

Walking in wet pads



Gait effects in younger women

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No significant differences in gait variability or asymmetry could be detected
Cadence was higher in all brief conditions than at baseline

Why this study?

Urinary incontinence (UI) is associated with falls risk. In a prior exploratory study of 10 older women, saturated versus dry pads showed trends toward greater gait variability and lower cadence.

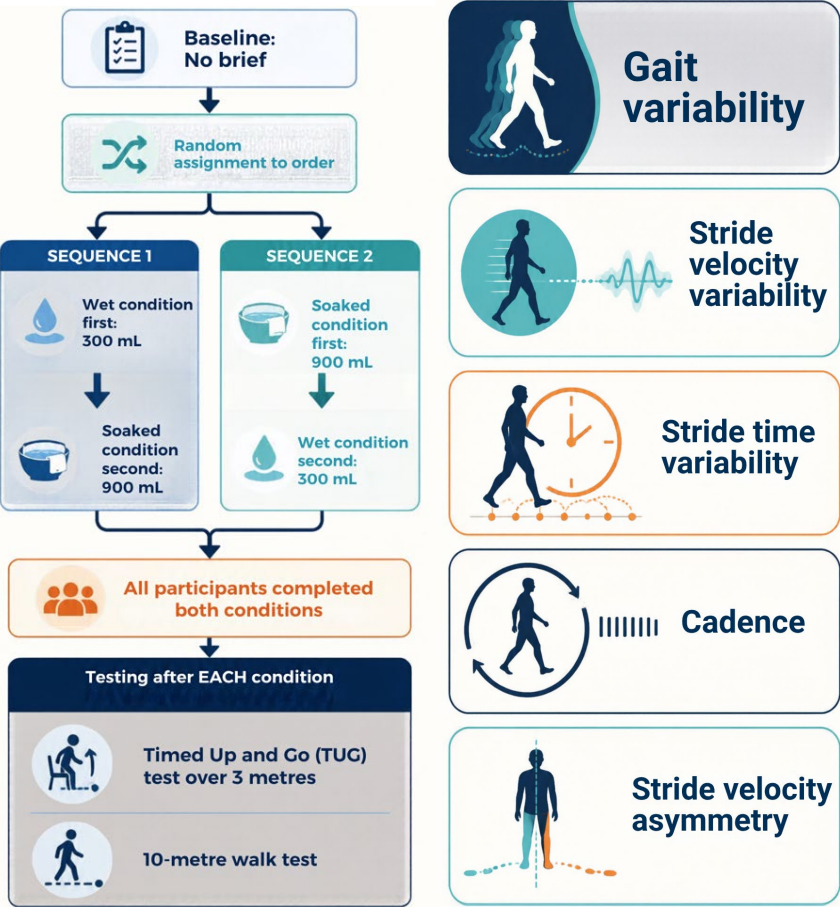
Design & participants

Crossover study of community-dwelling women aged ≥18 years, with or without UI.

95 women participated

Age 27.3 ± 7.8 years (range 18–57)
Weight 65.0 ± 13.4 kg

Sample size: 95 for 80% power, two-sided α=0.05 and effect size 0.6 for gait variability, soaked versus dry taped briefs.



Results

At either distance: gait variability, stride velocity variability, stride time variability and stride velocity asymmetry. Across conditions: stride velocity, stride length and stride length variability.

Cadence was the exception

All brief conditions had higher cadence than baseline. At 10 m, cadence was significantly lower with a dry than a soaked brief.

Gait Variable	3m Distance					10m Distance				
	Mean ± SD	95% CI	Condition	ANOVA	Post-hoc	Mean ± SD	95% CI	Condition	ANOVA	Post-hoc
Cadence (steps/min)	102.03 ± 12.13	[89.6, 104.5]	Baseline	F = 12.18; p < 0.0001 (****)	BL vs DB ***	111.48 ± 8.87	[109.7, 113.3]	Baseline	F = 10.37; p < 0.0001 (****)	BL vs DB *; BL vs W300 ***
	107.75 ± 13.44	[105.3, 110.1]	Dry Brief		BL vs W300 ***	113.44 ± 9.23	[111.6, 115.3]	Dry Brief		BL vs W900 ***; DB vs W900 **
	109.95 ± 12.03	[107.5, 112.4]	Wet 300ml			115.79 ± 10.35	[113.7, 117.9]	Wet 300ml		
	110.00 ± 11.76	[107.6, 112.4]	Wet 900ml			116.56 ± 9.61	[114.6, 118.3]	Wet 900ml		

Interpretation & next steps

Pad bulk may contribute to adaptation. The younger cohort may explain the lack of variability differences. Ther women may have simply sped up to get the test over with

Next: powered study in older women and exploratory trial in older women with dementia.