

September 1, 2005

Rejuvenating aged hands with fat grafting

By Rebecca Bryant

New Orleans — Fat grafting is the only way to successfully rejuvenate the hands, says Sydney Coleman, M.D., owner of Tribeca Plastic Surgery in New York.

"It's basically the same situation as with the face," he says. "Cutting skin out will tighten tissue but that doesn't make it look younger."

One of the world's leading experts on fat grafting and the inventor of LipoStructure, a technique that uses a patient's own fat as a natural, living filler to achieve precise structural alterations wherever it is placed, Dr. Coleman notes that the objective is to make the dorsum look fuller, not fatter, and thereby disguise tendons and veins. Achieving this affect isn't easy. Before 2003, every published report on fat grafting described the technique in simplistic terms.

"Doctors were squirting globs of fat near the wrist and squishing it around the entire hand," he says. "They reported that it looked good for a while – and it does, due to edema."

This approach, however, fails to deliver satisfactory long-term results; what's more, fat often moves into tendons or muscles. Lumps and irregularities can develop, he says.

Good technique

Dr. Coleman focuses on meticulous and smooth placement of fat under the dermis with additional filling, if needed, in the inter-metacarpal (especially between the thumb and index finger) and web areas. From fat harvesting to completion, the entire procedure may take up to one-and-a-half hours for both hands.

Sedation generally involves a double wrist block: the first injection just proximal to the planned level of infiltration and the second 2-cm proximal. For anesthesia he uses 25-gauge needles to inject 1 percent lidocaine with 1:100,000 ml of epinephrine. Local anesthesia is used at each of the six to eight incision sites per hand.

For hand injections, Dr. Coleman deploys a 17-gauge lumen connected to a 1 cc Luer-Lok syringe, delivering 1/50 to 1/10 cc per pass. It may take up to 100 radiating passes through any given incision to place a total of 3 cc to 4 cc.

"I never have any scarring from the incisions," he reports, "and almost no bruising, since I started using blunt cannulas in 1992," he says.

Using a radial injection pattern, Dr. Coleman injects fat in the phalanges and web areas, between the MCP joint, and over the dorsum. (Placement over MCP and PIP joints should be minimal because the desired effect is a relative reduction in their size.) Some patients also request feathering over the wrist.

"Patients can use their hands right away," the surgeon says. "At two months, what you see is what you get in terms of fullness."

Skin texture improves

Generally speaking, placing fat under the skin will lead to gradual improvements in skin texture over a five-year period.

These benefits — fewer wrinkles, smaller pores, and better color — are much more evident and dramatic on the face and neck than on the hands.

Dr. Coleman speculates that the cause may be fat's stem cell content.

"For a long time, I've observed that, after grafting, fat appears to assume the qualities of the surrounding tissues," he explains. "If it's near bone, it feels like bone. If it's near skin, it makes the dermis feel thicker. I've been trying to analyze what's happening.

"There's a lot of evidence emerging now from the tissue engineering literature to suggest the injected fat may be becoming the same kind of tissue into which it is placed. It may also be repairing nearby tissue, such as sun-damaged or scarred skin. There are reports from scientists in Italy of improvement in the skin of the breast due to fat grafting after radiation treatment."

"We think of fat as undesirable but there must be a reason it's distributed all over the body. It turns out, one of the reasons may be that fat contains a high concentration of stem cells."

He suggests the plastic surgery profession promote more research in this area.



2005 Advanstar Communications Inc.. Permission granted for up to 5 copies. All rights reserved.

You may forward this article or get additional permissions by typing http://license.icopyright.net/3.7503?icx_id=177752 into any web browser. Advanstar Communications Inc. and Modern Medicine logos are registered trademarks of Advanstar Communications Inc. The iCopyright logo is a registered trademark of iCopyright, Inc.