

FOOT ASSESSMENT

Reliability and usage of clinical parameters

Several methods and protocols are being used in clinical practice to analyze feet. Not only does the selection of the method mainly depend on the experience of the clinician, the terminology can also

differ. We asked ten experts to assess the feet of a single group of healthy subjects and performed a statistical analysis.

WHICH EXPERTS PARTICIPATED



*CPO: certified prosthetist/orthotist

WHICH SUBJECTS PARTICIPATED



19y

61y

mean
33y



subjects without foot deformities



all experts assessed all subjects

WHICH FOOT CHARACTERISTICS



21 static characteristics
e.g. Longitudinal arch height



13 mobility characteristics
e.g. Range of motion (ROM) MTP1



26 dynamic characteristics
e.g. Rear foot, initial contact (varus/valgus)



multiple choice questions
e.g. yes/no, varus/normal/valgus

WHICH CHARACTERISTICS ARE RELIABLE

3 criteria



diversity



popularity

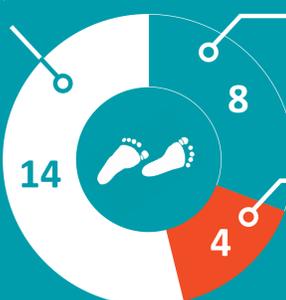
K

kappa-statistics

max 73.33% same answer
(3 options)
max 80.00% same answer
(2 options)

≥ 4 of 10 experts scores
this characteristic

forward speed
of COP line



supination/pronation
midfoot (midstance)

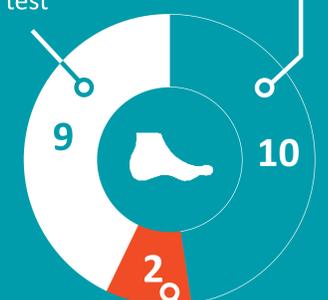
pivoting around fore
foot (propulsion)

ROM 5th ray

heels move in lateral direction
when standing on toes (yes/no)



Jacks test



longitudinal
arch height

forefoot vs. hindfoot
(inverted/everted)

unreliable ■
(moderately/very) reliable ■
unknown (not popular/diverse) ■

DISCUSSION It is hard to make a strict separation between reliable and unreliable characteristics. We need to be careful when we state that a characteristic is unreliable as this may be due to a lack of a specific foot type in the dataset. We tried to solve this by introducing the diversity and popularity as additional criteria.

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