Comparative Longevity and Efficacy of Autologous Platelet-Rich Plasma versus Corticosteroids for Sacroiliac Joint Dysfunction: Current Evidence

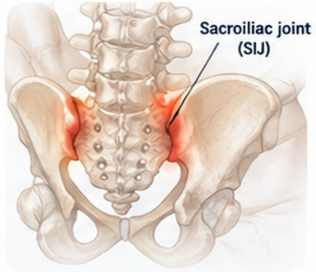
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"Making Waves" 25th Annual Pain Medicine Meeting
November 5-7, 2026 | Tampa, Florida

Introduction

• Sacroiliac joint (SIJ) pain is a common contributor to chronic low-back disability.

• Corticosteroids provide rapid anti-inflammatory analgesia, whereas platelet-rich plasma (PRP) may provide more durable symptom improvement.



Corticosteroids
- Rapid pain relief
- Anti-inflammatory
- Shorter duration

PRP
- Regenerative potential
- May provide longer lasting relief

Methods

• Recent randomized trials and systematic reviews comparing PRP with corticosteroid or steroid/anesthetic SIJ injections were evaluated.

• Focused on pain, disability, treatment durability and safety.

Randomized trials | Systematic reviews | Clinical practice guidelines | Outcomes: pain, disability, durability, safety

Results

1. Randomized Trial (2026)

Outcome	PRP (n = 20)	Steroid/Anesthetic (n = 20)	p-value
Mean pain reduction at 3 months (± SD)	−3.0 ± 3.2	−1.8 ± 2.4	0.24
≥50% pain reduction	60%	35%	0.11

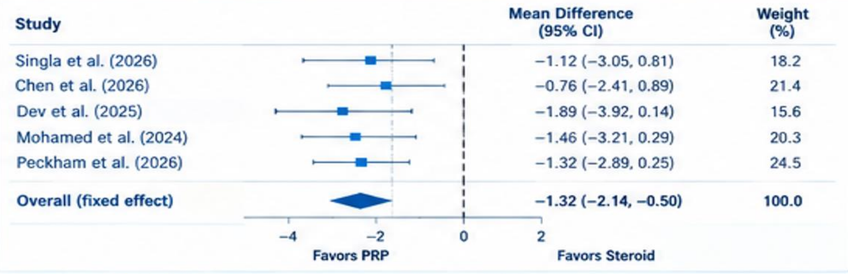
[1] Peckham et al., 2026

2. Meta-analysis (2026) – 10 RCTs (392 patients; 4 SIJ trials)

Time Point	Mean Difference (PRP – Steroid) (95% CI)	p-value
1 month	−0.35 (−1.30 to 0.60)	0.47
3 months	−1.32 (−2.14 to −0.50)	0.0015
6 months	−1.70 (−3.10 to −0.30)	0.017

[2] Alatefi et al., 2026

Forest Plot – Pain Reduction at 3 Months (PRP vs. Steroid)



Summary of Included Studies

Study (Year)	Design	Patients (n)	SIJ-specific	Key Finding
Singla et al. (2026)	RCT	44 (40 FU)	Yes	No significant difference at 3 months
Chen et al. (2026)	RCT	68	Yes	PRP favored at 3 and 6 months
Dev et al. (2025)	Observational	72	Yes	Limited evidence
Mohamed et al. (2024)	Observational	84	Yes	No clear superiority
Peckham et al. (2026)	RCT	40	Yes	No significant difference at 3 months

Discussion

• Possible temporal treatment pattern:
  – Corticosteroids may provide faster early analgesia.
  – PRP may provide greater medium-term pain reduction.

• Newest meta-analysis supports this hypothesis, with statistically significant PRP advantages at 3 and 6 months [2].

• Pooled evidence combines facet and SIJ patient groups and heterogeneity was substantial.
• Newest SIJ-specific RCT did not demonstrate a statistically significant difference at 3 months [1].

• Differences in PRP formulation, platelet concentration, leukocyte content and image guidance may explain inconsistent findings [1–4].
• PRP should currently be considered promising rather than definitively superior.

Conclusion

PRP appears promising for medium- and longer-term pain reduction, while corticosteroids may provide faster early relief.
Current evidence remains heterogeneous and insufficient to establish definitive PRP superiority.

References

1. Peckham ME, McCormick ZL, Safazadeh G, et al. Comparison of CT-guided platelet-rich plasma versus steroid/anesthetic injection for treatment of SIJ pain: a randomized, single-blinded, controlled trial. AJNR. 2026. doi:10.3174/ajnr.A9307.

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4. Goodwin B, Averell N, Al-Shehab U, et al. Efficacy of PRP for SIJ dysfunction: a qualitative systematic review with pooled analysis. Regen Med. 2023;18(6):505-514.

5. De Salvatore S, Russo F, Vadalà G, et al. Interventional treatments for low back pain due to SIJ dysfunction: a systematic review. Eur Spine J. 2024;33(4):1407-1423.