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Stem cells from fat aid in the regeneration of cartilage in wrists

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Bill Marlette undergoes a treatment of stem cells that are isolated from adipose tissue and starts feeling better after a period of just seven months. An MRI scan confirms this and shows that the cartilage has begun to regenerate in his wrist.

Bill Marlette was recommended a treatment of stem cells for his lost arm. Marlette lost his arm in an accident in his teens but that didn’t slow him down. As an active kid, he continued to play football and golf, running track and even wrestling.

Over time, the strain on his remaining arm and wrist took a toll. As he grew older, even the simplest things, like tucking in his shirt or putting on a jacket, became incredibly painful. Marlette developed cysts and holes in the bones of his wrist. Doctors prescribed anti-inflammatory medications but they only managed the pain doing nothing to heal the problem.

One day, his doctor, Dr. Bob Van Demark at Sanford Health in South Dakota, saw a presentation by Dr. Eckhard Alt from Munich, Germany about a new treatment using stem cells and recommended it to Marlette. To relieve his pain, he travelled from Sioux Falls, South Dakota to Munich, Germany with the hopes that a special procedure using stem cells could make a difference.

Alt was the first person to use adipose tissue, or fat, as a prime source of stem cells. Fat tissue has a lot of blood vessels, making it a prime source of stem cells, and Alt recognized that stem cells derived from adipose tissue are also particularly good at becoming cartilage and bone.

In his procedure, stem cells are taken from fat tissue with a liposuction procedure. An enzyme mixture helps to separate the stem cells from oil and fat tissue, with the stem cells settling at the bottom of the vial.

"I had one treatment, and my wrist felt better almost within the next couple weeks," Marlette said to the news source. "Through the course of the next seven months, it continued to feel better and better."

One injection was enough for this ongoing improvement. MRIs confirmed what he was feeling: The cartilage had begun to regenerate in his wrist. Because the procedure uses autologous cells, which are cells from the patient's own body, there's

little to no chance of rejection by the body's immune system.

Although the procedure worked for Marlette, the use of stem cells as a form of treatment is controversial and risky. However, Alt hopes to see stem cells for heart procedures and treating pancreas to help diabetics. For him, growth is limitless.

For Marlette, it has meant a wrist free from pain and a life free from pain medication.