

Table 2. Characteristics of the included studies on the effects of post-rolling.

Author and year	Subjects (male/female)	Exercise to provoke exhaustion	FR intervention	Targeted muscles/region	Time between FR and post-test	Outcome measures	Effects
<i>Sprint Performance</i>							<i>Weighted Overall: + 3.1% (g = 0.34)</i>
D'Amico and Gillis, 2017	37 (37/0) Healthy	40 x 15 m sprints with a 5 m deceleration zone	2 x 60 s each muscle Foam roller Body weight	Quadriceps, hamstrings, gluteus maximus, and gastrocnemius muscles	0 h 24 h 48 h 72 h 96 h	T-test	Post 0 h: + 4.0% (g = 0.35) Post 24 h: + 6.2% (g = 0.55) Post 48 h: + 6.9% (g = 0.61) Post 72 h: + 3.3% (g = 0.29) Post 96 h: + 4.5% (g = 0.41)
Pearcey et al., 2015	8 (8/0) Healthy and moderately to very physically active	10 sets of 10 repetitions of barbell back squats at 60% of the participant's 1RM	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, adductors, hamstrings, iliotibial band, and gluteus muscles	24 h 48 h 72 h	30-m sprint test T-test	Post 24 h: - 0.4% (g = 0.09) Post 48 h: + 0.2% (g = 0.00) Post 72 h: + 0.9% (g = 0.27)
Rey et al., 2017	18 (18/0) Spanish professional soccer players	Standard soccer training	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, hamstrings, adductors, gluteals, and gastrocnemius muscles	24 h	10-m sprint test T-test	Post 24 h: + 2.2% (g = 0.37)
<i>Jump Performance</i>							<i>Weighted Overall: - 0.2% (g = 0.06)</i>
D'Amico and Gillis, 2017	37 (37/0) Healthy	40 x 15 m sprints with a 5 m deceleration zone	2 x 60 s each muscle Foam roller Body weight	Quadriceps, hamstrings, gluteus maximus, and gastrocnemius muscles	0 h 24 h 48 h 72 h 96 h	Vertical squat jump test	Post 0 h: - 1.0% (g = 0.02) Post 24 h: + 1.3% (g = 0.17) Post 48 h: + 1.0% (g = 0.14) Post 72 h: - 1.9% (g = -0.04) Post 96 h: - 0.8% (g = 0.02)

Table 2. Continued.

Author and year	Subjects (male/female)	Exercise to provoke exhaustion	FR intervention	Targeted muscles/region	Time between FR and post-test	Outcome measures	Effects
Fleckenstein et al., 2017	30 (15/15) Healthy and physically active	Functional agility short-term fatigue protocol (FAST-FP)	1 x 30 s each muscle Foam roller 7 on a visual analog pain scale of 1 to 10	Quadriceps, hamstrings, adductors, calves, and iliotibial band muscles	5 min	Reactive strength index in a drop jump test	Post 5 min: - 7.1% (g = -0.28)
Macdonald et al., 2014	20 (20/0) Physically active and resistance trained	10 sets of 10 repetitions of barbell back squats at 60% of the participant's 1RM	2 x 60 s each muscle Foam roller Body weight	Muscle groups of the anterior, lateral, posterior, and medial aspect of the thigh, along with the gluteal muscles	24 h 48 h 72 h	Vertical counter-movement jump test	Post 24 h: + 6.0% (g = 0.36) Post 48 h: + 5.9% (g = 0.36) Post 72 h: 0.0% (g = 0.00)
Pearcey et al., 2015	8 (8/0) Healthy and moderately to very physically active	10 sets of 10 repetitions of barbell back squats at 60% of the participant's 1RM	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, adductors, hamstrings, iliotibial band, and gluteus muscles	24 h 48 h 72 h	Standing broad jump test	Post 24 h: + 2.6% (g = 0.22) Post 48 h: + 4.7% (g = 0.38) Post 72 h: + 5.4% (g = 0.44)
Rey et al., 2017	18 (18/0) Spanish professional soccer players	Standard soccer training	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, hamstrings, adductors, gluteals, and gastrocnemius muscles	24 h	Vertical counter-movement jump test	Post 24 h: + 2.7% (g = 0.18)
<i>Strength Performance</i>							<i>Weighted Overall: + 3. % (g = 0.21)</i>
Casanova et al., 2018	10 (8/2) Healthy athletes with occasional experience of resistance training	5 sets of 20 repetitions of unilateral calf raises within the maximal active range of motion	6 x 45 s Roller massager	Gastrocnemius muscle	1 h 24 h 48 h 72 h	Maximum isometric voluntary force of the plantar flexors	Post 1 h: + 6.6% (g = 0.18) Post 24 h: - 1.2% (g = -0.03) Post 48 h: - 3.1% (g = -0.07) Post 72 h: - 5.4% (g = -0.13)

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Author and year	Subjects (male/female)	Exercise to provoke exhaustion	FR intervention	Targeted muscles/region	Time between FR and post-test	Outcome measures	Effects
Fleckenstein et al., 2017	30 (15/15) Healthy and physically active	Functional agility short-term fatigue protocol (FAST-FP)	1 x 30 s each muscle Foam roller 7 on a visual analog pain scale of 1 to 10	Quadriceps, hamstrings, adductors, calves, and iliotibial band muscles	5 min	Maximum isometric voluntary force of the knee extensors	Post 5 min: + 9.2% (g = 0.61)
Macdonald et al., 2014	20 (20/0) Physically active resistance-trained	10 sets of 10 repetitions of barbell back squats at 60 % of the participant's 1RM	2 x 60 s each muscle Foam roller Body weight	Muscle groups of the anterior, lateral, posterior, and medial aspect of the thigh, along with the gluteal muscles	24 h 48 h 72 h	Maximum isometric voluntary force of the knee extensors	Post 24 h: + 3.0% (g = 0.05) Post 48 h: 0.0% (g = -0.07) Post 72 h: - 1.0% (g = -0.13)
Pearcey et al., 2015	8 (8/0) Healthy and moderately to very physically active	10 sets of 10 repetitions of barbell back squats at 60 % of the participant's 1RM	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, adductors, hamstrings, iliotibial band, and gluteus muscles	24 h 48 h 72 h	Barbell back squats at 70 % of the participant's 1RM for a maximal number of repetitions	Post 24 h: + 1. % (g = 0.04) Post 48 h: + 14.1% (g = 0.37) Post 72 h: + 3.7% (g = 0.10)
Zorko et al., 2016	10 (9/1) Recreationally active	3 sets of 15 repetitions of knee extensions at 70 % of the participant's 1 RM	1 x 90 s Foam roller Body weight	Quadriceps muscle	30 min	Maximum isometric voluntary force of the knee extensors	Post 30 min: + 4.9% (g = 0.24)
<i>Overall Performance</i>							<i>Weighted Overall: + 1.9% (g = 0.19)</i>
<i>Muscle pain</i>							<i>Weighted Overall: + 6.0% (g = 0.47)</i>
Casanova et al., 2018	10 (8/2) Healthy athletes with occasional experience of resistance training	5 sets of 20 repetitions of unilateral calf raises within the maximal active range of motion	6 x 45 s Roller massager	Gastrocnemius muscle	1 h 24 h 48 h 72 h	Pressure-pain threshold	Post 1 h: + 7.2% (g = 0.21) Post 24 h: + 0.2% (g = 0.04) Post 48 h: + 6.1% (g = 0.21) Post 72 h: + 9.7% (g = 0.32)

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Author and year	Subjects (male/female)	Exercise to provoke exhaustion	FR intervention	Targeted muscles/region	Time between FR and post-test	Outcome measures	Effects
D'Amico and Gillis, 2017	37 (37/0) Healthy	40 x 15 m sprints with a 5 m deceleration zone	2 x 60 s each muscle Foam roller Body weight	Quadriceps, hamstrings, gluteus maximus, and gastrocnemius muscles	0 h	General labeled magnitude scale (gLMS)	Post 0 h: - 4.8% (g = -0.50)
					24 h		Post 24 h: - 1.4% (g = -0.15)
					48 h		Post 48 h: + 1.8% (g = 0.19)
					72 h		Post 72 h: + 1.2% (g = 0.12)
					96 h		Post 96 h: - 3.0% (g = -0.31)
Macdonald et al., 2014	20 (20/0) Physically active resistance-trained	10 sets of 10 repetitions of barbell back squats at 60 % of the participant's 1RM	2 x 60 s each muscle Foam roller Body weight	Muscle groups of the anterior, lateral, posterior, and medial aspect of the thigh, along with the gluteal muscles	24 h	BS-11 numerical rating scale	Post 24 h: + 11.0% (g = 1.00)
					48 h		Post 48 h: + 27.0% (g = 2.46)
					72 h		Post 72 h: + 25.0% (g = 2.28)
Pearcey et al., 2015	8 (8/0) Healthy and moderately to very physically active	10 sets of 10 repetitions of barbell back squats at 60 % of the participant's 1RM	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, adductors, hamstrings, iliotibial band, and gluteus muscles	24 h	Pressure-pain threshold	Post 24 h: + 7.6% (g = 0.28)
					48 h		Post 48 h: + 11.0% (g = 0.42)
					72 h		Post 72 h: + 0.7% (g = 0.02)
Rey et al., 2017	18 (18/0) Spanish professional soccer players	Standard soccer training	2 x 45 s each Muscle Foam roller Body weight	Quadriceps, hamstrings, adductors, gluteals, and gastrocnemius muscles	24 h	Visual analog scale	Post 24 h: + 15.3% (g = 1.98)

FR, foam rolling; 1RM, one repetition maximum.