A comparison of fall risk assessment methods in older adults engaged in a clinical trial of foot muscle strengthening interventions

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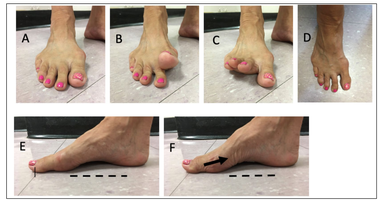
Falls can cause injury and social isolation in older adults

Foot weakness and faulty foot structure can contribute to falls

Adult volunteers with confirmed fall risk (n=76, $\bar{x}$ age = 75.21, 17 Male) were randomized into 3 groups:

Group 1: Intrinsic foot muscle strengthening exercises



Group 2: Minimal footwear use

Group 3: Control

Interventions: 5x/week x 16 weeks, then ≥ 2x/week from 17 weeks to 1 year

At baseline, 8 weeks, 16 weeks, and 1 year: fall risk measured with the Mini-Balance Evaluation Systems Test (Mini-BESTest) and the Timed up and Go (TUG)

Intrinsic foot muscle strengthening exercises and use of minimally cushioned footwear reduce fall risk in older adults

Fall risk changes detected by Mini-BESTest, but not by Timed Up and Go

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Foot Intrinsic Testing & Training FiTT Lab

SPRINGFIELD COLLEGE

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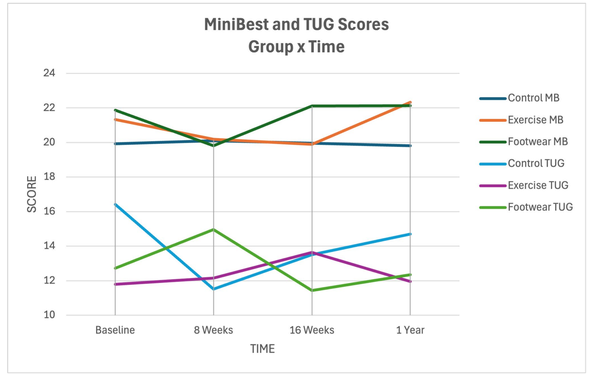
Study Aims:

Compare intrinsic foot muscle exercises, minimal footwear use, & control effects on fall risk

Compare Mini-BESTest and TUG in detecting intervention effects



Group x Time Interaction Effects for Mini-BESTest Scores			
	8 weeks	**16 weeks**	**1 year**
Intrinsic foot muscle exercise	β=1.34, p=0.033	β=2.26, p<0.001	β=2.12, p=0.002
Minimal footwear use		β=1.95, p=0.003	β=2.30, p=0.001
Control			

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