

**Table S1:** During Exercise Studies

Citation	Study design	Performance outcome(s)	Sample size, sex; height; weight (mean ± SD)	Participant characteristics; training history	Type of CGs; manufacturer; composition	Applied pressure (mmHg)	Exercise modality	Exercise protocol	Effects of compression clothing  <i>Compared to control group (non-compression clothing), unless otherwise stated</i>
Ali, Caine & Snow, 2007(a) [25]	Crossover	Endurance	14 M; 22 ± 0.4 y; 174 ± 1 cm, 72 ± 2.0 kg	Recreational runners; VO <sub>2</sub> max 56.1 ± 0.4 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Knee-length graduated stockings (Venosan, 4001, St. Galen, Switzerland)	MR: 18 – 22	Running	2 x multi-stage fitness shuttle running tests w 1 hr recovery	Distance run ↔ HR ↔ Perceived soreness ↔ RPE ↔ Comfort, tightness & pain ratings ↔
Ali, Caine & Snow, 2007(b) [25]	Crossover	Endurance	14 M; 23 ± 0.5 y; 176 ± 1 cm; 74.2 ± 2.1 kg	Recreational runners; VO <sub>2</sub> max 55.0 ± 0.9 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Knee-length graduated stockings (Venosan, 4001, St. Galen, Switzerland)	MR: 18 – 22	Running	10km road run at predetermined 'fast' pace	Run time ↔ HR ↔ RPE ↔ Comfort, tightness & pain ratings ↔ Muscle soreness (24 hrs post) ↓*
Ali, Creasy & Edge, 2010 [83]	Double blind	Endurance	9 M, 1 F; 36 ± 10 y; 180 ± 8 cm, 72.9 ± 13.2 kgs	Competitive runners/triathletes, VO <sub>2</sub> max 70.4 ± 6.1 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Knee-length graduated stockings (Julius Zorn GmbH, Aichach, Germany) <sup>a</sup>	11 ± 2 at ankle, 8 ± 1 at calf ('low'); 26 ± 3 at ankle, 15 ± 2 at calf ('high')	Running	40 min treadmill run at 80 ± 5% maximal oxygen uptake	CMJ height & power ↔ VO <sub>2</sub> ↔ HR ↔ Blood [La-] ↔ CK ↔ Mb ↔ Muscle soreness ↔ Pressure sensitivity ('High' CGs only) ↓* RPE ↔ Pleasure/displeasure rating ↔ Arousal/activation rating ↔ Perceived comfort ('High' CGs only) ↓* Perceived pain & tightness ('High' CGs only) ↑*
Ali, Creasy & Edge, 2011 [27]	Double blind; crossover	Endurance	9 M, 3 F; 33 ± 10 y; 174 ± 6 cm, 68.5 ± 6.2 kg	Competitive runners, VO <sub>2</sub> max 68.7 ± 5.8 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Knee-length graduated stockings (Julius Zorn GmbH, Aichach, Germany) <sup>a</sup>	MR: 15 at ankle, 12 at knee ('low'); 21 at ankle, 18 at knee ('medium'); 32 at ankle, 23 at knee ('high')	Running	10 km outdoor time trial on synthetic track	Running time ↔ CMJ jump height ('Low' & 'medium' CGs) ↑* HR ↔ Blood [La-] ↔ RPE ↔ Pleasure/displeasure ↔ Perceived activation ↔ Comfort ↓* ('Medium' & 'high' CGs) Tightness ('High' CGs) ↑* Pain ('High' CGs) ↑*
Areces et al., 2015 [21]	Case-control, ecological	Endurance	15 M, 2 F; 42.7 ± 7.8 y; 173 ± 9 cm, 69.9 ± 7.7 kg	Experienced marathon runners, 11.1 ± 3.6 training y, 58 ± 20 kms/wk	Knee-length graduated stockings (NRG Energy; Medilast Sport, Lleida, Spain; 77% polyamide, 13% elastane, 10% polyester)	MR: 25 to 20	Running	Competitive outdoor marathon	Running time ↔ Running pace ↔ CMJ jump height, power production ↔ Body mass ↔ Blood O <sub>2</sub> saturation & osmolality ↔ Sodium, chloride, potassium & calcium concentration ↔ Mb, CK, LDH ↔ Lower leg volume ↔ RPE ↔

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									Lower limb soreness post-race	↔
									Lower limb soreness (24 hrs post)	↓*
									Lower limb soreness (48 hrs post)	↔
<b>Bajelani, Arshi &amp; Akhavan, 2022 [104]</b>	Crossover	Running biomechanics	15 M; 29 ± 1.1 y; 170 ± 1.5 cm; 70 ± 9.6 kg	Experienced track runners; 22:10 ± 1:30 (5 km), 49:20 ± 2:40 (10 km) average record	Shorts (custom sized, no further details)	MR: 12-14 on legs	Running	10 minute treadmill run at 11 km/h	Complexity of behaviour	↓*
									Permutation entropy	↓*
<b>Ballmann, Hotchkiss &amp; Rogers, 2019 [38]</b>	Crossover	Anaerobic power	12 M; 20.3 ± 1.37 y; 195 ± 9 cm; 88.8 ± 11.4 kg	Collegiate male basketball players	Waist-to-ankle tights (Nike, Beaverton, OR, USA; 80% nylon and 20% spandex)	MR: 15–20 at ankle, 6–10 at thigh	Cycling	2 x 30s repeated Wingate anaerobic tests	Average mean power	↑*
									Average anaerobic capacity	↑*
									Peak power	↔
									Average anaerobic power	↔
									Average total work	↑*
									Fatigue index	↔
									RPE	↓*
<b>Barwood et al., 2013 [96]</b>	Single blind	Endurance	8 M; 21 ± 2 y; 177 ± 6 cm; 72.8 ± 7.1 kg	Recreationally active adults	Lower body graduated compression garment; and ‘sham’ compression garment (one size larger than manufacturer recommended)	20 ± 3 at calf, 11 ± 2 at thigh (CG); 17 ± 4 at calf, 10 ± 2 at thigh (‘sham’)	Running	15 min submaximal treadmill run at fixed speed; 5 km TT  (Hot conditions: 35.2°C ± 0.1°C)	Running time	↔
									Running pace profile	↔
									Body temp ( <i>aural, skin, mean</i> )	↔
									Quadriceps temp ( <i>CG &amp; ‘sham’</i> )	↑*
									Sweat production	↔
									Fluid consumption	↔
									Cardiac frequency	↔
									RPE	↔
									Thermal comfort & sensation	↔
									Average pressure ( <i>CG only</i> )	↑*
<b>Bernhardt &amp; Anderson, 2005 [55]</b>	Crossover	Limb ROM & power; agility; speed; endurance	10 M, 3 F; 25.7 y	Recreationally active adults	Elasticized compression shorts (Coreshorts, Abbotsford, Canada)	NR	Balance, jumping, agility, running	Active ROM tests; timed balance trial; vertical jump; T-test agility trial; 20m dash; 20m multistage shuttle run	Vertical jump	↔
									Agility	↔
									20m speed	↔
									20m shuttle run	↔
									Active ROM hyperextension & abduction	↔
									Active ROM flexion	↑*
									Joint angle replication	↔
									Balance	↔
<b>Born et al., 2014 [58]</b>	Crossover	Explosive power	24 F; 25 ± 3 y; 167 ± 3 cm; 61 ± 5 kg (study 1); 23 ± 2 y; 169 ± 3 cm; 61 ± 6 kg (study 2)	Track & field and team sport athletes	Waist-to-ankle tights (no brand reported) <sup>b</sup>	20.8 ± 5.8 at calf, 19.25 ± 4.2 at gluteus maximus	Running	30 x 30m sprints (1 sprint per minute)	Repeat sprint performance (final 10 sprints)	↑*
									O <sub>2</sub> uptake, ventilation	↔
									HR	↔
									Blood [La-]	↔
									Tissue saturation, oxyhaemoglobin, deoxyhaemoglobin, total haemoglobin	↔
									RPE ( <i>upper leg muscles</i> )	↓*
									Step length	↑*
									EMG muscle activation ( <i>rectus femoris</i> )	↑*
									Step frequency	↔
									Hip flexion angle	↓*
<b>Born et al., 2014 [45]</b>	Crossover	Endurance	6 M, 4 F; 23 ± 7 y; 173 ± 10 cm; 68.2 ± 13.9 kg	International level ice speed skaters, VO <sub>2</sub> max 58 ± 5.2 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Waist-to-ankle tights (94% polyamide and 6% Lycra) under normal race suit <sup>c</sup>	20.3 ± 2.3 at thigh, 24.4 ± 3.1 at calf	Ice speed skating	3000m race simulation	Lap times	↔
									Velocity	↔
									Mm tissue oxygenation, local blood volume O <sub>2</sub> uptake	↔

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									Ventilation	↔
									HR	↔
									Blood [La-]	↔
									RPE	↔
<b>Bovenschen, Booij &amp; Van Der Vleuten, 2013 [187]</b>	Cross-sectional	Endurance	8 M, 2 F; 40.5 ± 15.8 y; 173 ± 7.7 cm; 67 ± 9.1 kg	Trained recreational runners; average distance per week 12.3 ± 3.2 kms	Graduated compression stockings (Arion International BV, Geleen, The Netherlands) worn on one leg <sup>d</sup>	MR 25–35 mm Hg	Running	10km track run (comfortable pace); maximal incremental treadmill test	Leg volume ( <i>post 10km run, post treadmill test</i> )	↓*
									Leg complaints questionnaire	↔
<b>Brighenti, 2013 [97]</b>	Crossover	Endurance	7 subjects; 32.0 ± 5.8 y; 180 ± 8 cm; 77.77 ± 9.4 kg	Amateur cyclists & triathletes	Whole body partial compression (X-BIONIC Effector TM) <sup>e</sup>	NR	Cycling	Incremental max test; 20 mins cycling @ 80% VT; TTE at VO <sub>2</sub> max power	VO <sub>2</sub> max	↔
									TTE	↔
									HR ( <i>steady state submax cycling</i> )	↔
									RPE	↔
									Thermal sensation, sweating sensation	↔
								<i>(Hot conditions: 32°C)</i>		
<b>Bringard, Perrey &amp; Belluye, 2006 [10]</b>	Crossover	Endurance	6 M, 31.2 ± 5.4 y; 177.3 ± 6.6 cm; 66.0 ± 8.8 kg	Middle distance runners	Tights (Decathlon®, unspecified length) <sup>f</sup>	NR	Running	VO <sub>2</sub> max test (incremental, 3-min stages); plus 15-mins running at ~80% VO <sub>2</sub> max; both on indoor track	VO <sub>2</sub> max	↔
									Body mass loss	↔
									Minute ventilation	↔
									HR	↔
									O <sub>2</sub> cost ( <i>12 km/h, CG and elastic tights</i> )	↓*
									VO <sub>2</sub> slow component	↓*
									RPE	↔
									Clothing comfort	↔
									Thermal stress, sweating sensation	↔
<b>Broatch, Bishop &amp; Halson, 2018 [36]</b>	Crossover	Aerobic & anaerobic endurance	9 M, 11 F; 26.5 ± 4 y; 174.9 ± 6.4 cm; 73.2 ± 9.4 kg	Recreationally active; 310.8 ± 144.8 min of moderate-vigorous activity per week	Waist-to-ankle tights (2XU Elite Compression Tights, Melbourne, Australia)	11.7 ± 2.3 at thigh, 26.4 ± 6.4 at calf, 21.5 ± 8.2 mm Hg at ankle	Cycling	4 x (10 × 6-s maximal sprints); 24s recovery b/n bouts, 2 min recovery b/n sets	Peak power	↑S*
									Work performed per sprint (kJ)	↑*
									Mm blood flow (v. lateralis)	↑S*
									Mm VO <sub>2</sub>	↔
									VO <sub>2</sub>	↔
									Heart rate	↓*
									Blood [La-]	↔
									Blood pH, bicarbonate & base excess	↔
<b>Broatch et al., 2020(a) [28]</b>	Crossover	Running biomechanics	13 M; 22 ± 3 y; 185.0 ± 5.5 cm; 84.1 ± 9.4 kg	Amateur Australian Rules footballers; 395 ± 110 mins exercise/week	Waist-to-ankle tights (2XU Elite Compression Tights, Melbourne, Australia)	21.8 ± 6.0 at thigh, 17.2 ± 6.2 at calf, 13.2 ± 2.9 at ankle	Running	2 x 4 min treadmill bouts (2 min @ 12 km/h, 2 min @ 15km/h) w 30s rest	Thigh mm displacement ( <i>12km/h, medial-lateral</i> )	↓*
									Calf mm displacement ( <i>12km/h, medial-lateral</i> )	↓*
									Calf mm displacement ( <i>12 &amp; 15km/h, anterior-posterior</i> )	↓*
									All other mm displacement & acceleration	↔
<b>Broatch et al., 2020(b) [28]</b>	Crossover	Running biomechanics	14 M; 27 ± 5 y; 180.9 ± 7.3 cm; 77.8 ± 8.4 kgs	Recreationally active; 294 ± 155 exercise mins/week	Waist-to-ankle tights (three types: 2XU Elite Compression Tights, Nike Pro Zonal Compression Tights & Under Armor (UA)	21.8 ± 6.0 at thigh, 17.2 ± 6.2 at calf, 13.2 ± 2.9 at ankle (2XU); 21.5 ± 5.1 thigh, 14.6 ± 4.9 calf, 9.1 ± 2.5 ankle (Nike); 18.9 ± 6.3 thigh, 11.4 ±	Running	4 x 9 min treadmill bouts (3 min @ 8 km/h, 3 min @ 10km/h, 3 min @ 12km/h) w 30s rest	Running economy	↔
									Mm displacement ( <i>VAS, GAS; 8 &amp; 10km/h; medial-lateral; 2XU</i> )	↓*
									Mm displacement ( <i>VAS; 10 km/h; anterior-posterior; Nike</i> )	↓*
									Mm displacement ( <i>VAS, 8km/h, vertical, Nike</i> )	↓*

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					Charged Compression Tights)	4.7 calf, 7.7 ± 3.1 ankle (UA)			Mm displacement ( <i>VAS, 10km/h, vertical, 2XU</i> )	↓*
									Soft tissue vibrations ( <i>VAS, 8km/h, Nike, 2XU</i> )	↓*
									Soft tissue vibrations ( <i>GAS, 10km/h, 2XU, UA</i> )	↓*
									Soft tissue vibrations ( <i>GAS, 10km/h, UA</i> )	↓*
									Soft tissue vibrations ( <i>VAS, 12km/h, 2XU</i> )	↓*
									Mm activation ( <i>iEMG, GAS, all CGs</i> )	↓*
<b>Broatch et al., 2021 [37]</b>	Crossover	Anaerobic power	8 M, 2 F; 27.4 ± 6.3 y; 181 ± 6 cm; 74.5 ± 14.0 kg	Recreationally active; min. 90 mins moderate-high exercise/week	Waist-to-ankle tights (2XU Elite MCS Tights, Melbourne, Australia)	11.1 ± 3.1 at mid-thigh, 20.6 ± 3.7 at maximal calf	Cycling	4 sets of 10 × 6s maximal Wattbike sprints (24s recovery after each sprint, 2 mins recovery after each set)	Peak, mean power (RSE total)	↔
									Single-sprint performance peak & mean power	↔
									Microvascular blood volume ( <i>post-exercise, 60 mins post</i> )	↓*
									Femoral artery diameter, blood velocity & flow ( <i>post-exercise, 60 mins post</i> )	↓*
									Total mm haemoglobin ( <i>after set 1, set 2-4</i> )	↓*
									Oxyhemoglobin post-exercise	↓*
									Normalised mm de-oxyhemoglobin concentration	↑*
									Blood [La-] ( <i>after first set only</i> )	↓*
									Blood glucose	↔
									Heart rate RPE	↔
<b>Brophy-Williams et al., 2019 [35]</b>	Crossover	Endurance	12 M; 30.5 ± 8.1 y; 181 ± 7 cm; 77.8 ± 6.5 kg	Well trained runners; best 5 km run time 19:29 ± 1:18 min:s	Knee high compression socks (Performance Run Sock, 2XU, Melbourne, Australia)	37 ± 4 at maximal calf girth, 31 ± 4 at upper ankle, 23 ± 4 at lower ankle	Running	5 km treadmill time trial	TT performance	↔
									Decrement from TT1 to TT2	↓M*
									Oxygen consumption	↔
									Blood [La-]	↔
									Calf cross-sectional area	↔
									RPE	↔
									Mm soreness	↔
									Fatigue	↔
<b>Burden &amp; Glaister, 2012 [42]</b>	Single blind, crossover	Endurance, sprint	10 M; 34.6 ± 6.8 y; 180 ± 5 cm, 82.2 ± 10.4 kg	Well trained triathletes & cyclists; VO <sub>2</sub> max: 50.86 ± 6.81 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Ionized and non-ionized compression tights (Canterbury of New Zealand, Auckland, New Zealand)	Both CGs: 15 at anterior thigh, 21 at anterior midshank	Cycling	3 sprint trials (30s at 150% VO <sub>2</sub> max, 3 mins recovery, 3s-second Wingate test, 3 mins recovery); 3 endurance trials (30 minutes at 60% pVO <sub>2</sub> max, 5 mins recovery, 10 km TT)	Wingate peak power, mean power, fatigue	↔
									10km TT	↔
									Mean VO <sub>2</sub>	↔
									Mean HR	↔
									Blood [La-] ( <i>non-ionized</i> )	↓*
<b>Cavanaugh et al., 2016 [69]</b>	Crossover	Balance	7 M, 5 F; (mean) 23.9 y; 170.25 cm; 73.3 kg	Recreationally active	Knee compression sleeve on dominant leg (Cramer ESS, 79% nylon, 20% spandex, 1% other materials) <sup>§</sup>	NR	Balance; BW resistance	Y Balance Test; drop jump landing; 4 sets of unilateral BW Bulgarian squats to failure (1 min rest b/n sets)	Muscular endurance ( <i>no. of squats</i> )	↔
									Balance ( <i>post-ex, 10 mins post</i> )	↔
									Mm activation ( <i>drop jump landing</i> )	↔

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<b>Chang et al., 2022 [172]</b>	Crossover	Proprioception, endurance	10 M, 10 F; 38.6 ± 11.3 y; 169.3 ± 10.4 cm; 60.3 ± 9.5	Trained runners; 4.7 ± 3.5 y experience	Graduated socks (CEP, Germany; 69% polyamide, 16% spandex, and 15% polypropylene)	MR: 22 at ankle, 18 at knee	Running	21 km treadmill trial as (3 x 7km self-paced blocks)	Total time HR Blood [La-] RPE Ankle proprioception (21km) Ankle proprioception (pre, 7km, 14km)	↔ ↔ ↔ ↔ ↑* ↔
<b>Chaudhari et al., 2014 [105]</b>	Crossover	Running biomechanics	6 M, 13 F; 23.4 ± 4.8 y; 176 ± 11 cm; 71.1 ± 12.7 kg	Recreationally active (min. 3 times a week), various sports	Directional <sup>h</sup> compression shorts (CoreShort PRO, Under Armour, USA) <sup>i</sup>	NR	Running	45° unanticipated side-step run-to-cut manoeuvres to both sides (8 trials per condition)	Total GRF Mm activation (adductor longus, all five phases of stance)	↔ ↓*
<b>Cheng &amp; Xiong, 2019 [173]</b>	Crossover	Walking biomechanics	16 M; 22.5 ± 0.9 y; 171 ± 4.9 cm; 63.5 ± 6.9 kg	Healthy	Knee-high stockings (72% polyamide, 28% lycra)	MR: 30–40	Walking	6 min treadmill walking at 5km/h; force plate walking trials (duration unknown)	RER Mm activation Step frequency, step length, step variability, joint ROM, joint powers Peak knee extension (early stance) Peak knee flexion (late swing) Peak ankle dorsiflexion (early stance) Peak ankle plantar flexion (late swing)	↔ ↔ ↔ ↑* ↓* ↑* ↓*
<b>Coza et al., 2012 [92]</b>	Cross-sectional interventional	Mm tissue oxygenation dynamics	15 M, 25.8 ± 4.9 y; 70.6 ± 4.3 kg	Healthy; history of consistent moderate daily exercise	Elastic compression sleeve, (custom made, one size, 75% polyester, 25% spandex)	NR	BW resistance exercise	2 x 40 heel raises per minute for 2 mins (10 mins rest b/n sets)	Mean tissue O <sub>2</sub> index recovery (first 2 mins) Mm energy use	↑* ↔
<b>Dandrieux, Thouze &amp; Rossi, 2020 [107]</b>	Crossover	Running biomechanics	12 M; 24 ± 2.5 y; 176.7 ± 5.2 cm; 72.42 ± 5.8 kg	Recreationally active; exercise 1-4 times/week	Waist-to-knee shorts (Kalenji, Decathlon)	NR	Running	7 x 30s treadmill runs (8, 10, 12 km/h without slope; 8 km/h1 uphill at 10%; 8, 10, 12 k/ h downhill w 10% slope)	Peak acceleration (VAS) Mean power	↓* ↓*
<b>Dascombe et al., 2011 [31]</b>	Crossover	Endurance	11 M; 28.4 ± 10 y; 177.3 ± 4.7 cm; 72.6 ± 8.0 kg	Well-trained middle-distance runners & triathletes; VO <sub>2</sub> max 59.0 ± 6.7 mL.kg <sup>-1</sup> .min <sup>-1</sup> ; best 3km time <12 mins	Waist-to-ankle tights (Sport Skins Classic, Skins, Campbelltown, NSW; 76% Nylon/Meryl microfiber and 24% Roica Spandex); undersized & normal sized conditions	13.7 ± 2.3 at thigh, 19.2± 3.2 at calf (normal sized); 15.9 ± 2.6 at thigh, 21.7 ± 4.3 at calf (undersized)	Running	Progressive maximal test (3 min stages); TTE @ 90% vVO <sub>2</sub> max	VO <sub>2</sub> max TTE Blood [La-] VO <sub>2</sub> , O <sub>2</sub> pulse Deoxyhaemoglobin (8-10km/h) Running economy Oxyhaemoglobin, TOI (8-10km/h) Regional blood flow, deoxyhaemoglobin (12-18km/h) HR (12-18km/h)	↔ ↔ ↔ ↑* ↑* ↓* ↓* ↑* ↓*
<b>Dascombe et al., 2013 [48]</b>	Crossover	Speed, power, endurance	5 M, 2 F; 23.4 ± 2.3 y; 77.5 ± 8.6 kg	Elite flat-water kayakers; competing at junior or senior international level for previous 18 months	Unisex full-length long-sleeved tops (Sport Skins Classic, Skins TM, Campbelltown, NSW, Australia; 76% nylon	NR	Kayak ergometry	Six step incremental test; 4-minute max distance test	Power (LT, AnT) Metres covered Peak & mean power Stroke rate HR (LT, AnT) Blood [La-] (LT) Blood [La-] (AnT)	↔ ↔ ↔ ↔ ↑M ↑M ↔

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					& meryl microfibre, 24% roica spandex)				Total & relative work (kJ)	↔
<b>de Britto et al., 2017 [56]</b>	Crossover	Jump biomechanics	27 F; 23 ± 4 y; 161 ± 5 cm; 60.6 ± 7.9 kg	Recreationally active; min. 90 mins weekly activity	Waist-to-knee shorts (Adidas TechFit)	NR	Jumping	Jump-landing tasks: forward jump, forward jump w countermovement; 20cm & 40cm drop jumps w countermovement; vertical jump	Jump height Knee valgus (initial contact, landing phase; forward jump, drop jumps, vertical jump) Knee flexion (initial contact, all jumps) Peak knee flexion (landing phase, all jumps)	↔ ↓M ↓S ↓S
<b>Del Coso et al., 2014 [47]</b>	Parallel group	Endurance	36 subjects; 35.4 ± 5.8 y; 176 ± 6.5 cm; 73.2 ± 5.6 kg	Trained triathletes; 4.7 ± 1.1 y experience	Socks (Race and Recovery®, Compressport®, Paris, France; 60% polyamide, 25% elastane, 15% polyester)	NR	Triathlon	Competitive half-Ironman triathlon (at 29 ± 3°C and 73 ± 8 % relative humidity)	Race time Jump height Swimming, running velocity Cycling velocity Mb (post-race) CK (post-race) Serum glucose, chloride, potassium & calcium Sodium concentration Blood osmolality Body mass change Blood [La-] (post-race) Mm soreness RPE Lower limb mm power	↔ ↔ ↔ ↑S ↓L ↓M ↔ ↑S ↑L ↔ ↔ ↔ ↔ ↔ ↔
<b>de Souza et al., 2018 [89]</b>	Crossover	Endurance	10 subjects; 29.1 ± 10.47 y; 175.9 ± 5.78 cm; 72.18 ± 4.57 kg	Trained runners; can run 4:00-6:00 min/km pace	Socks (Oxer® Run)	MR: 15 to 20	Running	10km outdoor race (conditions unknown)	Mean velocity Running pace Total time SBP & DBP HR Peak torque, fatigue index CMJ, squat jump	↔ ↔ ↔ ↔ ↔ ↔ ↔
<b>Doan et al., 2003 [54]</b>	Crossover	Team sport attributes	10 M, 10 F; 19.6 ± 1.1 y; 174 ± 5 cm; 67.2 ± 6.8 kg	(USA) Division I track athletes, sprint/jump specialists	Waist-to-knee shorts (Model 950 GH, Antibody Inc., Cheltenham, MD; 75% closed cell neoprene, 25% butyl rubber) <sup>j</sup>	NR	Sprinting, jumping	60m sprint; three maximal CMJs	Sprint time CMJ height Squat depth Skin temperature Hip ROM Knee ROM Mm oscillation (longitudinal, anterior-posterior)	↔ ↑* ↓* ↑* ↓* ↔ ↓*
<b>Driller &amp; Halson, 2013 [39]</b>	Crossover	Endurance	12 M; 30 ± 6 y, 180 ± 5 cm, 75.6 ± 5.8 kg	Highly trained A/B grade cyclists, VO <sub>2</sub> peak 66.6 ± 3.4 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Waist-to-ankle tights (2XU Elite compression tights. Hawthorn, VIC, Australia)	MR: ~18 at ankle, ~10 at gluteus maximus	Cycling	30 min cycling as (15 min @ 70% of VO <sub>2</sub> max power; 15 min TT)	Mean power output HR (first 15 mins @ fixed workload) Blood [La-] Calf & thigh girths Perceived soreness	↑* ↓S ↔ ↔ ↔
<b>Driller et al., 2021 [60]</b>	Crossover	Team sport attributes	12 M; 22 ± 5 y, 179 ± 5 cm; 72 ± 7 kg	Competitive basketball players	Waist-to-ankle tights (Li-Ning, PowerShell AULM043-I, Beijing, China)	7.6 ± 2.6 at ankle, 14.0 ± 2.6 at calf, 8.3 ± 1.8 at thigh	Basketball	CMJ; Margaria-Kalamen stair-climb test; Basketball Exercise Simulation Test (12 mins)	CMJ jump height, power 6m sprint time Sprint decrement Circuit decrement Stair climb test power decrement RPE	↔ ↑S* ↔ ↔ ↓S ↔

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<b>Ehrström et al., 2018 [174]</b>	Crossover	Endurance, running biomechanics	13 M; 38.6 ± 5.7 y; 175.8 ± 5.1 cm; 72.1 ± 4.7 kg	Well trained trail runners; 8.8 ± 3.4 y of trail running practice; regular competitive racing	Stockings (Salomon R S/Lab Exo)	MR; 20–25 at middle calf, 18–20 at upper calf, 16–18 at mid-thigh	Downhill running	40 min downhill treadmill run @ 55% VO <sub>2</sub> max	CMJ ↔ VO <sub>2</sub> ↔ Ventilation ↔ HR ↔ RER ↓M* Mm soreness ( <i>post-exercise</i> ) ↔ Mm soreness ( <i>24 hrs post</i> ) ↓* Soft tissue vibrations ( <i>vastus lateralis</i> ) ↓* Voluntary activation ( <i>knee extensors</i> ) ↓* Peripheral fatigue ( <i>knee extensors, plantar flexors</i> ) ↔ Decline in knee extensors MVC ( <i>24 hrs post</i> ) ↓* Step frequency ↓M*
<b>Engel et al., 2018 [167]</b>	Single-blind, crossover	Endurance	5 F, 2 M; 18 ± 2 y; 165 ± 5 cm; 58 ± 5 kg	National level elite climbers; 16.1 ± 5.6 hrs training per week; training experience: 8.7 ± 2.2 y	Arm sleeves (VERTICS, Wiesbaden, Germany; 75% polyamide & 25% spandex) <sup>k</sup>	MR; 22.4 at radial styloid process, 12.4 at olecranon process	Indoor climbing	3 x 3 climbing bouts (max 4 mins per wall; 4 mins rest after each climb; 6 mins rest after each series)	Blood [La-] ↔ HR ↔ Mm pain ↔ RPE ↓L <sup>^</sup>  <i>*Large effect size by partial eta squared, &gt;0.14</i>
<b>Faulkner et al., 2013 [175]</b>	Crossover	Speed	11 M; 23.7 ± 5.7 y; 178 ± 8 cm; 75.3 ± 10.0 kg	Trained runners; training >3 times per week specific to 400-m running	Two conditions: waist-to-ankle tights (A400 Skins, Sydney, Australia; Memory MX Fabric; 76% nylon tactel microfiber, 24% elastane); and shorts (A400 Skins, Sydney, Australia; Memory MX Fabric; 76% nylon tactel microfiber, 24% elastane) with calf sleeves	6.2 ± 1.2 at achilles; 13.2 ± 2.5 at GAS; 6.2 ± 1.2 at gluteal (tights); 14.2 ± 2.4 at achilles, 19.9 ± 2.4 at GAS 5.9 ± 0.8 at gluteal (shorts & calf sleeves)	Running	6 x 400m (2 trials per condition)	400m time ↔ Split times ↔ Blood [La-] ↔ HR ↔ Average RPE ( <i>both CGs</i> ) ↓* Comfort & optimal tightness ( <i>shorts condition, after 2nd trial only</i> ) ↑*
<b>Fuji et al., 2017 [176]</b>	Crossover	Endurance	9 M; 24.7 ± 2.0 y; 172 ± 3 cm; 66.3 ± 3.3 kg	Healthy; VO <sub>2</sub> max 52.0 ± 6.0 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Graduated stockings (ALCARE Limited (REGUARD CG Tights EX33, ALCARE, Tokyo, Japan) <sup>l</sup>	26.4 ± 5.3 at ankle, 17.5 ± 4.4 at calf, 6.1 ± 2.0 at thigh	Cycling	45 min (or until body temp raised ~1.5°C above baseline) @ 60% peak O <sub>2</sub> uptake, at 60 rpm (semi recumbent)  <i>Hot conditions (30°C, 50% relative humidity)</i>	Exercise time ↔ HR ↔ Mean arterial pressure ↔ Body weight ↔ Estimated arterial CO <sub>2</sub> pressure ( <i>baseline, 35, 40 mins</i> ) ↑* Minute ventilation ↔ Tidal volume ↔ Respiratory frequency ↔ O <sub>2</sub> uptake ↔ CO <sub>2</sub> output ↔ RER ↔ Body temp ( <i>oesophageal</i> ) ↔ Peak sweat rate ↔ Skin temp ( <i>calf, 20-35 mins</i> ) ↓* Forearm vascular conductance ( <i>30-40 min</i> ) ↑* RPE ↔
<b>Geldenhuis, Swart &amp; Bosch, 2019 [22]</b>	Parallel group	Endurance	14 M, 6 F; 34 ± 5.6 y; 175 ± 5 cm; 74.4 ± 10.2 kg	Trained endurance runners; min. average training distance of 50 kms/week	Below-knee stockings (68% polyamide, 30% Drynamix (polyester), 2% elastane fabric)	NR	Running	56km competitive outdoor ultramarathon, incl. 6-wk training period pre-competition	Overall running pace ↔ Finish time ↔ Mm soreness ( <i>2 days post</i> ) ↑* Calf & ankle circumference ( <i>training period</i> ) ↔

**Table S1: During Exercise Studies**

									Ankle circumference ( <i>2 days post</i> )	↓L*
									Mm thickness ( <i>GAS</i> )	↔
									Pennation angle ( <i>2 days post</i> )	↓*
<b>Gimenes et al., 2019 [61]</b>	Parallel group, single blind	Team sport attributes	22 subjects; 18.4 ± 0.5 y; 179 ± 5 cm; 70.8 ± 7.2 kg	State, national & international level soccer players	Stockings (3/4 model with closed toe, Sigvaris Performance; composed of 69% polyamide, 17% polyester, 14% elastane) <sup>m</sup>	MR: 20-30 mm Hg	Soccer	2 x 90 min soccer matches (w 72 hrs recovery)	Sprints completed	↔
									Total distance	↔
									Distance covered ( <i>speed zones 1-3</i> )	↔
									Distance covered ( <i>speed zones 4-5, match 1 only</i> )	↑*
									Distance covered ( <i>speed zone 4, match 2 only</i> )	↑*
									Accelerations ( <i>-50 to -3 m/s<sup>2</sup></i> )	↑*
									Body mass	↔
									Mean & peak HR	↔
									Perceived recovery	↔
									Mm soreness ( <i>post-match 2</i> )	↓L*
<b>Goh et al., 2011 [95]</b>	Crossover	Endurance	10 M; 29.0 ± 10 y; 180 ± 6 cm; 78.5 ± 6.3 kg	Recreational runners; VO <sub>2</sub> max 58.7 ± 2.7 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Waist-to-ankle tights (Skins <sup>TM</sup> Sport Men's Compression Long Tights, Campbelltown, Australia)	13.6 ± 3.4 at calf, 8.6 ± 1.9 at thigh	Running	20-min treadmill run @ first VT; then TTE @ VO <sub>2</sub> max velocity  <i>Two conditions: hot (32°C, 50% relative humidity) and cold (10°C, 50% relative humidity)</i>	RPE	↔
									Internal load ( <i>RPE*mins</i> )	↔
									Average TTE ( <i>32°C only</i> )	↑M
									Body mass	↔
									Rectal temp	↔
									Thigh & calf temperature ( <i>10°C only</i> )	↑*
									Absolute O <sub>2</sub> consumption	↔
									HR	↔
									RPE ( <i>32°C only</i> )	↓*
<b>Gupta, Bryers &amp; Clothier, 2015 [110]</b>	Crossover	Motor control	38 M; 22.1 ± 2.8 y; 181 ± 6.7 cm; 78.3 ± 10.8 kg	Recreationally active; sport & exercise 3–15 hours per week	Waist-to-ankle tights (Skins, Campbelltown, Australia) <sup>n</sup>	NR	Hopping	Single leg hopping at 2.2 Hz to volitional exhaustion	Total duration	↔
									Duration of flight & contact phases	↔
									Vertical height displacement ( <i>flight &amp; loading phases</i> )	↔
									Normalised peak vertical GRF	↔
									Vertical stiffness	↔
<b>Higgins, Naughton &amp; Burgess, 2009 [63]</b>	Crossover	Speed, power, endurance	9 F, 22.6 ± 4.6 y; 176 ± 4 cm; 67.8 ± 6.6 kg	Trained netball players, 4.6 ± 3.0 y at elite state level	Unspecified length tights (Skins, Sydney, Australia) <sup>o</sup>	NR	Team sport activities	4 x 15-minute game specific circuit for netball	20 min sprint time ( <i>each quarter</i> )	↔
									CMJ flight time ( <i>each quarter</i> )	↔
									Distance covered ( <i>total</i> )	↔
									Distance travelled at slow pace ( <i>1.5 m·s<sup>-1</sup></i> )	↑S
									Distance travelled at fast pace ( <i>3.5 m·s<sup>-1</sup></i> )	↑L
									HR ( <i>throughout</i> )	↔
									Blood [La-] ( <i>end quarter</i> )	↔
<b>Hintzy et al., 2019 [112]</b>	Crossover	Mm vibration	12 M; 25.3 ± 3.6 y; 180 ± 6 cm; 77.8 ± 5.8 kg	Physically active; non-cyclists	Waist-to-knee shorts (Mavic, S.A.S., France), 3 levels of compression	MR: 2-, 6-, and 15- at thigh per condition	Cycling	18 min pedalling test (9 mins @ moderate intensity, 9 mins @ high intensity; three randomized vibration frequencies: 18.3, 22.4, and 26.3 Hz)	HR	↔
									EMG ( <i>right vastus lateralis, high intensity cycling</i> )	↓*
									RPE	↔
									Vibration transfer ( <i>85, 100 rpm; mod, high intensity</i> )	↓*
<b>Hong et al., 2022 [52]</b>	Crossover	Mm function, proprioception	6 M, 6 F; 22.8 ± 2.2 y; 169.6 ± 7.2	Recreationally active; exercise at least 3 times per week	Waist-to-knee tights (FreeZone CG, BOURTEX, Taiwan;	MR: 27.3 at ankle, 21.5 at	Jumping	Repeated CMJs @ 45 bpm until fatigue	Jump height, power ( <i>baseline</i> )	↑*
									Mm oxygen saturation ( <i>baseline; 10 mins post</i> )	↑*



**Table S1: During Exercise Studies**

			cm; 67.2 ± 12.7 kg		70% polyester fiber, 30% elastic fiber)	knee, 16.8 knee to thigh			Deoxygenation, reoxygenation ( <i>quadriceps</i> ) ↑*
									Mm soreness ↔
									Displacement of centre of pressure ( <i>mediolateral, 20 mins post</i> ) ↓*
<b>Hooper et al., 2015 [64]</b>	Crossover, within-group	Sport-specific power, accuracy & proprioception	21 M; 20.5 ± 21.1 y; 179.6 ± 4.3 cm; 82.7 ± 5.7 kg	Elite college level baseball pitchers or golfers	Upper body garment (Under Armour, 85% nylon and 15% elastane) <sup>p</sup>	NR	Baseball & golf	<i>Baseball</i> : 25 pitches (indoor strike zone target);  <i>Golf</i> : 10 full swings, 10 target drills, 10 chips, 10 putts (indoor golf simulator)	( <i>Baseball</i> ) Pitching accuracy ↑* X axis pitching error ↓* Strikes thrown ↔ Fastball velocity ↔ Performance improvement & level of enjoyment ↑*  ( <i>Golf</i> ) Driving, approach shot & chipping accuracy ↑* Driving distance ↔ Putting accuracy & putts made ↔ Comfort ↑*
<b>Houghton, Dawson &amp; Maloney, 2009 [99]</b>	Crossover	Team sport attributes	10 M; 21 [19–23] y; 178 [174–181] cm; 71.10 [65.74–76.46] kg	Trained amateur field hockey players	Knee-length shorts & short-sleeved shirt (SKINS; 76% Nylon & Meryl Microfibre, 24% Roica Spandex) under normal hockey attire	NR	Simulated team sport	4 x 15 min bouts of Loughborough intermittent shuttle test (varied-intensity 20 m shuttle running; 3 mins rest)	15m sprint time ↔ HR, ↔ Blood [La-] ↔ Body mass ↔ Mean skin temperature ↑* Core body temp ( <i>rest, stage 1</i> ) ↑M Core body temp ( <i>stages 2-4</i> ) ↑S Sweat rate ↑S Total clothing mass ↑S RPE ↔
<b>Hsu et al., 2020 [103]</b>	Crossover	Mm activation	8 M; 24.9 ± 2.3 y; 170.0 ± 3.3 cm; 60.0 ± 7.1 kg	Recreational runners; 8-12 hrs training/wk	Waist-to-ankle tights (74% polyamide and 26% Spandex)	32 ± 2 at shank, 22 ± 2 at thigh, 16 ± 2 at hip	Running	40 min treadmill running @ 75% VO2 max (1% gradient)	Blood [La-] ↔ RPE ↔ Mm activation (GAS, semitendinosus; stance phase) ↓* Mm activation ( <i>rectus femoris, swing phase</i> ) ↓* Mm median frequency ( <i>Semitendinosus, stance phase</i> ) ↑* Mm median frequency ( <i>GAS, swing phase</i> ) ↑*
<b>Hung, 2022 [108]</b>	Crossover	Balance	10 M, 15 F; 20-30 y	Healthy	Waist-to-ankle tights (no further details)	NR	Balance task	Athletic Single Leg Stability Test (Biodex Balance System)	Biodex Stability index ↓*
<b>Kato et al., 2018 [188]</b>	Crossover	Mm architecture & stiffness	9 M, 7 F; 33.3 ± 5.4 y; 165.6 ± 5.8 cm; 59.9 ± 7.8 kg	Recreationally active	Waist-to-ankle tights (A400 Skins, Sydney, Australia)	NR	BW resistance	3 x 20 heel-rise exercises with right lower limb (@ 46 beats/min by metronome), 2 mins rest b/n sets; 20s isometric MVC plantar flexion	Mm stiffness & steadiness ↑* Plantar flexor MVC ↔ Mm thickness & fascicle length ↓*
<b>Kemmler et al., 2009 [34]</b>	Crossover	Endurance	21 M; 39.3 ± 10.9 y; 178.5 ± 4.8 cm; 75.4 ± 7.4 kg	Moderately trained runners; 40.1 ± 17 kms/week training;	Below-knee compressive stockings (Running 02max, cep GmbH & Co. KG,	MR: 24 at ankle, 18-20 at calf	Running	Stepwise speed-incremented treadmill test to	Max speed ↑S* Time under load ↑S* Total work ↑S* Running speed ( <i>AnT, AT</i> ) ↑S*

**Table S1: During Exercise Studies**

				VO <sub>2</sub> max 52.0 ± 6.1 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Himmelkron, Germany; 85% Polyamid and 15% Elastane (Lycra)) <sup>q</sup>		volitional exhaustion	VO <sub>2</sub> max ↔ Blood [La-] ↔ HR ( <i>max</i> ) ↔ Ventilatory equivalent ↔ RER ↔	
Kerhervé et al., 2017 [23]	Crossover	Endurance; mm function	14 M; 21.7 ± 3.0 y; 180.2 ± 4.7 cm; 72.3 ± 6.7 kg	Recreational runners; trail running experience; min. 2 hrs training/wk	Graduated calf sleeves (UP, Thuasne Sport, Levallois-Perret, France)	23 ± 2 at GAS	Running	~24 km outdoor trail run as 10.8 km constant pace on flat terrain ( <i>bout 1</i> ), 13.2 km max pace on hilly terrain (1020m elevation change) ( <i>bout 2</i> )	Average speed ↔ Average HR ↔ Mm tissue perfusion ↔ Mm V02 ↔ Tissue saturation index ↔ Fatigue ( <i>thigh</i> ) ↓* Pain ( <i>Achilles tendon</i> ) ↓* Fatigue & pain ( <i>calf</i> ) ↔ Aerial time ↑* Leg stiffness ( <i>bout 1, 2</i> ) ↑* Contact time ( <i>bout 2, post-ex</i> ) ↓* Vertical stiffness ( <i>bout 2</i> ) ↑* Step frequency ↔ Peak force ↔ Mm power ↔
Kraemer et al., 1996 [51]	Randomized block	Anaerobic power	18 M, 18 F; 20.7 ± 3.1 y; 179.8 ± 7.7 cm; 74.7 ± 9.7 kg	Elite college volleyball players	Waist-to-knee shorts (88% nylon, 12% spandex), in normal and undersized conditions	NR	Jumping	10 maximal countermovement jumps (one every 3 secs)	Mean power production ( <i>males, undersized CG only</i> ) ↑* Average force & power ( <i>normal CGs only</i> ) ↑* Maximal jump power ↔
Kraemer et al., 1998 [70]	Randomized treatment	Isokinetic strength	10 M, 10 F; 24.2 ± 4.3 y; 172.5 ± 8.8 cm; 73.5 ± 11 kg	Recreationally trained	Waist-to-knee shorts (16% spandex)	NR	Strength testing	70% 1RM reps on Tru-Squat machine until exhaustion; 3 x 50 maximal isokinetic knee extensions/flexions at 180°/sec (Cybex 600 dynamometer)	Squat strength ↔ Squat endurance ↔ Total work ↔ Peak torque ( <i>knee extensors &amp; flexors</i> ) ↔
Leenoi & Widjaja, 2016 [177]	Parallel group	Endurance	16 M; 22.0 ± 0.6 y; 171.5 ± 1.4 cm; 65.7 ± 2.1 kg	Moderately active	Calf sleeve (Thai Parfun, Japan)	4.4 ± 0.4 (location unknown)	Walking	2 min treadmill walking @ 2 miles/hr, 45 mins @ 3.5 miles/hr (10% incline)	HR ↔ Stroke volume ↔ Cardiac output ↔ End diastolic volume ↔ Ejection fraction ↔ RPE ↓*
Leoz-Abaurrea, Tam & Aguado, 2016 [178]	Crossover	Endurance	12 M; 21 ± 6 y; 181 ± 5 cm; 76.0 ± 5.0 kg	Untrained; VO <sub>2</sub> peak 53.7 ± 5.0 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Short sleeve ‘heat dissipating’ shirt (94% nylon, 4% elastane, 2% polypropylene)	NR	Cycling	4 x 14 min at ~50% VO <sub>2</sub> peak + 1 min active recovery  ( <i>Hot conditions: ~40 ± 0.4°C, 35 ± 2 % relative humidity</i> )	Body mass change ↔ Sweat loss ↔ Body temperature ( <i>rectal, skin</i> ) ↔ RER ↔ Sweat retention ↓M* HR ( <i>during</i> ) ↔ HR recovery ( <i>5, 10 mins post</i> ) ↓L* VO <sub>2</sub> ( <i>during</i> ) ↔ VO <sub>2</sub> ( <i>10 mins post</i> ) ↑L* CO <sub>2</sub> production ( <i>10 mins post</i> ) ↑M*
Leoz-Abaurrea et	Crossover	Endurance	10 M; 23 ± 3 y; 180.9 ±	Recreational runners; VO <sub>2</sub> max 55.82 ± 4.84 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Short sleeve ‘heat dissipating’ shirt (Energy accumulator;	2.9 ± 1.5 at biceps brachii, 3.0 ± 1.0 at	Running	45-minute treadmill run @ 60% of the peak treadmill speed	TTE ↓S* Body mass change ↑S Core temperature ↔

**Table S1: During Exercise Studies**

<b>al., 2016 [90]</b>			5.5 cm; 74.4 ± 7.7 kg		X-Bionic, Wollerau, Switzerland; 94% nylon, 4% elastane, 2% polypropylene)	triceps, 2.0 ± 0.5 at pectoralis major, 1.4 ± 0.5 at latissimus dorsi		(PTS), then TTE run @ 80% of PTS	HR ( <i>recovery</i> ) Blood [La-] ( <i>recovery</i> ) VO <sub>2</sub> CO <sub>2</sub> production Ventilation Blood [La-] clearance RPE	↑M* ↑M* ↔ ↔ ↔ ↔ ↔
<b>Leoz-Abaurrea et al., 2017 [100]</b>	Crossover	Endurance	12 M; 66 ± 2 y; 172 ± 6 cm; 77.9 ± 8.2 kg	Trained cyclists; predicted VO <sub>2</sub> max 33.0 ± 5.0 mL.kg <sup>-1</sup> .min <sup>-1</sup> ; average 6,200 ± 3,500 km/yr for at least 20 y	Short sleeve 'heat dissipating' shirt (Energy accumulator; X-Bionic, Wollerau, Switzerland; 94% nylon, 4% elastane, 2% polypropylene)	2.9 ± 1.5 at biceps brachii, 3.0 ± 1.0 at triceps, 2.0 ± 0.5 at pectoralis major, 1.4 ± 0.5 at latissimus dorsi	Cycling	60 mins (4 bouts @ 50% peak power output for 14 min, with 1-min rest)  ( <i>Temperate conditions: ~25 °C, 66% relative humidity</i> )	Body mass change Sweat rate Heat storage HR VO <sub>2</sub> CO <sub>2</sub> production Ventilation RER Core temp Body temperature Thermal sensation RPE ( <i>bout 1, 2</i> ) Sweating sensation Clothing wetness sensation	↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↑M* ↑L* ↑M* ↓M,L* ↔ ↔
<b>Leoz-Abaurrea, Tam &amp; Aguado, 2019 [75]</b>	Crossover	Endurance	12 M, 4 F; 21.3 ± 5.7 y; 177 ± 8 cm; 73.3 ± 7.9 kg	Untrained; VO <sub>2</sub> max 50.88 ± 8.00 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Short sleeve 'heat dissipating' shirt (Energy accumulator; X-Bionic, Wollerau, Switzerland; 94% nylon, 4% elastane, 2% polypropylene)	2.9 ± 1.5 at biceps brachii, 3.0 ± 1.0 at triceps, 2.0 ± 0.5 at pectoralis major, 1.4 ± 0.5 at latissimus dorsi	Cycling	4 bouts of cycling for 14-min at ~50% VO <sub>2</sub> peak, with 1-min rest between each bout	Body mass change Sweat rate Heat storage VO <sub>2</sub> HR Skin temperature Body temp Rate of reduction in rectal temp ( <i>recovery period</i> ) Plasma pH, Hct, sodium, potassium Shivering/sweating sensation Clothing wetness sensation Thermal sensation RPE	↔ ↔ ↔ ↔ ↔ ↔ ↓* ↓* ↔ ↔ ↔ ↔ ↔ ↔
<b>Loturco et al., 2016 [59]</b>	Crossover	Explosive power	2 M, 6 F; 27.8 ± 6.7 y; 165.9 ± 10 cm; 62.2 ± 11.2 kg	Elite Paralympic sprinters (visual impairment, class T11)	Long sleeve shirt & waist-to-ankle tights (Under Armour, Baltimore, MD, USA; 84% nylon and 16% elastane)	NR	Jumping, sprinting	Maximal unloaded squat jump, max loaded jump squat (Smith machine), 70m max sprint	Unloaded squat jump Loaded jump squat 20m sprint 70m sprint	↑S ↔ ↔ ↔
<b>Lovell et al., 2011 [76]</b>	Crossover	Endurance	25 M; 21.6 ± 2.5 y; 182.2 ± 6.1 cm; 92.6 ± 7.7 kg	Semi-professional rugby league players; 13.3 ± 3.3 y experience; 3-5 training sessions/wk	Waist-to-ankle graduated tights (Body Science, Gold Coast, Australia)	20 ± 2 at ankle, 15 ± 2 at calf	Running	6 stage submaximal treadmill test (5 mins at 6 km/h, 10km/h, 85% VO <sub>2</sub> max, 6 km/h, 85% VO <sub>2</sub> max, 6 km/h)	RER ( <i>10 km/h, post-ex</i> ) Blood [La-] ( <i>10 km/h</i> ) HR ( <i>end of 6km/h recovery stages only</i> ) Blood [La-] ( <i>end of 6km/h recovery stages only</i> ) Blood pH VO <sub>2</sub> VE	↑* ↓* ↓* ↓* ↔ ↔ ↔

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<b>Lucas-Cuevas et al., 2017 [102]</b>	Crossover	Endurance	21 M, 15 F; 28.7 ± 4.13 y; 175.4 ± 5.6 cm; 65.47 ± 7.9 kg	Recreational runners; 40.5 ± 17.7 km per week training	Below-knee stockings (polyamide 85%, elastane 15%)	MR: 24 at the ankle, 21 at the calf	Running	20 min treadmill run @ 75% max aerobic speed (1% incline)	Perception of fatigue, comfort ↔ EMG activity ( <i>gastroc. lateralis</i> , min 0, 5) ↓* EMG activity ( <i>GAS</i> , min 0) ↓* Tibialis anterior EMG activity ↔ Peroneus longus EMG activity ↔
<b>MacRae et al., 2012 [41]</b>	Crossover	Endurance	12 M; 26 ± 7 y; 180 ± 7 cm; 79 ± 9 kg	Recreational cyclists	Full length upper (neck and wrist to waist), lower (waist to ankle), (Skins TM, Riverwood, Australia) in normal and oversized conditions <sup>r</sup>	13 ± 2 at forearm, 11 ± 2 at thigh, 15 ± 1 at calf (normal sized); 9 ± 2 at forearm, 8 ± 2 at thigh, 13 ± 2 at calf (oversized)	Cycling	60 min @ 65% VO <sub>2</sub> max; self-paced 6km TT (distance cues only)	Time taken ↔ Mean power ↔ Cadence ↔ Exercising stroke volume ↔ SBP, DBP ↔ Rate of blood pressure increase at ejection ↔ Total peripheral resistance ↔ Left ventricular ejection time ↑* Core & exposed skin temperature ↔ Covered skin temperature ↑* Forearm perfusion & vapor pressure ( <i>scapula</i> ) ↑* HR ( <i>steady-state</i> , end) ↑* Cardiac output ↑* Skin wetness ↔ RPE ↔ Comfort ( <i>normal size only</i> ) ↓*
<b>Martorelli et al., 2015 [68]</b>	Single-blind, crossover	Mm power	15 M; 23.07 ± 3.92 y; 177 ± 6 cm; 76.13 ± 7.62 kg	Resistance trained >6 months prior	Arm sleeves (Skins, Sydney, Australia) <sup>k</sup>	NR	Power training	6 sets x 6 reps bench press @ 50% 1RM (1 min rest b/n sets)	Peak power ↔ Mean power ( <i>bench press</i> ) ↔ Isometric strength ( <i>bench press</i> ) ↔ Reps to failure ( <i>bench press</i> ) ↔ Mm activation ( <i>EMG: triceps brachii, anterior deltoid, pec. major</i> ) ↔ Blood [La-] ↔
<b>Miyamoto et al., 2011 [71]</b>	Crossover	Isometric strength	14 M; 25.6 ± 3.7 y; 173.3 ± 4.5 cm; 67.3 ± 5.9 kg	Healthy	Below knee stockings, in 'low' and 'high' pressure conditions	MR; 12 upper calf, 14 lower calf, 18 ankle ('low'); 21 upper calf, 25 lower calf, 30 ankle ('high') <sup>f</sup>	BW resistance	15 x 10 on- legged calf raise repetitions w 30 s rest between sets	Reduction of MVC torque ↔ EMG amplitude ↔ Decline of mean power frequency ( <i>GAS, soleus</i> ; 'high' only) ↓* Maximal compound motor action potential ( <i>M-wave amplitude</i> ) ↔ Decline of triplet torque ('high' only) ↓*
<b>Miyamoto &amp; Kawakami, 2015 [179]</b>	Crossover	Endurance	15 M; 25.2 ± 2.6 y; 173.5 ± 4.6 cm; 66.1 ± 5.9 kg	Recreationally active	Below-knee graduated stockings (PlusOneMagic, AK International, Japan), in four conditions: 'low' and 'high' pressure; uniform pressure distribution (UNI); localized pressure just over the gastrocnemius muscle belly (LOC)	MR: 18 at the ankle and 14 at GAS ('low'); 27 at the ankle and 21 at GAS ('high'); 21 at ankle & GAS (UNI); 10 at ankle, 21 at GAS (LOC)	Running	34.5 mins as: 1.5 min @ 6 km/h, 1.5 min @ 8 km/h, 1.5 min @ 10 km/h, 30 min @ 12 km/h	Mm proton transverse relaxation time ( <i>GAS, soleus, tibialis anterior</i> ; 'high', UNI, LOC) ↓* Mm proton transverse relaxation time ( <i>gastroc. lateralis</i> ; 'high', LOC) ↓* RPE ↔
<b>Mizuno et al., 2017a [73]</b>	Crossover	Endurance	8 M; 23.4 ± 2.4 y; 170.1	Active but not well-trained; minimum 1 day/wk exercise; VO <sub>2</sub>	Waist-to-ankle tights (custom-made; DESCENTE Ltd.,	26.9 ± 3.3 at thigh, 29.2 ± 3.8 at calf	Running	120 min uphill treadmill running	CMJ ('high' compared to 'medium') ↑* HR ('medium' only) ↓* Blood glucose, [La-] ↔

**Table S1: During Exercise Studies**

			$\pm 2.2$ cm; $62.3 \pm 3.3$ kg	max $50.6 \pm 4.1$ $\text{mL} \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$	Osaka, Japan), in 'high' and 'medium' pressure conditions	('high'); $16.1 \pm$ $2.0$ at thigh, $17.9 \pm 3.5$ at calf ( 'medium' )		(slope: 7%) @ 60% $\text{VO}_2$ max	CK Mb Plasma IL-6 ( 'medium' only ) RPE (respiration, legs)	$\leftrightarrow$ $\leftrightarrow$ $\downarrow^*$ $\leftrightarrow$
<b>Mizuno et al., 2017b [74]</b>	Parallel group	Endurance	30 M; $21.9 \pm 0.6$ y; $173.9 \pm 1.7$ cm; $67.5 \pm 21$ kg	Physically active (minimum 1 day/week); $\text{VO}_2$ max $54.0 \pm 1.3$ $\text{mL} \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$	Hip-to-knee tights and knee-to-ankle socks (custom-made, DESCENTE Ltd., Osaka, Japan)	$.7 \pm 0.6$ at thigh (tights); $17.4 \pm 0.5$ at calf (socks)	Running	120 min uphill treadmill running (slope: 7%) @ 55% $\text{VO}_2$ max	CMJ height Drop jump MVC (knee extension, plantar flexion) HR Running economy ( $\text{VO}_2$ ) Thigh & calf circumferences Blood glucose Blood [La-] Serum free fatty acid Plasma IL-6 High sensitive C-reactive protein (180min recovery period, tights only) Serum Mb (180min recovery period, tights only) RPE Mm soreness Fatigue	$\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\uparrow^*$ $\downarrow^*$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$ $\leftrightarrow$
<b>Montoye et al., 2021 [78]</b>	Crossover	Endurance	6 F, 4 M; $29 \pm 7$ y, $173 \pm 5.9$ cm; $82.8 \pm 21.9$ kgs	Insufficiently active; $61.9 \pm 43.1$ exercise mins/wk	Below-knee socks (Athletic Recovery Graduated Compression Stockings; Sigvaris Inc., Peachtree City, GA, USA; 67% dri-release polyester, 26% nylon, 7% spandex)	MR: minimum of 20 at ankle to 15 at calf	Walking	Graded maximal treadmill test (initial stage 3.5 miles/hr for 2 mins; +2% grade every 2 mins until exhaustion)	HR (baseline) HR (throughout) Blood [La-] (stage 12) Blood [La-] (end stage 13) RPE (during) RPE (end stage 13) Soreness (24, 48 hrs post) Tightness (24 hrs post) Tightness (48 hrs post) "Pulling" & "Tenderness" (48 hrs post) "Annoyingness"	$\downarrow$ M $\leftrightarrow$ $\downarrow$ M $\downarrow$ L $\leftrightarrow$ $\downarrow$ L $\downarrow$ M $\downarrow$ M $\downarrow$ L $\downarrow$ M $\leftrightarrow$
<b>Naokazu &amp; Yasuo, 2014(a) [180]</b>	Crossover	Endurance	11 M; $25.6 \pm 3.7$ y; $173.3 \pm 4.5$ cm; $67.3 \pm 5.9$ kg	Healthy	Commercially available sporting compression short-tight (C3fit 3F09121; Goldwin, Japan) in "low" and "mid" pressure conditions	$9.6 \pm 2.3$ at rectus femoris, $7.5 \pm 1.7$ at biceps femoris ("low"); $15.5 \pm 4.4$ at rectus femoris, $15.2 \pm 3.7$ at biceps femoris ("mid")	Running	34.5 min treadmill run (4.5-min warm-up running, 1.5 min @ 6 km/hr, 1.5 min @ 8 km/h, 1.5 min @ 10 km/h, 30 min @ 12 km/h)	Skeletal muscle proton transverse relaxation time (T2) (VAS, biceps femoris, semimembranosus, adductor magnus & longus) T2 (gracilis, semitendinosus) RPE (20 mins, "mid" only) RPE (30 mins)	$\downarrow^*$ $\leftrightarrow$ $\downarrow^*$ $\downarrow^*$
<b>Naokazu &amp; Yasuo, 2014(b) [180]</b>	Crossover	Endurance	11 M; $27.0 \pm 1.8$ y; $172.4 \pm 5.6$ cm; $66.8 \pm 6.2$ kg	Healthy	Specially made compression short-tights in "mid-high" and "high" conditions	$21.0 \pm 2.6$ at rectus femoris, $20.6 \pm 1.8$ at biceps femoris ("mid-high"); $26.5 \pm 3.8$ at rectus femoris, $25.6 \pm 3.9$ at biceps femoris ("high")	Running	34.5 min treadmill run (4.5-min warm-up running, 1.5 min @ 6 km/hr, 1.5 min @ 8 km/h, 1.5 min @ 10 km/h, 30 min @ 12 km/h)	T2 (quadriceps femoris, adductor magnus, gracilis) T2 (biceps fem, semitendinosus, adductor longus; "mid-high" only) RPE	$\leftrightarrow$ $\downarrow^*$ $\leftrightarrow$

**Table S1: During Exercise Studies**

<b>Nguyen, Eager &amp; Nguyen, 2019 [88]</b>	Crossover	Cardiovascular function	5 M, 3 F; 25.1 ± 3.8 y; 165.9 ± 8.3 cm; 61.4 ± 13.7 kg	Healthy	Long sleeved shirt & waist-to-ankle tights (SportSkins Classic CGs; Skins, Campbelltown, New South Wales, Australia; 24% Roica Spandex, 76% Meryl Microfiber & nylon)	NR	Running	10 min treadmill run as 2 mins @ 6km/h, increasing by 1km/h every 2 mins to a max 11km/h	HR (7-9, 11km/h)	↓*
<b>Pavin et al., 2019 [62]</b>	Parallel group	Team sport performance	20 F; 20.6 ± 3.9 y; 164 ± 4 cm; 59.6 ± 11.6 kg	Amateur soccer players; 5.5 ± 0.8 hours of training/week, 1.5 ± 0.5 matches/wk	Graduated stockings (Sigvaris® Performance line, 69% polyamide, 17% polyester and 14% elastane)	MR: 20 to 30-ankle to knee	Soccer	90 min outdoor soccer match (2 x 45 min halves, 15 min interval)	Decrement in T-test agility YoYo IE2 performance HR Decrement in heel-rise test Perceived recovery Comfort Tightness RPE	↓L* ↔ ↔ ↓* ↔ ↔ ↔ ↔
<b>Pearce et al., 2009 [66]</b>	Parallel group	Visuomotor tracking	8 M; 23–37 y of age	Healthy	Upper body, full sleeve (LineBreak, Australia)	NR	Dynamometry	35 maximal voluntary eccentric contractions of the elbow flexors (130° of extension at 90°s <sup>-1</sup> )	Visuomotor tracking performance (post-exercise, 1, 2, 3 days-post) Visuomotor tracking performance (5 days post) Visuomotor tracking performance (7 days post) MVC force Strength Mm soreness	↑* ↑L ↑M ↔ ↔ ↔
<b>Pereira et al., 2014a [65]</b>	Parallel group	Isokinetic strength	24 M; 24.1 ± 5.2 y; 175.9 ± 6.2 cm; 78.6 ± 9.7 kg	Resistance-trained (minimum 3 days/wk)	Graduated arm sleeve (Skins, Sydney, New South Wales, Australia) <sup>k</sup>	NR	Dynamometry	4 sets of 10 unilateral maximal eccentric/concentric elbow flexion repetitions @ 120°s <sup>-1</sup>	Average torque Work Power	↔ ↔ ↔
<b>Pereira et al., 2014b [67]</b>	Parallel group	Isokinetic strength	22 M; 24.6 ± 5.1 y; 175.4 ± 6.2 cm; 78.2 ± 10.1 kg	Resistance-trained (6 months experience); minimum 3 days/wk training	Graduated arm sleeve (Skins, Sydney, New South Wales, Australia) <sup>k</sup>	NR	Dynamometry	4 sets of 10 unilateral maximal eccentric/concentric elbow flexion repetitions @ 120°s <sup>-1</sup> (1 min rest b/n sets)	MVC CK Echo intensity (ultrasound) Mm soreness	↔ ↔ ↔ ↔
<b>Peseux et al., 2017 [181]</b>	Crossover	Endurance	14 subjects; 23.5 ± 0.6 y; 179.5 ± 1.6 cm; 73.1 ± 2.8 kg	Healthy athletes	Calf sleeves (Compressport R2, Compressport, Gland, Switzerland; 60% polyamide, 25% elastane, 15% polyester), in normal and undersized conditions	24.0 ± 0.8 at GAS (normal); 37.2 ± 1.5 at GAS (undersized)	Walking, running	Incremental treadmill test (14 mins as 2 mins @ each intensity: 1, 2, 3, 4, 5, 6 and 7 km/h)	Tissue SO <sub>2</sub> (baseline, 1, 2km/h) Tissue SO <sub>2</sub> (3, 4km/h, normal) Tissue SO <sub>2</sub> (3, 4km/h, undersized) Tissue SO <sub>2</sub> (5, 6, 7 km/h) Tissue SO <sub>2</sub> (10 min recovery period)	↑L* ↑L* ↑M,L ↑S ↑L*
<b>Priego et al., 2015 [91]</b>	Crossover	Endurance	13 M, 7 F; 28.1 ± 5.4 y; 172.7 ± 9.2 cm; 67.9 ± 9.8 kg	Recreational runners; running mileage 37.0 ± 9.4 kms/wk	Below-knee stockings (85% polyamide and 15% elastane (Lycra)) <sup>m</sup>	MR: 24 at ankle, 21 at calf	Running	40 min treadmill run (10 min warm up, 30 mins @ 80% of max aerobic speed)	VE HR VO <sub>2</sub> (relative, absolute) CO <sub>2</sub> production O <sub>2</sub> pulse Perception of fatigue	↔ ↔ ↔ ↔ ↔ ↔

**Table S1: During Exercise Studies**

<b>Ravier et al., 2018 [111]</b>	Crossover	Team sport attributes	18 M; 23.22 ± 4.97 y; 184.61 ± 4.78 cm; 82.06 ± 9.69 kg	Elite handball players; 11.4 ± 4.8 y handball experience, 4.3 ± 3.3 y professional playing experience	Groin-to-ankle leg sleeves (F-Like Full Leg Compressport, Geneva, Switzerland; 65% nylon, 30% elastane, 5% polyester)	MR: 15 at ankle, 27 at GAS, 14 at vastus lateralis	Handball	3 x 12-min circuits of handball-specific exercises, incl. sprinting, jumping (4 mins rest)	Sprint ( <i>period 3</i> ) CMJ ( <i>period 1, 3</i> ) MVC decrement RFD Pressure pain threshold ( <i>soleus</i> ) Pressure pain threshold ( <i>vastus medialis</i> ) Pressure pain threshold ( <i>GAS</i> ) Ground contact time ( <i>period 1, 3</i> )	↑S ↑S ↓L* ↓S ↓L ↓M ↓S ↓S
<b>Rennerfelt et al., 2019 [84]</b>	Crossover	Endurance	10 M, 10 F; 27 (range 22–35) y; 176 (161–192) cm; 71 (51–88) kg	Recreational runners	Knee-high stockings (2XU Compression Performance Run Socks, Australia; 80% nylon, 20% elastane)	MR: 25 at ankle	Running	10km treadmill run @ 10-12 km/h (0% incline)	Intramuscular pressure ( <i>baseline, running, post-run</i> ) Mm tissue oxygenation index ( <i>baseline, running</i> ) Blood pressure Serum CK Serum Mb ( <i>pre-post</i> )	↑* ↓* ↔ ↔ ↔*
<b>Rider et al., 2014 [79]</b>	Crossover	Endurance	7 M, 3 F; 19.9 ± 1 y; 167.9 ± 4.5 cm; 62.7 ± 6.5 kgs	Collegiate cross-country runners	Below-knee stockings (Athletic Recovery Graduated Compression Stockings, SIGVARIS Inc., Peachtree City, GA, USA; 67% dri-release polyester, 26% nylon, 7% spandex)	MR: minimum of 20 at ankle to 15 at calf	Running	Discontinuous ramped treadmill test (starting at 160 m/min, 0% grade; subsequent stages increased by 26.8 m/min and 1% grade; 90s walking rest b/n stages)	TTE HR RER VO2 LT Blood [La-] ( <i>1, 5 mins post</i> ) RPE	↓* ↔ ↔ ↔ ↔ ↓* ↔
<b>Rugg &amp; Sternlicht, 2013 [53]</b>	Crossover	Lower body power	8 M, 6 F; 28.2 ± 14.0 y; 174.7 ± 8.6 cm; 70.2 ± 14.9 kg	Trained runners	Waist-to-ankle tights (C3fit graduated compression tights, Goldwin, Inc., Japan)	MR: 18.0 at ankle, 12.6 at calf, 7.2 at thigh	Running, jumping	15 minutes treadmill running (5 minutes @ each of 50%, 70%, and 85% of the subject's HRR); 3 maximal CMJs (10 sec rest)	CMJ ( <i>pre-post</i> ) RPE ( <i>post-run</i> ) Perceived comfort	↑* ↓* ↑*
<b>Šambaher et al., 2016 [98]</b>	Crossover	Jump biomechanics	7 M, 8 F; 23.6 ± 2.9 y; 172 ± 6.5 cm; 68.8 ± 6.7 kg	Physically active (3-5 days/wk)	Knee-to-ankle socks (Cramer ESS, Cramer Sports Medicine, Gardner, KS, USA; 79% nylon, 20% spandex, 1% other materials) <sup>u</sup>	MR: ~20–30 at ankle	Drop jumps	Continuous drop jumps from a 30-cm platform at 70 Hz (by metronome) until fatigue	Jump height Time to fatigue Skin temp ( <i>post warm-up, post-jumps</i> ) MVC force Blood [La-] Twitch half-relaxation time EMG ( <i>tibialis anterior, soleus, GAS</i> ) GRF ( <i>post warm up</i> ) Take-off velocity Contact time	↔ ↔ ↑* ↔ ↔ ↓* ↔ ↓* ↔ ↔
<b>Scanlan et al., 2008 [43]</b>	Crossover	Endurance	12 M; 20.5 ± 3.6 y; 177.5 ± 4.9 cm; 70.5 ± 7.5 kgs	Well trained, competitive cyclists; minimum training 300km/wk	Waist-to-ankle tights (SportSkins Classic, Skins, Campbelltown, NSW; 76% Nylon & Meryl Microfiber, 24% Roica Spandex)	9.1 ± 2.2 at gluteus medius, 14.9 ± 2.3 at vastus lateralis, 17.3 ± 3.0 at GAS, 19.5 ± 3.4 at medial ankle	Cycling	60 min TT @ highest possible power output, 90 to 100 RPM	Relative power output Power output VO <sub>2</sub> max ( <i>AnT, TT</i> ) VO <sub>2</sub> ( <i>AnT</i> ) VO <sub>2</sub> max power output Cycling economy ( <i>first 15 min of TT</i> ) HR ( <i>AnT, max, TT</i> ) Peak blood [La-] ( <i>AnT, TT</i> ) Peak mm O <sub>2</sub> utilization	↑S ↑S ↑S ↔ ↔ ↑S ↔ ↔ ↔ ↔

**Table S1: During Exercise Studies**

									Mm oxygenation ( <i>TT</i> )	↑S
<b>Sear et al., 2010 [32]</b>	Crossover	Endurance	8 M; 20.6 ± 1.2 y; 72.9 ± 5.9 kg	Amateur team sport athletes; VO <sub>2</sub> max 57.5 ± 3.7 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Whole body: full-length bottoms and long-sleeved tops (Sport Skins Classic, Skins, Campbelltown, NSW, Australia; 76% nylon/meryl microfiber, 24% roica spandex)	5.3 ± 0.5 pectoralis major, 7.3 ± 2.5 biceps brachii, 5.8 ± 1.0 flexor carpi radialis, 5.9 ± 0.8 external obliques, 9.2 ± 1.6 gluteus maximus, 13.1 ± 1.7 vastus lateralis, 15.1 ± 2.0 GAS, 17.8 ± 2.2 medial malleolus	Running	45 min intermittent treadmill running (3 repetitions of a 15-minute activity profile of 6 individual running speeds based on peak sprint speed)	Variable run speed Total distance covered Low-intensity activity difference Fast run speed Sprint speed ( <i>average, peak</i> ) TOI ( <i>average, post-sprint</i> ) VO <sub>2</sub> max Blood [La-] HR Tissue Hb index	↑M ↑M ↑M ↔ ↔ ↑M ↔ ↔ ↔
<b>Smale et al., 2018 [40]</b>	Crossover	Cognitive function	15 M; 28.1 ± 6.3 y; 76.4 ± 4.5 kg	Well-trained cyclists; max power output 339 ± 39 W	Waist-to-ankle tights (2XU; Elite MCS compression tight, 2XU, Victoria, Australia) as “low” condition; knee length stockings (Venosan 6000; Venosan, St. Gallen, Switzerland) as “medium” condition	8.6 ± 2.7 ankle, 14.9 ± 4.9 knee, 9.1 ± 3.1 thigh (“low”); 21.8 ± 6.6 ankle, 20.3 ± 6.6 knee, 15.4 ± 4.5 thigh (“medium”)	Cycling & cognitive task	4 x 8 mins cycling at 30%, 50%, 70%, and 85% maximal power output (cognitive task at each increment); 4 km TT	Reaction time TT performance Accuracy during cognitive task ( <i>“low”, 85% intensity stage</i> ) Middle cerebral artery blood flow velocity Pressure of end-tidal CO <sub>2</sub> Mean arterial pressure Blood [La-] RPE Motivation Perceived difficulty	↔ ↔ ↑M* ↔ ↔ ↔ ↔ ↔ ↔
<b>Sperlich et al., 2010 [77]</b>	Crossover	Endurance	15 M; 27.1 ± 4.8 y; 183 ± 8 cm; 76.3 ± 7.6 kg	Well-trained runners & triathletes; VO <sub>2</sub> max 63.7 ± 4.9 mL.kg <sup>-1</sup> .min <sup>-1</sup>	3 conditions: socks (Craft of Scandinavia, (94% Polyamide, 6% Lycra); tights (“Elite Run Tight”, 81% Polyester, 19% Lycra), whole-body compression (“Elite Run Tight”, 81% Polyester, 19% Lycra and upper body (“Elite Run Longsleeve Top”, 81% Polyester, 19% Lycra)	NR	Running	70% VO <sub>2</sub> max for 15 min; 2 min rest; TTE @ max speed from incremental test	VO <sub>2</sub> ( <i>submax, max</i> ) TTE Blood [La-] pH O <sub>2</sub> saturation Partial pressure RPE Mm soreness ( <i>submax</i> ) Mm soreness ( <i>max</i> )	↑S ↑S ↓S ↔ ↑S ↑S ↓S ↓L ↓M
<b>Sperlich et al., 2011 [184]</b>	Crossover	Endurance	15 M; 22.1 ± 1.3 y; 184.7 ± 6.8 cm; 76.0 ± 7.5 kg	Well-trained runners & triathletes; VO <sub>2</sub> max 57.2 ± 4.0 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Below-knee socks (Sigvaris, Winterhur, Switzerland; 94% polyamide and 6% lycra) in four pressure conditions: “10”, “20”, “30” and “40”	13.6 ± 2.0 at calf, 21.3 ± 2.0 at ankle (“10”); 22.8 ± 1.4 calf, 31.3 ± 4.1 ankle (“20”); 32.2 ± 2.4 calf, 38.9 ± 2.3 ankle (“30”); 38.8 ± 2.3 calf, 45.9 ± 4.0 ankle (“40”)	Running	45 min treadmill run @ 75% peak O <sub>2</sub> uptake	Cardiac output (“10”, “40”) Stroke volume (“10”, “40”) Cardiac index (“10”, “40”) Arterio-venous O <sub>2</sub> difference (“10”, “30”) Arterio-venous O <sub>2</sub> difference (“40” only) O <sub>2</sub> uptake (“40” only) SO <sub>2</sub> (“20” only) HR Blood [La-] (“40” only)	↑S ↑M ↑S ↑M ↑S ↑S ↔ ↑S
<b>Sperlich et al., 2013 [109]</b>	Crossover	Skiing biomechanics	12 M; 26 ± 4 y; 178 ± 4 cm; 80 ± 5 kg	Elite alpine skiers; national/international level racing	Below-knee socks and waist-to-knee shorts (Sigvaris, Winterhur,	19.7 ± 3.7 at calf, 17.8 ± 1.9 at thigh	Simulated alpine skiing	3 min downhill tuck position w passive vibration (60 Hz and	CMJ height Balance time HR	↔ ↔ ↔



**Table S1: During Exercise Studies**

				experience; minimum 10 hrs training/wk	Switzerland; 94% polyamide, 6% lycra) in “moderate” and “strong” conditions <sup>c</sup>	(“moderate”); 39.5 ± 3.5 at calf, 34.0 ± 2.6 at thigh (“strong”)		an amplitude of 6 mm)	Blood [La-] O <sub>2</sub> uptake RER VE Breathing frequency Tissue saturation index MVC, RFD ( <i>leg extension, flexion</i> ) Total Hb RPE (whole body, thigh, calf) Knee angle in tuck position Absolute & integrated acceleration EMG ( <i>tibialis anterior, GAS, rectus femoris, vastus medialis</i> )	↔ ↔ ↔ ↔ ↔ ↓L* ↔ ↑L* ↓* ↓L* ↓M* ↑*
Sperlich et al., 2014 [44]	Crossover	Endurance	10 M; 25 ± 4 y; 180 ± 4 cm, 74.6 ± 3.2 kg	Well-trained cross-country skiers and triathletes; minimum 5 y endurance training experience	Long sleeve shirt (76% nylon, 24% spandex)	21 ± 5 at forearm, 14 ± 3 at triceps brachii, 14 ± 2 at biceps brachii, 9 ± 2 at latissimus dorsi	Simulating cross-country skiing	3 x 3 mins simulated double-poling skiing sprints (w. 3 mins recovery)	Mean power output Blood [La-] ( <i>sprint recoveries</i> ) Partial pressure O <sub>2</sub> Arterial O <sub>2</sub> saturation Blood pH ( <i>sprint 2 recovery</i> ) oxygen uptake ( <i>sprint recovery 1, 3</i> ) CO <sub>2</sub> production ( <i>sprint recovery 2, 3</i> ) HR SV CO Tissue saturation index Total Hb RPE	↔ ↓M* ↑S ↔ ↑S ↑S ↓S ↔ ↑S,M ↑S-L ↓M,L ↓↑S,M ↑S-L
Stickford et al., 2015 [29]	Crossover	Endurance, running biomechanics	16 M; 22.4 ± 3.0 y; 180.6 ± 4.6 cm; 66.4 ± 5.2 kg	Collegiate or professional distance runners; 100 ± 32 kms/wk training; VO <sub>2</sub> max >65 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Below-knee graduated socks (Zensah, Miami, FL)	MR: 15-20	Running	3 x 4 min treadmill running stages (at 233, 268, and 300 m/min)	VO <sub>2</sub> (submaximal, maximal) Ground contact time Swing time Step frequency Step length Gait variability	↔ ↔ ↔ ↔ ↔ ↔
Toolis & McGawley, 2020 [46]	Crossover	Endurance	4 M, 3 F; 25.1 ± 3.1 y; 176.5 ± 6.8 cm; 71.6 ± 7.9 kg	Elite national biathletes	Upper and lower body garments (2XU Pty Ltd, Melbourne, Australia) <sup>e</sup>	7.4 ± 2.2 at biceps brachii 7.9 ± 2.2 at triceps brachii, 13.1 ± 4.5 at brachioradialis, 13.3 ± 2.3 at rectus femoris 19.9 ± 5 at gastrocnemius lateral head	Roller-skiing	Simulated sprint biathlon (roller-skiing on treadmill, performance TT, 15 min for women @ 3.5° incline, 20 min for men @ 4.5° incline); TTE (~60 to 90s)	TT TTE HR ( <i>rest, post warm up, post TT</i> ) Blood [La-] ( <i>post cool down</i> ) Blood [La-] ( <i>rest, post TTE</i> ) RPE Mm soreness Thermal comfort Thermal sensation	↑S ↑S ↓M ↓M ↑S ↔ ↔ ↔ ↔
Treseler, Bixby & Nepocatych, 2016 [26]	Crossover	Endurance	19 F; 20 ± 1 y; 163.4 ± 9.8 cm, 61.4 ± 5.3 kgs	Physically active; minimum 90 mins run training/wk	Below-knee socks (McDavid Inc., Woodridge, IL, USA)	MR: 18–21 at ankle, 12.6–14.7 below the knee	Running	5km outdoor time trial	TT HR ( <i>final</i> ) RPE Calf muscle pain threshold Lower extremity muscle soreness Comfort level	↔ ↔ ↑* ↑* ↓* ↔
Vaile, Stefanovic & Askew, 2016 [49]	Crossover	Endurance	10 M; 30.2 ± 7.7 y; 183 ± 1 cm; 74.0 ± 9.7 kg	National level wheelchair rugby athletes; 13 ± 7 y since injury	Below-knee socks (Venosan, Class II)	MR: ~21	Wheelchair laps	4 x 8 min quarters at 85% max lap speed (2 min rest b/n	Maximal sprint time Maintenance of average lap time HR Core body temp	↔ ↑* ↔ ↔

**Table S1: During Exercise Studies**

								quarters, 5 min rest @ halftime)	Leg blood flow Arm blood flow ( <i>post-exercise</i> ) RPE ( <i>end quarter 4</i> ) Thermal comfort	↔ ↑* ↑* ↓*
<b>Valle et al., 2013 [87]</b>	Within-subject crossover	Mm injury	15 M; 25.0 (19-50) y; 177.6 ± 3.3 cm; 78.2 ± 5.8 kgs	Amateur soccer players; 4-12 hrs training/wk; VO <sub>2</sub> max 44.0 ± 7.6 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Waist-to-knee shorts (Colibri®, Puntiblonde, Spain; polyamide 57%, elastomer 43%; inner reinforcements over the quadriceps and hamstrings) on one leg <sup>d</sup>	NR	Running	40 mins downhill running @ 73% max aerobic velocity (-10% slope)	Intracellular albumin infiltrates Neutrophils (MPO) Lymphocytes (CD3+) Total muscle membrane injury	↓* ↓* ↓* ↓*
<b>Varela-Sanz 2011(a) [33]</b>	Crossover	Running economy	13 M, 3 F; 33.7 ± 5.7 y; 169 ± 7 cm; 61.7 ± 7.3 kg	Well-trained runners; VO <sub>2</sub> max 60.1 ± 7.8 mL.kg <sup>-1</sup> .min <sup>-1</sup> ; 52.1 ± 13.9 kms training/wk	Below-knee graduated socks (Medilast Sport, Lleida, Spain; 88% Polyamid, 12% Elasthane)	MR: 15–22 at ankle	Running	4 x 6 min treadmill running @ recent half-marathon pace (1% incline, 2 mins rest b/n bouts; average speed 14.8 ± 2.2 km/hr)	HR VO <sub>2</sub> max %VO <sub>2</sub> max Blood [La-] %HR max RPE	↔ ↔ ↔ ↑S ↓L* ↔
<b>Varela-Sanz 2011(b) [33]</b>	Parallel group	Endurance	10 M, 2 F; 34.4 ± 5.7 y; 1.68 ± 0.74 m, 60.6 ± 7.5 kg	Well-trained runners; VO <sub>2</sub> max 62.7 ± 5.5 mL.kg <sup>-1</sup> .min <sup>-1</sup> ; 52.1 ± 13.9 kms training/wk	Below-knee graduated socks (Medilast Sport, Lleida, Spain; 88% Polyamid, 12% Elasthane)	MR: 15–22 at ankle	Running	Treadmill TTE (1% incline, speed @ 105% of recent 10- km time until exhaustion; average speed 17 ± 2 km/hr)	TTE Speed HR peak Blood [La-] VO <sub>2</sub> peak %VO <sub>2</sub> max %HR max Running economy RPE Contact time Flight time Height Power Frequency Step length	↑S ↔ ↓S ↑M ↓L ↓S ↓L* ↓L ↑S ↔ ↔ ↔ ↔ ↔
<b>Vercruyssen et al., 2014 [24]</b>	Crossover	Endurance	11 M; 34.7 ± 9.8 y; 178.4 ± 7.0 cm; 72.3 ± 6.8 kg	Trained runners; 8-12 hrs training/wk	Below-knee socks (94% Polyamide and 6% Lycra)	MR: 18 applied to the calf	Running	Maximal (race effort) 15.6 km trail run (3 x 5.2km loops, 275m elevation gain per loop)	Run time CMJ HR Blood [La-] MVC Mm O <sub>2</sub> uptake Mm blood flow RPE	↔ ↔ ↔ ↔ ↔ ↔ ↔
<b>Wahl et al., 2012 [30]</b>	Crossover	Endurance	9 M; 25.8 ± 3.8 y; 182.2 ± 4.8 cm; 73.4 ± 5.3 kg	Well-trained runners & triathletes; VO <sub>2</sub> max 57.7 ± 4.5 mL.kg <sup>-1</sup> .min <sup>-1</sup>	Below-knee socks (94% Polyamide and 6% Lycra) in three pressure conditions: “10”, “20” and “40”	21.1 ± 1.9 ankle, 13.2 ± 1.8 calf (“10”); 22.6 ± 1.2 ankle, 31.4 ± 3.9 calf (“20”); 39.1 ± 2.7 ankle, 45.8 ± 4.1 calf (“40”)	Running	30 min treadmill run @ 70% of peak O <sub>2</sub> uptake; TTE (ramp test, using incline)	TTE Blood [La-] Arterial pressure of O <sub>2</sub> O <sub>2</sub> uptake HR RBC deformability	↔ ↔ ↔ ↔ ↔ ↔

**Table S1: During Exercise Studies**

<b>Willems &amp; Webb, 2010 [113]</b>	Within-subject crossover	Mm recovery	18 M; 20.3 ± 0.8 y; 178 ± 5 cm; 76.2 ± 5.8 kg	Healthy university football players	Waist-to-ankle tights (Skins™ Sport Long Tights, Skins Compression Garments, Sydney, Australia; 76% Nylon Tactel Microfibre, 24% Elastane Creora) worn on one leg <sup>d</sup>	MR: 18 at calf, 9 at thigh	Running	5 x 8 mins downhill running @ 80% of VO2max, -10% gradient	Single leg vertical jump height DOMS ( <i>vastus lateralis</i> , all time points) DOMS ( <i>rectus femoris</i> , 24, 48 hrs post) DOMS ( <i>vastus medialis</i> , 24 hrs post)	↔ ↔ ↓* ↓*
<b>Zadow et al., 2018 [20]</b>	Parallel group	Cardiovascular health	43 M, 24 F; 43.4 ± 10.7 y; 170 ± 1 cm; 67.9 ± 11.2 kg	Trained runners (unspecified), registered for marathon	Foot-to-knee socks (2XU 24/7 Compression Socks, 2XU North America LLC, Carlsbad, CA, USA)	NR	Running	Competitive marathon (42.2 km)	Finishing time Increase in D-Dimer ( <i>post-race</i> ) Thrombin–anti-thrombin complex Tissue factor pathway inhibitor Tissue factor	↔ ↓* ↔ ↔ ↓S
<b>Zaleski et al., 2019 [82]</b>	Parallel group	Mm damage	10 M, 10 F; 36.2 ± 8.2 y; 70.6 ± 13.9 kg	Recreational athletes; 52.2 ± 10 kms training/wk	Foot-to-knee socks (Compression Performance Run Sock, 2XU North America LLC, Carlsbad, CA, USA)	MR: 19–25 at ankle	Running	Competitive marathon (42.2 km)	CK ( <i>immediately</i> ; 24 hrs post) Hct	↔ ↔
<b>Zhang et al., 2016 [186]</b>	Crossover	Isokinetic strength	12 M; 21.2 ± 1.4 y; 177.5 ± 4.8 cm; 67.1 ± 6.4 kg	Track & field athletes	Groin-to-knee shorts (polyamide, cotton, and elastodiene)	NR	Dynamometry	25 consecutive maximal concentric contractions of the quadriceps and hamstrings (randomly assigned 60° and 300°/s)	Work fatigue ( <i>60°</i> ) EMG root mean square ( <i>60°</i> , <i>300°</i> ) EMG mean power frequency ( <i>rectus femoris</i> , <i>vastus lateralis</i> , <i>60°</i> )	↓* ↓* ↑*

↔ no change, ↑ increase, ↓ decrease, ↓↑ mixed change, \* significant change ( $p < 0.05$ ), *S* small effect size (Cohen's  $d$  0.20-0.50), *M* medium effect size (Cohen's  $d$  0.50-0.80), *L* large effect size (Cohen's  $d$  >0.80); *AT* aerobic threshold, *AnT* anaerobic threshold, *Blood [La-]* blood lactate, *BW* bodyweight, *CK* creatine kinase, *CMJ* countermovement jump, *DBP* diastolic blood pressure, *DOMS* delayed onset muscle soreness, *EMG* electromyography, *GAS* medial gastrocnemius, *GRF* ground reaction force, *Hct* haematocrit, *HR* heart rate, *HRR* heart rate reserve, *LDH* lactate dehydrogenase, *LT* lactate threshold, *Mb* myoglobin, *Mm* muscle, *MR* manufacturer reported, *MVC* maximal voluntary contraction, *NR* not reported, *pO<sub>2</sub>* partial pressure of oxygen, *RER* respiratory exchange ratio, *rpm* revolutions per minute (cadence); *RFD* rate of force development; *ROM* range of motion, *RPE* rating of perceived exertion, *SBP* systolic blood pressure, *SO<sub>2</sub>* oxygen saturation, *TOI* tissue oxygenation index, *TT* time trial, *TTE* time to exhaustion, *VAS* vastus lateralis & medialis, *VT* ventilatory threshold

<sup>a</sup>Researchers & participants blinded to actual pressure of stocking used; <sup>b</sup>Novel compression tights with adhesive silicone stripes on inner lining, intended to mimic sports taping; <sup>c</sup>“Control” was normal skiing race suit; <sup>d</sup>“Control” was participant’s other leg; <sup>e</sup>Novel compression garment with alternating 1-mm-wide compression ridges and compression-free areas; <sup>f</sup>Compared to control group AND classic elastic tights (80% polyester, 20% elastane); <sup>g</sup>Compared to control group AND the application of kinesiology tape (3 vertical strips over the vastus lateralis (VL), vastus medialis (VM), and rectus femoris of the dominant limb, applied by an athletic therapist); <sup>h</sup>Shorts offered ‘additional compression along primary and secondary hip adductor muscles’; <sup>i</sup>Compared to a standard compression short with isotropic stretch (HeatGear, Under Armour, USA); <sup>j</sup>Atypical garment composition and thickness (~5mm); <sup>k</sup>Compared to custom-made non-compression arm sleeves with same appearance as CG; <sup>l</sup>Stockings did not cover toes and heels; <sup>m</sup>Compared to regular socks with the same appearance as CG; <sup>n</sup>Compared to control group AND sham condition: rigid sports tape (Leuko™) over the knee extensor and ankle plantarflexor muscle groups; <sup>o</sup>Compared to control group AND placebo garment (Lycra-based long pant with Skins logo); <sup>p</sup>Unclear if long sleeve or short sleeve, with an additional X-shaped insert to “[coordinate] the extreme positions of the trunk from top to bottom”; <sup>q</sup>Contained an extra “compression thread” made of Elasthane knitted into the fabric; <sup>r</sup>Oversized CGs by at least two size designations (to a maximum of XXL); sleeves & legs were cut and re-hemmed to standardise body coverage across conditions; <sup>s</sup>Compared to commercially available sport stockings (MR: 7 mm Hg upper calf, 8 mm Hg lower calf, 8 mm Hg ankle); <sup>t</sup>Compared to an identical lower-body garment with minimal compression (4.4 ± 1.2 at thigh, 3.0 ± 1.6 at calf); <sup>u</sup>Socks did not cover toes.