



CLINICAL UPDATES IN PLATELET GEL

Sports Medicine & Regenerative Injection Therapy

► Procedures & Protocols

Potential PRP Injection Applications

Sample application sites provided by the Crane Clinic Sports Medicine and the Riverside Sports, Spine, and Fitness Center

Spine

- Sacroiliac joint
- Iliolumbar ligaments
- Facet joints
- Interspinous ligaments

Shoulders

- Rotator cuff – partial tears
- Long head of biceps tendinosis
- Chronic glenohumeral ligament sprains
- Acromio-clavicular joint
- Labrum
- Levator scapulae ms

Elbows

- Epicondylitis – medial and lateral
- Ulnar collateral ligament
- Distal biceps tendon – partial tear
- Triceps

Wrist/Hand

- Chronic thumb UCL sprain
- First MCP
- Extensor tendon sheath
- Intra-articular

Hip/Pelvis

- Pyriiformis
- Greater trochanteric bursa
- Sacroiliac joint
- Hamstring origin/ischial tuberosity
- Femoral-acetabular joint
- Iliopectineal bursa
- Aymphysis pubis and anterior pelvis

Knee

- Patellar Tendinosis
- Meniscal tears
- Vastuslateral obliquous strain
- Intra-articular
- Enthesopathy

Lower Leg

- Soleus origin
- Medial tibial periosteum
- Tibialis posterior/peroneal tendons

Ankle/Foot

- Chronic anterior talofibular (ATF) ligament strain
- Chronic Achilles tendinosis
- Chronic Peroneal tendon tear
- Plantar Fasciitis – origin, mid-fascial band
- Osteochondral defect (OCD) talus
- Sinus tarsi
- Ligamentous ankle
- Interphalangeal joints
- Sesamoids



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Sample Injection Therapy Protocol

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1. Blood Draw
 - a. For smaller applications (e.g. foot, elbow, hand) draw 20 cc of blood from patient
 - i. Process blood in appropriate disposable to generate 3 ml of PRP
 - b. For larger applications (e.g. shoulder, knee) draw 60 cc of blood from patient
 - i. Process blood in appropriate disposable to generate 7 ml of PRP for unilateral application or 10 ml of PRP for bilateral applications
2. Using ultrasound guidance or other means (e.g. radiographic, palpation, etc.), locate the area of concern (e.g. partial tear of tendon, frayed area of ligament)
3. Prepare the area with Alcohol or betadyne
4. Anesthetize skin and subcutaneous tissue
 - a. Skin – Apply to surface
 - i. 1% Lidocaine spray to the skin or
 - ii. 1% solution of Xylocaine or
 - iii. Ethyl Chloride
 - b. Subcutaneous Tissue – Inject in and around treatment area
 - i. Inject either a 50:50 solution of 5% Marcaine:1% Lidocaine or 1% Xylocaine into the treatment area
 - ii. Approximately 1 ml is used for small areas and 4 ml for larger joints (e.g. knee, shoulder)
 - c. Road Test Patient
 - i. Mechanically isolate/assess area of pain
5. PRP Injection
 - a. Using ultrasound guidance or other means (e.g. radiographic, palpation, etc.), advance 25 G or larger needle into the injury site
 - i. A 22 G or larger needle is common for many larger injection volume applications
 - ii. Larger defects such as in the knee may benefit from the addition of collagen to the PRP being injected
 - b. Inject approximately 1 ml of PRP at each edge of tear, frayed ligament, injury site, etc
 - i. Approximately 1 cc of PRP per centimeter of affected tendon
 - ii. Joint space “to capacity”
 - c. Have patient rest for 15 minutes before getting up after the injection if light headed
 - d. Patient will experience some pain and soreness for 2-5 days after anesthesia wears off
6. Post Injection Care
 - a. Apply ice or compression to injection site as needed (or elevate the affected foot) for pain and/or swelling
 - i. 10-20 minutes to cool the skin, repeat every 2-3 hours
 - b. Take acetaminophen as instructed for pain for no more than the next 48 hours
 - i. Avoid other pain medications such as aspirin, Aleve, Motrin, and/or Ibuprophen during that time period
 - c. Minimize load/activity of injected area for 48 hours followed by pain guided activity
 - d. Begin physical therapy as prescribed, typically at 2 weeks depending on injection site
7. Outcome Measurement and Monitoring
 - a. Pain scores
 - i. Pain diagram
 - ii. Percentage improvement scores
 - b. Range of Motion
 - c. Ultrasound
 - d. Other radiographic solutions (e.g. MRI, x-ray, etc.)