Post-Procedure Care After Autologous Biologic Treatment

(Bone Marrow Aspirate, Bone Marrow Aspirate Concentrate, and/or Adipose-Derived Biologic Procedures)

The following instructions are provided to support recovery after your autologous biologic procedure. These treatments use your own tissues and are intended to support the body's natural repair processes. Recovery timelines and responses vary between individuals.

Expected Symptoms After the Procedure

- ***Harvest site discomfort:*** Mild to moderate pain or soreness is common at tissue harvest sites:
  - Posterior pelvis (posterior superior iliac spine, PSIS) for bone marrow aspiration
  - Flank or abdominal region for adipose harvest

  This discomfort typically improves over several days to weeks. Bruising and localized swelling are also common.
- ***Injection site discomfort:*** If adipose-derived or bone marrow–derived biologic material was injected into a joint, tendon, ligament, or other tissue, localized soreness or pressure is expected. This reflects a normal inflammatory and reparative response and may persist for 1–2 weeks, occasionally longer.
- ***Infection monitoring:*** Post-procedure infection is uncommon, but patients should remain vigilant. Contact the clinic promptly if you experience:
  - Fever or chills
  - Increasing redness, warmth, drainage, or swelling at harvest or injection sites
  - Worsening pain that is disproportionate or progressive

  Infections most often present 72 hours or more after the procedure.

Activity, Weight Bearing, and Protection

- ***Bracing and mobility support:*** Depending on the treated area, temporary bracing and/or short-term reduced weight bearing (including crutches) may be recommended. This is intended to reduce mechanical stress on treated tissues during the early healing phase.
- ***Relative rest:*** Recommended for the first 48 hours. Patients are encouraged to engage in gentle, non-impact movement to maintain circulation and reduce the risk of blood clots.
- ***Avoid impact and torsional loading:*** High-impact, pivoting, or twisting activities should generally be avoided for approximately 6 weeks, unless otherwise directed. Treated tissues are biologically active but mechanically vulnerable during this period.

Medications and Pain Control

- ***Avoid non-steroidal anti-inflammatory drugs (NSAIDs):*** Medications such as ibuprofen (Motrin), naproxen (Aleve), and aspirin should be avoided for 6–8 weeks after the procedure unless otherwise directed. These medications can interfere with early inflammatory signaling involved in tissue repair.
- ***Pain management:*** When appropriate and in the absence of contraindications, short-term use of non-NSAID pain medications may be prescribed to manage discomfort. Use these medications only as directed.
- ***Ice and heat:*** Routine icing of the treated area is generally discouraged in the first few days to avoid suppressing local biologic activity. Specific instructions may vary based on treatment site.

Wound and Skin Care

- ***Dressings:*** Larger dressings may typically be removed 24–48 hours after the procedure.

- ***Steri-strips:*** Steri-strips placed at harvest sites should be left in place until they fall off naturally (usually 10–14 days). If still present after 14 days, they may be gently removed.
- ***Showering:*** Showering is usually permitted 24 hours after the procedure. Avoid scrubbing harvest or injection sites.
- ***Pools and hot tubs:*** Avoid swimming pools, hot tubs, and soaking baths for 48–72 hours to reduce the risk of infection.

Follow-Up and Monitoring

- ***Clinical follow-up:*** Patients are typically evaluated approximately 2 weeks after the procedure for wound assessment and clinical follow-up.
- ***Remote follow-up:*** For patients traveling from out of town, a telemedicine or phone follow-up may be arranged. You may be asked to submit photographs of harvest and injection sites.

Rehabilitation and Physical Therapy

- ***Role of physical therapy:*** Controlled movement and rehabilitation are critical components of recovery. Physical therapy supports tissue adaptation, joint nutrition, and functional recovery.
- ***Timing:*** Physical therapy is often initiated within one week of the procedure unless otherwise directed. Patients are encouraged to schedule therapy appointments in advance.
- ***Early activities:*** Gentle range-of-motion activities, such as low-resistance cycling, may be recommended to support joint motion and cartilage health, similar in principle to post-procedure cartilage rehabilitation protocols.

Recovery Timeline and Expectations

- ***Short-term (weeks):*** Inflammation and soreness are common. This does not indicate failure of the procedure.
- ***Intermediate (2–3 months):*** Many patients notice gradual improvements in pain or function.
- ***Longer-term (up to 6 months or more):*** The biological effects of autologous treatments often evolve slowly. Patience and adherence to rehabilitation recommendations are important.

Condition-Specific Post-Procedure Care Addenda

(Autologous BMA / BMAC / Adipose-Derived Biologic Procedures)

A. Harvest Site–Specific Care

1. Bone Marrow Harvest Site (Posterior Pelvis – PSIS)

Location: Bone marrow is aspirated from the posterior superior iliac spine (PSIS) in the posterior pelvis.

Expected symptoms:

- Localized soreness, deep ache, or pressure sensation
- Bruising and stiffness in the low back/hip region
- Discomfort may be more noticeable with sitting, bending, or lying on the affected side

Typical recovery:

- Most patients note improvement over 3–10 days
- Residual soreness can persist longer in physically active individuals

Activity considerations:

- Avoid prolonged sitting on hard surfaces for several days

- Avoid heavy lifting or aggressive lumbar loading for 5–7 days
- Gentle walking is encouraged

2. Adipose Harvest Site (Abdominal or Flank Region)

Location: Adipose tissue is harvested from the lower abdomen and/or flank ("love handle") region using small incisions.

Expected symptoms:
- Bruising, swelling, firmness, or tenderness
- Sensation of tightness or pressure in the harvest area
- Mild serous drainage from incision sites in the first 24–48 hours

Typical recovery:
- Bruising and swelling often peak at 48–72 hours
- Gradual improvement over 1–3 weeks

Compression and care:
- Compression garments may be recommended to reduce swelling
- Avoid direct pressure or massage to the harvest area for 7–10 days

B. Orthopedic (Direct Injection) Administration

(Joints, Tendons, Ligaments, Bone, or Soft Tissue)

This section applies when biologic material is directly injected into musculoskeletal structures.

Expected post-injection response:
- Localized soreness, pressure, or stiffness is common
- Symptoms often reflect a normal inflammatory and reparative response
- Adipose-derived products may provoke a stronger early inflammatory response than BMAC alone

Activity and protection:
- Joint injections
  - Use of bracing or unloading (crutches) may be recommended
  - Avoid impact, pivoting, and torsional loading for ~6 weeks
- Tendon/ligament injections
  - Avoid stretching or strengthening the treated structure for 2–4 weeks
  - Premature loading may disrupt early tissue remodeling

Physical therapy (PT):
- PT is usually initiated within 5–10 days, depending on tissue treated
- Early focus is on:
  - Gentle range of motion
  - Neuromuscular control
  - Progressive loading only after physician clearance

What is not expected:
- Immediate pain relief
- Structural "repair" visible on early imaging

Improvement is typically gradual over weeks to months.

C. Neurologic / Systemic (IV and Intranasal) Administration

This section applies when biologic material is administered intravenously (IV) and/or intranasally, rather than injected into a specific orthopedic structure.

1. Intravenous (IV) Administration

Purpose: IV administration is used to support systemic immune modulation, endothelial signaling, and neurovascular support, not to target a single joint or structure.

Immediate post-procedure expectations:

- Fatigue, mild headache, or "flu-like" symptoms for 24–72 hours
- Transient changes in heart rate or blood pressure are uncommon but possible

Activity guidance:

- Rest for the remainder of the day
- Resume light activity the following day as tolerated
- Avoid strenuous exercise for 48–72 hours

Hydration: Adequate oral hydration is encouraged to support circulation and recovery.

2. Intranasal Administration

Purpose: Intranasal delivery is explored as an investigational route to allow biologic signaling to access the central nervous system via olfactory and trigeminal pathways.

***Post-procedure expectations*:**

- Nasal fullness, mild congestion, or drip
- Transient headache or pressure sensation

These symptoms typically resolve within 24–48 hours

Aftercare:

- Avoid forceful nose blowing for 24 hours
- Avoid nasal sprays unless approved by your provider
- Sleep with head slightly elevated the first night

D. Combined Orthopedic + Systemic Procedures

For patients receiving both direct orthopedic injections and IV/intranasal administration:

- Expect greater overall fatigue for several days
- Orthopedic restrictions (weight bearing, activity limits) take priority
- Systemic symptoms do not indicate failure or complication

Close adherence to activity modification and follow-up instructions is especially important in combined procedures.

E. When to Contact the Clinic Urgently

Contact the clinic promptly if you experience:

- Fever >101°F (38.3°C)
- Progressive redness, warmth, drainage, or swelling at harvest or injection sites
- New neurologic deficits (weakness, speech difficulty, vision changes)
- Severe or worsening pain out of proportion to expectations

Regulatory Disclosure

Autologous bone marrow– and adipose-derived biologic procedures are not approved by the U.S. Food and Drug Administration (FDA) for the treatment of specific orthopedic, neurologic, or systemic diseases. These procedures are intended to support the body's natural repair processes and are offered based on physician judgment, current scientific understanding, and individualized patient evaluation. Outcomes vary, and no benefit is guaranteed.