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Table 1. Mean values of coronal plane knee moments in stance phase (N=32)

	Shoe conditions	Knee sides	Mean±SD
Knee adduction moment 1 st peak 0-25% stance (Nm/kg)	Flex-OA	Right	-0.413±0.143
		Left	-0.427±0.121
	Standardized	Right	-0.456±0.143
		Left	-0.472±0.123
Knee adduction moment at mid stance 25-75% stance (Nm/kg)	Flex-OA	Right	-0.136±0.082
		Left	-0.199±0.101
	Standardized	Right	-0.152±0.072
		Left	-0.204±0.106
Knee adduction moment 2 nd peak 75-100% stance (Nm/kg)	Flex-OA	Right	-0.323±0.117
		Left	-0.371±0.118
	Standardized	Right	-0.319±0.108
		Left	-0.379±0.116

Table 2. Repeated measure ANOVA comparing coronal plane knee moments under the shoe conditions and knee sides in stance phase during walking (N=32)

Moment values	Level	F	p
Knee adduction moment 1 st peak 0-25% stance (Nm/kg)	Shoe conditions	26.018	0.000
	Knee sides	0.522	0.477
	Conditions*sides	0.063	0.804
Knee adduction moment at mid stance 25-75% stance (Nm/kg)	Shoe conditions	6.488	0.017
	Knee sides	13.479	0.001
	Conditions*sides	1.508	0.231
Knee adduction moment 2 nd peak 75-100% stance (Nm/kg)	Shoe conditions	0.135	0.716
	Knee sides	5.853	0.023
	Conditions*sides	0.956	0.338

Table 3. Mean values of clinical and biomechanical assessments and t-tests between responders and non-responders

	Responders (n ₁ =42)	Non-responders (n ₂ =22)	P
Different KAM (Nm/Kg)	0.08±0.06	-0.03±0.05	<0.001
FPI (score)	2.16±2.48	2.89±3.26	0.661
Hip rotation range			
Internal rotation (degree)	41.21±12.97	43.72±14.54	0.526
External rotation (degree)	52.95±11.50	41.16±13.46	0.002
Ratio	0.86±0.51	1.21±0.70	0.044
Hip rotators strength			
Internal rotators (kgf)	7.94±2.73	8.95±2.55	0.197
External rotators (kgf)	10.05±3.55	9.71±2.85	0.731
Ratio	0.81±0.19	0.97±0.30	0.028
AFMT rearfoot			
Coronal motion (degree)	29.05±7.63	29.60±7.73	0.804
Transverse motion (degree)	22.84±7.14	24.14±6.28	0.514
Ratio	1.43±0.81	1.31±0.49	0.581
AFMT midfoot			
Coronal motion (degree)	5.70±2.45	6.11±2.46	0.565
Transverse motion (degree)	13.43±5.25	14.23±4.68	0.584
Ratio	0.45±0.17	0.45±0.19	0.963

KAM differential means different knee adduction moment value between OA-Flex and standardized shoe condition. KAM = Knee Adduction Moment, FPI = Foot Posture Index, IR = Internal Rotation, ER = External Rotation, AFMT = Ankle Foot Motion Test



Figure 1. Marker positions on lower limbs and pelvic during static calibration and walking trials.

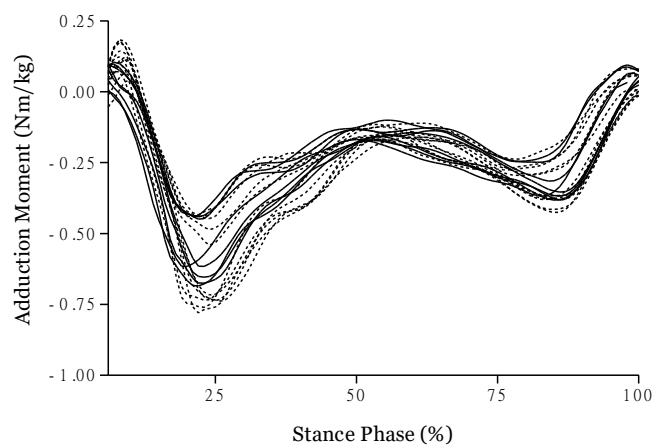


Figure 2. Intra-individual variability of knee adduction moment during stance phase. Flex-OA shoe moment (solid line) and standardized shoe moment (dot line) from 25 repetitive trials (thin line) and their average (thick lines).

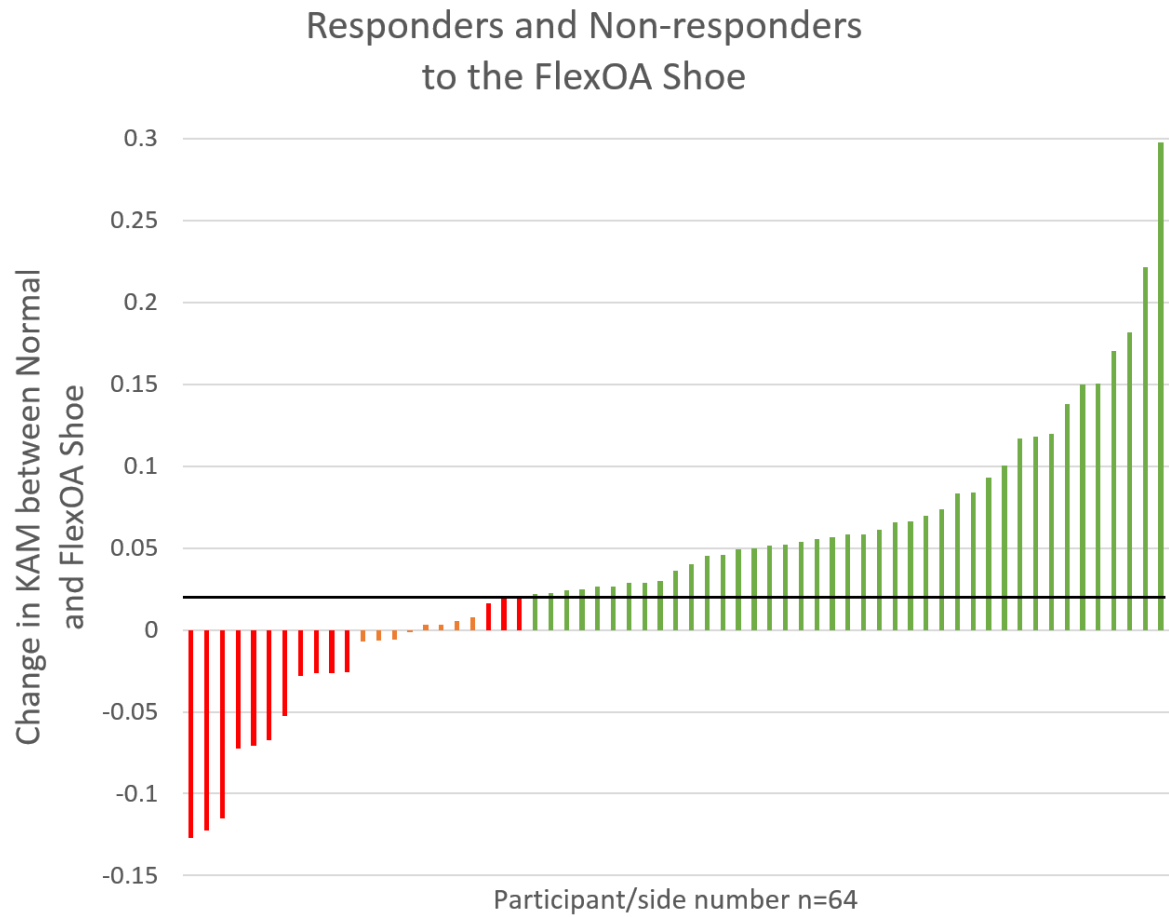


Figure 3. Biomechanical responders/non-responders to the Flex-OA shoe defined by a threshold of a 0.02 Nm/kg change in knee adduction moment (KAM).