Reliability of foot assessments and the relation to gait lab measurements

Foot assessments performed by foot experts are often based on the personal preferences and experiences of the expert. In order to contribute to the transition from an experience-based practice to an evidence-based practice, we performed a study to objectify the foot assessments.

**WHICH SUBJECTS PARTICIPATED**

- 37 subjects without foot deformities
- All 9 experts assessed all 77 subjects

**MEASUREMENT EQUIPMENT**

- 304 quantitative features
- Dynamic 3D scanner
- Force plate
- Pressure plate
- 3D marker registration

**AGREEMENT AMONG EXPERTS**

- 16 characteristics with good agreement
- 31 characteristics with multiple choice questions on all subjects
- 9 characteristics with bad agreement
- Slight agreement or not enough information available

**AGREEMENT PER SUBJECT: 4 CASES IN ASSESSING LONGITUDINAL ARCH**

ONE EXAMPLE CHARACTERISTIC Agreement in height of longitudinal arch seems more difficult when RCSP in valgus and midfoot pressure is cavus (orange ellips in graph)

**Navicular height (static half weight)**
- Low arch: 32.2 mm
- Normal: 37.6 mm
- High arch: 46.4 mm

**Midfoot area**
- Low arch: 24.2 cm²
- Normal: 17.3 cm²
- High arch: 12.6 cm²