

Dr. Giampapa comments on....

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.

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.



+ 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"

"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."

The use of stem cell aesthetic surgery is becoming a big trend says Montclair, NJ, plastic surgeon Vincent Giampapa, MD. "It's not as easy as just taking some fat and putting it where it's needed. This is a multistep procedure that is a technique-independent." While it's always 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. Giampapa 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 scientifically proven.

BETTER SKIN

"Dr. Giampapa says fat grafting alone is often unpredictable, but when fat is mixed with stem and regenerative cells and injected into multiple 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, and this continues to improve for up to 4 years in my experience."

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."

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.

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 it further enhances the results of the facelift and/or fat grafting and does wonders for the skin," says Dr. Giampapa, who has performed the technique on patients in the US for over 4 years. "Fat grafting alone can sometimes be unreliable because of the absorption rate and the risk of irregular contours." In 2003, San Diego Steven Cohen, MD, and Ralph Holmes, MD, experimentally performed eight 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. Dr. Giampapa has noticed similar types of effects in his patients. 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.