



Getting back into the Action **Faster** with

Stem Cell Therapy

If you have ever torn your *meniscus*, the c-shaped cartilage that acts as a shock absorber between the thighbone and shinbone, as a result of trauma, forceful twisting or ordinary stresses placed on the joint from walking, running or climbing, then you're familiar with the symptoms: pain, swelling and stiffness, catching or locking of your knee and decreased range of motion.

While some meniscal tears can be treated with physical therapy and muscle strengthening, very often they require surgery, such as the commonly performed procedure called arthroscopy. At South Nassau, surgeons performing this minimally invasive procedure, which involves inserting tiny surgical instruments through small incisions to trim or repair the meniscus, have an additional therapeutic tool at their disposal that reduces pain and speeds healing: stem cells.

"Stem cells can be injected directly into the injured or damaged area in the operating room immediately following the surgery, as an option to help the knee to heal faster, with less pain," explained Craig Levitz, M.D., chair of orthopedics at South Nassau Hospital. Once in the tissue, the stem cells release growth factor proteins that enhance healing and help rebuild tissue with less pain.

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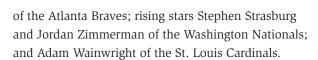
Retired New York Yankees star Tommy John's claim to fame may ultimately be for the innovative orthopedic surgical procedure that bears his name, developed by the late, great orthopedic surgeon and sports medicine specialist, Frank Jobe, M.D.

In July 1974, John suffered a torn ulnar collateral ligament (UCL) while pitching for the Los Angeles Dodgers against the Montreal Expos (now the Washington Nationals). The injury should have ended John's promising career at the ripe age of 31 but for the genius of Dr. Jobe, who proposed a pioneering surgery to replace the torn UCL with a tendon from John's right wrist. Dr. Jobe advised John that the odds were 1 in 100 that the procedure would be a success and that he would be able to resume his career.

Nevertheless, John opted for the surgery rather than beginning his second career working as a sales agent at a friend's car dealership. To complete the surgery, Dr. Jobe made an incision through the muscle on the inside of John's left elbow; drilled two holes in the ulna (the bone of the forearm on the side opposite to the thumb) and humerus (the bone of the upper arm, forming joints at the shoulder and the elbow); threaded the tendon through the holes in a figure-8 pattern; and stitched the UCL to the tendon for added support.

After nearly 20 months of rehabilitation, John returned to pitching. His first post-operative victory came against the Pittsburgh Pirates on April 26, 1976. The all-star world champion southpaw pitcher finished his illustrious career with 288 victories; 164 of them came during the 14 seasons following the surgery.

While Dr. Jobe defined the procedure he performed as "ulnar collateral ligament reconstruction, using the palmaris longus tendon," it is historically known as "Tommy John surgery." The long list of professional baseball players and pitchers who have undergone Tommy John surgery to save their careers includes New York Mets Matt Harvey and Bobby Parnell; Hall of Famer John Smoltz, formerly



The enduring impact that Dr. Jobe and the surgery have had on sports and athletes has been the same for sports medicine. Dr. Jobe is recognized by his peers as the founding father of sports medicine and Tommy John surgery is regarded as the surgical procedure that revolutionized surgical treatment for injuries suffered by athletes.

For instance, world-renowned orthopedic surgeon and sports medicine specialist James Andrews, M.D., is a protégé of Dr. Jobe. South Nassau's chair of the department of orthopedics, Craig Levitz, M.D., trained under Dr. Andrews. Dr. Levitz, along with Eric P. Keefer, M.D. are both Andrews Fellows and specialize in using minimally-invasive, arthroscopic technology to perform Tommy John surgery.

According to Drs. Levitz and Keefer, approximately 92 percent of pitchers who have the surgery successfully return to the level of competition that they had achieved prior to the injury. Many of the pitchers also claim that they throw harder and have more arm strength after the surgery.

Drs. Levitz and Keefer attest that post-surgical improvement in performance is more likely due to the athlete's dedication to physical rehabilitation and a commitment to ongoing fitness, strength, flexibility and agility training.

For more information on Drs. Levitz, Keefer or the Center for Advanced Orthopedics at South Nassau, call 866-32-ORTHO or visit southnassau.org

Center for Advanced Orthopedics **Physicians**

Craig Levitz, M.D.

Dr. Levitz is chair of orthopedics at South Nassau Hospital, director of orthopedic surgery and the head of the Shoulder Center. He is one of few physicians nationwide who is board-certified and

fellowship-trained in sports medicine and he is nationally renowned for use of minimally invasive arthroscopic procedures for repair of knee and shoulder injuries.

Dr. Levitz was recently listed for the eighth consecutive year in New York's "Top Doctors" in orthopedic surgery published by Castle Connolly. He has also been recognized by Castle Connolly as one of the top surgeons in the U.S. and by Long Island Business News as the top orthopedic surgeon on Long Island.

Alfred F. Faust, M.D.

Dr. Faust is a board-certified, fellowshiptrained orthopedic surgeon specializing in spine and joint replacement. He completed his internship, residency and fellowship at

the prestigious Johns Hopkins Hospital and Health System in Baltimore, Md and also completed their advanced specialty program in geriatric orthopedics. A published author and frequent lecturer, one of Dr. Faust's scientific papers earned the 2002 International Olympic Committee Medical Award at the American College of Sports Medicine Conference. He is also a member of the American Academy of Orthopaedic Surgeons and the North American Spine Society.

Seth A. Grossman, M.D., M.S.

Dr. Grossman is a fellowship-trained spinal surgeon who specializes in minimally invasive techniques. Having earned a medical degree from Thomas Jefferson University, Philadelphia, Penn., Dr. Grossman

completed an orthopedic residency at Montefiore Medical Center, University Hospital for the Albert Einstein College of Medicine; and a fellowship in spine surgery at the University of California at San Diego Medical Center in San Diego, Calif.

Eric P. Keefer, M.D.

Dr. Keefer is a board-certified, fellowshiptrained physician who focuses on sports medicine injuries specifically related to treatment of the shoulder, knee and elbow.

Dr. Keefer's goal as a physician is to help his patients maintain an active, pain-free lifestyle, so they can participate in their favorite activities.

David I. Zaret, M.D.

Dr. Zaret is a fellowship-trained foot and ankle orthopedic specialist with extensive expertise in total ankle replacement surgery. He graduated with a B.A. in Biology from Tufts University

in Mass, and obtained a medical degree from SUNY Downstate College of Medicine, Brooklyn, NY in 1996. Dr. Zaret completed a residency in orthopedics at SUNY Downstate Medical Center as well as a fellowship in foot and ankle surgery at Union Memorial Hospital/Institute in Baltimore, Md. He is board-certified in orthopedic surgery and is a Fellow in the American Academy of Orthopaedic Surgery and is a member of the American Board of Orthopaedic Surgery, and the American Orthopaedic Foot and Ankle Society.

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Repetitive Stress Injuries: The Truth **About Achilles Tendonitis**



The Achilles tendon is the largest tendon in the body and connects your calf muscles to your heel bone to assist you while walking, running, and jumping. Although the Achilles tendon withstands great stresses from everyday activity and exercise, it is especially prone to tendonitis, a condition associated with overuse and repeated stress.

With warm weather starting, and everyone eager to get outside and enjoy spring activities, now is a great opportunity to familiarize yourself with this easily injured tendon in the body.

Simply defined, tendonitis is inflammation of a tendon which causes pain, swelling and irritation. There are two types of Achilles tendonitis: noninsertional Achilles tendonitis and insertional Achilles tendonitis. "Noninsertional Achilles tendonitis focuses on the middle portion of the tendon where tiny tears start to form," said David Zaret, M.D., foot and ankle specialist at South Nassau Hospital. "This type of tendonitis typically affects younger, more active individuals and we usually treat it with exercises, heel lifts, ice, anti-inflammatory medications and physical therapy if necessary."

The second type of Achilles tendonitis, insertional Achilles tendonitis, can occur in anyone – even those who are not active. It involves the lower portion of the heel, where the tendon attaches to the heel bone. "Treatments for this type of injury will range from ice, stretching, anti-inflammatory medications and an immobilization boot to physical therapy. If those options do not provide relief, then we will consider surgery," said Dr. Zaret. "Surgery for insertional Achilles tendonitis is much more complex; you are literally taking out bone and sometimes need to supplement the injured tendon with a tendon transfer to repair the injury."

The best way to prevent a repetitive stress injury is to not allow it to happen in the first place. "The best defense is a good offense; always stretch before any activity, this is very important; and start out slowly. Don't suddenly increase your activity twofold without properly preparing your body for it," emphasizes Dr. Zaret. "If you do suffer an Achilles injury, with proper rest and treatment, you can be back outside enjoying all those wonderful spring activities."

For more information on Dr. Zaret or the Center for Advanced Orthopedics, call 866-32-ORTHO or visit southnassau.org

Stem Cell Therapy Continued from cover

Not only is stem cell therapy being used in knee surgery, it is also being used in cervical, thoracic or lumbar spinal fusion procedures. South Nassau's Center for Advanced Orthopedics, physicians Seth A. Grossman, M.D. and Alfred F. Faust, M.D., are using the patients' own stem cells harvested during the spinal fusion surgery to speed healing.

"I use bone marrow aspirate from the patient; we remove about 30 to 60cc (cubic centimeters) of bone marrow from the patient's pelvis. That bone marrow is then spun down in a centrifuge," explained Dr. Faust. "The end product is an autologous (patient's own), stem cell-rich fluid that we use during the surgery.

The use of a patient's own stem cells obtained during the surgery is a very effective way to achieve a spinal fusion while reducing the risk of complications."

"Inserting a supply of the patient's own stem cells into the injury site eliminates the time it would take for the stem cells to reach the injury on their own, and delivers them in a higher concentration," said Dr. Grossman. "This, in turn, speeds the healing process."

For more information on Drs. Levitz, Grossman and Faust or the Center for Advanced Orthopedics, call 866-32-ORTHO or visit southnassau.org.

The Advantages of Minimally Invasive Spine Surgery



with Seth A. Grossman, M.D., M.S.

Dr. Seth Grossman discusses the minimally invasive surgical techniques he uses in his practice and where the field of spine surgery is headed in the future.

Q: What are the benefits of minimally invasive procedures?

SG: The benefits of using a minimally invasive procedure are numerous: less soft tissue disruption (e.g. cutting of muscles, tendons, and of bone), lower rates of infection, less postoperative pain, shorter hospital stay; the list goes on and on. Overall, this leads to earlier mobilization and return to normal function.

Q: What is unique about the minimally invasive procedures you perform?

SG: The fundamentals of spine surgery have not changed, and we continue to advance upon time-honored principles. However, with the advancement in surgical techniques and specialized instruments such as expandable tubes and a microscope, I am able to perform these surgeries through smaller incisions. Using fluoroscopy and image guidance, I can be much more precise in the placement of spinal instrumentation. This allows for a muscle-splitting, rather than muscle-disrupting approach. In many cases, I use a newer approach to spinal fusion involving accessing the disc space through a small incision in a patient's side, rather the traditional approach of making a large incision and going through the belly. This is a powerful technique that allows for correction of spinal instability and deformity.

Q: How long is a typical hospital stay?

SG: Depending on the type of surgery, the typical hospital stay can range from a few hours to a few days. During a lumbar or cervical fusion, my patients often go home in two days. For a kyphoplasty surgery for the treatment of osteoporotic compression fractures of the spine, this is a half-hour surgery performed under local anesthesia; patients routinely go home that day.

Q: Where do you see minimally invasive procedures heading in spine surgery?

SG: Minimally invasive surgery is an important tool as we strive to minimize pain and improve patient outcomes. This is a major trend in the field of spine surgery. I believe that as patients continue to see the benefits of these procedures, the spine community as a whole will continue to adopt and employ minimally invasive spine surgery.

Seth A. Grossman, M.D., is a fellowshiptrained spinal surgeon who specializes in minimally invasive techniques. After earning a medical degree at Thomas Jefferson University in Philadelphia, Penn., he completed his orthopedic residency at Montefiore Medical Center, University Hospital for the Albert Einstein College of Medicine in New York and a fellowship in spine surgery at the University of California at San Diego Medical Center in San Diego, Calif.

Dr. Grossman works with a multidisciplinary team of specialists including medical doctors, physiologists, and pain management specialists to minimize pain, maximize function, and avoid surgery if possible.

He also has a master's degree in computer engineering and a passion for technology. He stays current on the most cutting-edge advancements in the field to provide his patients with the best treatment options. Dr. Grossman has extensive training in the management of all conditions of the spine including degenerative diseases, scoliosis and deformity, as well as spinal trauma.

For more information on Dr. Grossman or the Center for Advance Orthopedics at South Nassau, call 866-32-Ortho or visit southnassau.org.



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