| Study | Objectives / Study Design | Subjects | Intervention | Results |
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| **de Glanville K et al 2012** | **Objective**<br>To determine the effects of wearing commercially available graduated compression garments (garments that apply the highest pressure distally and the lowest pressure proximally) during prolonged recovery (24 hours) on subsequent 40-km cycling time trial performance in trained multisport athletes<br><br>**Study Design**<br>Randomized, counterbalanced design | -Trained multisport male athletes (n=14)<br>-Age 33.8 years ± 6.8 SD<br>-40km mean power output 254.4 w ± 18.5 SD | -Subjects performed 2 sets (1-week apart) of two 40km time trials (24 hours apart)<br>-Subjects wore either a compression garment or a non-compression garment during the 24-hours between the time trials<br><br>**Compression Group**<br>-Full-leg length worn following exercise<br>-Mid thigh 11.8 mmHg ± 2.5 SD<br>-Calf 14.7 mmHg ± 2.5 SD<br>-Ankle 6.0 mmHg ± 2.4 SD<br><br>**Control Group**<br>-Wore a non-compression garment | **Subjects**<br>It is unclear if all 14 subjects completed the trial<br><br>**Performance**<br>*40km cycling time (between groups)*<br>-CG < Control *↓<br><br>*40km Cycling PO (w) (between groups)*<br>-CG > Control *↑<br><br>**Physiological**<br>*$O_2$ cost (between groups)*<br>-CG vs Control **?**<br><br>*La (between groups)*<br>-CG vs Control **?**<br><br>**Perceptual**<br>*RPE (between groups)*<br>-CG vs Control ↔ |
| **Ali A et al, 2011** | **Objectives**<br>To examine the effects of wearing different grades of GCS on 10-km running performance in well-trained athletes. A secondary aim was to assess the effects of wearing GCS on various physiological and perceptual responses after exercise<br><br>**Study Design**<br>Randomized, counterbalanced design | -Well-trained male and female, competitive runners (n=12)<br>-Age 33 ± 10 years<br>-$VO_2$max 68.7 ± 5.8 ml/kg/min | -Five 10km running time trials were performed (7-days apart), one for familiarization<br>-Subjects wore either no compression garment (control) or a compression garment with either low, medium, or high pressure<br><br>**Garment Type**<br>-Knee-high stockings worn during exercise<br><br>**Low Group**<br>Ankle 15 mmHg, Knee 12 mmHg<br><br>**Med Group**<br>Ankle 21 mmHg, Knee 18 mmHg<br><br>**Hi Group**<br>Ankle 32 mmHg, Knee 23 mmHg | **Subjects**<br>It is unclear if all 12 subjects completed the trial<br><br>**Performance**<br>*10km running time (between groups)*<br>-Low vs Med vs Hi ↔<br><br>**Physiological**<br>*HR (between groups)*<br>-Low vs Med vs Hi ↔<br><br>*La (between groups)*<br>-Low vs Med vs Hi ↔<br><br>**Perceptual**<br>*RPE (between groups)*<br>-Low vs Med vs Hi ↔ |
| **Menetrier A et al 2011** | **Objectives**<br>To determine the effects of calf compression sleeves on running performance and on calf tissue oxygen saturation ($StO_2$) at rest before exercise | -Moderately trained male endurance athletes (n=14)<br>-Age 21.9 ± 0.7 years | -Subjects wore a compression garment for 15 minutes prior to 30 minutes of exercise; for 15 following 30 minutes of exercise; or for 30 minutes following 30 minutes of exercise with a 20 minute rest | **Subjects**<br>All 14 subjects completed the trial<br><br>**Performance**<br>*Run TTE (between groups)*<br>-CG vs Control ↔ |

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| | and during recovery period<br><br>**Study Design**<br>Randomized controlled trial | | **Compression Group**<br>-Compression sleeve applied to subjects calf prior to and following exercise<br>-Gradual increased from 15 mmHg at medial ankle to 27 mmHg at top of gastrocnemius<br><br>**Control Group**<br>-Nothing (no garment) | **Physiological**<br>*$O_2$Sat (between group)*<br>-CG > Control *↑<br><br>*HR (between groups)*<br>-CG vs Control ↔<br><br>**Perceptual**<br>*RPE (between groups)*<br>-CG vs Control ↔ |
| **Varela-Sanz A et al 2011** | **Objectives**<br>To assess the influence of beneath-knee GCSs on RE and performance at competitive velocities in a group of well-trained runners<br><br>**Study Design**<br>Randomized repeated measures design | -Experienced runners (n=16)<br>-13 men (35 ± 7 years), 3 women (32 ± 5 years)<br>-$VO_2$max 62.83 ± 9.03 ml/kg/min | **Experiment 1**<br>-Subjects performed 4 consecutive trials of 6-minute intervals at half-marathon pace while wearing the compression garment<br><br>**Experiment 2**<br>-Subjects ran at 105% of most recent 10km speed until exhaustion while wearing the compression garment<br><br>**Compression Group**<br>-Below knee garment during exercise<br>-Degressive at Ankle 15-22 mmHg<br><br>**Control Group**<br>-Nothing (no garment) | **Subjects**<br>It is unclear if all 16 subjects completed the trial<br><br>**Performance**<br>*Run TTE (between group)*<br>-CG vs Control ↔<br><br>**Physiological**<br>*HR (bpm) (between groups)*<br>-CG vs Control ↔<br><br>*$VO_2$max (ml/kg/min) (between groups)*<br>-CG vs Control ↔<br><br>**Perceptual**<br>*RPE (between groups)*<br>-CG vs Control ↔ |
| **Rimaud D et al 2010** | **Objectives**<br>To investigate if wearing compression stockings (CS) during exercise and recovery could affect lactate profile in sportsmen<br><br>**Study Design**<br>Randomized counterbalanced design | -Male subjects who engage in regular endurance activity (n=8)<br>-Age 27.1 ± 0.9 SEM | -Subjects performed an incremental cycling test from 100-130W at 75rpm, increments of 30W until exhaustion<br>-Subjects wore the compression garment during exercise<br><br>**Compression Group**<br>-Knee length stocking during exercise<br>-Calf 22 mmHg<br>-Ankle 12 mmHg<br><br>**Control Group**<br>-Nothing (no garment) | **Subjects**<br>It is unclear if all 8 subjects completed the trial<br><br>**Physiological**<br>*$VO_2$max (ml/kg/min) (between groups)*<br>CG vs Control ↔<br><br>*HR (between groups)*<br>CG vs Control ↔<br><br>*La following max exercise (between group)*<br>-CG < Control ($p < 0.05$) *↓<br><br>**Perceptual**<br>-RPE ↔ |

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| **Kemmler W et al 2009** | **Objectives**<br>To determine the effect of below-knee compression stockings on running performance in men runners<br><br>**Study Design**<br>Randomized crossover design | -Moderately trained male runners (n=21)<br>-Age 39.3 ± 10.7 SD<br>-$VO_2$max 52.0 ml/kg/min ± 6.1 SD | -Subjects performed an incremental treadmill test to voluntary maximum termination<br>-Work capacity was set to ensure that the time under load was >30 minutes<br><br>**Compression Group**<br>-Beneath-knee compression stockings during exercise<br>-Ankle 24 mmHg<br>-Calf 18-20 mmHg<br><br>**Control Group**<br>-Conventional running socks | **Subjects**<br>It is unclear if all 21 subjects completed the trial<br><br>**Performance**<br>*Run TTE at $LT_2$ (between groups)*<br>-CG > Control (1.5-2.2%, $p < 0.05$) *↑<br><br>**Physiological**<br>*$VO_2$max ml/kg/min (betwen group)*<br>-CG vs Control ↔<br><br>*HR bpm (between group)*<br>-CG vs Control ↔<br><br>*La mmol/L (within group)*<br>-CG vs Control ↔ |
| **Ali A et al 2007** | **Objectives**<br>To examine the effect of wearing graduated compression stockings on physiological and perceptual variables during and after intermittent and continuous running exercise<br><br>**Study Design**<br>Randomized crossover design | -Male subjects who participate in regular training and competition, sport primarily based on running (n=14)<br>-Age 22 ± 0.4 years<br>-$VO_2$max 55.0 ± 0.9 ml/kg/min | **Experiment 1**<br>-Subjects performed two 20-m shuttle runs with incremental increases of speed by 0.14m/s; each separated by 1h, wearing compression garments or ankle-length socks (control)<br><br>**Experiment 2**<br>-Subjects competed a 10-km running time trial at a fast pace, wearing either a compression garment or ankle-length socks (control)<br><br>**Compression Group**<br>-Knee length during and following exercise<br>-Ankle 18-22 mmHg<br>-Top of stocking 70% of ankle pressure<br><br>**Control Group**<br>-Ankle-length socks | **Subjects**<br>It is unclear if all 14 subjects completed the trial<br><br>**Performance**<br>*10km run time (within group)*<br>-CG ↔<br>-Control ↔<br><br>**Physiological**<br>*HR during 10km run (within group)*<br>-CG ↔<br>-Control ↔<br><br>**Perceptual**<br>*Soreness 24 h post 10km run (between group)*<br>-CG < Control ($p < 0.05$) *↓ |

**Table 2 – Study Description**: SD = Standard deviation; SE = Standard error; $LT_2$ = lactate threshold$_2$ (anaerobic threshold); LSD = Long slow distance; HIIT = High-intensity interval training; TTE = time to exhaustion; PO = Power output; PO@$VO_2$peak = Power output at $VO_2$peak; ↔ = No significant difference; *↓ = Significant decrease; *↑ = Significant increase; ? = Results are unclear