Platelet-Rich Plasma (PrP), Exosomes, and Stem Cell Injections

As relatively novel and innovative treatment approaches, **platelet-rich plasma (PrP), exosomes, and stem cell injections yield promising benefits** for people who struggle with chronic knee pain or a knee injury.

Platelet-rich plasma (PrP), exosomes, and stem cell injections can be very helpful in alleviating pain and discomfort and promoting a faster healing process.

Although they can be harvested from donors, physicians typically prefer using patient-derived material due to its higher compatibility and lack of an adverse immune response.

Platelet-Rich Plasma (PrP) Injections

These injections are a new technique that can help the healing of painful knee injuries, and the plasma that will be injected into the knee will come from the patient's blood. Advocates of PrP injections claim the therapy offers cutting-edge treatment for previously debilitating injuries, such as painful knee problems stemming from osteoarthritis. **Platelets are fragments of cells in the blood, being best known for their ability to help the blood clot.** However, they also contain numerous proteins known as growth factors that promote healing.

Still, it is very important to know that the American College of Rheumatology and the Arthritis Foundation strongly advise people to avoid using PrP therapy because it has not been standardized yet. The physician who offers the treatment must be qualified to carry out this treatment. Otherwise, the patient cannot be sure what the injection contains.

Exosomes Injections

Exosomes are extracellular vesicles released from cells upon fusion of an intermediate endocytic compartment, the multivesicular body, with the plasma membrane. Studies on exosomes have shown promising results as biomarkers for following the pathogenesis and prognosis of inflammatory arthritis. One of the reasons why exosomes are important is that they contain complex RNAs and proteins.

Exosomes in the plasma of osteoarthritis patients have yielded a new potential in alleviating knee osteoarthritis. Treatment with exosomes also involves injecting the exosomes into the knee joint for pain relief. When exosomes are injected directly into the affected joint, they begin signaling to the cells to return to healthy function. They also send proteins into the walls of the cells, instructing the cells on how to regulate themselves.

Stem Cell Injections

Like PrP injections, stem cell injections also use the patient's body to promote pain relief and healing. These injections use adult stem cells taken from bone marrow or fat. Stem cells are generic cells that can turn into any cells the body needs, so extracting them and injecting them into the knee joint can speed up healing. Furthermore, **stem cell injections can reduce inflammation, repair damaged tissue, and even prevent the need for knee replacement surgery.**

Usually, the results of stem cell injections administered to the knee joint last between 6 months and several years. Some patients never experience the same level of pain they had before the treatment. While the effectiveness of stem cell therapy requires more in-depth research, **the clinical efficacy of stem cell injections is estimated to be a little over 82% at the moment.**

Frequently Asked Questions

Are Stem Cell Injections Efficient Knee Injury Treatments? »

How Does Platelet-Rich Plasma Work? »

What Are Exosomes and How Do They Function? »

David J. Chao, MD, Inc.