VAriaTioN iN SiZe AND LoCAtioN oF THE ECRB TENDoN MEASURED WITH ULTRASOUND. iS BiNd iNjeCTioN oF LATERAL EPiCONDyLiTiS STiLL JUSTiFiED?

AUTHORS
R. Keijsers¹
J.L. Turkenburg²
A. Beumer¹
D. Eygendaal¹

¹ Department of Orthopaedic Surgery, Upper limb unit, Amphia Hospital, Breda
² Department of Radiology, Amphia Hospital, Breda

INTRODUCTION
In Lateral Epicondylitis (LE), or Tennis Elbow, the Extensor Carpi Radialis Brevis (ECRB) tendon is affected in most cases. In the treatment of LE, injection therapy is frequently used; usually performed manually, without ultrasound (US) guidance. For adequate treatment the injection should be aimed at the location of the ECRB tendon.

What is the variation in location and size of the ECRB tendon?

METHODS
Observational US study of the ECRB tendon was performed in 40 patients with LE

Measurements:
- Length of the ECRB tendon (M1)
- Distance from cutis to the center of the ECRB tendon (M2)
- Length of the osteotendinous junction on the epicondyle (M3)
- Distance from cutis to middle of the osteotendinous junction (M4)

RESULTS
Average measurements:

- \( M1 \) tendon length 1.68 cm (range 1.27-1.98) SD 0.177, with a male-female difference of 0.12 cm (p=0.03).
- \( M2 \) depth 0.75 cm (range 0.50-1.46) SD 0.210.
- \( M3 \) length junction 0.55 cm (range 0.35-0.87) SD 0.130.
- \( M4 \) depth 0.73 cm (range 0.40-1.25) SD 0.210.

CONCLUSION
The variation in size and location of the ECRB is large, partially explained by the variation in thickness of the overlying soft tissues and the variation in osseous anatomy.

Consequently, manual injections performed blindly for the treatment of LE do not seem an appropriate technique; US depth determination or US guidance during injection is recommended. For adequate perfusion, the depth of perforations needs to vary, according to the slope of the lateral epicondyle.

REFERENCES