




FOOT ORTHOSES FOR PFP: AN EVIDENCE-BASED CASE STUDY

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Meet Jane*...


Age 34, Engineer (F/T), PhD candidate (P/T), mother of 2

Always active ... soccer, touch football, netball

Distance running more regularly in the last 2 years

Training for Melbourne Marathon:
... insidious onset AKP 7/12 ago, worse in last 2/12, L>R
... aggravated by running > stairs > squatting > prolonged sitting
... no treatment, still running

sitting on this rock won't fix my knee pain...



GOAL: MARATHON

* clearly not her real name

Meet Jane*...

Physical examination confirmed PFP


Patient-reported outcome measures:

- usual pain VAS: 2.5/10
- worst pain VAS: 5/10
- PSFS: 3.2/10 (running, squatting, sitting, down stairs)

4/10 pain during SL squat

WB ankle DF:
7.5cm bilaterally (knee to wall)

Mobile foot
(midfoot mobility 11.4mm)




* clearly not her real name


Midfoot mobility difference

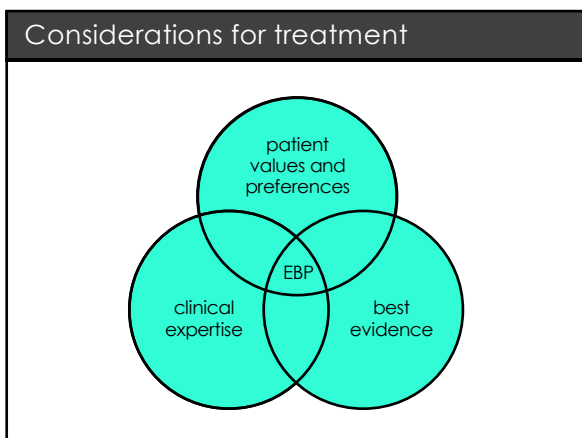
Midfoot width mobility McPoil TG et al, 2009, JFAR, 2:6

NWB midfoot width



WB midfoot width





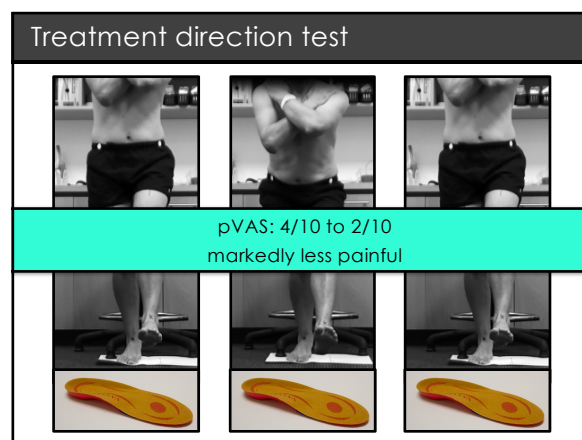
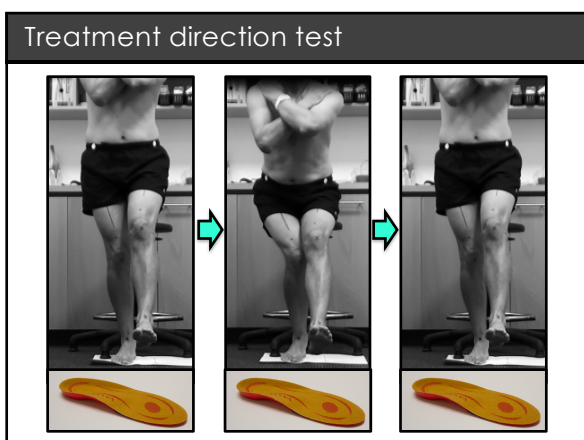
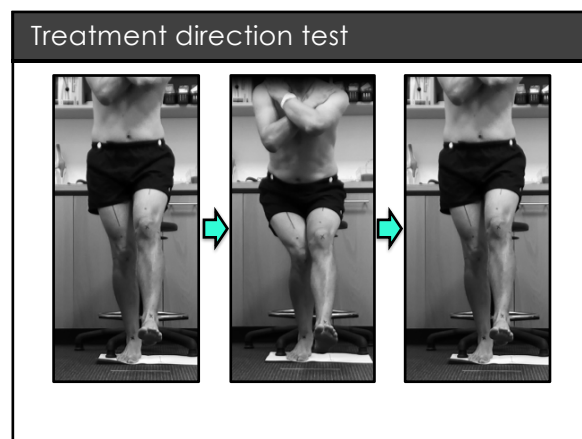
Considerations for treatment

patient values & preferences	very time poor likely low adherence to rehab ex's budget
best evidence	multimodal approach... BUT... <small>Barton C et al, 2015, BJSM, 49:923-34</small> foot orthoses...? <small>Barton C et al, 2015, BJSM, 49:923-34</small>

Predictors of foot orthoses success	
Vicenzino et al, 2008, <i>BJSM</i> , 44:862-66	Age > 25 years Height < 165 cm Midfoot width difference > 11 mm Worst pain VAS < 53.3 mm
Mills et al, 2011, <i>Clin Biomech</i> , 27(7):202-8	Midfoot width difference > 11mm
Barton et al, 2011, <i>Med Sci Sport Ex</i> , 43(9):1603-10	Footwear motion control properties < 5 Usual pain VAS < 22mm Ankle DF (knee flexed) < 41.3° Reduced pain during SLSq

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Clinical expertise	positive outcomes with previous PFP patients treatment direction test Vicenzino, 2004, <i>Man Ther</i> , 9:185-96



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Foot orthoses prescription (Vasyli)

Algorithm based predominantly on comfort



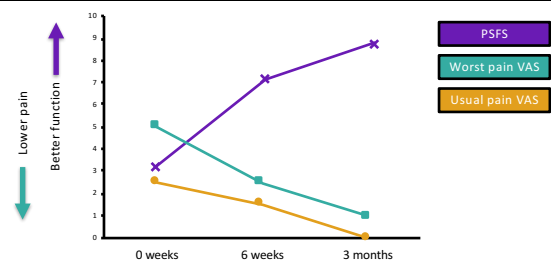
...less comfortable orthoses can increase hip adduction & vastus lateralis activity during gait in those with PFP
Mills K et al, 2011, *Clin Biomech*, 27(7):202-8

Foot orthoses prescription (Vasyli)				
Algorithm based predominantly on comfort				
Type	Size	Hardness	Modifications	
Full length	XS	Red (high)	RF varus wedge	Heat moulding
3/4 length	S	Blue (medium)	RF+FF varus wedge	
Easy fit	M	Green (low)	FF varus wedge	
Slim fit	L		Heel raise	
	XL			
Primary consideration: comfort				
Secondary consideration: function				
Adapted from Vicenzino B et al, 2008, <i>BMC Musc Dis</i> , 9:27				

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runners				
work / casual shoes				
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6 week & 3 month outcomes



continued training (reduced running load; cross-training)

finished the marathon under goal time (PB)


Key messages: foot orthoses for PFP

Prefabricated foot orthoses can improve PFP over 3 months in an active patient

Good option for patients with poor adherence

Include targeted exercises as indicated
... look at physical impairments

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5th International Patellofemoral Pain Research Retreat
Gold Coast, 18-20 July 2017



Clinical Symposium
Brisbane, 22 July 2017

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