

# Foot Health among Older People

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# The Ageing Foot

- **Physiological changes (skin atrophy, decreased sensation, flexibility, strength)**
- **Lack of basic hygiene (toe-nail cutting...)**
- **Ill-fitting shoes**



# Prevalence of Foot Problems in Older People

- **30% to 87 % of people (65+) have at least 1 foot problem** *(Barr et al., 2005 ; Menz et al., 2001)*
- **Less than 1/2 of older people consider foot problems to be medical conditions** *(Munro and Steele., 1998)*
- **Risk-factors: Age and Gender** *(Plummer & Albert., 1996; Black et al., 1987)*

# Most Reported Problems

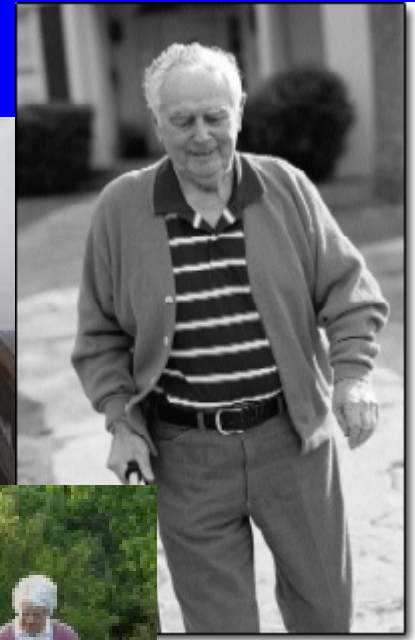
- **135 older people aged 75+**  
*(Menz et al., 2001)*
  - **Hallux Valgus (bunion) - 74%**
  - **Other toes deformity - 49%**
  - **Calluses - 31%**
  - **Corns on toes -14%**
  - **Nail disorders**
  - **Foot infections**



# Impaired Functional Ability

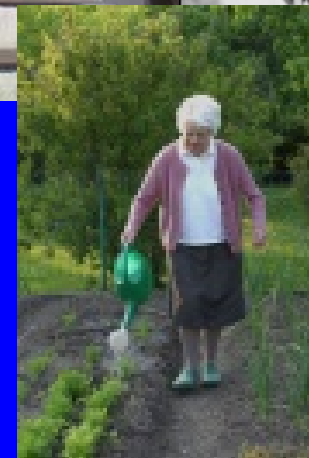
- **Slower, when tested, in:**

- Climbing stairs
- Walking 6m
- **Stepping** *(Menz et al., 2001a)*



- **Self-reported difficulty in:**

- Climbing stairs
- Walking 1km
- **Daily-living activities (gardening, shopping, housework)** *(Barr et al., 2005)*

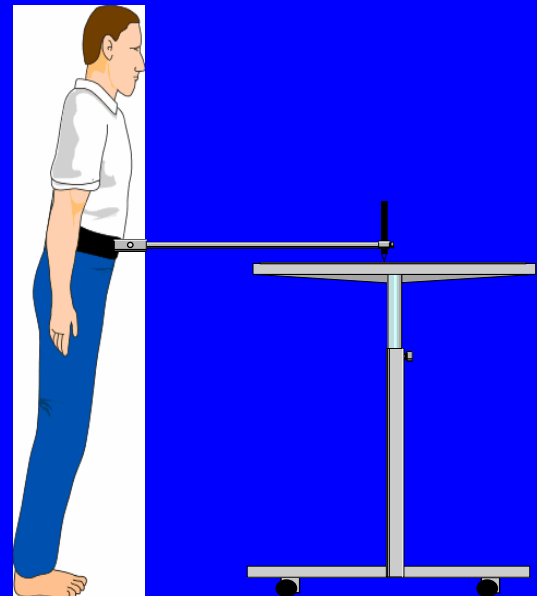
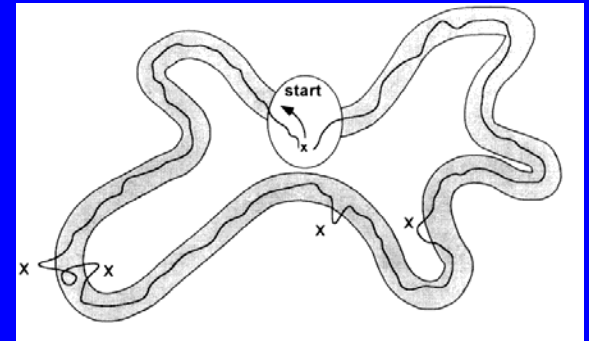


# Foot Problems and Foot Pain

- **135 community-dwelling people 75 +** (Menz et al., 2001b)
- **Only 20% out of the 87% of older people diagnosed with foot problems reported pain**
- **Greatest contributor to impaired performance in tests of balance and functional ability**

# Foot Problems, Balance & Falls

- **Impaired dynamic balance**  
*(Menz et al., 2005)*
- **Impaired stability when walking on uneven surfaces, in older people with bunions**  
*(Menz et al., 2005)*
- **2 falls or more in past year - more foot problems than if 1 or no falls**  
*(Menz et al., 2001a)*





# Footwear and Falls

- **Walking indoors barefoot or in nylon socks = greater risk of falling** (*Koepsell et al., 2005; Menz et al., In Press*)
- **Problem: More than 1/4 older people go around the house without shoes** (*Munro & Steele., 1999*)
- **Slippers with no fixation = greater risk of trips** (*Sherrington et al., 2003*)

# Footwear and Balance

- **High-heels**

- **Impair standing balance in older women**

*(Lord and Bashford, 1996)*

- **Slower 10m walk in older people**

*(Arnadottir et al., 2003)*

- **Shoes with thick soft soles**

- **Impair standing balance and ability to walk on a beam in older men**

*(Robbins et al., 1992.,1998;)*

# Footwear and Balance

- **Boots**
  - **Less standing body sway and better dynamic balance in 42 older people**  
*(Lord et al., 1999)*
- **Slip-resistant sole**
  - **Oxford-type shoe with textured sole most slip-resistant on wet surface ≠ women dress shoes** *(Menz et al., 2001c)*

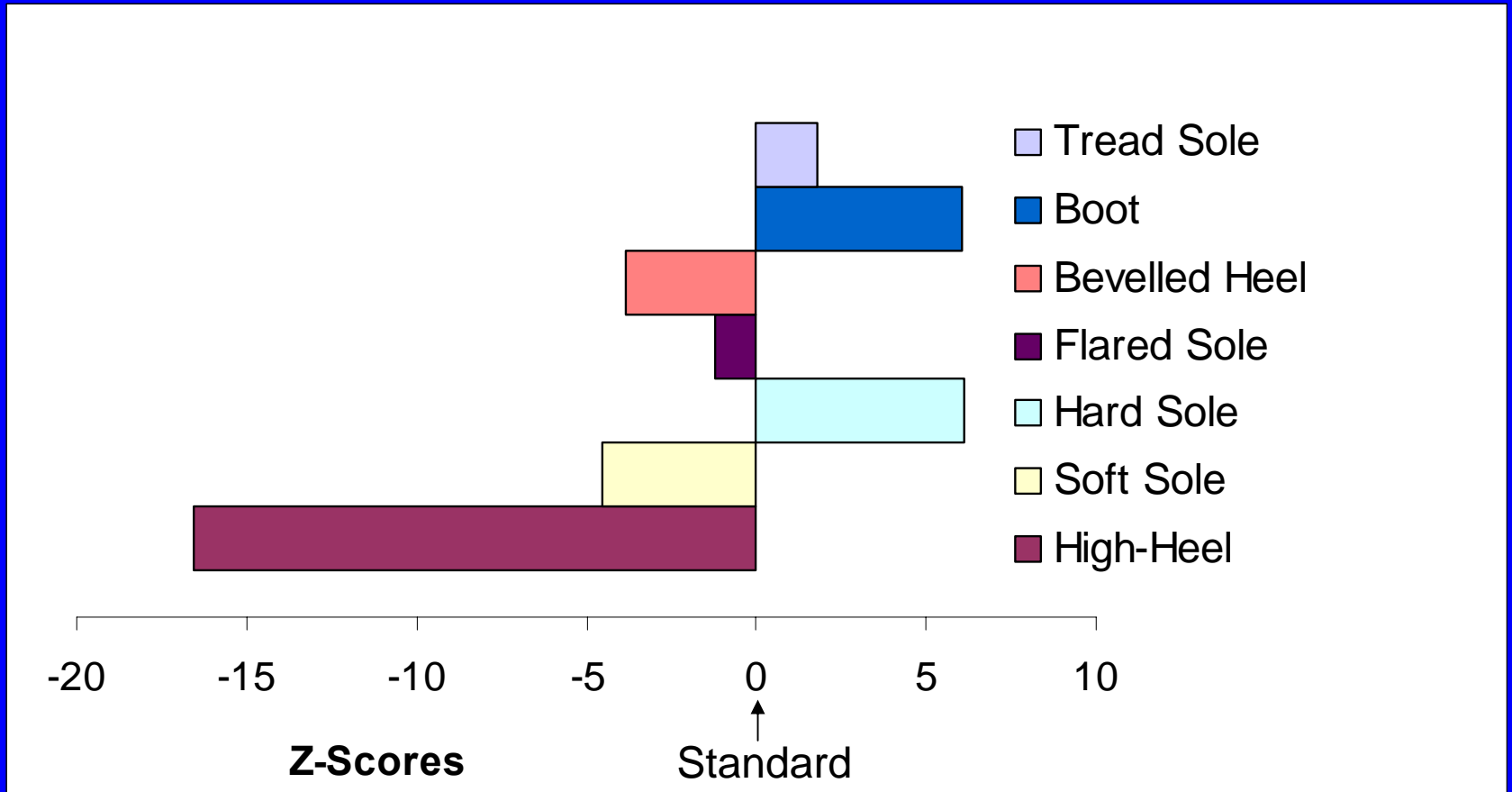
# Footwear and Balance



- 30 community-dwelling people aged 70 +
- 4 tests of balance

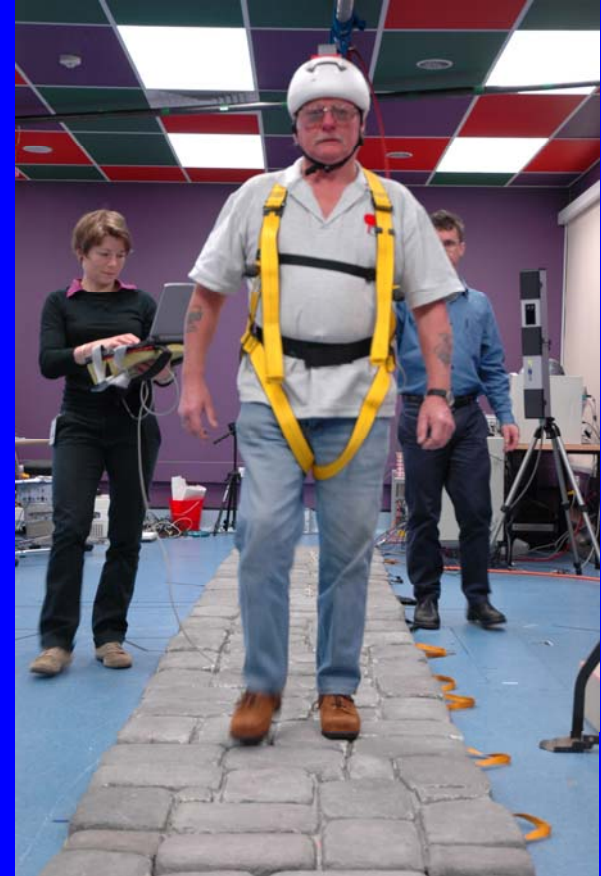


# Footwear and Balance

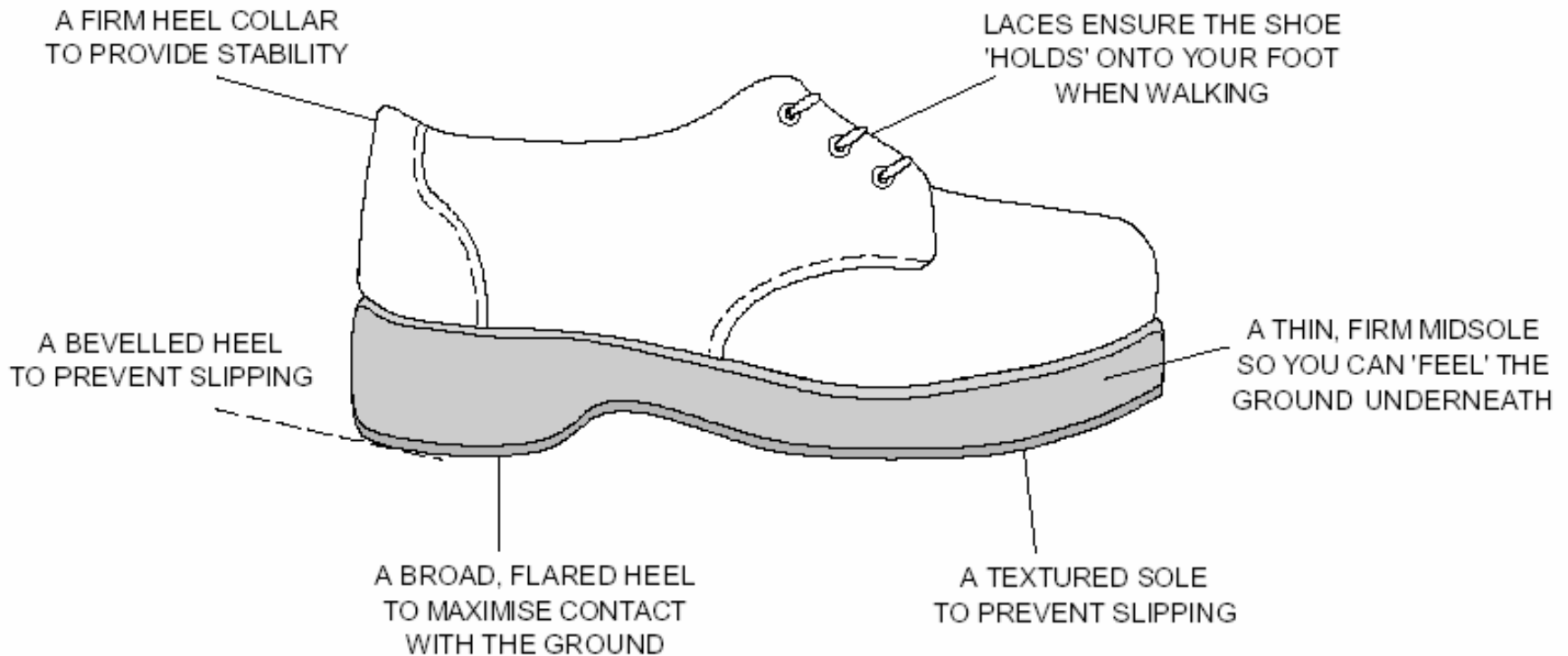


# Current Research

- **Aim**: Identify the critical footwear characteristics for maximising balance, to design a “safe” shoe for everyday outdoor use.
- 8 different types of shoes
- 3 surfaces: dry, uneven, wet
- Walking & rapid stopping



# Safe Shoe Features?



# Summary and Conclusion

- **Do not underestimate your foot problems. They can lead to pain, loss of balance, incapacity to conduct daily tasks and ultimately falls.**
- **Remember to wear well-fitted, sensible footwear, both indoors and outdoors.**

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