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Orthopedic Biologic Treatments

What are biologic Treatments?

These refer to techniques that try to maximize the body's potential by concentrating cells, growth factors, or tissue and using them at the sites of acute or chronic injury to promote healing or decrease inflammation. There are many types of biologic treatments used in the United States. Platelet rich plasma, bone marrow aspirate concentrate, and fat derived tissue are currently being offered to help with a variety of conditions. These can be used either as individual procedures or during surgical procedures.

Are biologic treatments regulated?

The FDA closely monitors all biologic treatments for safety, effectiveness, and marketing. The FDA also prohibits modification of biologics with the exception of minimal manipulation to concentrate the cells, such as a centrifuge, and immediate reimplantation. We follow all FDA guidelines for treatments.

What conditions are treated with biologic injections?

Early arthritis (knee, hip, elbow, shoulder, or ankle)
Tendon injuries (achilles tendon, tennis elbow, plantar fasciitis, rotator cuff) Ligament sprains

What are types of biologic injections?

Platelet rich plasma (PRP):

This injection is used to help promote healing and decrease inflammation. It concentrates the plasma layer in your own blood - with all the healing and growth factors- by spinning it in a centrifuge. This layer is then separated and injected directly in the site of injury. They are being used for both acute and chronic soft tissue injuries (like muscle, tendon, and ligament injuries) or into joints for osteoarthritis. Some conditions require a single injection, tennis elbow for example, while others use a series of three injections, such as knee arthritis.

The procedure- Blood is drawn from a vein in your arm, similar to lab work. The blood is then spun in a centrifuge to separate the layers, and the platelets are isolated. The area for injection is then prepared and local anesthesia is injected. Occasionally, an ultrasound is used to identify the injection site. The PRP is then injected, a compressive wrap is applied.

The ideal patient- has mild to moderate osteoarthritis, tendon injuries, or ligament injuries that has failed other types of treatments such as rest, medication or physical therapy. They can be trying to avoid open surgeries, or trying to delay surgery, such as a knee replacement.

Bone Marrow Concentrate (BMAC):

This injection utilizes bone marrow from the pelvis (hip) which is a rich source of pluripotent mesenchymal cells, commonly referred to as stem cells. These cells contain a significant amount of growth factors which can help decrease inflammation and promote healing.

The procedure- This is usually done in the operating room under light sedation. The hip is cleaned and local anesthesia is injected. Bone marrow is then drawn using a large needle similar to a biopsy. A dressing is placed on the hip. The bone marrow is then spun in a centrifuge to separate the layers. The area for injection is then prepared and local anesthesia is injected. Occasionally, an ultrasound is used to identify the injection site. The BMAC is then injected, a compressive wrap is applied.

The ideal patient- has mild to moderate arthritis who have had failed other treatments such as activity modification, medication, cortisone or physical therapy and would like to avoid or delay surgery. Additionally, BMAC can help with certain surgeries, such as fractures that have not healed or are slow to heal.

Adipose Cell Derived Products:

This injection uses cells harvested from your own fat, either from the flank or abdomen, which are isolated and then injected. Fat is a rich source of pluripotent cells, commonly referred to as stem cells. It can be used for treatment of osteoarthritis or during soft tissue surgeries.

The procedure- This is usually done in the operating room under light sedation but may be performed in the office with local anesthesia. The flank or abdomen is cleaned and local anesthesia is injected. A combination of saline and local anesthesia is injected into the harvest site. The fat cells are then aspirated from the layer just below the skin. A dressing is placed on the flank. The fat cells are then washed and separated in a special system to remove impurities. The area for injection is then prepared and local anesthesia is injected. Occasionally, an ultrasound is used to identify the injection site. The fat cells are then injected, a compressive wrap is applied.

The ideal patient- has mild to moderate arthritis who have had failed other treatments such as activity modification, medication, cortisone or physical therapy and would like to avoid or delay surgery. Additionally, can help with healing during certain surgeries.

Amniotic Products:

This injection uses tissue from umbilical cord tissue that has a high concentration of proteins that your body uses for healing, such as collagen and elastin, as well as growth factors that can promote healing and decrease inflammation. They are used both during surgery, as well as in the office for injections with or without surgery. These are taken from healthy donors, screened and carefully stored. The tissue is sterilized prior to packaging. This does not require taking blood or tissue from you.

Dr. Wymore typically uses amniotic tissue from a company CTM. He is also a paid consultant and educator for CTM.

Who may benefit from biologics?

You have joint pain or a soft tissue injury, such as tendonitis or a ligament sprain. You have tried medications or cortisone.

You have tried physical therapy.

You would like to avoid or delay surgery.

Are biologic treatments safe?

Yes. Numerous studies have shown the safety of biologic treatments. Because biologics are still evolving, the surgeons at NewportCare continue to monitor the evidence for biologic treatments, and recommend the best studied treatments for patients based on their particular case.

Can we guarantee outcomes with biologic treatments?

No. Like all medical treatments, no guarantees can be made about outcomes. Your surgeons can discuss the best evidence regarding outcome expectations.

Will my insurance pay for biologic treatments?

No. These treatments are often classified as investigational by both government (such as Medicare, Medicaid, Tricare) and commercial (such as Blue Cross, Aetna, United Health Care and Cigna) insurance programs. Payment in full is required before any treatment. All patients are required to sign an advanced beneficiary notice to acknowledge that treatments are not covered by their insurance program.

PRP - \$300 per treatment

CTM - \$750 per treatment