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BOOK OF ABSTRACTS
Edited by:
Guilhem, G., Rabita, G., Brocherie, F., Tsolakidis, E.,
Ferrauti, A., Helge, J.W., Piacentini, M.F.

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showed a significant difference as well (t(27) =2.051, p<0.001). A paired t-test between the dominant and non-dominant grip benefits recorded no significant differences (t(16)=0.368, p<1.746). A large effect was detected (Hedges g=1.22).

CONCLUSION: This study investigated the grip strength of pre-menopausal/menopausal women engaging in the sport of pickleball. Significant greater grip strength was recorded in the dominant as well as non-dominant hands in that population compared to the normative data. This could suggest that the involvement in pickleball may provide a way for older women to increase or maintain their grip strength, thus display better musculoskeletal health.

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EFFECTS OF COMBINING MICROCURRENT THERAPY WITH RESISTANCE EXERCISES ON BODY COMPOSITION IN MIDDLE-AGED ADULTS: A PILOT STUDY

LAZA-CAGIGAS, R., KOLIMECHKOV, S., SEIJO, M., SWAINE, I., THIRKELL, J., COLADO, J.C., LARUMBE-ZABALA, E., NACLERIO, F.

UNIVERSITY OF GREENWICH

INTRODUCTION: Microcurrent therapy (MT) is a non-invasive treatment modality that transmits extremely small currents (<1 mA) through the skin. It has been shown that MT can maximise training outcomes when combined with resistance exercise.

METHODS: This study involves a double blind randomised controlled design. Eight participants (mean ± SD: BMI 23.1 ± 3.8 kg/m2, age 54.4 ± 7.4 years, height 168.7 ± 12.3 cm) were randomly assigned to either microcurrent (MC, n = 4) or sham (SH, n = 4) groups (1 male and 3 females per group). After completing two in-person supervised resistance training familiarisation sessions, the participants performed a 6-week home-based resistance exercise programme using resistance bands. Participants were provided with a pre-recorded copy of the session and were asked to perform 2 weekly sessions. The programme involved 8 multi-joint and single-joint exercises targeting the whole-body musculature (squat with shoulder press, biceps curl, squat, lateral pull down, deadlift, triceps extension, lunge, and upright row). Participants were required to perform 3 sets of 12-15 repetitions per exercise with 1.5 to 2 min rest between sets. The rating of perceived exertion (RPE) was determined by the OMNI-Resistance Exercise Scale (OMNI-RES) for elastic bands (0-10 scale) to determine the increasement of the training load over the intervention period. Participants wore a microcurrent or a sham device for 3-h post-workout and in the morning on non-training days. The microcurrent was delivered at a frequency of 1.03 kHz, at an intensity between 50 and 400 μA in a ratio of 2:1 (on:off), to induce a flow of electrons into the tissue. Measurements (body mass, BMI, waist circumference, and percent (%) body fat) were taken pre- and post-intervention. Body composition was determined using air displacement plethysmography (BodPod). Raw changes in all dependent variables were calculated by subtracting pre- from post-intervention values and compared to examine effect sizes.

RESULTS: Neither the MC, nor SH groups showed statistically significant differences for any of the analysed variables: body mass (mean change ± SD; MC = -0.70 ± 1.36 vs. SH = 0.48 ± 1.13 kg, p = 0.233, d = 0.937), BMI (MC = -0.20 ± 0.42 vs. SH = 0.13 ± 0.41 kg/m2, p = 0.313, d = 0.778), waist circumference (MC = -1.45 ± 1.37 vs. SH = -1.30 ± 3.02 cm, p = 0.931, d = 0.064), and % body fat (MC = -1.90 ± 2.96 vs. SH = -0.35 ± 3.82 %, p = 0.545, d = 0.453). However, the analysis of the effects size (d) showed more favourable changes for MC compared to SH.

CONCLUSION: Adding a 3-hr microcurrent therapy post resistance training programme may provide further improvements in body composition in middle-aged adults.

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CP-AP10 Fatigue

EXPERIMENTAL TESTING OF METHODS TO MONITOR FATIGUE AMONGST ROYAL NAVY CLEARANCE DIVERS

HOUGH, P.1, COAKLEY, S.2, VINE, C.3, BLACKER, S.3, MYERS, S.3, MARONI, T.3, SIDDALL, A.3, PATTERSON, S.2, CHILLINGSWORTH, K.4, JONES, M.4, STANLEY, N.5, HALSON, S.6, EMMERSON, P.7, PEDLAR, C.2

1. OXFORD BROOKES UNIVERSITY

INTRODUCTION: Chronic sleep restriction (SR) contributes to fatigue and impairs performance. To reduce human error, maximise safety, and optimise performance, Defence and Security organisations require reliable fatigue monitoring methods to identify fatigued individuals. This exploratory study investigated the use of the psychomotor vigilance test (PVT), oculography, and a subjective fatigue rating to identify fatigue amongst Royal Navy Clearance Divers (RN-CD) during a training course, which replicated certain operational demands, including SR.

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