



Genlife

Regenerative Medicine

CELLULAR PROLOTHERAPY (STEM CELL PROLOTHERAPY)

Stem cells are the body's raw materials — cells from which all other cells with specialized functions are generated. Under the right conditions in the body, stem cells divide to form more cells called daughter cells. These daughter cells either become new stem cells (self-renewal) or can become specialized cells (differentiation) with a more specific function, such as blood cells, brain cells, heart muscle or bone. No other cell in the body has the natural ability to generate new cell types. It is this function that interests those of us in regenerative medicine. This ability of the stem cell to generate into new cell types and replace injured cells (and treating the root cause of the disease or injury) and thus heal injuries and diseases previously that were either incurable or for which only anti-inflammatory medicines (which do not cure the root cause) or surgery (with poor success rates) were the treatments available. Stem cells can differentiate into the necessary cells required for healing and relieve pain and instability in regards to joint and bone problems. Stem cells also offer tremendous hope for systemic diseases like diabetes, asthma, multiple sclerosis, Alzheimer's disease, and many others, all of which are being researched and in clinical studies as you read. We see stem cells as the new frontier of medicine.

Stem cells are directly responsible for healing damaged tissues after injuries. Stem cells are harvested from your own bone marrow or your own fat (usually from around the belly), then concentrated and isolated and then injected directly into the painful area so in essence, once injected into the injured area, signals are sent to the brain that can "trick" your body into thinking that there has been a new injury and so the brain starts to send growth factors, healing factors and blood vessels and platelets to the area to treat the injury, relieve the pain and tenderness and begin the healing cascade. The injured area became painful simply because it never healed right after the initial event and now you get a second chance at healing. The stem cells have the ability to turn into healthy versions of the damage cells that they encounter. They contain growth factors and proteins to trigger the growth of new connective tissue and new blood vessels to allow healing to occur in the injured site.

Stem cell therapies can treat osteoarthritis of any joint including “bone on bone”, back pain including degenerated disks, stenosis, sacroiliac joint dysfunction, sciatica, neck pain, sports injuries such as tennis elbow, golfer’s elbow, rotator cuff tears, ACL tears, torn meniscus, ankle sprains, Achilles tendinitis, torn shoulder labrum, hip pain or hip labrum tears, plantar fasciitis, carpal tunnel syndrome, TMJ syndrome, bone spurs, and avascular necrosis of the hip to name a few conditions.

Your bone marrow is rich in growth factors and stem cells and when combined with stem cells from your adipose tissue (fat) we can get a higher yield of mesenchymal stem cells to use for injection into the joint or injured area. Adipose tissue (fat) consists of adipocytes or fat cells and a stromal vascular fraction (SVF). The SVF is made up of cells that are mostly mesenchymal stem cells. We do a mini liposuction that is performed under local anesthesia and remove approximately 60 cc of fat from the abdominal or flank area. We then take the fat and place it in a centrifuge to separate the stem cells from the fat cells and we then filter the stem cells out and once completed we inject into the injured site. The stromal vascular fraction or SVF gives us a high yield of mesenchymal stem cells as compared to bone marrow aspirate.

That’s the reason why we tend to do both bone marrow aspirate for stem cells and mini liposuction for adipose stem cells at same time. Studies show that both therapies together are additive and give a stronger and better healing than either therapy alone, although many times, we perform either one or the other procedure, simply because we don’t need the most powerful therapy for the problem at hand. Often times, we may even use just prolotherapy alone before proceeding to stem cell therapies or we may use a combination of both or all of them. The good news here is that we now have many options to treat chronic pain and ligament and tendon injuries.

Our goal is to stimulate the repair of injured tissues. We often combine PRP or platelet rich plasma therapy with stem cell therapies and prolotherapy, because the platelets assist and facilitate the stem cells in developing into new tissue to heal the injured area.

Stem cell injections are useful to treat and help regrow bone and halt the progression of avascular necrosis of the femoral head, (in the hip-joint), as well as in other bones and most types of ligament sprains and tendinitis and tendinosis too. Using these therapies may prevent one from having to undergo a total hip replacement, which is very complicated and for which there is a high degree of having to go through additional surgeries. Many patients often come to us who have already had surgery and yet are still suffering and seek us out to alleviate or relieve their pain and suffering.

Degenerative arthritis of the hip, spine, knee, ankle, foot shoulder, elbow, wrist and hand can also be treated with stem cell injections. Meniscal and labral tears, bulging or herniated discs, and certain cartilage deteriorations, including some bone on bone, can also be treated too. Stem cells are helpful in relieving the pain and instability in the treated areas.

Stem cells offer new hope to many patients for conditions that they have previously been told were hopeless or “just live with it” or that it was time for more surgery. It is a viable option in medicine today for many injuries and problems, especially in regards to joint and bone problems that are causing pain because they have never healed in the first place. There is no such thing as chronic pain; it is simply acute pain that has been handled poorly for months or years.

Stem Cell Therapies

In stem cell therapy, we take the patient's own stem cells from either the blood, bone marrow or fat or in combination and inject them directly into the area of injury in order to restore function and relieve pain. Our goal is to stimulate the repair of these injured tissues. We often combined PRP or platelet rich plasma therapy with stem cell therapies because the platelets assist the stem cells in developing into new tissue to heal the injured area. Stem cell injections are useful to treat and help regrow bone and halt the progression of avascular necrosis of the femoral head, (in the hip-joint), as well as in other bones and most types of ligament sprains and tendinitis and tendinosis too. Using these therapies may prevent one from having to undergo a total hip replacement, which is complicated and for which there is a high degree of having to go through additional surgeries.

Stem cell therapy is an interventional strategy that introduces new adult stem cells into damaged tissue in order to treat disease or injury. Stem cell treatments have the potential to alleviate suffering and cure previously incurable diseases. The ability of stem cells to self-renew and give rise to subsequent regenerations with variable degrees of differentiation and capacities, offers significant potential for regeneration of tissues that can potentially replace diseased and damaged areas in the body, with minimal risk of rejection and side effects.

We offer the most effective stem cell therapies in our office. We can retrieve stem cells from your own fat and/or bone marrow. We provide nonsurgical stem cell and blood platelet treatments for common injuries and degenerative joint conditions such as osteoarthritis and joint degeneration causing acute and chronic pain. These procedures use a patient's own stem cells or blood platelets to help heal damaged tissues, tendons, ligaments, cartilage, spinal disc or bone. Stem cells and blood platelet procedures offer a viable alternative for individuals who are suffering from joint pain or who may be considering elective surgery or joint replacement due to injury or arthritis. Patients can avoid the lengthy periods of down time and the painful rehabilitation that typically follows invasive surgeries by choosing the regenerative medicine therapies that are now available.