Measuring Visualized Tendon Length in Peroneal Tendoscopy

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- NO CONFLICT TO DISCLOSE
- Our disclosures are in the Final AOFAS Mobile App
- There are no potential conflicts with this presentation
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**BACKGROUND**

- Peroneal tendoscopy increase since 1990s
- Used to treat a variety of conditions
  - tenosynovitis
  - Adhesions
  - tendon subluxation
  - Low lying muscle of Peroneus Brevis
  - Prominent peroneal tuburcle
  - Peroneus Tertius
  - Diagnosis of peroneal tendon tear
- Many studies showing that the tendons can be seen
- No studies quantifying how much of the tendon can be visualized.
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• GOAL
  • Determine the length of the peroneal tendons that can be visualized circumferentially with tendoscopy
  • Measure distances to palpable landmarks useful in tendoscopy
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- METHODS
- 10 fresh cadaveric specimens, Right through-knee or above
- Excluded prior surgery (scars) anywhere on specimen
- Arthroscopy portals
- Saline insufflation to 50 cm H2O
- Mark edge of visualized tendon with percutaneous K-Wire.
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**METHODS**
- Open the peroneal sheath
- Measure distances to nearest millimeter
  - musculotendinous junction to proximal marks
  - Musculotendinous junction to distal tip of fibula
  - distal tip of fibula to tendon bifurcation
  - Distal mark to tendon insertion on bone
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- **RESULTS (95% CI)**
  - Peroneus Longus Musculotendinous junction averages 81 mm above tip of lateral malleolus
  - Peroneus Brevis musculotendinous junction averages 1.8 mm above tip of lateral malleolus
  - Fibrous bifurcation of tendon sheaths occurred 16 mm distal to tip of lateral malleolus
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- **RESULTS (95% CI)**
- Peroneus brevis visualized from 8 cm above the lateral malleolus to within average 20 mm from its insertion onto bone, 5th MT base
- Peroneus longus visualized from musculotendinous junction to within average 9.7 mm from its insertion onto bone, 1st MT base
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- **RESULTS** (95% CI)
  - Peroneus longus zone 3 tendoscopy:
    - The first 5 specimens utilized a portal just distal to the peroneal tuburcle, yielding visualization to within 17 mm of insertion
    - The subsequent 5 specimens utilized a mini-open incision of 1.5 cm in length neighboring the cuboid, yielding visualization to within 1.6 mm of insertion
CONCLUSIONS

Peroneal Tendoscopy visualizes within 1.6 mm of longus insertion and 20 mm of brevis insertion.

It is a useful tool to evaluate nearly the entire length of the peroneal tendons.

In Longus Zone 3: A more distal portal yields improved visualization.

The Brevis muscle belly extends to within 1.8 mm of the lateral malleolar tip, with many specimens extending beyond the tip. This correlates with a high rate of low-lying brevis muscle belly found in clinical series.
### REFERENCES