differences in the initial values for the various tests between the two groups were found. When compared the pre and post training values, the GC showed significant improvements in both functional tests and 1RM; GE showed significant improvements in all tests. In the comparison between groups, GE presented the best result for test GUD (4.7 ± 2.8% vs 1.9 ± 2.8%; $p<0.01$). The two types of workouts increase the lower limb strength and functional capacity in people with MS. Furthermore, the EERT seems to be more efficient in increasing the power of lower limbs.

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Concurrent validity of a taekwondo specific aerobic test

Fernando Rocha[1,2], Hugo Louro[2,3], Ricardo Matias[4], João Brito[2,3], Aldo M. Costa[1,2]

1. Department of Sport Sciences, University of Beira Interior, Portugal; 2. Research Center for Sport, Health and Human Development (CIDESD), Portugal; 3. Sports Sciences School of Rio Maior, Polytechnic Institute of Santarém, Portugal; 4. School of Healthcare, Setúbal Polytechnic Institute, Portugal; mcosta.aldo@gmail.com

The literature refers to cycle ergometers or treadmills as laboratory test to assess VO_2max.None of these modes of exercise reproduce the taekwondo technical movements. We proposed to verify the possibility of determining the maximal oxygen uptake for taekwondo athletes through an incremental specific test. Seventeen male elite taekwondo athletes (17.6 ± 4.3 years; 172cm ± 6.5cm of height; 61.3kg ± 8.7kg for weight) participated in this study. A two graded maximal exercise tests on different days was performed: the 20-meter multistage shuttle run test (SRT) and the incremental taekwondo specific test (TST). In both tests we recorded oxygen uptake (VO_2max), ventilation (VE) heart rate (HR), and time to exhaustion. Differences were found between observed and estimated VO_2max values [$F_{(2, 16)} = 5.77$, $p<0.01$]; posthoc subgroup analysis revealed the existence of significant differences ($p=0.04$) between the estimated VO_2max value in the SRT and the observed value recorded in the TST (58.4±6.4 ml/kg/min and 52.11±6.9 ml/kg/min, respectively). Our analysis also revealed a moderate correlation between both testing protocols (SRT and TST) regarding the VO_2max ($r=0.62$; $p=0.04$), the test time ($r=0.77$; $p=0.02$) and also the VE ($r=0.69$; $p=0.03$), pointing to an acceptable concurrent validity. An equation/model to estimate VO_2max during the TST was produced based on the mean HR, TST_time, height, and weight, which explained 74.3% of the observed VO_2max variability. A moderate correlation was found between observed and predicted VO_2max values in the TST ($r=0.74$, $p= 0.001$). Our results suggest that an incremental specific test seems to estimate VO_2max of elite taekwondo athletes with satisfactory accuracy and reliability.

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After school sports influence on 4th graders dexterity performance

Luís Coelho[1,2], Ian Moirinho[1,2], Carolina Ribeiro[1,2], Nuno Amaro[1,2], Nuno Santos[1,2], Rogério Salvador[1,2], João Cruz[1,2], Rui Matos[1,2]

1. School of Education and Social Sciences – Polytechnic Institute of Leiria; coelho@ipleiria.pt; 2. Life Quality Research Centre

Manual ability and performance of dexterity tasks require both gross and fine hand motions and coordination (Golubović & Slavković, 2014). Fine motor skills is still one of the specific components to be assessed when evaluating children's functional performance at home, in school and at play (Chui, Ng, Fong, Lin, & Ng, 2007). Does children that are engaged on after school sports regularly have better dexterity? The main purpose of this work is to analyze after school sports association with dexterity performance (DP) in children. A sample of 53 4th graders was used (30♂ and 23♀, 38 play some type of after school sports and 15 doesn't). Dexterity assessment was performed by using the Placing Test from Minnesota Manual Dexterity Test, twice. First using dominant hand (DH) and second with the non-dominant hand (NDH). Bilateral dexterity symmetry (BDS) was calculated by its difference (DH-NDH=BDS). A very similar performance between both

groups was found. This similarity was verified for both hands performance (DH: children that play after school sports=73.4s±9.2 and children that doesn't=74.8s±7.0, p>0.05; NDH: children that play after school sports=76.1s±8.1 and children that doesn't=80.1s±8.8, p>0.05). We also didn't find any significant differences for BDS (children that play after school sports=7.3s±4.4 and children that doesn't=7.2s±6.1, p>0.05). Results were also very similar between sexes for both hands and BDS. Sport type and week frequency wasn´t controlled, so this is something that should be taken into consideration when analyzing these results, given the fact that it would be reasonable to expect some differences between groups. Other variables that may influence dexterity levels are such as playing video games, or even how kids spend their free time, but unfortunately, we weren't able to monitor it. A great percentage of 4th graders play some type of after school sports (72%). Boys and girls have very similar dexterity performances at this age. Manual dexterity performance can't be associated only by engaging in some type of after school's sports.

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Influence of stretching in lower limbs muscle power

Rafael Oliveira[1,2,3], Renata Silva[1,2], João Moreira Brito[1,2,4]

1. Escola Superior de Desporto de Rio Maior, ESDRM, Rio Maior, Portugal; 2. Unidade de Investigação - Instituto Politécnico de Santarém; 3. Universidade Da Beira Interior, UBI, Covilhã, Portugal; rafaeloliveira@esdrm.ipsantarem.pt 4. CIEQV, Centro de Investigação e Qualidade de Vida

Nowadays, it is common to apply stretching methods before practice exercise training programs. They improve flexibility of skeletal muscles and increase the range of motion of joints. Stretching is also important in prevention of sport-related injuries and influences muscle strength and performance (Maeda et al., 2016). Therefore, the purpose of this study is to apply different stretching methods and analyse the lower limbs muscle power. Thirty subjects, 17 males (age, 18±1.87 years) and 13 females (age, 18±1.22 years) participated in the study. They were assessed three times in anthropometric assessment (body weight, height) and vertical jumps (squat and countermovement jumps). In first assessment, they did not apply any stretching exercises. In second assessment, they apply static stretching. In third assessment, they apply proprioceptive neuromuscular facilitation. It was used ANOVA-Friedman tests were used to compare different assessment moments. Results were significant in the interaction (p≤0.05) and all data were analyzed using SPSS version 22.0 (SPSS Inc., Chicago, IL) for Windows statistical software package. The main results were in squat jumps where we found significant differences between squat height and fly time (p= 0.005 and p=0.005, respectively) for man. However, there were no significant differences to woman in the other jump movements. These findings suggest the practice of regular stretching exercises can induce better jump results for fly time and height jump. That also means an increasing in lower limbs muscle power. We recommend applying a similar longitudinal study to verify what would be the results with a stretching training program.

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Biomechanical characterization of swimmers with physical-motor disabilities

Valdir Junior[1,2], Alexandre Medeiros[2], Kelly de Jesus[3], Rui Corredeira[4], Daniel J. Daly[5], Ricardo J. Fernandes[1]

1. Cifi2d at Faculty of Sport and Labiomep, University of Porto, Porto, Portugal; ricfer@fade.up.pt; 2. Research Group in Biodynamic Human Movement, Institute of Physical Education and Sport, Federal University of Ceara, Fortaleza, Ceará, Brazil; 3. Human Performance Laboratory, Faculty of Physical Education and Physiotherapy, Federal University of Amazonas, Amazonas, Manaus, Brazil; 4. Research Center on Physical Activity, Health and Leisure (CIAFEL), Faculty of Sport, University of Porto, Porto, Portugal; 5. KULeuven, Faculty of Kinesiology and Rehabilitation Sciences, Leuven, Belgium

There are several studies evaluating biomechanical parameters in swimming (Figueiredo et al., 2014), but those involving swimmers with physical-motor disabilities are scarce. This study aimed to analyse and compare the kinematical parameters (Stroke Length - SL, Stroke Frequency - SF and Intracycle Velocity Variation - IVV) in front crawl swimming incremental protocol of n x 200 m in the laps 100 m and 175 m. The study included six male swimmers (25.8 ± 2.9 years, 72.4 ± 9.2 weight, 1.79 ± 0.11 stature and spread 1.65 ± 0.29) with physical-motor disabilities affiliated in Portuguese Swimming Federation. They are