



Fundamentals **of Healing**

Learn more about your body's
natural healing potential.

CELLULAR COMPONENTS

The cellular components from blood and/or bone marrow are isolated and returned back to you. After the procedure, you may feel mild discomfort at the blood draw or bone marrow aspiration site and/or injection site(s) depending on the procedure.

PERSONALIZED OPTIONS

Depending on your medical need your physician will recommend a Platelet Rich Plasma (PRP) and/or a Concentrated Bone Marrow Aspirate (cBMA) treatment. Before you begin your recommended treatment, it is important that you understand what to expect from the procedure and how PRP and cBMA work naturally with your body. The sample preparation process is relatively quick, with only a few short steps.

COMPONENTS OF BLOOD¹

Platelets	Carry proteins and other molecules important for healing damaged tissue
White Blood Cells	Help support the growth or repair of new tissue, and helps fight infection
Red Blood Cells	Help bring oxygen to new tissue so it can live
Plasma	Contains electrolytes and proteins important for healing damaged tissue

COMPONENTS OF BONE MARROW^{1,2,3}

Mesenchymal Stem Cells	Can transform into different tissue forming cells
Hematopoietic Stem Cells	Form blood cells, immune cells, and transform directly into tissue forming cells
Endothelial Stem Cells	Stimulate the formation of new blood vessels and create vascularization
Platelets	Carry proteins and other molecules important for healing damaged tissue

PROCEDURAL OUTLINE FOR PRP OPTION



+ COLLECT

Your physician will draw blood from your vein with a small needle (aspiration).

+ CONCENTRATE

A centrifuge separates and concentrates the cellular components of blood. The resulting product is a highly concentrated suspension of platelets and cells (PRP).

+ DELIVER

The PRP is returned to the designated site(s) during your same office visit.

PROCEDURAL OUTLINE FOR CBMA OPTION



+ COLLECT

After numbing the area, your physician will draw bone marrow and blood from your hip bone with a small needle.

+ CONCENTRATE

A centrifuge separates and concentrates the cellular components of bone marrow aspirate. The resulting product is a highly concentrated suspension of cells.

+ DELIVER

The cBMA is returned to the designated site(s) during your same office visit.

UNDERSTAND YOUR cBMA TREATMENT

WHAT ARE REGENERATIVE CELLS? Some regenerative cells can multiply themselves and transform into various types of tissue. Other types of regenerative cells help these tissue forming cells to perform their duties. Your own cells from your body are used for your procedure. The process of collecting and concentrating blood and bone marrow aspirate is performed during your procedure and only takes 15 minutes.

WHERE DO THE CELLS COME FROM? You have regenerative cells throughout your body. They orchestrate tissue formation such as bone, cartilage, fat, muscle, heart, blood vessels, and nerves. They are the reason why we can heal ourselves.

The richest source for these cells are in bone marrow and fat.

WHY DO WE USE BONE MARROW ASPIRATE? Some regenerative cells have been shown to transform into specific tissues when transplanted.² Cells that are found in your bone marrow have the ability to help new bone, cartilage, and soft tissue to form. Bone marrow also contains platelets, which store signaling molecules that these cells need in order to perform their duty. A centrifuge is used to separate and concentrate cellular components from other components of your blood and bone marrow to form cBMA.

CONCENTRATION PROCESS



INPUT BMA
OR BLOOD



SEPARATE
RBCs



EXTRACT
RBCs



CONCENTRATE
BUFFY COAT

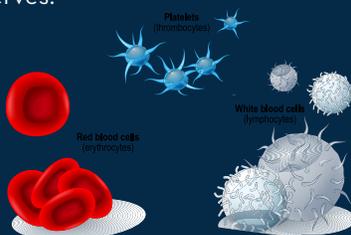


CELLS, PLATELETS & GROWTH
FACTORS READY FOR USE

UNDERSTAND YOUR PRP TREATMENT

WHAT ARE PLATELETS? Platelets are one of the components of blood which help stop bleeding. They also store signaling molecules (such as growth factors and cytokines), which help support tissue repair and growth.¹ Without these signaling molecules, stem cells and other regenerative supporting cells in your body cannot perform their job. We use your own platelets from your body during your procedure. Your body frequently generates platelets, so harvesting them will not affect your body's natural ability to heal itself.¹ Our process of harvesting and concentrating platelets is performed during your procedure and only takes 15 minutes.

WHERE DO THE PLATELETS COME FROM? Platelets circulate throughout the whole body within your blood. When you get a cut, platelets are one of the reasons why you are able to heal. The signaling molecules inside of platelets help direct stem cells to repair or form new tissue such as bone, cartilage, fat, muscle, heart, blood vessels, and nerves.¹



WHY DO WE USE WHOLE BLOOD? Whole blood is very easy and relatively painless to obtain. It also contains a large number of platelets. Although you have billions of platelets in your blood, studies have shown that it may be beneficial to concentrate these platelets to form a biologic called Platelet Rich Plasma (PRP) in order to obtain a sufficient amount. There are also other molecules in your plasma (the liquid portion of your blood) which help fight inflammation and the progression of tissue damage. We use a centrifuge which separates and concentrates these platelets from other components of your blood.