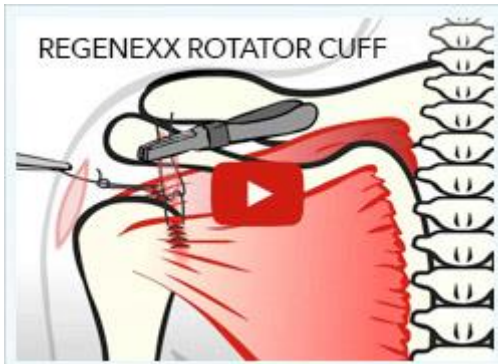


Stem Cell Therapy for Shoulder / Rotator Cuff Injuries and Arthritis

Utilizing your own stem cells to help the healing process of shoulder / rotator cuff injuries or osteoarthritis



The human body is made of billions of specialized cells that form specific organs like the brain, skin, muscles, tendons, ligaments, joints, and bone. Each day these cells go through a degenerative and regenerative process. As older cells die, new cells are born from stem cells with the unique capability of being able to create multiple types of other cells. However, when tissues are injured, the degenerative process exceeds this regenerative process, resulting in structures that become

weaker, painful and less functional. While there are several types of stem cells, those that are best at promoting musculoskeletal healing (tendon, ligament, cartilage and bone) are found in bone marrow. These mesenchymal stem cells, or MSCs, are essential to successful patient outcomes and at StemCell ARTS, we utilize the patented Regenexx® Stem Cell Protocol, which is capable of yielding much higher concentrations of these important cells.

Below is a list of the most common shoulder and rotator cuff injuries and conditions that we treat with stem cells or platelet procedures. This is not an all-inclusive list.

- Rotator cuff tears
- AC Joint Separation
- Arthritis of the shoulder joint
- Labral tears or degeneration
- Thoracic outlet syndrome
- Rotator cuff tendonitis
- Recurrent shoulder dislocations

Shoulder / Rotator Cuff Patient Outcome Data

This outcome information summarizes the patient registry data for shoulders treated with the Regenexx same day stem cell procedure using the patient's own stem cells. It was comprised of a mix of patients with rotator cuff tears, arthritis, labral tears, and instability.

Shoulder Arthritis and Rotator Cuff Tears

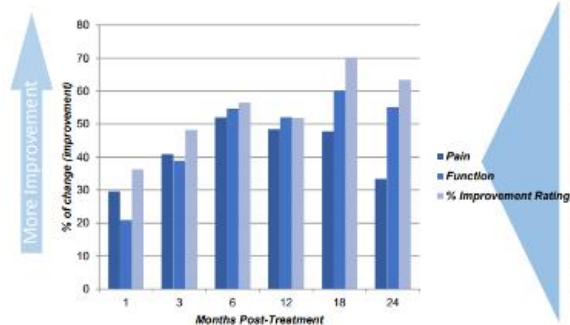
N=199 Patients

Collected from 14 Clinics

2014 Registry Data



Caution-This is registry data collected as patients are treated, which is not the same as a randomized controlled trial typically used for FDA approval. In addition, later time points in this graph have more patients who did not answer questionnaires.



What's important?

This graph shows pain scores, function as measured by the DASH questionnaire, and the % improvement rating as determined by the patient at various points after the procedure. All of these are reported in terms of percentage improvement to make them easier to interpret. The outcome information shows robust improvement in both pain and function as well as high marks reported by patients when asked to rate their percentage improvement from 0-100% (% Improvement Rating). The patients represented here are a mix of rotator cuff tear only patients and patients who also had shoulder arthritis.

Details?

Mean age is 56.9 years old. BMI is 26.5. There were 56 women and 143 men. N is 199 at pre-treatment, 73 at 1 month, 83 at 3 months, 59 at 6 months, 21 at 12 months, 22 at 18 months, 15 at 24 months.



Same Day Stem Cell Procedure

This procedure involves taking bone marrow stem cells from the back of the hip and re-injecting them under precise imaging guidance into the hip joint and associated structures like labrum.

Ref: <https://www.regenexx.com/wp-content/uploads/2014/12/RegenexxSD-Shoulder-2014-Registry-Data-v1.pdf>

Stem Cell Procedure Safety

Regenexx has published more data on stem cell safety in peer reviewed medical research for orthopedic applications than any other group world-wide. This is a report of 1,591 patients and 1,949 procedures treated with the Regenexx Stem Cell Procedure. Based on our analysis of this treatment registry data, the Regenexx Stem Cell Procedure is about as safe as any typical injection procedure, which is consistent with what we see every day in the clinic.

View Stem Cell Procedure Safety: https://www.regenexx.com/wp-content/uploads/2015/06/safety_paper_infographic.pdf

Treating Shoulder Problems with Regenexx Stem Cell Therapy and PRP

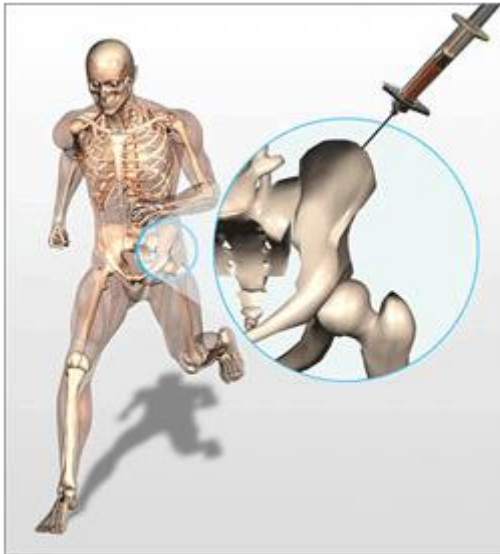
Patient Benefits of Stem Cell Therapy

These non-surgical stem cell injection procedures happen within a single day and may offer a viable alternative for those who are facing surgery or even joint replacement. Patients are typically able to return to normal activity following the procedure and are able to avoid the painful and lengthy rehabilitation periods that are typically required to help restore strength, mobility and range-of-motion following invasive joint surgeries. Lastly, patients are far less vulnerable to the risks of surgeries, such as infection and blood clots.

Same day stem cell injection procedure utilizes your own cells to assist healing of injured tissues

Modern techniques in today's medicine allows us to withdraw stem cells from bone marrow, concentrate them through a lab process and then re-inject them precisely into the injured tissues in other areas of the body using advanced imaging guidance. Through Fluoroscopy and MSK Ultrasound, we're able to ensure the cells are being introduced into the exact area of need. When the stem cells are re-injected, they enhance the natural repair process of degenerated and injured tendons, ligaments, and arthritic joints – Turning the tables on the natural breakdown process that occurs from aging, overuse and injury.

How Are The Stem Cells Obtained?



The human body keeps a supply of stem cells available to help repair injured and degenerated tissues at all times, making it fairly simple to retrieve them for therapeutic purposes.

As stem cells remain in reserve, in the marrow cavity of your bones, we have found the easiest place to harvest these stem cells is from the back of the hip area (iliac bone).

Procedure is done in the office, under ultrasound or x-ray precision and guidance.

Patients lay face down as the doctor thoroughly cleans the area before numbing the skin and bone.

A special needle is inserted into the bone to withdraw marrow blood, which contains the stem cells. Note: This procedure is not like a bone marrow biopsy nor is it as painful as one. This harvesting procedure is well tolerated by patients and not considered difficult as many patients claim it is not painful.

After bone marrow blood is drawn, it is taken to our onsite Regenexx laboratory and centrifuged to concentrate and purify the stem cells while other cells that are not needed are removed, leaving a concentrated sample of stem cells used to help heal your injury.

The entire process is done by hand to enable customized designing of the stem cell specimen for your particular injury.

A preparation of your concentrated platelets are also gathered at this time for injection into the injury site to release growth factors that “turn on” the stem cells that will later be injected.

These platelets are injected again 3-5 days later to keep the stem cells activated and promote additional healing.

REF: <http://stemcellarts.com/commonly-treated-conditions/stem-cell-therapy-for-shoulder-injuries-and-arthritis/>