

# Incessant Hip and Low Back Pain in a Division One Gymnast: A Successful Regenerative Medicine Approach

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## Case Description

- A 21-year-old healthy collegiate gymnast presented to our sports medicine clinic with a three-month history of recurrent left sided groin pain.
- Associated with clicking and low back pain worsened with extension movements which were rated at 5/10 on the visual analog pain scale.
- The pain improved with rest but worsened with tumbling and running.
- There was no specific injury reported by the patient. Athlete had a long history of athletic-associated hip and low back pain that worsened throughout the season.
- During her recent season, she failed ultrasound-guided lumbar intramuscular injection of platelet-rich plasma, modalities, medications, and physical therapy.
- MRI evaluation revealed:
  - Anterior hip labral tear.
  - L3-4 Interspinous ligament tear with facet synovitis.
- Patient underwent fluoroscopy-guided left hip and L3-4 interspinous ligament/facet leukocyte poor platelet-rich plasma injection.
- Followed by 4 weeks of physical therapy.
- Complete resolution of pain, returning to sport without issue.

## Imaging

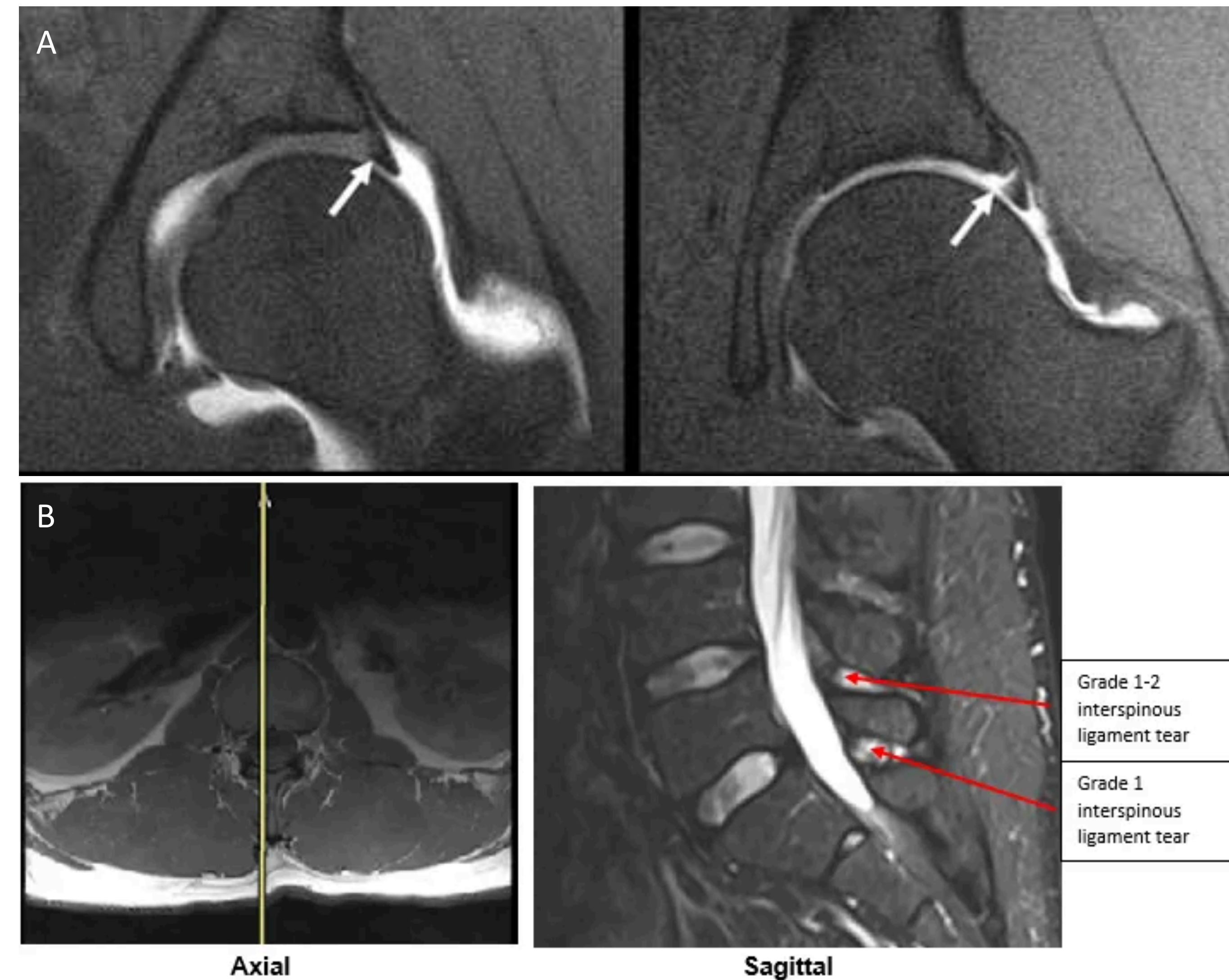
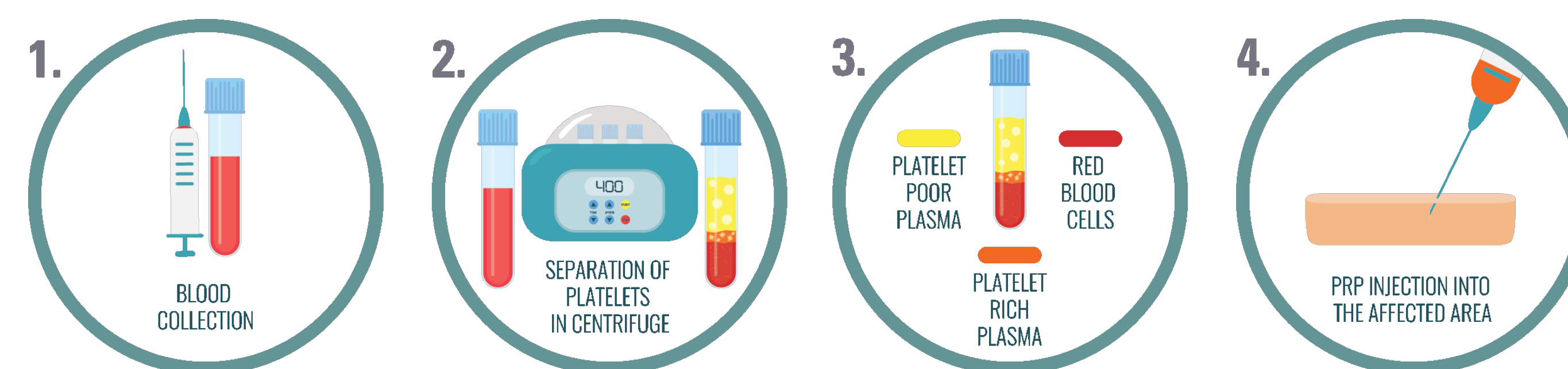


Figure A. is an MRI of a normal acetabular labrum (L) and torn labrum (R). Figure B. is a representation of a L4-5, L5-S1 interspinous ligament tear. The patient had a L3-4 interspinous ligament tear.

## Platelet Rich Plasma



## Fluoroscopy Guided Injection



## Case Diagnosis

- Left Hip labrum tear due to Femoracetabular Impingement Syndrome.
- Low back pain secondary to L3-4 Grade 2 Interspinous Ligament Tear and Facet Syndrome.

## Discussion

- There is increasing data that shows efficacy of platelet-rich plasma (PRP) for orthopedic and musculoskeletal complaints, especially knee osteoarthritis and lateral epicondylitis.
- However, emerging evidence of patient improvements in a myriad of conditions including tendinopathy, ligament tears, and other joints.
- In a pilot study on hip PRP injections for labral tears, De Luigi et al reported statistically significant functional and pain improvements.
- Additionally, in a 2018 systematic review showed PRP as potentially efficacious for long term hip pain relief and a 2017 prospective study deemed facet PRP to provide longer pain relief than corticosteroid injection.
- This study again highlights the utility of PRP in decreasing pain scores and time out of sport and increasing functionality. Utilizing PRP helps the body heal the injured area naturally, does not have a negative effect on surgical timing or outcome, and avoids the countless side effects of corticosteroid injections.

## Conclusion

Although more data is required in the regenerative medicine field for the exact dosage, usage, and efficacy of PRP, this case highlights that platelet-rich plasma is a reasonable and effective treatment for athletes with intraarticular-mediated pain from joints such as the facets and hip joint. This allows for the patient to utilize natural healing mechanisms, quickly return to play, and avoid any possible deleterious effects of corticosteroids.

## Acknowledgements

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- Diraçoğlu, D., Alptekin, K., Dikici, F., Balci, H. I., Özçakar, L., & Aksoy, C. (2009). Evaluation of Needle Positioning During Blind Intra-Articular Hip Injections for Osteoarthritis: Fluoroscopy Versus Arthrography. *Archives of Physical Medicine and Rehabilitation*, 90(12), 2112-2115. doi:10.1016/j.apmr.2009.08.137
- Heard, Z. (2019, September 03). MRI and Hip Labral Tear. Retrieved January 28, 2021, from <https://roberthowells.com.au/technology/mri-hip-labral-tear/>
- Platelet-Rich Plasma. (2019, February 28). Retrieved January 28, 2021, from <https://www.sos-ortho.com/services/prp/>

## Timeline

