

# Customized Cellular Concentrations From Your Own Body

With the Angel® cPRP and Bone Marrow Processing System



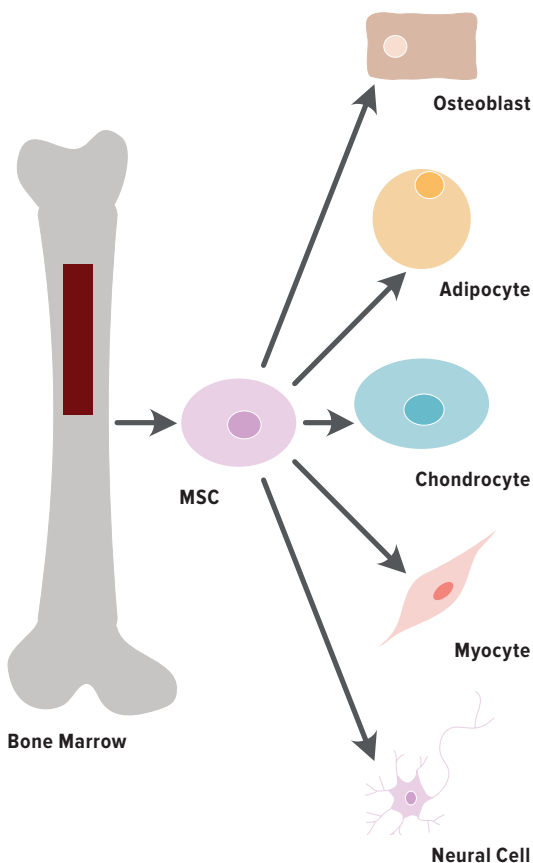
**Arthrex®** 

## What Is Bone Marrow?

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Bone marrow is the soft, spongy tissue found in the center of your bones.

Several types of cells are found in bone marrow—most importantly, **mesenchymal stem cells (MSCs)**, which are also known as medicinal signaling cells. These cells have the capacity to form osteoblasts (which create bone structure), chondrocytes (which create cartilage), and myocytes (which create muscles). MSCs have also been found to provide signals that assist with healing to cells already present in the site of application.<sup>1</sup>



## What Is Bone Marrow Concentration?

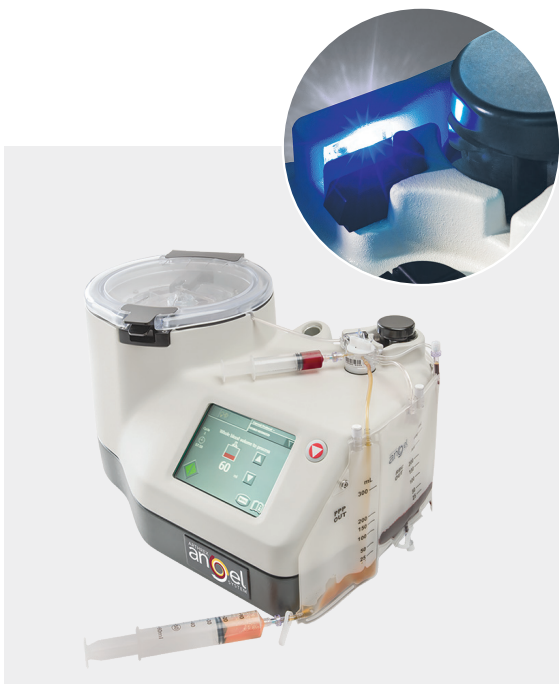
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Bone marrow cells are responsible for repairing and rebuilding damaged tissue. Collected bone marrow can be concentrated using a machine called a centrifuge, such as the Angel® system. Centrifugation condenses harvested cells to a smaller volume, which can then be used in your body. This concentrated bone marrow contains higher amounts of platelets and MSCs than regular bone marrow. The process also removes unwanted material.

## What Makes the Angel System Special?

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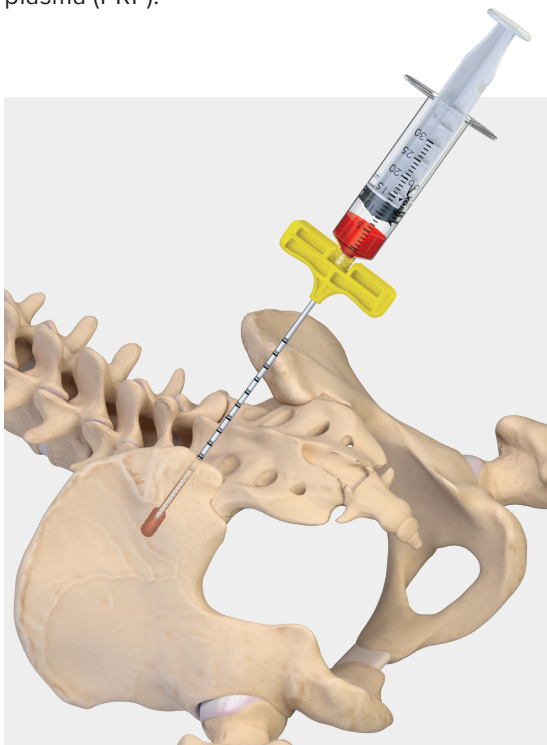
The Angel system uses technology to precisely separate MSCs and platelets from the other components of bone marrow to support healing and rebuild tissue. The Angel system allows for a customizable output with varying cellular concentrations based on your specific needs.



## How Does the Process Work?

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Your surgeon can extract bone marrow from several sites in the body, including the calcaneus (heel bone), proximal tibia (shinbone), proximal humerus (upper arm bone), and, most commonly, the back of the pelvis (hip bone). After collecting the bone marrow, your doctor will place it into the Angel machine, which spins it at high speed to separate out the concentrated platelet-rich plasma (PRP).



## Who Is a Candidate for Bone Marrow Aspiration?

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Your health care provider will determine if this treatment is right for you by performing an examination to decide if bone marrow aspiration will benefit your specific procedure.



## Reference

1. Caplan AI. New era of cell-based orthopedic therapies. *Tissue Eng Part B Rev.* 2009;15(2):195-200. doi:10.1089/ten.TEB.2008.0515

## Indications

Angel® system kits are intended to be used intraoperatively at the point of care for the safe and rapid preparation of platelet-poor plasma and platelet concentrate (PRP) from a small sample of peripheral blood or a small sample of a mixture of peripheral blood and bone marrow. The platelet-poor plasma and PRP are mixed with autograft and/or allograft bone prior to application to a bony defect for improving handling characteristics.

## Contraindications

Blood supply limitations and previous infections, which may hinder healing. Any active infection or blood supply limitations. Conditions that tend to limit the patient's ability or willingness to restrict activities or follow directions during the healing period. Do not use for surgeries other than those indicated.

## Adverse Effects

Infections, both deep and superficial; foreign body reactions; hematoma

*The information contained in this brochure is not medical advice and is not meant to be a substitute for the advice provided by a surgeon or other qualified medical professional on the use of these products. You should talk with your physician or health care provider for more information about your health condition and whether Arthrex products might be appropriate for you. The surgeon who performs any surgical procedure is responsible for determining and using the appropriate techniques for surgical procedures on each individual patient. Arthrex recommends that surgeons be trained on the use of any particular product before using it in surgery. A surgeon must always rely on their own professional medical judgment when deciding whether to use a particular product when treating a particular patient. A surgeon must always refer to the package insert, product label, and/or directions for use before using any Arthrex product. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes. Products may not be available in all markets because product availability is subject to the regulatory approvals and medical practices in individual markets. Please contact Arthrex if you have questions about the availability of products in your area.*



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