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MEDICINE

Department of Orthopaedic Surgery

# Comparing Posteromedial and Centrolateral Talar Dome ROC in Young Athletes

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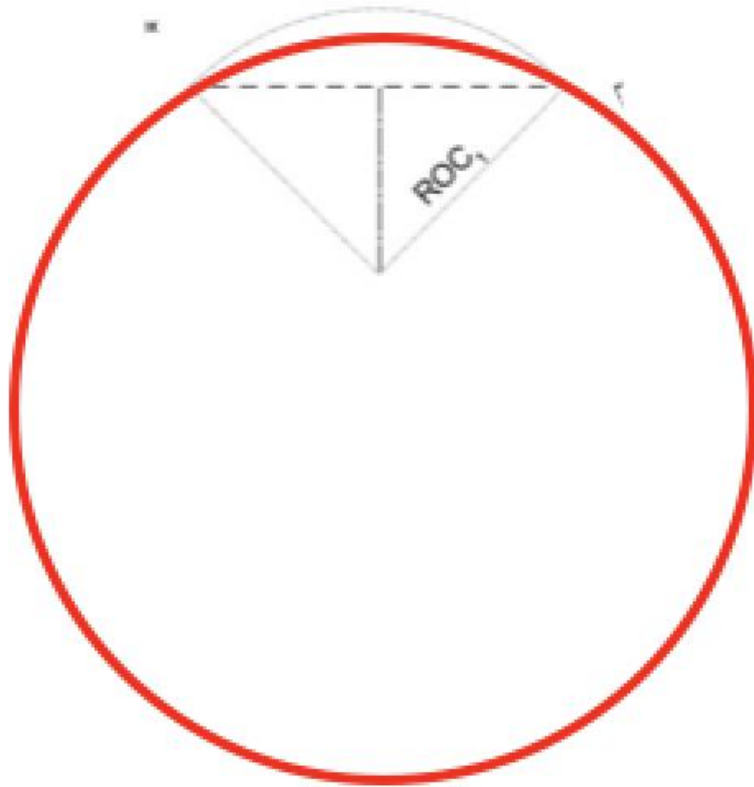
# Disclosures

- Neither I (nor my coauthors) have anything to disclose

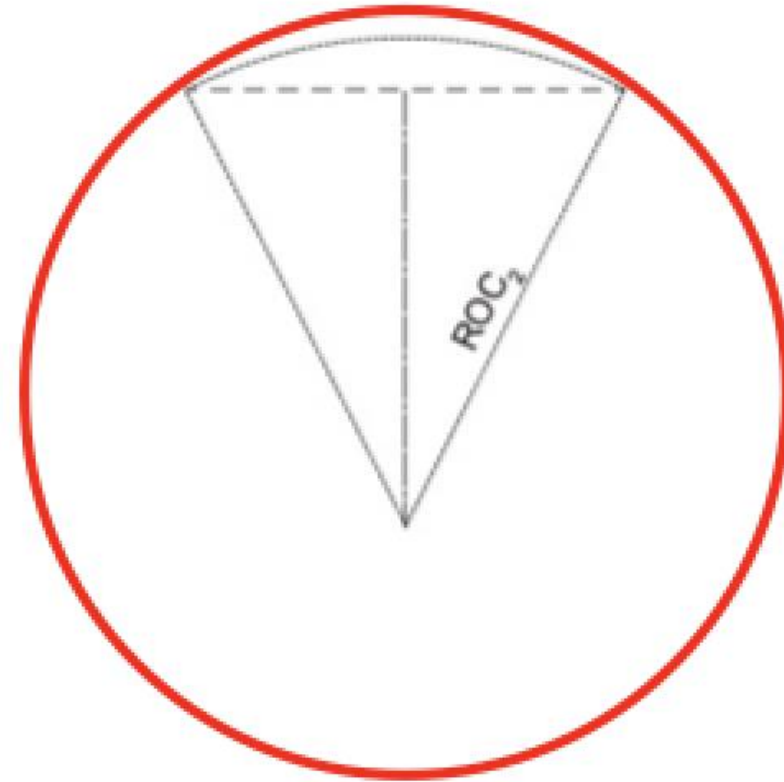
# Purpose/Hypothesis

- Osteochondritis dissecans (OCD) lesions of the talus often occur in young athletes following ankle trauma
- Common locations for lesions are **posteromedial** (26-30%) and **centrolateral** (20-25%)<sup>1-5</sup>
- Osteochondral allograft is used as a treatment for larger/advanced OCD lesions
- Important to get a good allograft ROC to minimize articular step-off of the repair
- **RESEARCH QUESTION: Does the ROC at the PM vs CL location differ significantly?**

# Importance of ROC Matching



ROC too small = Protrusion

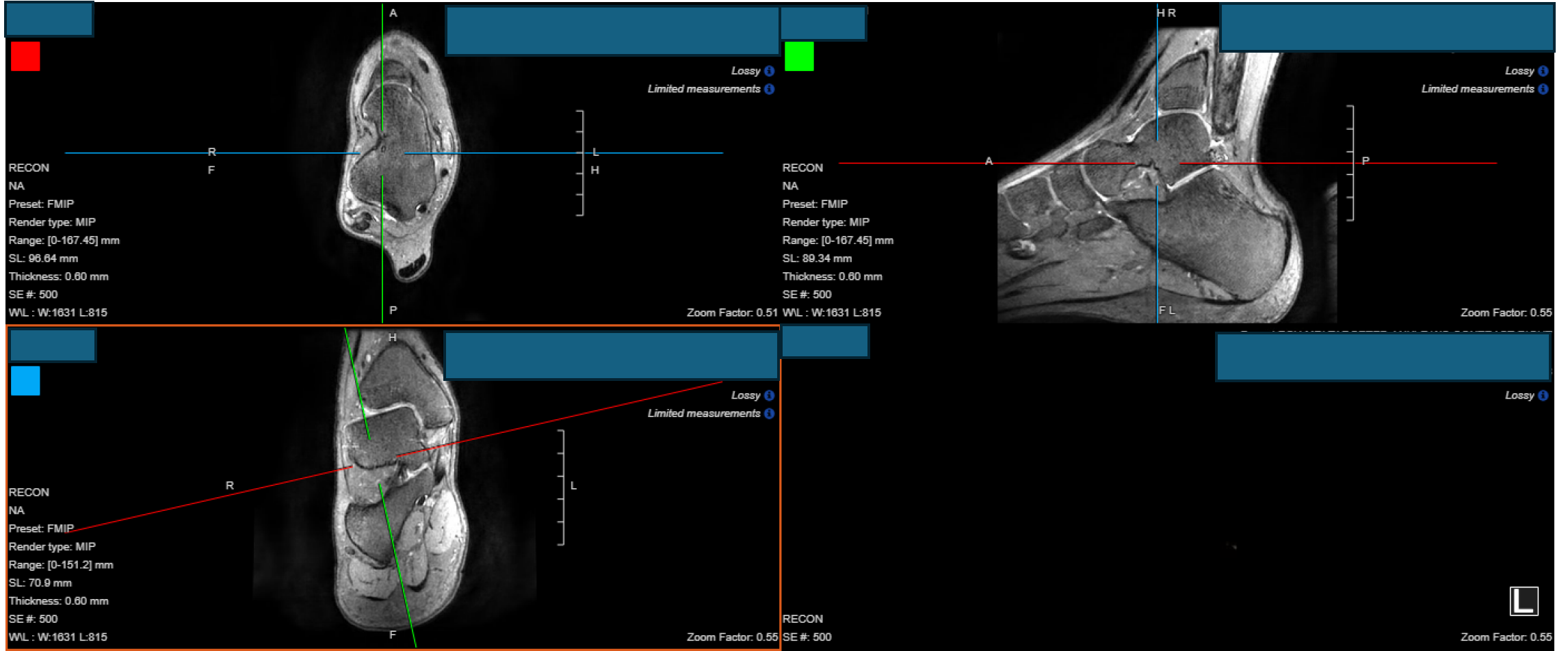


ROC too big = Flattening

# Materials and Methods

- 30 Ankle MRI studies from 29 patients (age 9-17)
- 3 reviewers
- Sectra imaging software (Linköping, Sweden)
- Measured Talar ROCs in the **sagittal plane** at both centrolateral and posteromedial locations
- Paired two-tailed t-tests for statistical analysis
- Inter- and intra-observer reliability assessed with ICC R package and Fisher's Test

# Materials and Methods



## Measuring Centrolateral Location

# Materials and Methods



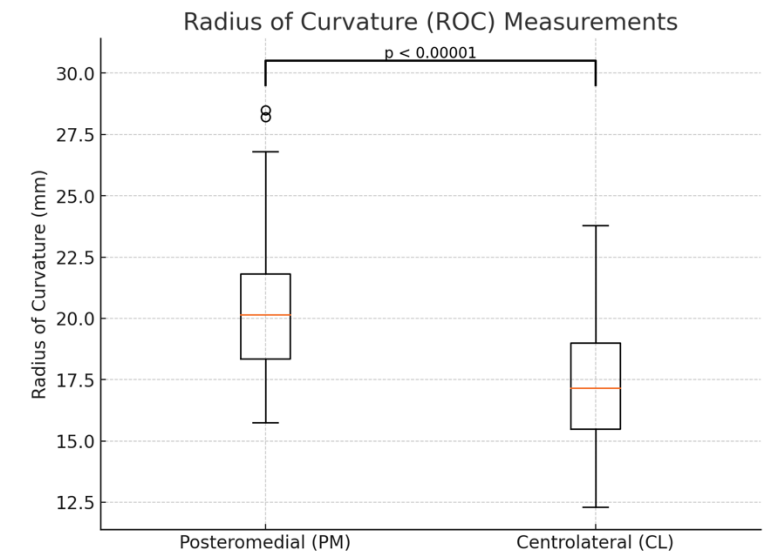
**Centrolateral ROC**



**Posteromedial ROC**

# Results

- Interobserver reliability coefficients  $>0.8$  for PM location
- Interobserver reliability coefficients  $>0.6$  for CL location
- Intraobserver reliability coefficients  $>0.8$  for PM location
- Intraobserver reliability coefficients  $>0.6$  for CL location
- **Mean ROC measurements significantly differed**
  - *20.6mm at posteromedial location (SD = 2.8)*
  - *17.2mm at centrolateral location (SD = 2.3)*
  - *$p < 0.001$*



# Conclusion

- **ROC at the posteromedial and centrolateral locations of the talar dome differ significantly**
- Consideration for selecting harvesting locations for reconstruction of full-thickness defects
- Our other studies have shown articular length shows superior correlation to PM and CL ROC of the talus with age; articular width also shows correlation
- Further studies can investigate femoral ROC on the condylar surface to find optimal donor sites based on the location of the talar OCD lesion
- **May optimize treatment and support better acute and long-term outcomes**

# References

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