies are too limited as of now, and further investigation needs to be done to show what the benefits are for using fat-derived stem cells on those with healthy breasts," says Dr. Pozner. However, it is still not known whether the use of stem cells in the breast can increase the risk of breast cancer. Over in Tokyo, Dr. Cohen reviewed the results of breast augmentation with fat-derived stem and regenerative cells. Some of the patients, who were three years post-surgery, showed excellent results for small volume augmentation. However, long-term data needs to be collected to prove its safety and efficacy.