

# Osteoarthritis & Ortho-Biologic Therapies

**Ortho-Biologic therapies are making a difference one application at a time**



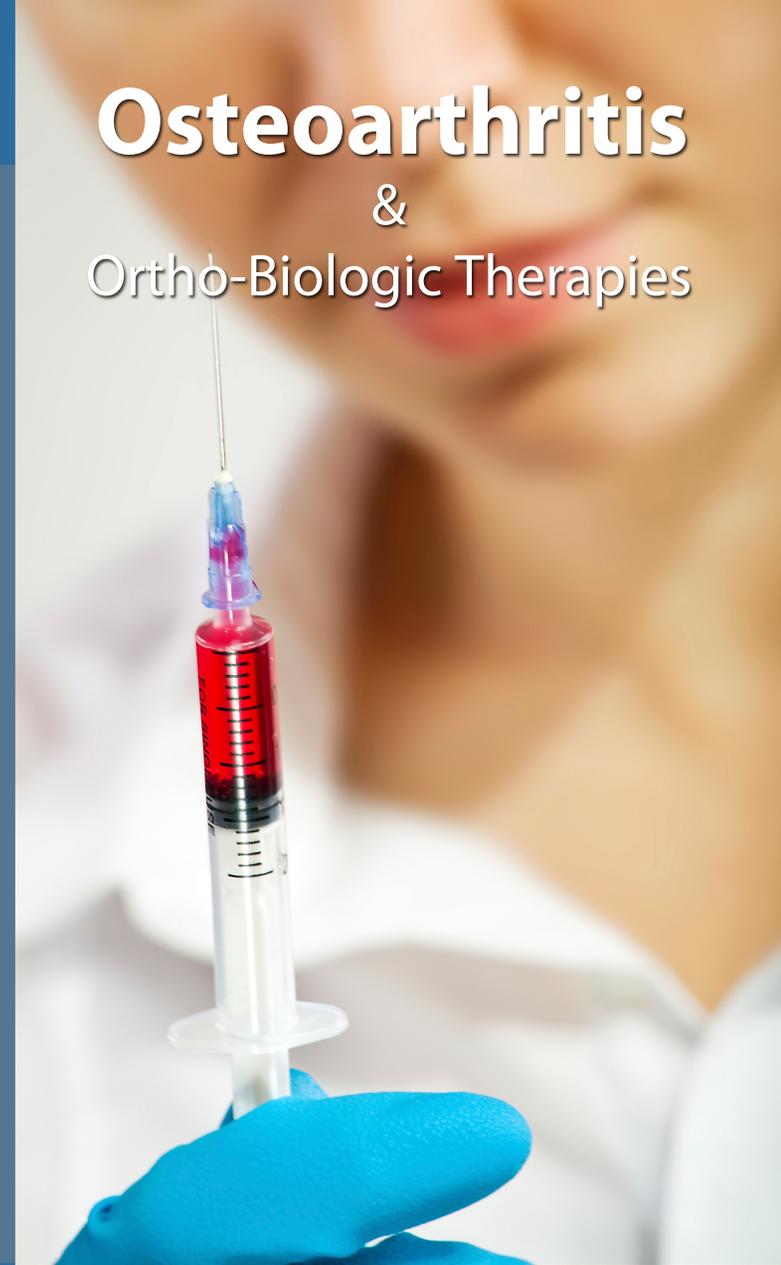
#### **BETTER TREATMENT SAMPLES, BETTER RESULTS**

Osteoarthritis is the oldest and most common form of arthritis. It requires an effective form of treatment to produce favorable outcomes. It is important that your physician use an ortho-biologic system that provide the greatest amount of regenerative cell concentrates. To get the best results, the PRP system must significantly concentrate the platelet growth factors and progenitor cell types in the treatment sample. This concentration should be up to 5 to 9 times the baseline value. The better the concentration the better your chances are of recovery. Get the best results with EmCyte Corporation® concentrating systems.

Advanced Ortho-Biologic Therapies  
The State-Of-The-Art Approach



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PureBMC®  


 Pure PRP® II<sub>2015</sub>

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Discover the power of  
**Ortho-Biologic Therapies**

**PurePRP® & PureBMC®**

*Leader in Regenerative Medicine Technologies*

## OSTEOARTHRITIS & ADVANCED THERAPIES

Osteoarthritis is a chronic condition in which the cartilage that cushions the joint, begins to break down. The breakdown of this tissue will eventually lead to pain, joint stiffness and sometimes swelling. Articular cartilage is the highly specialized connective tissue found in the joint. Its principal function is to provide a cushioned surface for load bearing activities. The articular cartilage covers the bone surfaces in the joint and when the cartilage degenerates it causes the surfaces of the bone to rub against each other, leading to the complications of osteoarthritis. The common risk factors for osteoarthritis include increasing age, obesity, previous joint injury, overuse of the joint, weak thigh muscles, and genetics.

## SYMPTOMS OF OSTEOARTHRITIS

Common symptoms of osteoarthritis include:

**Pain.** Your joints may ache and the pain may be sharp or feel like a burning sensation. For some people, the pain may be intermittent. Constant pain or pain while you sleep may be a sign that your arthritis is getting worse.

**Stiffness.** Getting out of bed in the morning becomes more difficult with osteoarthritis. Your joints may feel stiff until you get moving. Stiffness may also occur after sitting.

**Reduced range of motion.** As the osteoarthritis progresses, bending, flexing and extending becomes much more difficult. It can progress to the point of total dysfunction.

**Sleep problems.** The pain and stiffness of arthritis can disrupt sleep. And sleep problems may make it harder to cope with the pain.

**Crunching.** Your joints may make crunching sounds. This noise may also occur in a normal joint, but when combined with other symptoms of osteoarthritis, this noise becomes more significant.

## ABOUT ORTHO-BIOLOGIC THERAPIES

Ortho-biologic therapy is an outpatient procedure that's done at the point of care (at the patient's bedside). It involves the application of a concentrated form of platelet rich plasma, or bone marrow aspirate to the affected area. The application can be used to treat acute injury or long term degenerative disease. The concentrated platelet rich plasma releases growth factors and cell mediators that have been shown to greatly promote the repair of damaged tissue. Concentrated bone marrow aspirate provide "stem cell like" cells that are capable of differentiating into bone, cartilage, muscle, tendon and ligaments. They have also been shown to have the capability of generating new blood vessels to damaged tissue, a process called angiogenesis. With its many healing functions, Ortho-biologic therapy has proven to be a viable treatment alternative for many orthopedic related problems.

## FAVORABLE OUTCOMES

Ortho-biologic therapy is autologous (derived from your own blood) and proven to be safe. Studies demonstrate significant and almost linear improvements in knee injury and osteoarthritis outcome scores. These improvements include pain and symptom relief after knee movement and at rest. Many patients express a sustained and favorable outcome after 12 months of treatment.



## MESENCHYMAL CELLS FROM BONE MARROW

A great source for regenerative mesenchymal cells and platelet growth factors for patients under 45 years of age. The aspirate material is found in the iliac crest of your hip bone and processed with the GenesisCS Bone Marrow Concentrating System.

## MESENCHYMAL CELLS FROM ADIPOSE

A great source for regenerative mesenchymal cells and platelet growth factors for patients of all ages. These cells are attained from lower abdominal or gluteal fat.

## Pure PRP® GROWTH FACTORS FROM BLOOD

The growth factors are attained directly from your own blood. It is then processed in the GenesisCS Pure PRP® Concentrating System to produce the best form of platelet rich plasma available. Pure PRP® provides the highest concentrations of growth factors without the inflammatory or red blood cell content that may cause pain after injection.

## Ongoing Positive Effect of Platelet-Rich Plasma Versus Corticosteroid Injection in Lateral Epicondylitis A Double-Blind Randomized Controlled Trial With 2-year Follow-up

Taco Gosens MD, PhD, Joost C. Peerbooms, MD, Wilbert van Laar and Brenda L. den Ouden, PhD

### Outcomes:

After 24 and 52 weeks the cortisone group did not maintain significantly low pain scores, but the PRP group remained at low in both VAS and DASH pain scores.

### Conclusion

Injection of PRP has a positive effect as a treatment for lateral epicondylitis (tennis elbow). The effect actually exceeds the effect of corticosteroids, which was known as the golden standard. It is therefore a worthy alternative to steroidal injections and surgical treatment.