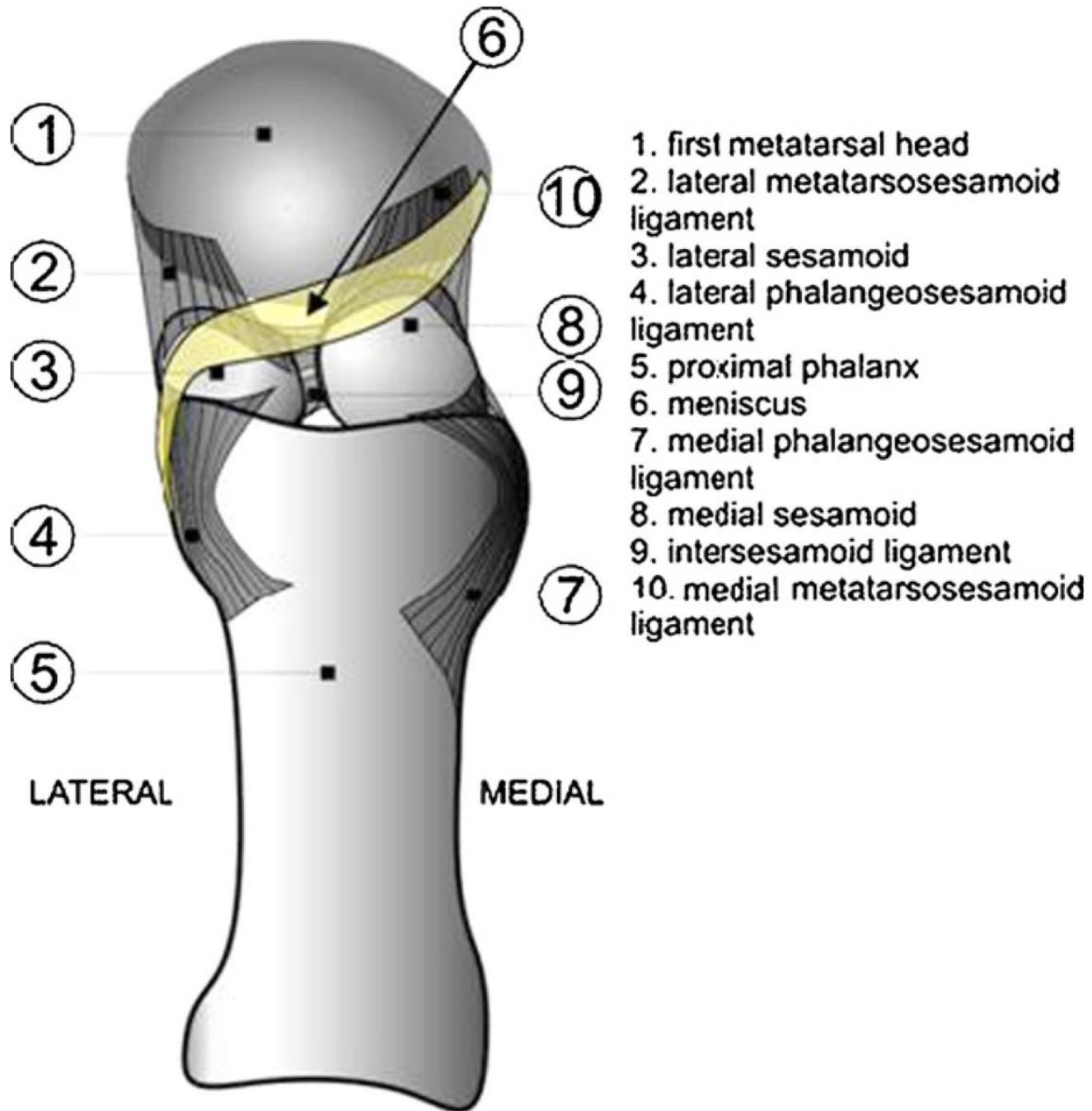


Dereymaeker G., Mulier T., Girisch P. **The first metatarsophalangeal joint meniscus and its relation to hallux valgus deformity--an anatomical and clinical study.** Foot Ankle Surg. 2011 Dec;17(4):270-3.

- Described the anatomy and incidence of the **first metatarsophalangeal joint meniscus**
- Seen in about 50% of patients during bunion surgery



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- Anatomical cadaver study on 102 feet:
 - in cadavers the meniscus was more common in patients with hallux valgus
- Clinical prospective study on 100 consecutive hallux valgus surgeries:
 - in patients with a mild hallux valgus the meniscus was found in more than half of cases during surgery, while it was seldom found in patients with moderate or severe deformities

Cadaveric study – results:

- meniscus present in 21% of the 102 specimens
- mainly collagen with a chondroid matrix and fibrocartilage
- 21 (10 bilateral) feet with hallux valgus:
 - 7 (33%) had a meniscus
 - 14 (66%) did not have a meniscus
- 81 cadaveric feet without hallux valgus:
 - 14 (17%) had a meniscus
- The incidence of the meniscus of the two groups **was not significantly different**

Clinical study – results:

- overall incidence of a meniscus in the MTP joint was 47%
-
- extended from the medial capsule and medial collateral ligament

Clinical study:

- Hallux valgus:
 - mild (HV angle less than 32)
 - moderate (HV angle 32–35)
 - severe bunion (HV angle more than 35) deformity

Incidence of meniscus in first MTP joint during surgery (N=100).

| | All patients (N=100) | Mild hallux valgus (N=63) | Moderate/severe hallux valgus (N=37) |
|--------------------|----------------------|---------------------------|--|
| Treatment method | All surgeries | Chevron procedure | Scarf procedure, MTP arthrodesis or prosthesis |
| Incidence meniscus | 47% | 59% | 27% (P=0.001) |

Conclusions:

- Presence of meniscus stabilizes the MTP joint preventing progression of the hallux valgus deformity and may explain the pain, which is often seen in mild bunions in younger patients
- Once the rotational deformity increases the meniscus tears and slips into the joint.
- In the more advanced hallux valgus deformity this meniscus plays little function and seems to disappear, leading to arthrosis.

Conclusions:

- Meniscus supplements the stability of the first MTP joint especially at the plantar medial side
- When ruptured it may play an important role in inducing and the progressivity of the hallux valgus deformity, due to the lack of medial and plantar support

References

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2. Dereymaeker G., Mulier T., Girisch P. **The first metatarsophalangeal joint meniscus and its relation to hallux valgus deformity--an anatomical and clinical study.** Foot Ankle Surg. 2011 Dec;17(4):270-3.