Multidisciplinary approaches to falls prevention

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“Falls Prevention is Everyone’s Business®”
Who contributes?

physiotherapist
geriatrician
occupational therapist
nurse
podiatrist
dietician
rehabilitation consultant
psychologist
nutrition worker
pharmacist

In this session...

Podiatry
   – Hylton Menz

Ambulance
   – Stef Mikolaizak

Dietetics
   – Nerimah Hickford

Pharmacy
   – Jenny Blennerhassett
Podiatry and falls prevention
Podiatry and falls prevention

- Falls prevention guidelines recommend referral to a podiatrist
- Very limited evidence of efficacy
  - Three trials including podiatry referral as part of multifactorial intervention
- Variability in podiatry treatments provided in falls clinics

Objective

• To conduct a high quality randomised trial to assess the effectiveness of a multifaceted podiatry intervention in improving balance and preventing falls

• Novel intervention designed to address key risk factors
  – Foot pain
  – Foot and ankle strength
  – Foot and ankle range of motion
  – Inappropriate footwear
Methods – interventions

Control group

• “Usual care”
• General podiatry treatment for 12 months

Intervention group

• General podiatry treatment for 12 months
• Foot orthoses
• Footwear advice / provision
• Foot and ankle exercise program
• Falls prevention booklet
Methods – interventions

Foot orthoses

- Formthotics™
- Closed cell polyethylene foam
- Dual density
- Full length
- Heat-moulded to foot shape

- Customised to accommodate plantar lesions
Methods – interventions

Footwear advice/provision

• Outdoor footwear assessed

• Considered inappropriate if:
  – Heel height > 4.5cm OR
  – Any two of:
    − No fixation
    − No heel counter
    − Heel counter compressed > 45°
    − Fully worn or smooth sole
    − Heel at least 20% narrower than foot

• Counselling on hazardous features

• Referred to medical grade footwear retailer

• AUD$100 footwear voucher

Methods – interventions

Foot and ankle exercises

• Home-based
• 30mins, 3 times a week for 6 months
• Same prescription
• Instructed to ↑ reps or resistance at own pace
• DVD / booklet
• Monthly exercise diaries
• Contacted at 1, 4, 12 and 20 weeks
Methods – outcome measures

Primary outcomes
• Fallers, multiple fallers, falls rate, falls injury\textsuperscript{1}
• Monthly calendars with follow-up phone calls

Secondary outcomes
• Foot and ankle strength and range of motion
• Balance and functional ability
• Physiological profile assessment score
• Manchester Foot Pain and Disability Index
• Falls Efficacy Scale International
• Short Form 12

Results

- n=305
Secondary outcome measures

Significant improvements in:

• **Strength**
  - Ankle inversion and eversion

• **Range of motion**
  - Ankle dorsiflexion and inversion/eversion

• **Balance**
  - Postural sway on floor

• **Functional ability**
  - Alternate step test
Primary outcome measures

- 264 falls during study
  - 8 fractures
  - 10 hospitalisations
  - 7 ED presentations

- Falls rate
  - Falls / person / exposure
  - IRR=0.640 (95% CI 0.451 to 0.910), p=0.013
  - 36% lower falls rate in the intervention group
Conclusion

• First RCT of an intervention specifically targeting foot and footwear risk factors

• Improvements in several measures of strength, range of motion, balance and functional ability

• 36% lower falls rate in intervention group
Reference