

# Is Biologic Treatment Right For You?

Platelet rich plasma

○ Stem cell therapy

○ Cartilage transplantation

*Robert working after receiving stem cell injections in his painful hip.*



*Bill successfully underwent PRP to treat his tennis elbow.*

See Robert and Bill's stories at [www.rushortho.com/biologics](http://www.rushortho.com/biologics).

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## What is biologic treatment?

*This refers to cells, blood components, growth factors, human donor tissue and other natural substances that replace or harness the body's own power to promote healing and decrease inflammation. The biologic options our physicians offer include platelet rich plasma (PRP), stem cells and cartilage transplantation. For qualifying patients, these can be used in treatment as stand-alone injections, enhancements to surgical procedures or surgical procedures themselves (cartilage transplantation).*

## Who are the best candidates?

**Biologic injections:** Research suggests that the best patients are in the early stages of osteoarthritis or have persistent tendon injuries. They have exhausted other non-surgical treatments such as rest, physical therapy and cortisone injections, but are not yet thinking about joint replacement or other surgeries. Biologic injections are not typically recommended for severe cases of osteoarthritis in which patients are told they are a better candidate for joint replacement.

In addition, biologic injections have the potential to enhance the healing process for patients undergoing surgery.

**Cartilage transplantation:** The ideal candidate is less than 45 years of age with limited articular cartilage damage in an otherwise healthy joint. These patients are not obese and do not have any complicating conditions, such as rheumatoid arthritis or severe osteoarthritis.

## For what conditions are biologics recommended?

After a thorough evaluation and discussion with your physician, he or she may recommend biologic treatment for:

- Early stage osteoarthritis or cartilage damage (e.g., knee, hip, shoulder, elbow, ankle)
- Tendon injuries (e.g., Achilles tendon, tennis elbow, plantar fasciitis, rotator cuff)
- Ligament injuries (e.g., elbow, knee, foot and ankle)
- Articular cartilage damage
- Spinal surgery



Quiz: Are you a candidate for biologic injections?

- I have joint pain or a soft tissue injury
- I tried rest
- I tried medication
- I tried physical therapy
- I tried other standard injections
- I'm not ready for surgery

If you answered 'yes' to all, speak with your physician about biologic injections.

## Types of Biologic Injections

### Platelet Rich Plasma (PRP)

**Candidates:** Patients with osteoarthritis or a tendon/ligament injury who have exhausted conservative therapies (rest, medication, physical therapy) but aren't ready for surgery.

Platelet rich plasma can enhance the body's natural ability to heal and reduce inflammation in arthritic joints and tendons. PRP starts with a patient's blood draw after which platelets are isolated using a special device called a centrifuge. Platelets are then injected directly into the patient's damaged area.

### Bone Marrow Aspiration Concentrate (BMAC)

**Candidates:** Patients with hip, knee or shoulder arthritis or a soft tissue injury who have exhausted conservative therapies (rest, medication, physical therapy) but aren't ready for surgery. Also, patients requiring hip, knee or shoulder surgery.

Bone marrow is an abundant source of stem cells, a repository for proteins and growth factors which may promote healing and decrease inflammation. Typically extracted from a patient's hip, a small amount of bone marrow is spun in a special device called a centrifuge. The stem cells are concentrated and then injected into the area of concern or used in tandem with a surgical procedure.

### Adipose Tissue

**Candidates:** Patients with joint pain or soft tissue injury who have exhausted conservative therapies (rest, medication, physical therapy) but aren't ready for surgery. This can also be used in combination with surgery.

Studies show that adipose tissue (fat) can help repair or reinforce injured tissue. It is harvested from a patient's own body, typically the midsection or waist. The fat is then processed and injected into the patient's problem area.

### Amniotic Products

**Candidates:** Patients with joint pain or soft tissue injury who have exhausted conservative therapies (rest, medication, physical therapy) but aren't ready for surgery. This can also be used in combination with surgery.

Amniotic tissue contains hyaluronic acid which has the potential to decrease inflammation and promote healing. Typically harvested from healthy donors by a third party and carefully screened before use, the tissue may be used as an injection or with surgical procedures.



## Types of Cartilage Transplantation (Knee)

### Osteochondral Autograft Transplantation

**Candidates:** Patients with relatively small areas of cartilage loss who are otherwise not candidates for joint replacement surgery.

A portion of a patient's own cartilage is harvested and transferred from one part of the joint to another during a single procedure. The surgeon removes a small piece of healthy cartilage and bone which is then used to fill in the area of reduced cartilage (osteoarthritis).

### Osteochondral Allograft Transplantation

**Candidates:** Patients with medium to large areas of cartilage loss who are otherwise not candidates for joint replacement surgery. Often, these are patients who have exhausted other cartilage procedures.

Using donor cartilage, the surgeon shapes the graft to fit precisely into the patient's area of reduced cartilage (osteoarthritis) and underlying damaged bone, creating a smoother and more natural surface. It is most often used in the knee, but can be used in other joints.

### Autologous Chondrocyte Implantation

**Candidates:** Patients with medium to large areas of cartilage loss who are otherwise not candidates for joint replacement surgery.

This is a two-stage procedure that requires harvesting cartilage from a patient's own knee. Those cells are then grown in a lab where they are later implanted during a second surgical procedure.

### Meniscus Transplantation

**Candidates:** Patients with knee pain that have previously had meniscus in the knee removed surgically.

During a meniscus (knee) transplant, the surgeon uses size-matched, donated meniscus cartilage. Through small incisions, the surgeon arthroscopically sews the new tissue in place, which allows the knee to function normally.

**Note:** These cartilage transplantation procedures in general aren't for patients that have been told they have "bone on bone" arthritis or need a joint replacement.

*"We recognize that biologics is going to be the next biggest breakthrough."*

*Dr. Nikhil Verma*

*“ One of things that makes MOR special is that we have a full spectrum of therapy options for patients.”*

*Dr. Brian Cole*

*“Our physicians are committed to providing patients extensively researched biological treatments”*

*Dr. Adam Yanke*

## Are biologics safe?

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Yes. With many on-going research studies in the area of biologics, Midwest Orthopaedics at Rush physicians also continue to pursue additional safe solutions for patients. However, biologic procedures are not an effective solution for all patients. Our physicians only recommend the safest, most effective treatment based on a patient's condition, history and overall health.

## Covered by insurance?

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Some of these procedures are considered experimental or investigational by insurance carriers, and thus may be considered a self-pay service. Please consult with your physician's administrative team for specific details.

*Our board-certified physicians are actively researching the use of stem cells and other biologic treatments for orthopedic conditions. They follow stringent protocols before recommending any treatment to patients.*

*For more information and to view videos, please visit [www.rushortho.com/biologics](http://www.rushortho.com/biologics).*

*To make an appointment, call 877-MD-BONES.*

*To find out if you are a candidate for a biologic clinical trial, call 833-334-9924 or email [biologicstudies@rushortho.com](mailto:biologicstudies@rushortho.com).*

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