ISAKOS CONGRESS 2025 | MUNICH GERMANY June 8–11

ASSOCIATION BETWEEN MEDIAL COLLATERAL LIGAMENT INJURY, POSTERIOR MEDIAL MENISCAL ROOT INJURY, AND MEDIAL MENISCAL EXTRUSION

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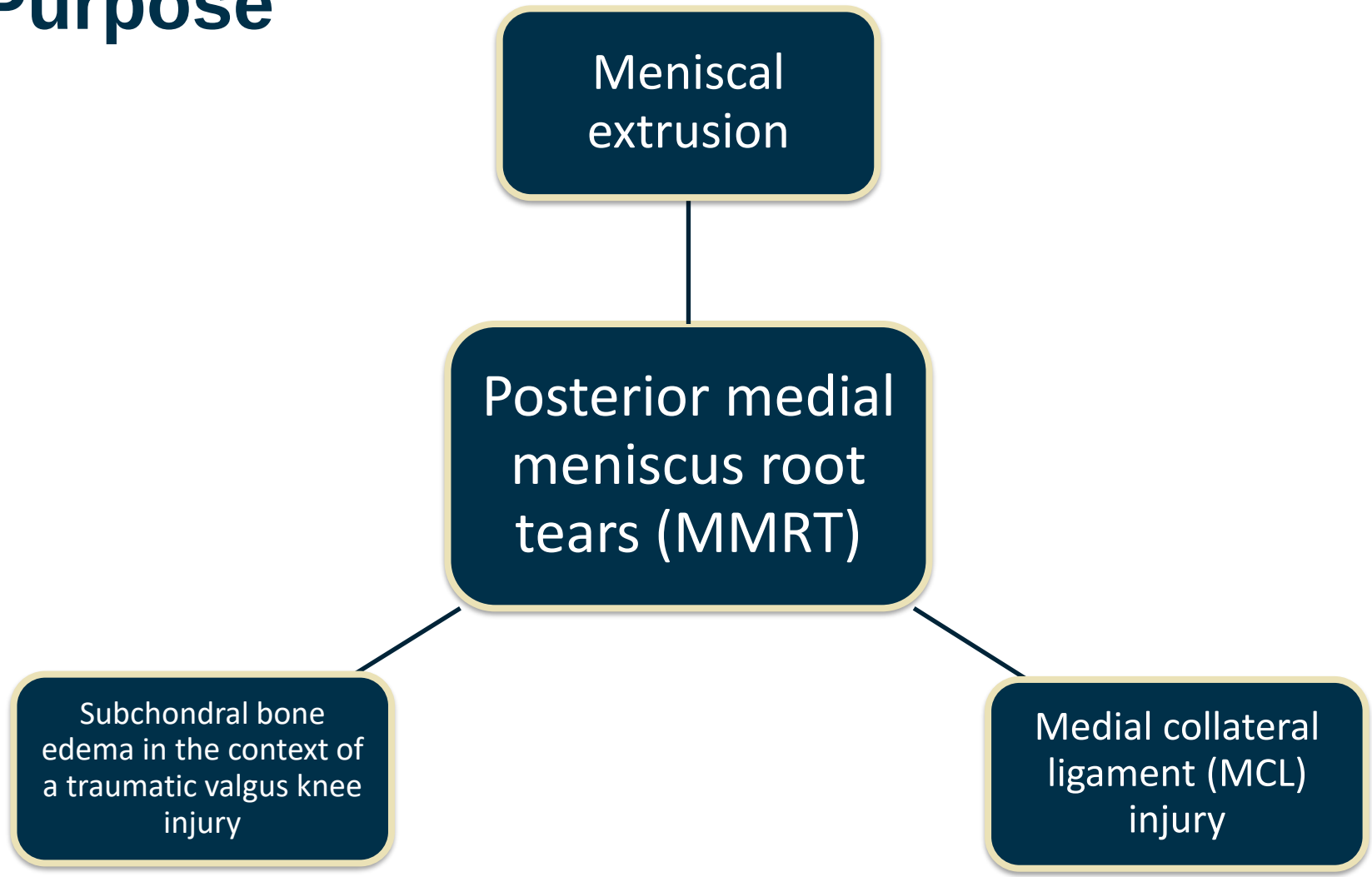
BRAZIL

Faculty disclosure

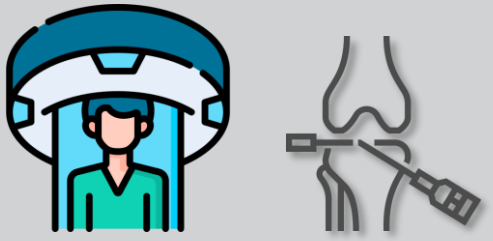
- Nothing to Disclose

Purpose


Meniscal extrusion
Posterior medial meniscus root tears (MMRT)
Subchondral bone edema in the context of a traumatic valgus knee injury
Medial collateral ligament (MCL) injury

Methods

55 patients with acute valgus knee trauma



Posterior MMRT (partial or complete) confirmed by MRI and arthroscopy

Comparasion groups

1. With vs. without meniscal extrusion
2. With vs. without MCL injury
3. Presence vs. absence of bone edema

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Results

- Greater meniscal extrusion in patients with complete MMRT (C-MMRT) compared to partial (P-MMRT) (p = 0.008)
- MCL injury associated with:
  - Increased meniscal extrusion (p = 0.042)
  - Higher incidence of bone bruising (p = 0.012)
- No significant difference in extrusion between patients with vs. without bone edema, but:
  - Edema more common in patients with P-MMRT + MCL injury

Conclusions

C-MMRT leads to more extrusion than P-MMRT

MCL injuries intensify extrusion in patients with MMRT

Bone edema alone does not influence extrusion but is more prevalent in **combined P-MMRT + MCL injuries**

References

1. Choi JY, Chang EY, Cunha GM, Tafur M, Statum S, Chung CB. Posterior medial meniscus root ligament lesions: MRI classification and associated findings. AJR Am J Roentgenol. 2014;203(6):1286–92.
2. Fithian DC, Kelly MA, Mow VC. Material properties and structure-function relationships in the menisci. Clin Orthop Relat Res. 1990;252:19–31.
3. Farivar D, Hevesi M, Fortier LM, Azua E, LaPrade RF, Chahla J. Meniscal Extrusion Measurements After Posterior Medial Meniscus Root Tears: A Systematic Review and Meta-analysis. Am J Sports Med. 2023 Oct;51(12):3325-3334. doi: 10.1177/03635465221131005. Epub 2022 Dec 21. PMID: 36541434.
4. Karpinski K, Forkel P, Häner M, Bierke S, Petersen W. Etiology of posterior meniscus root tears: medial vs. lateral. Arch Orthop Trauma Surg. 2023 Jan;143(1):429-437. doi: 10.1007/s00402-022-04347-y. Epub 2022 Jan 25. PMID: 35076768.
5. Jones AO, Houang MT, Low RS, Wood DG. Medial meniscus posterior root attachment injury and degeneration: MRI findings. Australas Radiol. 2006 Aug;50(4):306-13. doi: 10.1111/j.1440-1673.2006.01586.x. PMID: 16884414.