

Foot Orthotics & Knee Pain

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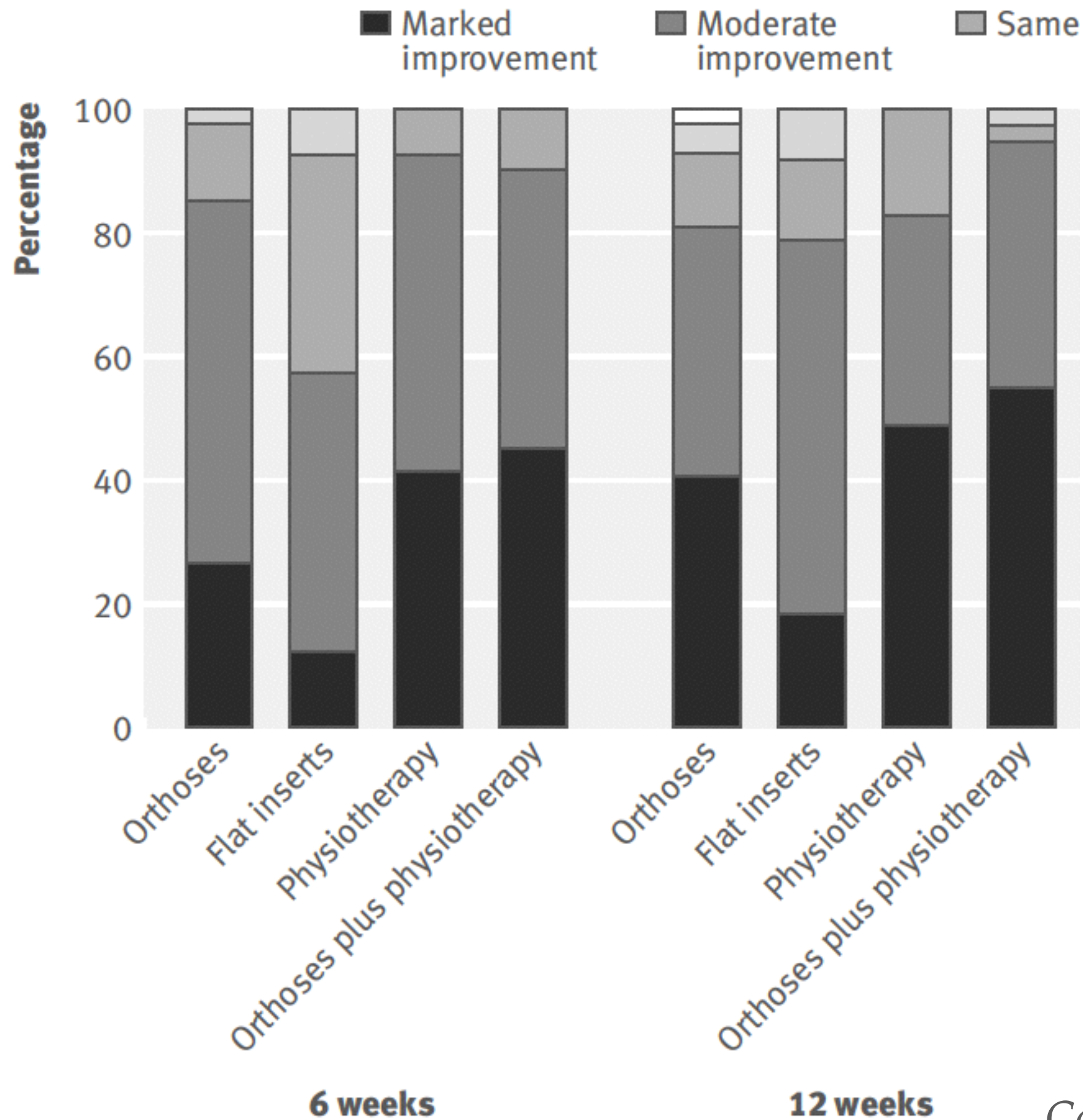


Anterior Knee Pain



Foot orthoses and physiotherapy in the treatment of patellofemoral pain syndrome: randomised clinical trial

Natalie Collins, PhD candidate,¹ Kay Crossley, principal research fellow,² Elaine Beller, director, biostatistics,³ Ross Darnell, statistician,¹ Thomas McPoil, regents professor,⁴ Bill Vicenzino, head of division, physiotherapy¹



Greater peak rearfoot eversion predicts foot orthoses efficacy in individuals with patellofemoral pain syndrome

C J Barton,^{1,2} H B Menz,¹ P Levinger,¹ K E Webster,¹ K M Crossley³

What is already known on this topic

There is growing evidence for the prescription of foot orthoses for individuals with patellofemoral pain syndrome (PFPS). However, not all individuals with PFPS benefit equally from foot orthoses prescription.

What this study adds

This study has identified that individuals with PFPS demonstrating signs of excessive rearfoot eversion magnitude during walking are most likely to benefit from prefabricated foot orthoses prescription.



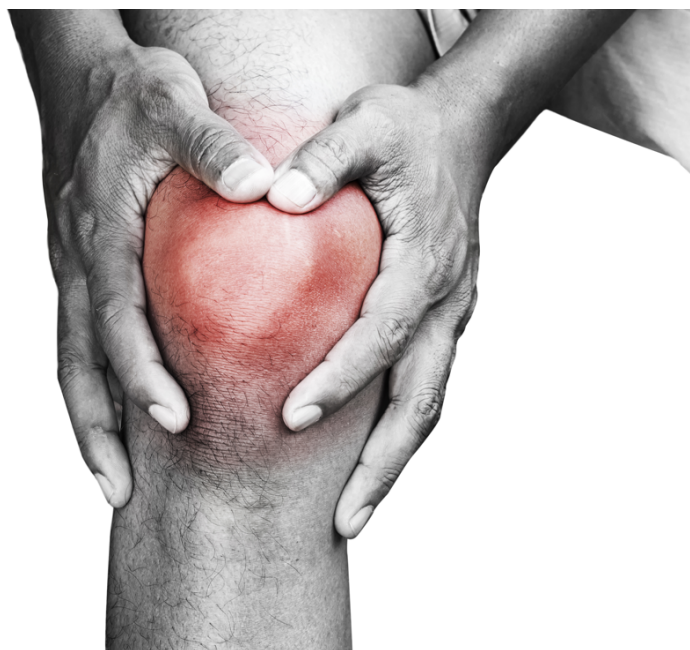


Barton et al. 2011

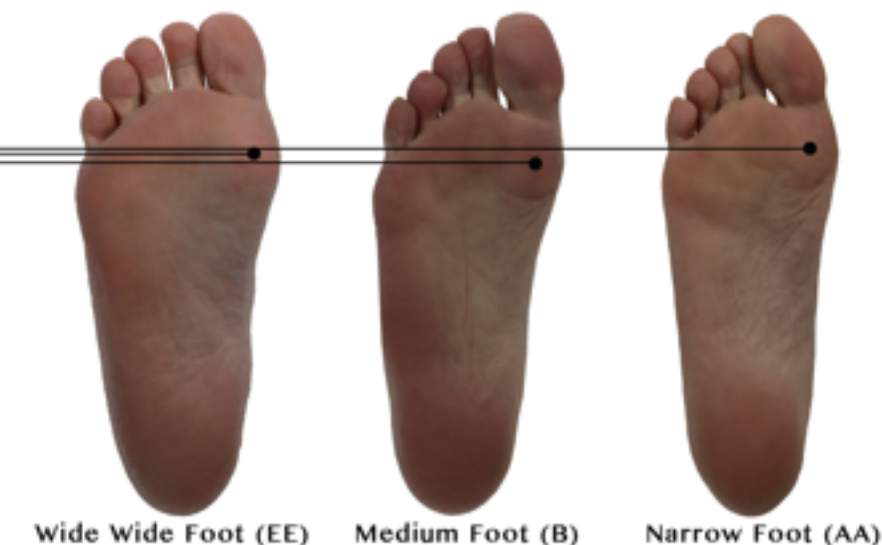
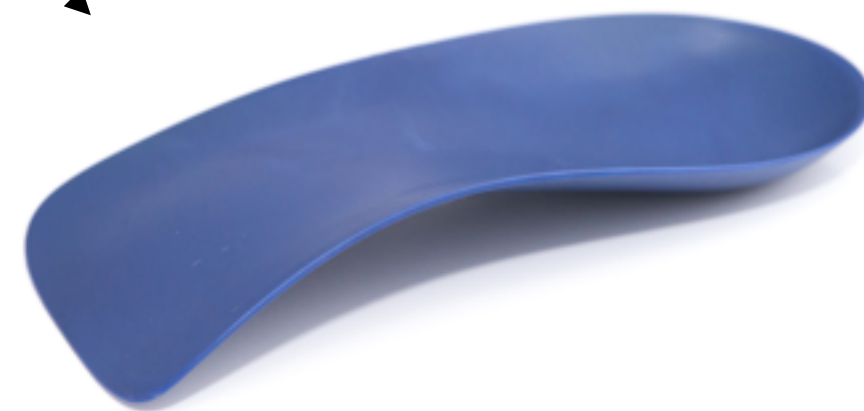


Over 25 years old

Improves success rate
from 40 - 86%!!



Pain < 53mm/100mm

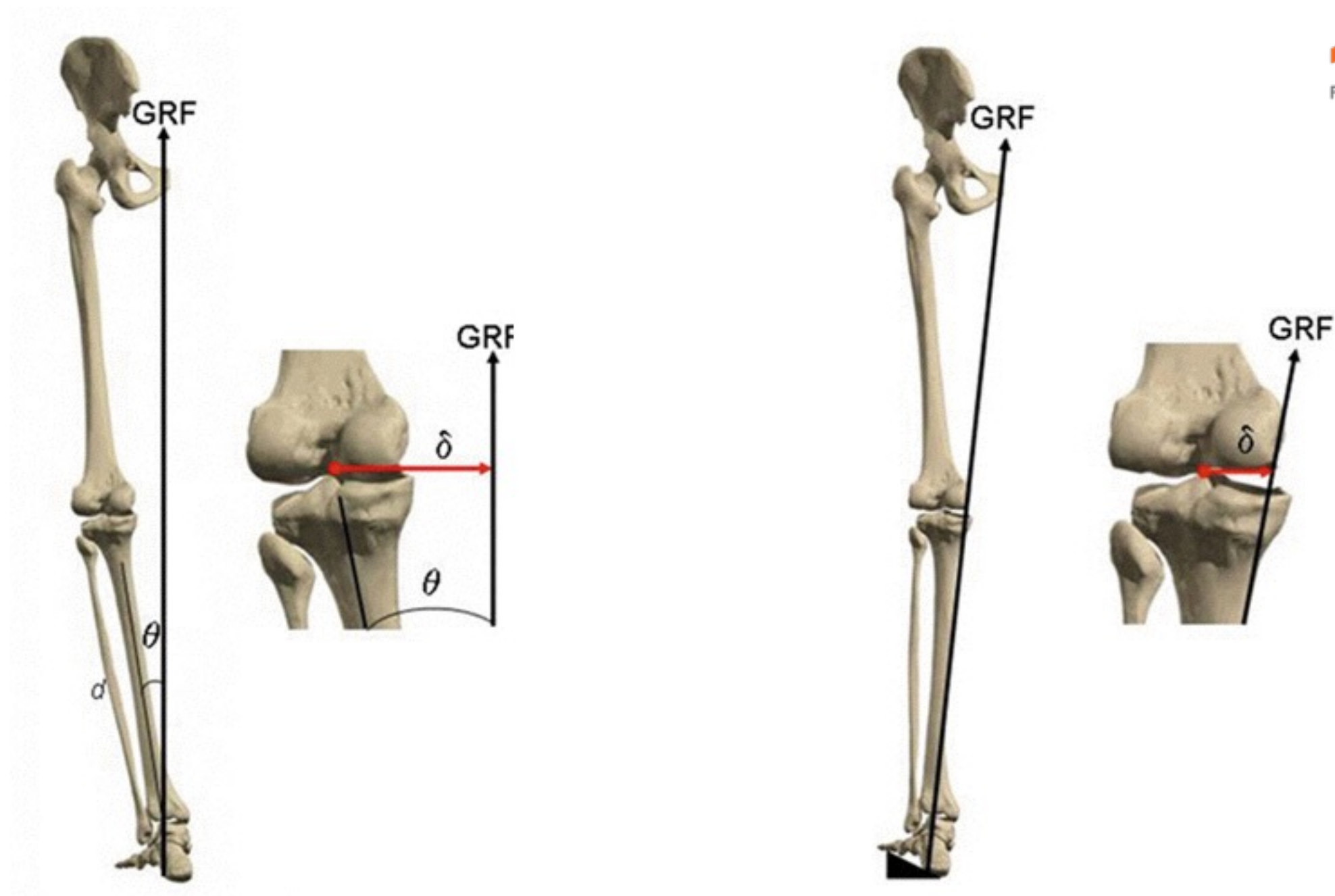


Greater forefoot
width change

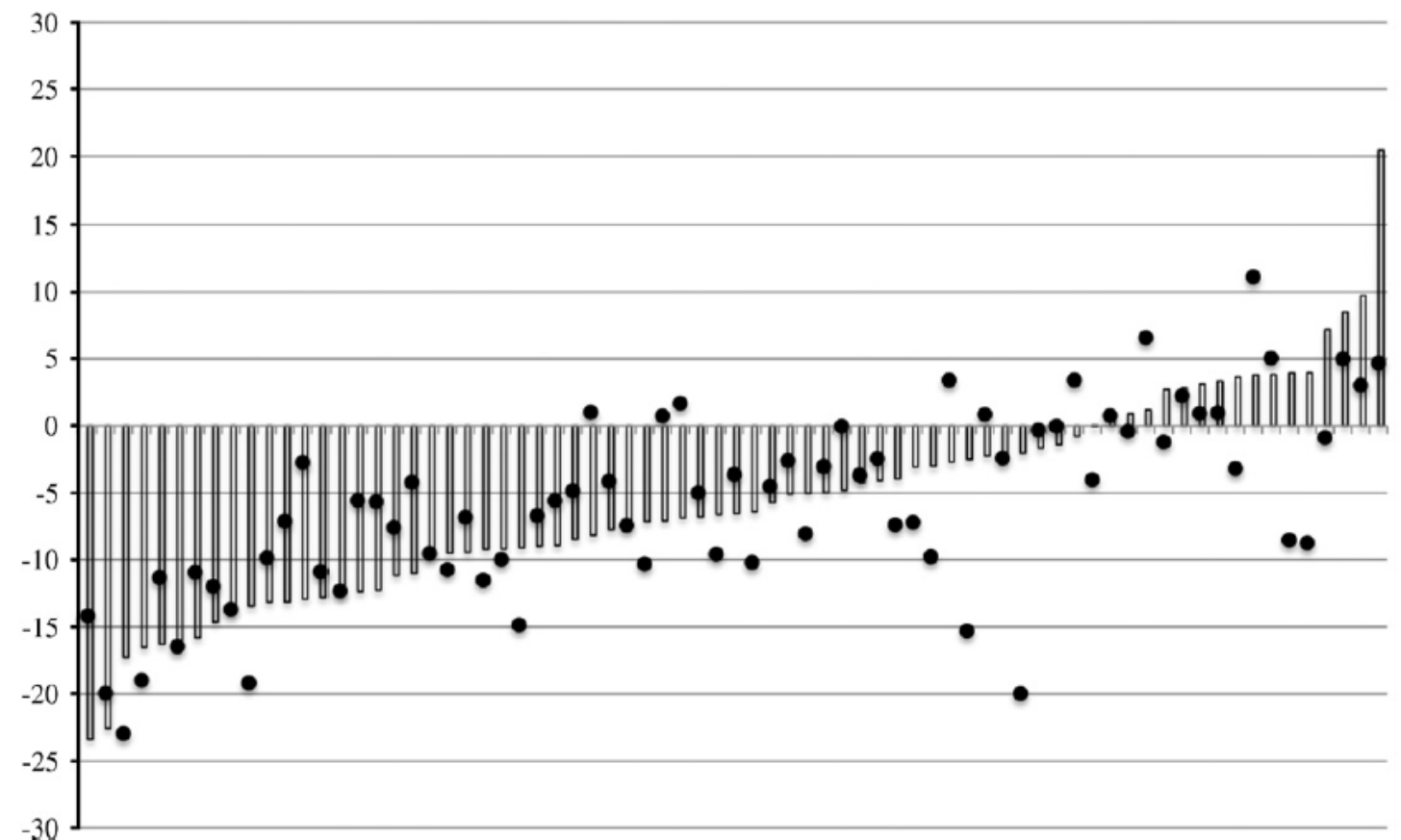
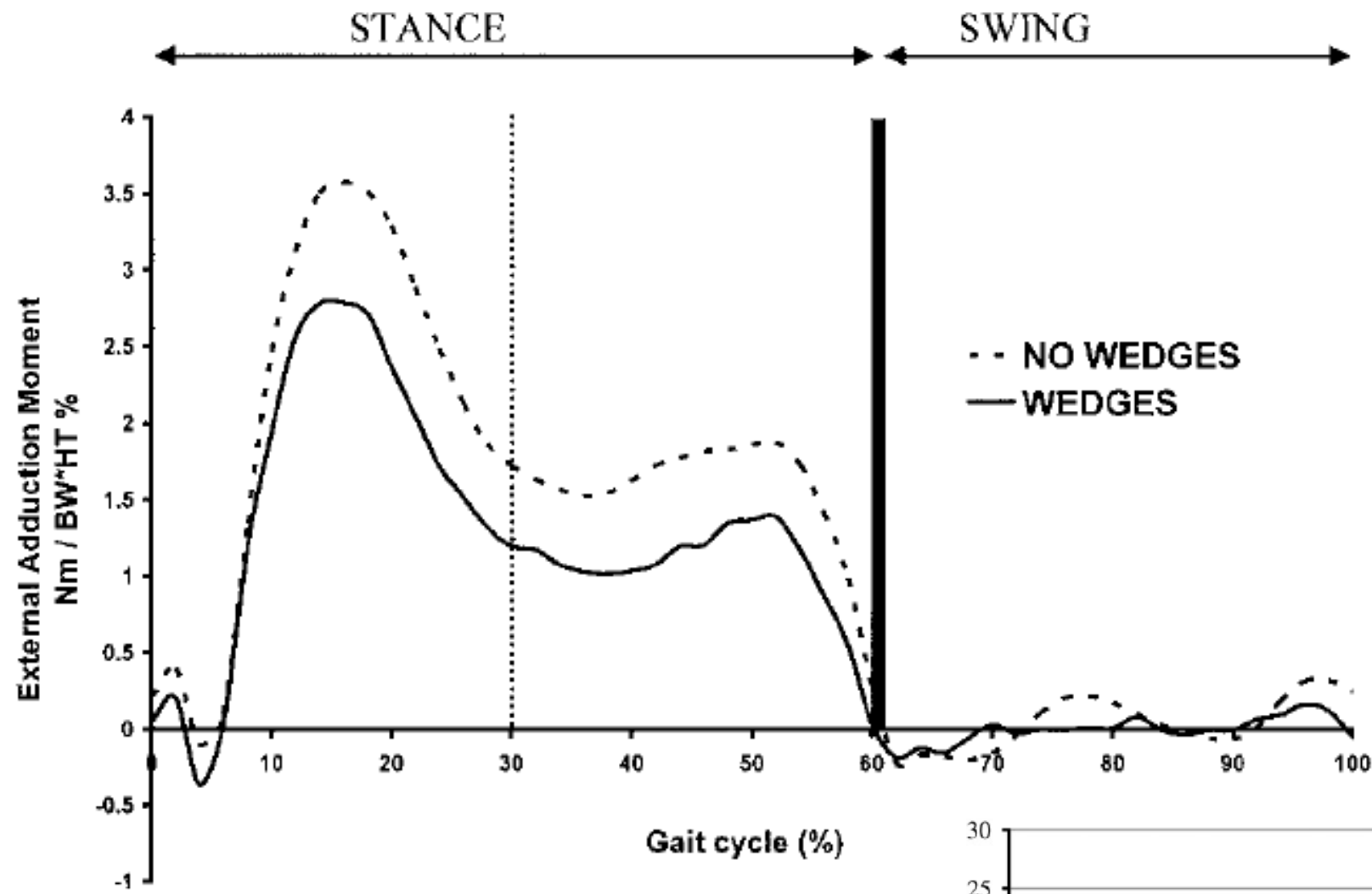
UPRIGHT R



Osteoarthritis



Lateral wedge orthoses



Hinman et al 2008, 2011

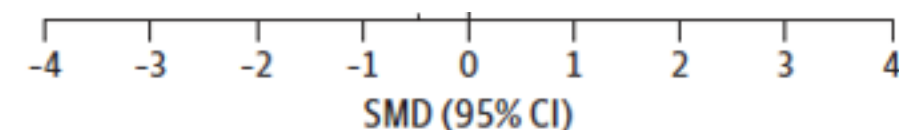
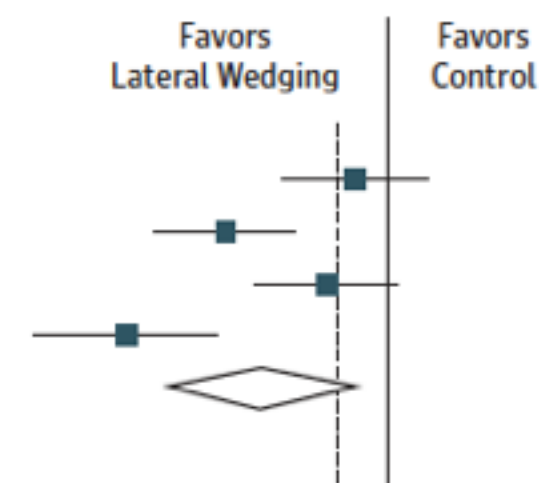
Lateral Wedge Insoles as a Conservative Treatment for Pain in Patients With Medial Knee Osteoarthritis

A Meta-analysis

Matthew J. Parkes, BSc; Nasimah Maricar, MSc; Mark Lunt, PhD; Michael P. LaValley, PhD; Richard K. Jones, PhD; Neil A. Segal, MD; Kayoko Takahashi-Narita, ScD; David T. Felson, MD, MPH

JAMA 2013

Source	Duration of Study	SMD (95% CI)	Weight, %
No wedge treatment given (control group)			
Toda, ³⁹ 2002	2 wk	-0.30 (-0.96 to 0.36)	7.51
Akinbo and Iko, ²⁷ 2007	6 wk	-1.53 (-2.17 to -0.90)	7.68
Koca et al, ³⁶ 2009	3 mo	-0.58 (-1.24 to 0.08)	7.52
Sattari and Ashraf, ⁸ 2011	9 mo	-2.47 (-3.31 to -1.63)	6.32
Subtotal		-1.20 (-2.09 to -0.30)	29.03
Test for heterogeneity: $I^2 = 85.0\%$, $P < .001$			



Ankle motion influences the external knee adduction moment and may predict who will respond to lateral wedge insoles?: an ancillary analysis from the SILK trial



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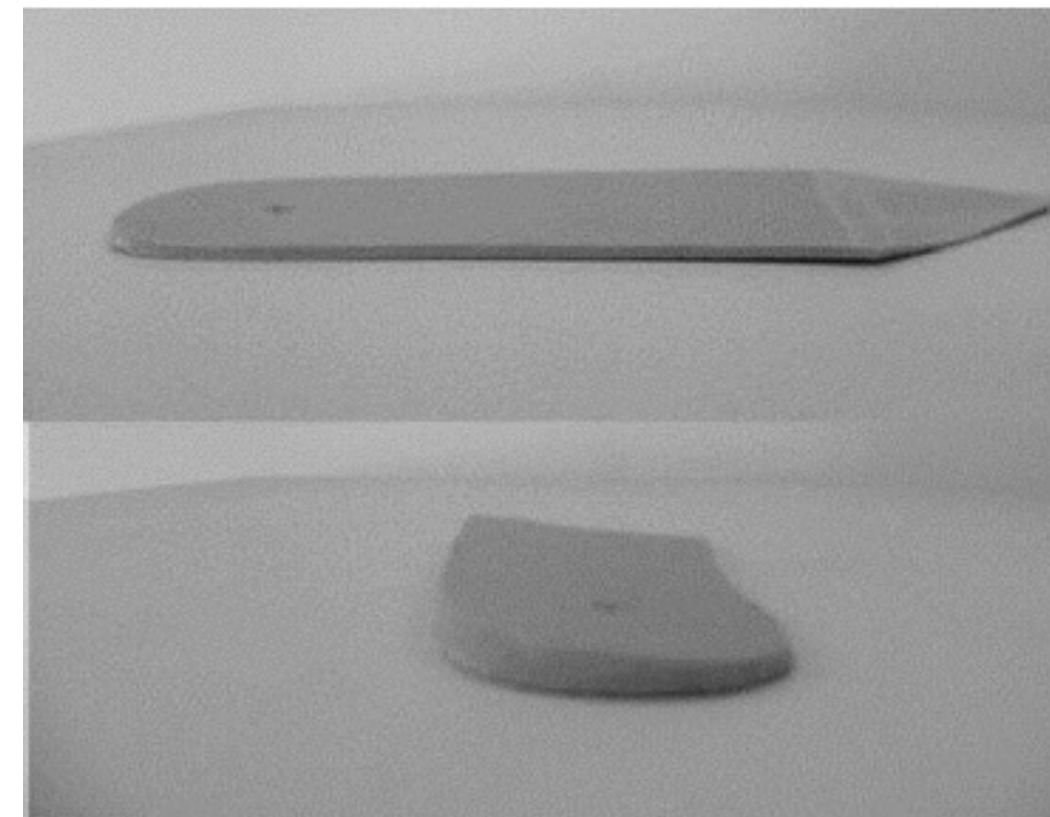
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- Wedging decreased KAM
- Increased eversion predicted wedge success

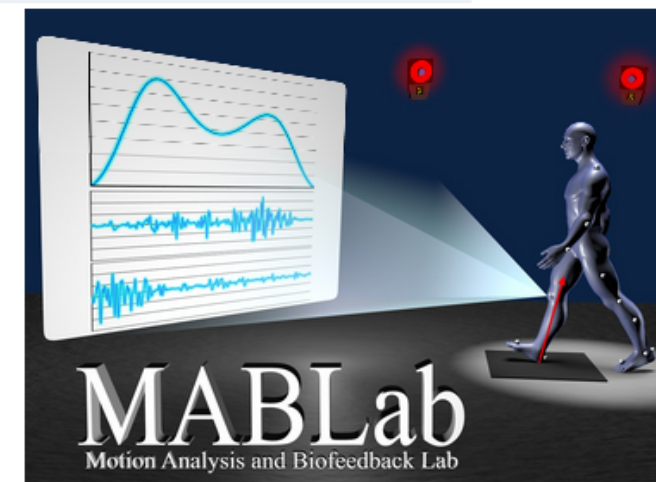


MABLab/Kintec Study



	No orthotic control	Lateral wedge only	Lateral wedge + Med
Knee pain (0-10)	1.9 (2.4)	1.6 (2.1)	1.4 (1.0)
Foot comfort (0-10)	7.1 (2.5)	7.8 (1.7)	8.3 (1.7)*
Preference of orthotic (n)		8	18*

Hatfield et al 2016



Take Away

- Foot orthoses have a similar effectiveness as physiotherapy for PFPS (but are likely best used co-currently)
- Adults with mild-moderate anterior knee pain and mobile feet can have twice the likelihood of clinical success with foot orthoses
- Don't forget lateral wedging options for medial knee OA - no longer for privileged high-arched people

