

ORIGINAL STUDIES

A study regarding the results of a rehabilitation program in patients with traumatic lesions of the hand after surgery

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Abstract

Background. Work-related accidents or domestic traumas of upper extremities have become more frequent in the modern industrial and technological society. Major traumatic lesions need surgery and unfortunately, the recovery period is a very long and strenuous process which can last years, with multiple re-interventions for adhesions, nerve and tendon surgical approaches and rehabilitation programs before and after surgeries.

Aims. To demonstrate with objective tools of assessment and statistics the benefits of the rehabilitation program on the clinical, neurological, functional, socio-professional and psychological status of patients after hand surgery.

Methods. The authors elaborated and followed a prospective study based on 54 cases with surgery for traumatic hand lesions, who followed three series of medical rehabilitation programs consisting of three weeks of daily PRM therapeutic protocol in the Clinic of the National Institute of Physical and Rehabilitation Medicine, between Jan 2011- Aug 2012.

Results. The results confirmed the international epidemiologic data, with a statistically significant improvement of all the local post-surgical conditions, better QoL and FIM scores.

Conclusions. A rehabilitation program proved to be an essential sequence after or between surgeries for traumatic hands, with benefits for the functional independence of patients.

Key words: traumatic lesions, rehabilitation program, hand surgery.

A retrospective analysis of PubMed publications regarding the relationship between stress and athletes

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Abstract

Background. Stress (S) and athletes (A) are subjects of research interest, but the S+A relationship has been little investigated.

Aims. The aim of the present paper is the evaluation of research regarding the S+A relationship, by the retrospective analysis of PubMed publications over the past 62 years.

Methods. The S+A relationship was analyzed in two types of investigations: A) Analysis of the keyword combination "stress and athletes" by the evaluation of three filters, each with corresponding sub-filters: Text availability, Species and Sex. B) Comparative analysis for the keyword combinations: "stress and athletes" (S+A), "stress and athletes and cortisol" (S+A+C), "stress and athletes and pain" (S+A+P), "stress and athletes and pain test" (S+A+PT) and "stress and athletes and VAS" (S+A+VAS).

Results. There are significant differences between the averages per year over 62 years: a) for the total number of publications (N), those with abstract (A) and full-text (FT) respectively, compared to those with free full-text (FFT); b) between studies with human subjects and those with animal subjects; c) between S+A and the other chosen keyword combinations, S+A+C, S+A+P, S+A+PT, S+A+VAS.

Conclusions. 1) The total number of publications over 62 years, with the keywords "stress and athletes", is representative, 2448. 2) For the S+A keyword combination, the number of FFT publications is low compared to N and A, which could be an impediment for detailed consultation by those with modest financial possibilities. 3) For studies with S+A keywords, human subjects of both genders were preferred. 4) The publications regarding the evaluation of stress in athletes (through cortisol) and of pain under stress conditions in athletes (through various tests, in particular VAS), although numerically modestly represented compared to the total number of publications relating to stress and athletes, are important, through the role attributed to these parameters.

Key words: stress, athletes, cortisol, pain, VAS, PubMed filters.

A new method to develop maximum power through charge contrast: the "Top & Down" method

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Abstract

Background. With very few exceptions (such as bodybuilding or sumo) one of the basic principles of developing explosive power involves *a maximum achievement of power with a minimum muscle mass increase*. This principle is a priority in sport disciplines, where competition requirements separate the athletes into weight categories (such as weightlifting, judo, boxing, wrestling etc.). Coaches, nutritionists and doctors deal with well-known problems related to maintaining a certain weight category in order to achieve a medal in a high level competition (Olympic Games, World Championships, etc.). This principle is equally important in sports where the individual power index is related to the athlete's body weight (sprint or long jump or triple jump in athletics, gymnastics etc.).

Objectives. The purpose of our study was to investigate the evolution of the maximum individual power using a new method based on charge contrast – the *Top & Down* method. The research was performed on ten bodybuilders (n=10) who practice bodybuilding at a high level of performance.

Methods. We applied our new method, named *Top & Down*, in one experimental training session (three months length) containing two planned sessions (initial and final) for ordered testing. The training session involved completing sets of five power exercises (Barbell Bench Press, Barbell Deadlift, Barbell Half Squat, Barbell Preacher Curls and Barbell Shoulder Press).

Results. Our findings showed statistically significant differences in t-distribution ($p < 0.05$) between initial and final sessions.

Conclusions. It was concluded that the *Top & Down* method is an intensive and extremely useful method to increase power output for bodybuilders with relatively high strength levels. It can be used in combination with other specific extensive methods aimed at increasing muscle mass. The *Top & Down* method is an important and necessary precondition to increasing the power index for predominantly extensive training specific to muscle mass increasing. We also recommend that the *Top & Down* method should be applied in other sports in which explosive power is a determining factor of individual performance.

Key words: charge contrast method; intensive power training; extensive power training; maximum power; individual power index; bipolar cyclic system; motor unit recruitment-derecruitment.

The improvement of the functional respiratory status of students from the University of Bucharest using the means of aerobic gymnastics

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Abstract

Background. Aerobics, due to its content, is one of the most efficient means of physical education for health maintenance. We can assert that the health of the human body depends to a great extent on the amount of oxygen consumed per time unit, amount which is considerably increased as the human body is more trained as a result of the practice of aerobics.

Aims. The objective of this research is to study the development of some respiratory parameters in students from the University of Bucharest.

Methods. The investigated parameters were: respiratory frequency, vital capacity and Lorentz index. The pedagogical experiment took place during October 2012 – April 2013. The sample consisted of 40 students from the University of Bucharest who attended aerobics and the work of the two groups was conducted differently. The control group worked with classical, traditional means, while the experimental group used cardio programs.

Results. In both groups, the final results were better than the initial results recorded at the beginning of the experiment, but in the experimental group, there was a significant increase in all the investigated parameters between the initial and the final testing, compared to the control group, where the rate of increase was lower.

Conclusions. These significant increases recorded in the experimental group confirm the hypothesis formulated at the beginning of the experiment.

Key words: respiratory, aerobics, students.

Differences in the explosive force of the lower limbs between female volleyball teams

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Abstract

Background. The explosive strength of the lower limbs is a sine qua non in determining the level of performance in the game of volleyball.

Aims. Determining parameters for explosive strength of the lower limbs by using two tests of the Bosco Protocol in two volleyball teams, CSU Medicina Tg. Mures and CSM Lugoj, which met in the last round of playoff for disputing the 5th place in the final standings to ensure participation in Eurochallenge.

Methods. To achieve these objectives we used two tests: the squat jump test (SJ) and the stiffness test (STIFF), which were measured using the Optojump Next System device. The evaluation grid test includes 5 steps, numbered from 1 to 5 (1-insufficient, 5-best) values for each test. For the SJ test the evaluation grid is: 1=<32 cm, 2=32-37 cm, 3=38-42 cm, 4=43-47 cm, 5=>47 cm and for the STIFF test, the average power is calculated following the scale: 1=<36 W/kg, 2=36-39 W/kg, 3=40-46 W/kg, 4=47-54 W/kg, 5=>55 W/kg. The rating scale is a personal proposal.

Results. The Tg. Mures team, who won the confrontation, had better results in terms of the parameters of explosive strength in the legs, at the level of the entire group. For the CSM Lugoj team, the SJ test results ranged from 35.5 to 36 cm (2-poor) versus the results of CSU Medicina Tg. Mures, which ranged from 41.8 to 43.3 cm (3, 4 - medium, satisfactory), while average power (STIFF test) for the Lugoj team was between 43.8 to 50.51 W/kg, and for the Tg. Mures team it ranged from 38.44 to 45.11 W/kg.

Conclusions. Physical training is the basis of all components of sports training and improving explosive strength of the lower limbs should be done through plyometric exercises consisting of jumping with and without load. They are the easiest way to increase and optimize elasticity and reactivity level in muscle workouts for physical training.

Key words: Optojump, volleyball, explosive force.

The incidence of physical deficiencies among 11-12 year old children, in relation with the body weight category

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Abstract

Background. This paper is part of a larger study on growth parameters and *physical development of school age children*. In this study we investigated whether there is a link between body weight and the incidence of child physical deficiencies of the spine and lower limbs.

Aims. The incidence of physical deficiencies among 11-12 year old children, in Cluj-Napoca, in relation with body weight was studied.

Methods. 149 children were evaluated. The subjects' age was 11-12 years. For physical deficiency assessment we used the plummet and the digital method. The body-mass-index-for-age-and-sex percentile was assessed. Statistical processing was performed with the Excel application (Microsoft Office 2007) and the OpenEpi 3.01 X application. The graphical representation of the results used the Excel application (Microsoft Office 2007).

Results. In the obese group, a statistically significant association between the physical deficiencies incidence and the weight category ($p=0.011$) was observed. In the obese group, there was observed a statistically highly significant association between the lower limb deficiency incidence and the weight category ($p=0.001$). In the underweight group, there was observed a statistically significant association between lower limb deficiency incidence and the weight category ($p=0.0236$).

Conclusions. In obese children, the incidence of physical deficiencies is significantly higher compared to healthy weight children. In obese children, lower limb deficiency incidence is very significantly higher compared to healthy weight children.

In obese children, spine deficiency incidence is not significantly higher compared to healthy weight children. In underweight children, lower limb deficiency incidence is significantly higher compared to healthy weight children.

Key words: children, physical deficiencies, body mass index.

Kinesthetic sense, psychomotor ability developed using volleyball-specific methods

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Abstract

Background. In the current context of medical performance, we consider the development of kinesthetic sense in medical students an educational priority of maximum importance, to achieve their future professional performance, in terms of specialization in general surgery and beyond. Therefore, the development of kinesthetic sense has to start from the first year of study, and continue the following year, reaching the main educational concept within the university of physical education and sport.

Objectives. We consider that by creating and implementing a specific adequate system of action in playing volleyball for the development of kinesthetic sense, we can successfully develop these psychomotor abilities of medical students.

Methods. The research was performed in two groups of the Medical Faculty, 1st year of study, homogeneous in terms of age (19-20 years), sex (female), and general motor skills. In the experimental group 1 (n=44), a special program for the development of kinesthetic sense with volleyball-specific methods was applied, and group 2 (n=51) followed a traditional physical training program, in which other games than volleyball were introduced. The results were processed using SPSS 17.0 mixed ANOVA by calculating means, dispersions and the comparison z test for independent samples greater than 30.

Results. Data on the kinesthetic sense parameters, determined in the experimental group, supported the hypothesis that through the application of a special program for the development of psychomotor skills with volleyball-specific methods, the group subjected to the experiment stood out significantly from the control group that followed traditional teaching activities.

Conclusions. The study on the growth of parameters of kinesthetic sense in the experimental group, compared with the control group, revealed that certain elements and techniques specific to the game of volleyball can be an effective means of developing these psychomotor skills (kinesthetic sense) in relation to using specifically other branches of sports (basketball, handball, football etc). This conclusion was based on the superior results achieved in the post-test compared to the pre-test for group 1, results that were confirmed by the z value of the post-test comparison, which was 1.97, greater than 1.96, and the null hypothesis was refuted and the specific hypothesis was accepted, considering that the difference between the two means was statistically significant at the significance threshold $p < 0.05$. In addition, the test was calculated and compared to the post-test value z between the two groups, which was 2.75, greater than 1.96, also evidencing a statistically significant difference between the two means at the significance threshold $p < 0.05$.

Key words: kinesthetic sense, volleyball, medical students.

REVIEWS

Anxiety in institutionalized preadolescents. Manifestations, mitigation techniques (Note I)

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Abstract

Anxiety is a concept with a pluridimensional interpretation, referring to fear, uncertainty, hesitation, unrest, agitation, tension in finding solutions, as a result of one's expectations and desire to assure one's security and welfare. The evolution of modern technologies, especially regarding the possibility to get information, stress, the other problems of contemporary societies in relation to morality, the increase of criminality, the appearance of ecological accidents etc., has influenced the different sides of the individual's personality, affectivity and behavior, amplifying psychological uncertainty. Consequently, the steps taken towards the study of the relations between anxiety, self-appreciation and the level of one's aspirations, the particular features of one's personality and the means and methods of diminishing one's anxiety are important in order to understand the essence of this phenomenon and subsequently the emotional and affective-volitional development peculiarities during preadolescence. It is well known that the relation between the psychological and the motor component is a biunivocal one, in the sense that any difficulty in either of them has a negative impact on the other and finally on the individual's global development. In order to highlight the role of adventure activities in fighting off and diminishing anxiety in contemporary preadolescents, we carried out an experimental investigation based on the application of an outdoor training program based on adventure activities in the form of outdoor games. Ludic behavior is characteristic of games and recreational activities and is sometimes found in the serious conduct of adults. It is indissolubly related to the different levels of the child's psychological development, and depends on the way in which different functions and mental operations are structured.

Key words: preadolescence, adventure, program, behavior, attitude, trust.

Exercise characteristics in the modern basketball game

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Abstract

Nowadays basketball has become one of the sports games that are widely spread worldwide, given its dynamics and spectacular features but also due to the qualities and skills that are developed by the very practicing thereof. Modern basketball has turned into a game in which the very high level of technical and tactical actions performance mastership alone is no longer enough in order to ensure success. The actual game implies a multilateral physical training and specific training at a very high level and such training must be adjusted to the particularities of the age in question and to the athletes' preparation level.

This paper is focused on providing young teachers and coaches with a source of documentation that is based both on a long standing practical activity and on a synthesis of a considerable amount of information as published in the specialized literature while presenting such information under a suggestive and accessible form.

Key words: basketball, exercise, intensity.

Among the history of the Workers' Physical Culture Association Stăruința Oradea football team. 1912-1944

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Abstract

On April 9, 2012 to celebrate one hundred years since the establishment of the Workers' Physical Culture Association Stăruința Oradea, which was one of the reference groups of football in our city during the interwar period. Given this anniversary occasion, we decided to present the history of this sport structure since its establishment until the end of the Second World War. In its content, the paper contributes to a better understanding of the history of this group and at the same time, represents a recognition and a tribute to those who have established this sports association, managers and players, who over the years have been among the best-known football representatives in Oradea.

As part of documentation I consulted monographs, encyclopedias, sports sections in the press in Oradea relating to the topic, other documents on players, managers who worked at Stăruința Oradea team from 1912 to 1944. In the research activities conducted, the discussions with descendants of those who were active in various forms in the football team, with people who have studied the history of football in Oradea, sports collectors, and others knowledgeable on this themes, also iconographic study material from personal albums, were also helpful.

In the first part, the paper refers to the events that led to the establishment of Association Stăruința Oradea, its early years, then addressing its participation in regional and national competitions, the contribution to the formation of representative football players in Oradea, players promoted in the Romanian national team in the '20s, and its most important leaders.

Through its content, the book is of interest both for those who just want to broaden their area of information, but also for those who study history as a means of learning the evolution of football in Oradea, in general, and Association Stăruința Oradea, in particular.

Key words: sport history, football, Stăruința Oradea.

Radu Negulescu, a great athlete, a reputed doctor, and a highly praised professor

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Abstract

Based on consultations and data recovery works on the history of table tennis, the sport of newspaper articles from the period studied, data drawn from discussions with persons knowledgeable of the history of the sport, as well as having reviewed an iconographic material related to the topic, the paper attempts to present Radu Negulescu contribution to the development of table tennis in Cluj, his main professional achievements. Our approach is part of the cycle of works by trying to present aspects of the history of table tennis in Cluj, the achievements of talented players during the seventh decade of the twentieth century, when they obtained the most valuable results.

In the introduction to the paper, the authors motivate and show the importance of such work. The box refers to the place in the history of table tennis sport Cluj in the 60's of the last century. Then, is evoked in the beginning of Radu Negulescu sport branches of sport, the factors that contributed to the sports orientation. The following are his results in competitions and national championships as athlete Sports Association Progress Cluj and Cluj Workers, performance and contribution to achieving medals and leading places in official international competitions as a component of national teams Romania.

Given its content, the book of interest to those who wish to deepen their knowledge about the history of table tennis Cluj at the time, to know better athlete and doctor Radu Negulescu achievements.

Key words: sport history, table tennis, players, Radu Negulescu.