

Appendix 1: FOOTWEAR ASSESSMENT TOOL

1. FIT

Foot length

Thumb width

Fit of shoe (length) – rule of thumb (wearer’s thumb)

Palpation: good too short (< ½ thumb) too long (> 1 ½)
 Straw = good too short (< ½ thumb) too long (> 1 ½)

Fit of shoe (width) – grasp test

good
 good

too narrow
 too shallow

too wide

Fit of shoe (depth)

2. GENERAL

Age of shoe

0 – 6 months

6 – 12 months

> 12 months

Footwear style

walking shoe
 boot
 slipper
 sandal

athletic shoe
 ugg-boot
 backless slipper
 surgical/bespoke

oxford shoe
 high heel
 court shoe
 other (specify)

moccasin
 Thong/flip-flop
 mule

Materials (upper)

leather
 rubber

synthetic
 plastic

mesh
 leather

other
 other

Materials (outsole)

Weight

Length

Weight/length

3. GENERAL STRUCTURE

Heel height =

0 – 2.5 cm

2.6 – 5.0 cm

> 5.0 cm

Forefoot height (measured at point of the 1st and MTPJs) =

0 – 0.9 cm

1.0 – 2.0 cm

> 2.0 cm

Longitudinal profile (heel – forefoot difference) =

flat (0 – 0.9 cm)

small heel rise (1 – 3 cm)

large heel rise (> 3 cm)

Last (centre goniometer at 50% shoe length) =

straight (< 5°)

semi-curved (5 – 15°)

curved (> 15°)

Fixation of upper to sole

board

combination

slip-lasted

Forefoot sole flexion point

at level of MTPJs

proximal to 1st MTPJ

distal to 1st MTPJ

4. MOTION CONTROL PROPERTIES

Density single dual

Fixation none laces straps/buckles Velcro zips
Number of eyelets

Heel counter stiffness (20mm above bottom or upper)

no heel counter minimal (> 45°) moderate (< 45°) rigid (0-10°)

Midfoot sole sagittal stability

minimal (> 45°) moderate (< 45°) rigid (0-10°)

Midfoot sole frontal stability (torsional)

minimal (> 45°) moderate (< 45°) rigid (0-10°)

5. CUSHIONING

Presence none heel heel/forefoot

Lateral Midsole hardness

Durometer readings

soft	firm	hard	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
1 st	2 nd	3 rd	mean <input type="text"/>

Medial Midsole hardness

Durometer readings

soft	firm	hard	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
1 st	2 nd	3 rd	mean <input type="text"/>

Heel sole hardness (centre of inside heel shoe interface)

Durometer readings

soft	firm	hard	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
1 st	2 nd	3 rd	mean <input type="text"/>

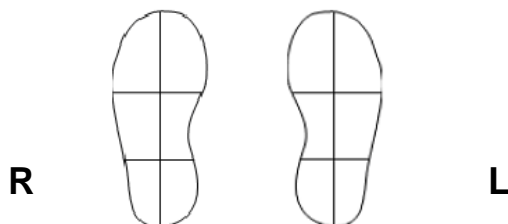
6. WEAR PATTERNS

Upper medial tilt (> 10°) neutral lateral tilt (> 10°)

Midsole medial compression signs neutral lateral compression signs

Tread pattern A B textured smooth (i.e. no pattern) not worn partly worn fully worn

Outsole wear pattern none normal lateral medial



Development and evaluation of a tool for the assessment of footwear characteristics

Christian J. Barton, Daniel Bonanno, Hylton B. Menz



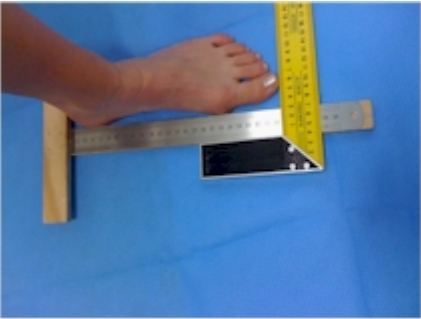
Palpation of footwear length



Straw method of measuring footwear length (A)



Straw method of measuring footwear length (B)



Custom-built Brannock-style device



Measurement of thumb width



Measurement of footwear width



Measurement of footwear weight



Measurement of footwear length using custom built Brannock-style device



Measurement of heel height



Measurement of forefoot height



Measurement of last shape



Measurement of sole flexion point



Measurement of heel counter stiffness



Measurement of midfoot sole sagittal stability



Measurement of midfoot sole torsional stability



Subjective measurement of lateral midsole hardness



Measurement of lateral midsole hardness using a penetrometer



Subjective measurement of heel sole hardness

Walking shoe



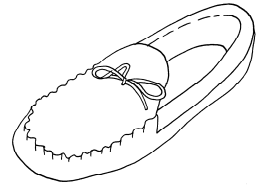
**Athletic shoe /
Runner**



Oxford shoe



Moccassin



Boot



Ugg boot



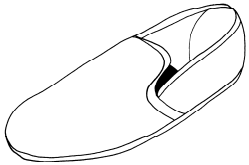
**High heel /
Stiletto**



Thong / Flip flop



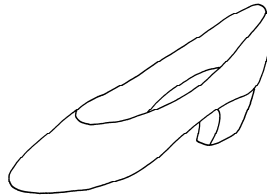
Slipper



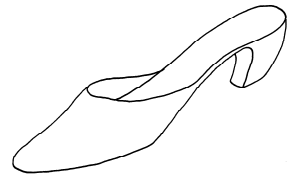
Backless slipper



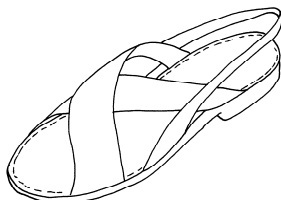
Court shoe



Mule



Sandal



**Surgical /
Bespoke
footwear**



MOTION CONTROL PROPERTIES SCALE

Item	Score			
	0	1	2	3
Midsole density layers	Single density		Dual density	
Fixation (upper to foot)	None	Alternative to laces (e.g. strap, Velcro, zip, etc.)		Laces (at least 3 eyelets)
Heel counter stiffness	No heel counter	Minimal	Moderate	Rigid
Midfoot sagittal stability	Minimal	Moderate	Rigid	
Midfoot torsional stability	Minimal	Moderate	Rigid	