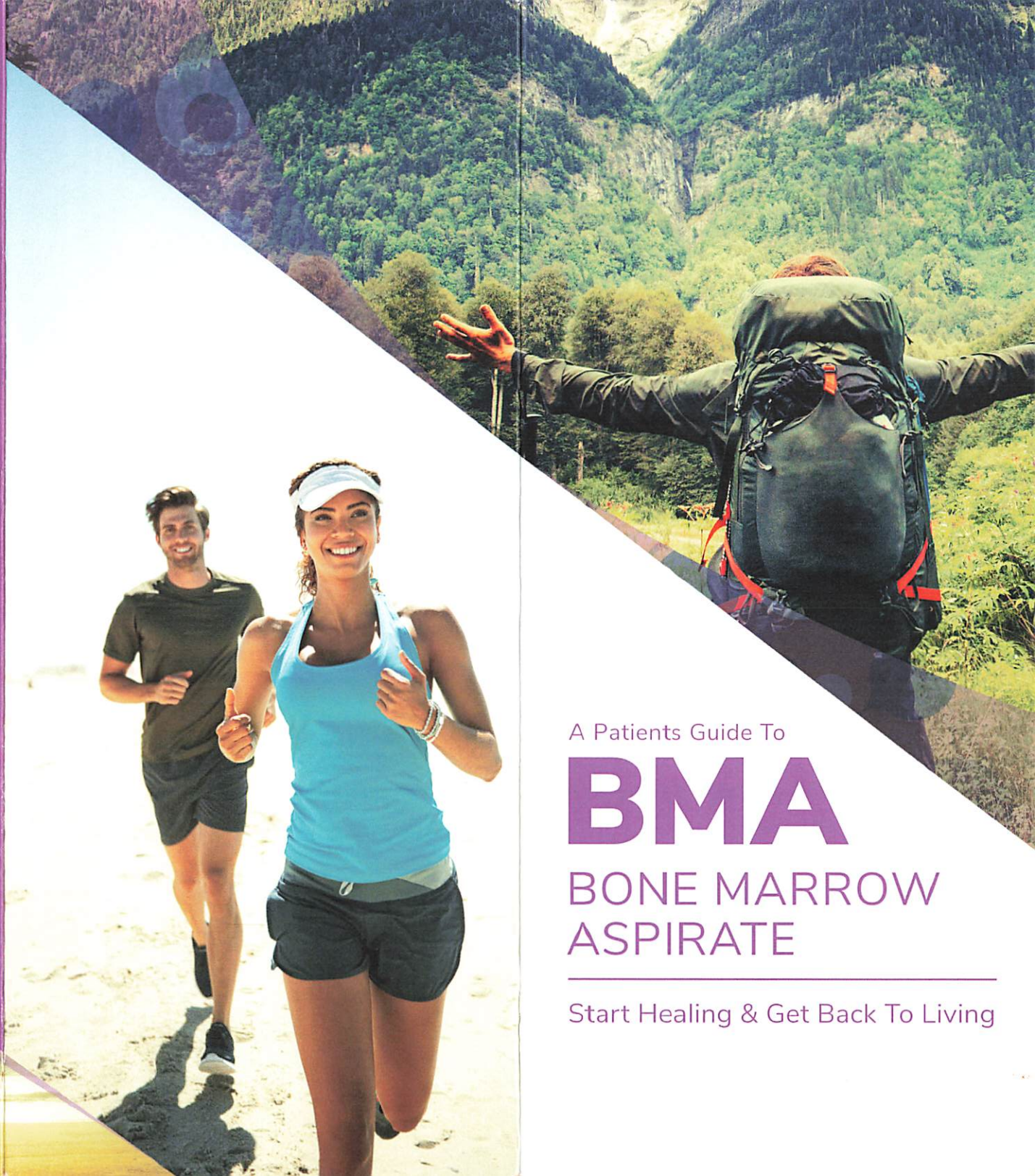


BENEFITS

## Why BMA?

Bone marrow is the soft spongy tissue that is found in the center of your bones. In adults, marrow in the large bones are the producing center of your red blood cells, white blood cells and plasma components. Since this is the location of production, immature forms of these cells called stem cells, will be found here.

- Less side effects when compared to steroid injections or surgery
- Reservoir of stem cells
- Regenerative properties
- Natural and organic from your own body
- Speeds up and promotes healing
- Minimal to no down time
- Minimally invasive



A Patients Guide To

# BMA

## BONE MARROW ASPIRATE

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Start Healing & Get Back To Living

# A NEW APPROACH TO TREATING ILLNESS & INJURIES

No longer reserved for professional athletes and the 'Hollywood elite', Bone Marrow Aspirate (BMA) is fast becoming the treatment of choice for everyone.



Platelets ▲

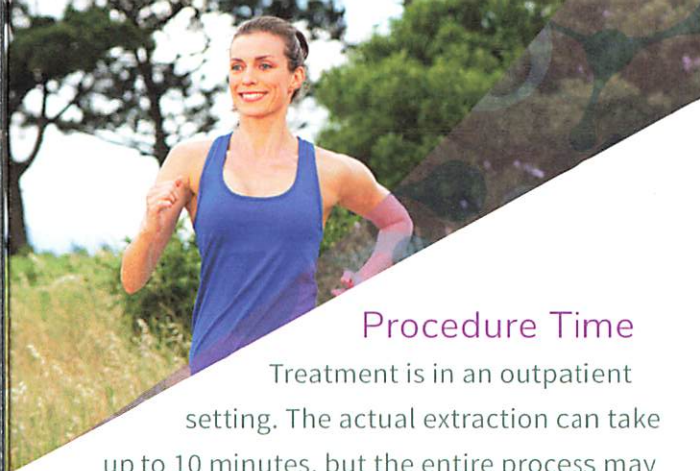
◀ Red & White Blood Cells



## What Are Bone Marrow Stem Cells?

The immature stem cells inside the bone marrow have the potential to develop into mature cells such as the cells of a muscle, vessel, cartilage or bone. Two of the main stem cells found in bone marrow include:

- **Hematopoietic stem cells** give rise to the three classes of blood cells in circulation: white blood cells, red blood cells, and platelets. These cells drive tissue regeneration and create supportive circulation.
- **Mesenchymal stem cells** also known as Marrow Stromal Cells have the capacity to form osteoblasts or bone structure, chondrocytes or cartilage, and myocytes or muscles.



## Procedure Time

Treatment is in an outpatient setting. The actual extraction can take up to 10 minutes, but the entire process may take up to one hour.

## The Healing Process

Bone marrow stem cells are the regenerative cells responsible for repair and rebuilding damaged tissue. The concentrated cells accelerate the healing process, promote strength, offer pain relief and improve overall function. The healing cascade can be active and take place over 4 to 6 weeks. A follow-up PRP procedure may be recommended if desired relief is not met.

## Are There Any Risks

Bone marrow extractions are safe procedures when conducted by a trained professional in a sterile environment. Complications are rare but include:

- Bleeding, particularly in patients with a low platelet count or clotting disorder.
- Infection, in patients with weakened immune systems. Antibiotics are given post extraction to prevent infection.

## How Long Is Recovery Time?

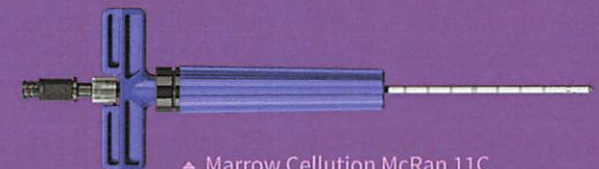
The majority of patients are able to return to usual activities within 1 to 2 days but some pain maybe felt for up to one week.

## Do's And Dont's

Prior to your procedure, drink plenty of fluids and eat a good meal. Please consult with your physician about medications or prior history of blood disorders. Pain control will be given if needed.

## What To Expect

The area of extraction is locally numbed so pain is minimal. Bone marrow is extracted from the back of the patient's pelvis or hipbone from an area called the **posterior iliac crest**. A suctioned syringe attached to a long needle is used to reach the posterior aspect of the hip, during which minimal discomfort is felt due to local anesthetic. The collected sample is gathered from multiple geographic regions within the iliac crest. This aspirate technique delivers a high concentration of cellular structures called CFU-F's which hold a rich reservoir of therapeutic cells to reintroduce to the injured area.



▲ Marrow Cellution McRan 11C

**60min**  
Procedure

**4-6wk**  
Healing Process

**1-2days**  
Recovery Time

**Low**  
Risks