What relationship between muscle strength and flexibility qualities of the spine in athletes?

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Objective.– To better understand the links between the various parameters of spinal and sub-pelvic flexibility and the dorsolumbar spine muscles endurance capacity.

Method.– One hundred and ten competitive athletes including 74 men and 36 women, whose mean age is 25.8 ± 7, voluntarily participated in this study. The parameters collected during the clinical examination, in addition to weight, height, body mass index, are: finger-floor distance (FFD), popliteal angle (PA), trochanteromalleolar angle (TMA), heel-buttock-distance (HBD), modified Shober index (MSI), Biering-Sorensen score (BSS), Shirado score (SS). The Spinal Mouse has explored the curvatures and spinal mobility.

Results.– There is a moderate correlation between DDS and the ISM on the one hand (r = 0.54) and ATM on the other (r = 0.66) for males (P < 0.001), This finding is not found in women. There is no correlation between the scores of muscular endurance (SBS and SS) and spinal flexibility or the spinal curvatures one hand or between the scores of muscular endurance of the flexors and extensors-size or body mass index the other.

Discussion.– This work enables a moderate correlation, although very significant, between the FFD and the flexibility of the hamstrings and with the Schober’s test in athletes male but not female. In women, the spine muscle endurance capacities of the flexors and extensors are higher than those of man, but no hypothesis has been supported for this difference (size, weight, BMI, lumbar lordosis, spinal mobility…).

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Characteristics of the painful surfer shoulder

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Keywords: Painful shoulder; Surf; Prevention

Introduction.– Few studies concerning the pathogenesis of the painful surfer shoulder, who nevertheless has a high prevalence. Our objectives were to raise the frequency and characteristics of shoulder pain, and to identify risk factors for shoulder pathology among surfers.

Methods.– Twenty-five surfers (25 ± 12 years, 65 ± 8 kg, 174 ± 8 cm) of different levels (13 belong to Pole France and Espoir and 12 free surfers who surf more than two times per week), surfing than 18 ± 12 years and 13 average ± 7 h in a week, answered a questionnaire and underwent an examination of the shoulders.

Results.– In the population, 76% of subjects said they were painful at one or both shoulders, define the painful group (or Dx) versus the group of non-painful (or ND). On practice patterns, weekly hours of surfing is higher in the Dx group (15 ± 6 h versus 6.5 ± 4 h, P = 0.012). Eighty-four percent of surfers in Dx group use a shortboard and 16% a longboard against respectively 33% and 67% in the ND group (P = 0.047).

The examination objectives 63% of impingement on the right and 53% on the left in the Dx group, and 33% on the right as on the left in the ND group, without any significant difference between the two groups. (P = 0.199 right and P = 0.409 left). Mobility in external rotation in position 1 is decreased in the Dx group compared to the ND group to the right (74 ± 15° versus 86 ± 9°, P = 0.028) and left (72 ± 14° versus 81 ± 14°, P = 0.028). In the Dx group, loss of mobility is also objectified in functional elevation, lateral and medial rotation in position 2, but not significantly. The apprehension test is positive in 47% of cases on both sides in the Dx group versus 0% in ND group (P = 0.035).

Discussion.– Risk factors and specific adaptations are highlighted among surfers painful shoulder. Their detection and understanding will enable the establishment of a specific and individualized treatment, and the adapted prevention.

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Isokinetic profile of the spine muscle of Tunisian footballer’s girls

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Keywords: Soccer; Spine muscle; Isokinetic profile; Sports

Introduction.– Football is an asymmetrical sports with many movement of trunk rotation responsibility for a facet joint pain in the thoracolumbar junction. The interest of the isokinetics is to detect an imbalance between agonist and antagonist muscles of the spine in order to improve the physical fitness of young soccer players.

The aim of our study is to describe the isokinetic profile of flexor and extensor muscles of the spine of young soccer player’s girls.

Patients and methods.– Prospective study conducted at the Department of Physical Medicine and Rehabilitation at the military hospital in Tunis on young soccer player’s girls.

All patients underwent an isokinetic assessment of agonist and antagonist muscles of the spine in concentric mode at three velocity test: 60°, 120° and 180° (with analysis of figures and curves), using a Biodex dynamometer type.

Results.– Fifteen footballers are included, the average age is 22.8 years, ranging from 18 to 28 years with an average size of 167, 12 cm and an average weight of 61.37 kg. Analysis of isokinetic parameters found a deficit of abdominal muscles. The values of the ratio of abdominal muscles/spinal muscles increase with the velocity of movement, but the average of the maximum of moment/weight decrease with velocity.

Conclusion.– The isokinetic evaluation is necessary to detect the slightest imbalance of muscles to prevent certain diseases and preserved the sporting future of these young footballers girls.

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Knee muscle isokinetic profile of Tunisian footballer’s girls

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Keywords: Knee; Isokinetic profile; Soccer; Sports

Introduction.– The knee joint is strongly solicited during the football, the interest of the isokinetic is to detect an imbalance between agonist and antagonist muscle leg and between dominant and non dominant leg, in order to prevent injuries that may affect on the sporting future.