

**Supplementary Table 3.** Patellofemoral joint reaction force in individuals with patellofemoral pain or osteoarthritis

Study	Population	Participant characteristics	Task	Condition/Intervention	Peak Speed
<b>Walking</b>					
Bretcher 2002‡ [36]	Individuals with PFP (n=10)	age=37±10yrs mass=71±14kg M:F=5:5	Walking	Speed	Self-selected: 7.5±1.3N/kg Fast: 12.3±3.0N/kg <i>Self-selected: 1.36±0.13m/s</i> <i>Fast (self-selected): 1.83±0.1m/s</i>
Chen 2014‡ [38]	Females with PFP (n=20)	age=28±7yrs mass=62±7kg M:F=0:20	Walking		7.8±1.2N/kg <i>Prescribed: 1.33m/s</i>
Powers 2004 [64]	Females with PFP (n=15)	age=30±8yrs mass=58±8kg M:F=0:15	Walking	Speed and brace	Self-selected no brace: 6.9±3.7N/kg Self-selected with brace: 8.7±4.7N/kg Fast speed no brace: 10.9±4.0N/kg Fast speed with brace: 12.6±6.1N/kg <i>Self-selected: 1.32±0.15m/s</i> <i>Fast (self-selected): 107.4±0.16m/s</i>
Thoma 2017‡ [83]	Individuals with PF articular cartilage defects (n=10)	age=30±7yrs mass=78±9kg M:F=5:5	Walking		1.3±0.5BW <i>Self-selected: 1.55±0.11m/s</i>
<b>Running</b>					
Chen 2014‡ [38]	Females with PFP (n=20)	age=28±7yrs mass=62±7kg M:F=0:20	Running		44.2±5.0N/kg <i>Prescribed: 3.33m/s</i>
Bonacci 2018 [34]	Recreational runners with PFP (n=15)	age=33±10yrs mass=69±11kg M:F=3:12	Running	Different shoes and cadence	Control shoe preferred cadence: 43.1±14.0N/kg Control shoe +10% preferred cadence: 35.1±9.1N/kg  Minimalist shoe preferred cadence: 35.9±10.6N/kg Minimalist shoe +10% preferred cadence: 30.0±10.2N/kg <i>Self-selected: not reported</i>

Liao 2018‡ [59]	Recreational runners with PFP (n=12)	age=28±5yrs mass=55±6kg M:F=0:12	Running		3529±540N <i>Prescribed: 2.7 m/s</i>
Sinclair 2016 [78]	Recreational runners with PFP  (males)  (females)	age=NR mass=NR M:F=11:9	Running	Brace	Baseline: 3.40±0.68BW Brace (after 2-week intervention): 3.21±0.93BW <i>Prescribed: 4.0m/s (±5%)</i>  Baseline: 3.82±0.56BW Brace (after 2-week intervention): 2.98±0.78BW <i>Prescribed: 4.0m/s (±5%)</i>
Sinclair 2018 [75]	Recreational runners with PFP (n=11)  (strong muscles)	age=34±10yrs mass=74±14kg M:F=NR  (Overall N=10M,7F)	Running	Insoles	Insoles (after 4-week intervention): 3.08±0.77BW <i>Prescribed: 4.0m/s (±5%)</i>
	Recreational runners with PFP (n=6)  (weak and tight muscles)	age=35±13yrs mass=71±14kg M:F=NR  (Overall N=10M,7F)			Insoles (after 4-week intervention): 2.85±1.11BW <i>Prescribed: 4.0m/s (±5%)</i>
Stairs					
Chen 2014‡ [38]	Females with PFP (n=20)	age=28±7yrs mass=62±7kg M:F=0:20	Stair ascent  Stair descent		29.8±3.0N/kg <u>Prescribed: 50 steps per minute</u>  21.9±2.9N/kg <u>Prescribed: 50 steps per minute</u>
Powers 2004 [65]	Females with PFP (n=15)	age=30±8yrs mass=58±8kg M:F=0:15	Stair ascent	Brace	No brace: 28.6±5.9N/kg Brace: 34.7±9.7N/kg <i>Self-selected: not reported</i>

			Stair descent		No brace: 31.4±6.2N/kg Brace: 37.0±11.2N/kg <i>Self-selected: not reported</i>
De Oliveira Silva 2020 [42]	Females with PFP (n=47)	age=22±3yrs mass=62±9kg M:F=0:47	Stair ascent		2.09±0.55BW <i>Self-selected: not reported</i>
Waiteman 2018‡ [85]	Females with PFP (n=32)	age=22±3yrs mass=60±9kg M:F=0:32	Stair descent		3.84±2.1N/kg (Average) <i>Self-selected: not reported</i>
Fok 2013‡ [48]	Individuals with isolated PF OA (n=17)	age=56 (range 51 to 61)yrs mass=73(range 66 to 80) kg M:F=4:13	Stair ascent		1.6±0.4BW <i>Self-selected: 0.46m/s (95% CI 0.41 to 0.51)</i>
			Stair descent		0.9±0.5BW <i>Self-selected: 0.67m/s (95% CI 0.60 to 0.75)</i>
	Individuals with combined PF OA (n=13)	age=60(range 54-66) yrs mass=76(range 69-84) kg M:F=3:10	Stair ascent		1.5±0.4BW <i>Self-selected: 0.45m/s (95% CI 0.39 to 0.51)</i>
			Stair descent		1.1±0.6BW <i>Self-selected: 0.68m/s (95% CI 0.57 to 0.80)</i>
<b>Other activities</b>					
Atkins 2018 [28]	Females with PFP (n=31)	age=24±4yrs BMI=22±3kg/m <sup>2</sup> M:F=0:31	Single leg landing		47.8 ±17 N/kg

Mostamand 2010‡ [62]	Individuals with PFP (n=18)	age=28±6yrs mass=72±10kg M:F=11:7	Squat	Taping	No tape: 2025±347N (Average) Tape: 1796±297N (Average) After tape application: 1720±303N (Average)
Sinclair 2016 [78]	Individuals with PFP (n=20)  (males)	age=NR mass=NR M:F=11:9	Cutting	Brace	Baseline: 3.76±0.65BW Brace (after 2-week intervention): 3.47±1.01BW
	(females)				Baseline: 3.95±0.84BW Brace (after 2-week intervention): 3.25±0.79BW
Sinclair 2016 [78]	Individuals with PFP (n=20)  (males)	age=NR mass=NR M:F=11:9	Hopping	Brace	Baseline: 3.56±0.52BW Brace (after 2-week intervention): 3.32±0.99BW
	(females)				Baseline: 3.56±0.48BW Brace (after 2-week intervention): 3.10±0.66BW

*Note.* Peak (or as indicated average) patellofemoral joint reaction force data are presented as mean±standard deviation. all walking and running speeds converted to meters per second

Abbreviations: PFP, patellofemoral pain; PF OA, patellofemoral osteoarthritis; M, males; F, Females; NR, not reported; BW, body weight; N, Newton; kg, kilogram; yrs, years; m, meter; m/s, meters per second. ‡ cross-sectional studies comparing cases and controls