

Supplementary Material

Manuscript Title: Gait stability characteristics in able-bodied individuals during self-paced inclined treadmill walking.

Table 1: Bilateral joint angles across walking conditions.

Parameter	Side	DW	LW	UW	P value	Mean Percentage difference (%)		
		Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD		1-2	2-3	1-3
Hip Flexion	R	39.25 $\pm$ 4.6	47.21 $\pm$ 3.5	61.15 $\pm$ 4.5	<.001	18.4*	25.7*	43.6*
	L	39.10 $\pm$ 5.9	47.52 $\pm$ 4.0	61.20 $\pm$ 5.5		19.4*	25.2*	44.1*
Hip Abduction	R	18.34 $\pm$ 3.3	20.26 $\pm$ 2.8	16.45 $\pm$ 2.9	<.001	9.95	20.8*	10.9*
	L	18.29 $\pm$ 3.6	20.05 $\pm$ 3.1	15.85 $\pm$ 2.9		9.2	23.4*	14.3*
Hip Rotation	R	16.72 $\pm$ 3.8	16.96 $\pm$ 5.1	14.04 $\pm$ 5.2	.033	1.4	18.8*	17.4*
	L	16.78 $\pm$ 4.2	16.79 $\pm$ 5.4	15.33 $\pm$ 5.0		0.1	9.1*	9.0*
Knee Flexion	R	68.16 $\pm$ 4.3	62.59 $\pm$ 3.2	60.98 $\pm$ 4.7	<.001	8.5*	2.6*	11.1*
	L	68.42 $\pm$ 3.1	62.72 $\pm$ 3.6	60.19 $\pm$ 6.5		8.7*	4.1*	12.8*
Ankle Dorsiflexion	R	24.70 $\pm$ 4.4	33.84 $\pm$ 5.0	34.31 $\pm$ 4.6	<.001	31.2*	1.4	32.6*
	L	23.49 $\pm$ 2.9	32.21 $\pm$ 4.1	32.53 $\pm$ 3.3		31.3*	0.1	32.3*

Mean Percentage Difference: 1= Downhill, 2= Level, 3= Uphill walking. No significant differences between right and left sides.

* Numbers are statistically significant (post hoc p-value < 0.05).

Table 2: Bilateral peak muscle activation across walking conditions.

Muscle	Side	DW	LW	UW	P value	Mean Percentage difference (%)		
		Mean (SD)	Mean (SD)	Mean (SD)		1-2	2-3	1-3
Biceps Femoris LH	R	.13 $\pm$.06	.19 $\pm$.06	.65 $\pm$.49	<.001	37.5*	109.5*	133.3*
	L	.13 $\pm$.07	.17 $\pm$.05	.66 $\pm$.46		26.7*	118.1*	134.2*
Biceps Femoris SH	R	.08 $\pm$.04	.11 $\pm$.04	.19 $\pm$.12	<.001	31.6*	53.3*	81.5*
	L	.08 $\pm$.04	.11 $\pm$.05	.19 $\pm$.11		31.6*	53.3*	81.5*
Soleus	R	.28 $\pm$.14	.42 $\pm$.11	.40 $\pm$.10	<.001	40.0*	4.9	35.3*
	L	.23 $\pm$.11	.40 $\pm$.10	.43 $\pm$.09		53.97*	7.2	60.6*
Semimembranosus	R	.20 $\pm$.09	.24 $\pm$.08	.71 $\pm$.68	<.001	18.2*	98.95*	112.1*
	L	.19 $\pm$.09	.23 $\pm$.08	.78 $\pm$.65		19.1*	108.9*	121.7*
Semitendinosus	R	.10 $\pm$.05	.12 $\pm$.04	.32 $\pm$.32	<.001	18.2*	90.9*	104.8*
	L	.09 $\pm$.05	.11 $\pm$.04	.36 $\pm$.31		20.0*	106.4*	120.0*
Lateral Gastrocnemius	R	.18 $\pm$.08	.42 $\pm$.13	.60 $\pm$.26	<.001	80.0*	35.3*	107.7*
	L	.14 $\pm$.07	.45 $\pm$.14	.67 $\pm$.25		105.1*	39.3*	130.9*
Medial Gastrocnemius	R	.20 $\pm$.09	.53 $\pm$.16	.80 $\pm$.30	<.001	90.4*	40.6*	120.0*
	L	.16 $\pm$.08	.52 $\pm$.16	.77 $\pm$.28		105.9*	38.8*	131.2*
Tibialis Anterior	R	1.02 $\pm$.40	.48 $\pm$.17	.18 $\pm$.10	<.001	72.0*	90.9*	140.0*
	L	.93 $\pm$.38	.39 $\pm$.13	.10 $\pm$.06		81.8*	118.4*	161.2*
Tibialis Posterior	R	.86 $\pm$.31	.26 $\pm$.13	.13 $\pm$.05	<.001	107.1*	66.7*	147.5*
	L	.47 $\pm$.34	.12 $\pm$.07	.08 $\pm$.05		118.6*	40.0*	141.8*
Rectus Femoris	R	1.28 $\pm$.84	.44 $\pm$.14	.16 $\pm$.08	<.001	97.7*	93.3*	155.6*
	L	1.43 $\pm$.83	.43 $\pm$.15	.09 $\pm$.05		107.5*	130.8*	176.3*
Vastus Intermedius	R	.45 $\pm$.14	.22 $\pm$.10	.25 $\pm$.13	<.001	68.7*	12.8*	57.1*
	L	.45 $\pm$.13	.22 $\pm$.10	.26 $\pm$.13		68.7*	16.7*	53.5*
Vastus Lateralis	R	.46 $\pm$.15	.22 $\pm$.10	.26 $\pm$.14	<.001	70.6*	16.7*	55.6*
	L	.43 $\pm$.13	.22 $\pm$.09	.25 $\pm$.13		64.6*	12.8*	52.94*

Mean Percentage Difference: 1= Downhill, 2= Level, 3= Uphill walking. There was a significant differences between the activation levels of tibialis posterior in both sides (<.001). * Numbers are statistically significant (post hoc p-value < 0.05).