

Fat grafting helps patients with scarring problems, reports

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Millions of people with scars suffer from pain, discomfort, and inability to perform regular activities. Some may have to revert to addicting pain medicine to get rid of their ailments. Now, and with a new methodology, such problems can be treated successfully. A technique using injection of the patient's own fat cells is an effective treatment for hard, contracted scars resulting from burns or other causes, reports a study in the September issue of [*The Journal of Craniofacial Surgery*](#).

Dr. Marco Klinger and coauthors of Università degli Studi di Milano report good results with fat grafting in hundreds of patients with difficult-to-treat scars causing pain and limited motion. "For scar treatment, where medical and surgical therapies seem to be ineffective especially in the long term, autologous fat graft has proven to be a new chance to repair [tissue damage](#)," the researchers write.

Fat Grafting Shows Promise as Treatment for Scars

Dr. Klinger and colleagues used autologous fat grafting to treat persistent scarring problems in nearly 700 patients over six years. ("Autologous" means using the patient's own tissues.) All patients had abnormal, painful scars causing hardening or tightening of the skin, often with limitation of motion. The scars—resulting from burns, surgery, or other causes—had not improved with other treatments.

The fat grafting procedure began with [liposuction](#) to collect a small amount of the patient's own fat tissue—usually from the [abdomen](#) or

[hips](#). After processing, surgeons reinjected the [fat cells](#) under the skin in the area of scarring. Fat was distributed in different directions, with the goal of creating a "web" of support for scarred, damaged skin.

Fat grafting led to significant improvement "both from an aesthetic and functional point of view," according to Dr. Klingner and coauthors. The skin in the scarred area became "softer and more flexible and extensible, and very often color seem[ed] similar to the surrounding unharmed skin."

After fat grafting, the patients had decreased pain and increased scar elasticity. Improvement began within two weeks, continued through three months, and persisted through one year and beyond. In a subgroup of patients, objective testing of skin hardness and clinical ratings by doctors and patients provided further evidence of treatment benefits.

Fat Cells Lead to Improved Function as Well as Appearance

Treatment was associated with improved motion in areas where movement was limited because of tightness and stiffness of contracted scars. For example, in patients with scarring after burns to the face, fat grafting led to improved facial motion.

Fat grafting helped solve other difficult surgical problems as well. In one case, a breast cancer patient was left with hard, painful scars after complications from breast reconstruction. Treatment with fat grafting allowed a successful second breast reconstruction to be performed.

In recent years, there has been renewed interest in techniques using the patient's own fat for reconstructive and cosmetic plastic surgery. The new experience suggests that fat grafting may provide an effective new "regenerative medicine" technique for patients with difficult-to-treat scars.

It's not yet clear exactly how fat grafting exerts its benefits in scarred tissues. One factor may be the fact that fat tissue includes stem cells, which can develop into many different types of cells active in the wound healing and tissue repair process.

Dr. Klinger and coauthors believe their experience shows [fat grafting](#) is a "promising and effective therapeutic approach" to scars from various causes—not only burns and other forms of trauma but also after surgery or radiation therapy. "[T]reated areas regain characteristics similar to normal skin," leading not only to improved appearance but also improved function in [patients](#) with problematic scars that don't respond to other treatments.

Provided by Wolters Kluwer Health

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