

# Can a Fat Injection Ease Your Aching Joints?

Aching joints are considered just another part of the aging process, but what if we can ease that pain?

**Osteoarthritis or “wear and tear” of the joints affects 27 million Americans.** That number will only grow as we live longer and stay active. As orthopedic specialists try to improve people’s quality of life, they are having success with injecting a person’s own fat - called adipose tissue - into their joints to provide extra cushioning and to relieve pain.

“Adipose tissue is a source of mesenchymal stem cells (MSCs) that may differentiate into cartilage, and serve as a scaffold to aid in tissue regeneration and slow the progression of osteoarthritis,” says Dr. Stephen Henry, an orthopedics expert at the University of Miami Sports Medicine Institute, part of the University of Miami Health System. “In a one hour office procedure, we can remove adipose tissue, concentrate it into a healing scaffold, and using ultrasound guidance, inject it into a joint. This procedure holds great promise in the field of regenerative orthopedic medicine.”

The concentrated adipose tissue provides joint support to help healing, says Dr. Henry, who also serves as one of the team physicians for the Intercollegiate Athletics Department and the Miami Marlins.

MSCs aid the different cell types responsible for the repair or growth of bone,

cartilage, muscle, tendons, ligaments, and connective tissue. Studies have revealed evidence of cartilage regeneration in patients with osteoarthritis.

### **There's no magic bullet, however.**

It takes the right individual and characteristics to benefit from adipose injections. There has to be some joint space left to allow for the fat to be injected safely, according to Dr. Henry. If your condition has left you with a bone-on-bone situation, the cartilage is gone and you likely need a joint replacement.

If there is space for the injection, the ideal candidate will be someone who will stick to a physical therapy program, has a body-mass index under 35, and who does not suffer from any chronic diseases, such as blood disorders, cancer, metabolic diseases, or extensive arthritis.

*By some estimates, fat has 100-500 times more reparative cells than other body tissue.*

Research shows that, as a person ages, fat tissue maintains its ability to repair itself, unlike other tissue such as bone marrow, which may lose healing capacity with age. Dr. Henry says that if he can get enough fat and the patient has more than one area of pain, he can inject other areas as well. His approach to a patient with joint pain is to begin with corticosteroid injections and physical therapy. If that doesn't help, for moderate cartilage damage, he uses PRP (platelet rich plasma, acquired from a sample of blood) injections and then adipose tissue with its high concentration of MSCs.

"PRP contains growth factors which may optimize the conditions for healing," he says.

In the more than two years Dr. Henry has performed these procedures, he has found that PRP also helps with joint pain.

“The future of joint fat injections and its use in regenerative orthopedic medicine is to be able to obtain an instant analysis of the content cells of the harvested fat and then manipulate the proportion of those cells to match the needs of the individual patient,” says Dr. Henry. “We also need more information on standardizing doses and protocols for this procedure to make this truly personalized medicine.”

If you are interested in having fat and/or PRP injections in your joints, seek out a physician who is willing to take the time to explain the risks and benefits. It doesn't help everyone. If you are a good candidate and respond to the fat injections, you could be feeling better for up to six months. You can then have the procedure repeated if needed.

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