



What is Regenerative Medicine? A Guide for Hip and Knee Pain Patients

When hip or knee pain makes everyday activities like walking, climbing stairs, or even getting out of bed challenging, it's time to seek relief. While traditional treatments such as medications, physical therapy, and surgery have long been the standard for managing these issues, a new approach is revolutionizing orthopaedic care: regenerative medicine. Let's take a look at what regenerative medicine is and how it is transforming the treatment of hip and knee pain. From explaining the science to exploring the practical applications, we'll discover how this innovative approach may be the solution you've been seeking.

What is Regenerative Medicine?

Unlike traditional treatments that often focus on managing symptoms, regenerative medicine aims to repair, regenerate, and restore damaged tissues by drawing on the body's natural ability to heal itself. Regenerative therapies can address the root causes of pain and dysfunction by stimulating the body's inherent healing mechanisms.

Regenerative medicine stimulates tissue repair, encouraging your body to produce new cells to replace damaged ones. It leverages growth factors, stem cells and other biological agents to promote healing. By offering alternatives to surgery or long-term reliance on medications, regenerative medicine minimizes invasiveness to your body.

Common Techniques in Regenerative Orthopaedic Care

In the orthopaedic practice, regenerative medicine is particularly valuable for treating hip and knee conditions. The most commonly used techniques are PRP/A2M Therapy and Stem Cell Therapy.

Platelet-Rich Plasma (PRP) and Alpha-2-Macroglobulin (A2M) Therapy

These therapies involve drawing a small sample of your blood, processing it to concentrate the platelets, and injecting this platelet-rich plasma into the affected area. Platelets contain growth factors that promote tissue repair and reduce inflammation in tendons. PRP therapy has been available through many companies for over a decade and is typically used in the sports field and

for tendon injuries. The benefits of PRP for tendon injuries are reduced pain, improved mobility, and shorter recovery times compared to surgical interventions.

However, a high concentration of platelets is quite inflammatory to a joint and *will not* be beneficial. Several studies and the American Academy of Orthopaedic Surgeons have recommended *against* the use of “PRP” in osteoarthritic joints, describing it as not helpful or flat-out useless. Enter A2M Therapy, the first truly biologic treatment for osteoarthritis of the joint. Research has shown that alpha-2-macroglobulin (A2M), a naturally occurring protein, slows down the progression of joint deterioration due to mild joint osteoarthritis. Using a similar process as that for obtaining PRP, your blood is collected, spun in a centrifuge and then filtered in a proprietary device specifically designed to isolate and concentrate the naturally occurring protein. You can [learn more about A2M therapy](#) for knee osteoarthritis on the Zehr Center website.

Stem Cell Therapy

Stem cell therapy utilizes cells with the unique ability to develop into various types of tissues. These cells are typically harvested from your bone marrow or fat tissue and injected into your damaged joint to stimulate regeneration. Stem cell therapy is particularly effective in treating cartilage damage and early-to-moderate osteoarthritis. It has the potential to delay or even prevent the need for joint replacement surgery.

Benefits of Regenerative Medicine for Hip and Knee Patients

Regenerative medicine offers a range of benefits for patients dealing with hip and knee pain. These include:

- **Non-Surgical Solutions:** When searching for a solution to your hip and knee pain, it is always best to begin with conservative treatments, exhausting those options before turning to surgery. Regenerative medicine provides effective treatment options without the risks and downtime associated with surgery.
- **Reduced Recovery Time:** Biological therapies like PRP, A2M, and stem cell injections typically have shorter recovery periods compared to invasive procedures.
- **Slowed Disease Progression:** Many regenerative medicine treatments help slow down the progression of degenerative conditions such as osteoarthritis by promoting tissue regeneration.
- **Decreased Dependence on Medications:** Treating hip and knee conditions with regenerative medicine therapies reduces reliance on painkillers, including opioids, which can have significant side effects.

When Is Regenerative Medicine Recommended?

Regenerative medicine is not a one-size-fits-all solution, but it can be an excellent option for many hip and knee patients. Conditions that may benefit from these therapies include:

- **Early to Moderate Osteoarthritis:** When applied early enough in the progression of osteoarthritis, regenerative medicine, and A2M therapy in particular, helps regenerate cartilage and reduce joint inflammation.
- **Chronic Inflammation:** Regenerative medicine can address ongoing pain and swelling in the hip or knee.
- **Tendon and Ligament Injuries:** Regenerative medicine therapies support recovery from soft tissue damage, such as an ACL tear or tendonitis.

It's important to consult with a qualified orthopaedic specialist to determine whether regenerative medicine is the right choice for you. Factors such as the severity of your condition, overall health, and treatment goals will influence the recommendation.

The Role of Regenerative Medicine in Joint Replacement Surgery

Even for patients who ultimately require joint replacement surgery, regenerative medicine can play a supportive role. These therapies can be used to:

- **Optimize Pre-Surgical Health:** Administering the proper regenerative medicine therapy can strengthen the joint and surrounding tissues to improve surgical outcomes.
- **Enhance Post-Surgical Recovery:** Regenerative medicine therapies can accelerate healing and reduce inflammation after surgery, leading to a smoother rehabilitation process.

By integrating regenerative techniques into the surgical journey, patients often experience better long-term results.

Regenerative medicine represents a paradigm shift in the treatment of hip and knee pain. By leveraging the body's natural healing processes, these innovative therapies offer a path to improved mobility, reduced pain, and enhanced quality of life. Whether you're looking to manage early arthritis, recover from an injury, or optimize your surgical outcomes, regenerative medicine could be the solution you've been waiting for.

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