

1. Tasheva R. (2019) Physiotherapy in hip injuries and diseases. Monography. NSA-PRESS. ISBN 978-954-718-593-7

PHYSIOTHERAPY IN HIP INJURIES AND DESEASES

Rumiana Tasheva

Monography

Current physiotherapy is aimed at restoring the person through a holistic approach. Based on precise knowledge about treatment methods, the specificity and mechanism of injuries and disease, the physiotherapist successfully treats local problems with the aim of achieving a fully maximally high functional level of patients. The development of physiotherapy also contributes to many studies confirming its important role in prevention.

The synthesis of our research and the analysis of available literary sources have directed us to the hip joint of interest in its perfect form, structure and function. This requires the physiotherapist to have an effective integration of a wide range of knowledge and skills for correct functional diagnostics, for the treatment and prevention of pathological processes occurring in the hip. In the presented book are followed accents of functional anatomy, biomechanics and physiotherapy methods in some hip injuries and disorders.

2. Tasheva R. (2019) Actualnaspects in ergotherapy. Monography. NSA-PRESS. ISBN 978-954-718-587-6

ACTUAL ASPECTS IN ERGOTHERAPY

Monography

Rumiana Tasheva

The pursuit of a full recovery of the needy is always an incentive to explore the various options for complex therapy. Ergotherapy, on the other hand, was part of the education and application of physiotherapy years ago. They subsequently distinguished themselves as individual disciplines of physiotherapy, ergotherapy and ergonomics. All three professions are devoted to people's health and quality of life. Some of the authors of the traced literature sources state that many of the notions used in ergotherapy have emerged beyond the field of occupational therapy. This also applies to methods of research and therapy. The authors' view is that the use of ideas from another profession is nothing new to occupational therapy, and thus spending time and effort on upgrading. The founders of ergotherapy, influenced by consumers at the beginning, have focused and staked on the strength of engagement. Thus, it is argued that movement, strength and endurance do not represent adequate substitutes for the wealth of engagement in a task that has personal and symbolic significance. The formulated conclusion is extreme because the movement is the basis of man's existence and it is related to tasks. By analyzing both aspects, it is established that they are related in order to achieve therapy and support for those who need to participate in life and to improve their well-being. In most countries, the health system fully assesses quality of life as a health indicator. The focus of the healthcare system on the functions and involvement of professionals should be in line with the knowledge, skills and values of therapy. Occupations are the very essence of life, and the ability to participate in them is the aspect of functioning that most contributes to

the quality of life. In this book, we have taken the challenge to present the results of literary studies and practical pursuits to think professionally while rebuilding or caring for the functional problems of the needy.

3. Tasheva R., Mitrev G. (2019) EFFECT OF HIP ADDUCTORS ON BASKETBALL PLAYERS BALANCE. JOURNAL of Applied Sports Sciences, NSA Press, Vol. 1: 85-90. ISSN 2534-9597 (Print) ISSN 2535-0145 (Online)

EFFECT OF HIP ADDUCTORS ON BASKETBALL PLAYERS' BALANCE

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The functional evaluation of athletes is the sports physiotherapist's initial opportunity to identify dysfunctions and muscle imbalance.

The aim of this study is to investigate the correlation between basketball players' shortening hip adductors with Patrick's Test and their balance and coordination with the Shark Skill Test.

Methods: We tested 65 healthy active basketball players in Basketball Club "Rilski sportist" – Samokov and the National Bulgarian Basketball Team. The athletes were divided into 2 groups: 22 players in the first Control Group with average 20.9 years and 21 youth players in the second Group with average 15.6 years. They were observed voluntarily in 2016.

The 2 tests were applied at least 12 hours after the training. The shortness of hip adductors was assessed with Patrick's Test and balance and coordination skills - with Shark Skill Test.

Results: The results from the Shark Skill Test on the left and on the right lower limb demonstrated statistically significant better time and fewer mistakes among 1G basketball players (average 20.9 years) with shorter left and right adductors than these with normal adductors' elasticity. In contrast, there were no statistically significant differences among the youth athletes.

Conclusion: Summarizing the results, it is clear that the basketball play causes the shortening of the hip adductors of men and teenagers. In this aspect, it is important that the asymmetry of the adductor elasticity in both groups does not lead to statistically significant differences in the duration and mistakes during performance of the Shark skill test.

In our opinion, it is necessary to expand the study by applying physiotherapy for the shortened hip adductors and track changes in the implementation of the Shark Skill Test before and after treatment.

Key words: basketball players, Patrick's Test, Shark skill test

4. Tasheva R., Kolev K. (2019) INNOVATION OF THE PELVIS TILT FUNCTIONAL DIAGNOSTICS IN CHILDREN. Trakia Journal of Sciences, No 3: 295-299. ISSN 1313-7050 (print) ISSN 1313-3551 (online) doi:10.15547/tjs.2019.03.020

INNOVATION OF THE PELVIS TILT FUNCTIONAL DIAGNOSTICS IN CHILDREN

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THE AIM of the research is to make literature review and to study the possibilities for implementation of Digital Pelvic Inclinator in functional diagnostic of the pelvis inclination during the prevention of the postural disorders in children.

METHOD: The Digital Pelvic Inclinator (DPI) developed by Sub-4 Technologies, is a precision measuring device used to quantify innominate bone inclination. Using the described technique, the DPI can be used to assess pelvic behavior by using the specialize protocols. DPI uses a digital display. This display allows the physiotherapist to see the output of the device while performing the measurement procedure.

RESULTS: Twenty-five children were assessed by the DPI. The results show that the pelvic inclination in children were average for left 10.78° and for right 10.28°. Torsion was the difference between left and right inclination of innominate bones. Mean value of torsion is 2.108° this indicate potential for developing progression lordosis in children from 1 to 3 class.

CONCLUSION This new and innovative methodology allows asymmetry, dysfunction and adaption to be quantified, allowing instant evidence-based diagnosis and treatment. The DPI subsequently allows the physiotherapist to record normative values after treatment interventions have been implemented.

Key words: *Digital Pelvic Inclinator, pelvic tilt, physiotherapy*

5. Kolev K., Tasheva R. (2019) CORRELATION BETWEEN RESULTS OF FUNCTIONAL LORDOSIS TEST AND DIGITAL PELVIC INCLINOMETER. Trakia Journal of Sciences, No 3: 247-252. ISSN 1313-7050 (print) ISSN 1313-3551 (online) doi:10.15547/tjs.2019.03.020

CORRELATION BETWEEN RESULTS OF FUNCTIONAL LORDOSIS TEST AND DIGITAL PELVIC INCLINOMETER

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THE AIM of this study is to precise the diagnostics of lumbar lordosis in children at primary classes through applying the Digital Pelvic Inclinator and to correlate the results with the Functional Test.

METHODS. The screening examination involved 132 children with the average age 8, 7 from the beginning classes in Sofia. The lumbar lordosis was assessed through the Fuctional Test in all children during the period April - June 2016.. The DPI was applied for preliminary investigation in 25 children of measuring left and righth pelvic inclination and therefore – torsion.

RESULTS. The lordosis test is negative in 8 children and 16 are with functional lordosis. The mean value of the test with DPI - left sided, for healthy children is 7.1 degrees, and in

children with functional lordosis is 10.9^0 . The difference of 3.8^0 is statistically significant due to the value of T-Student criterion (t) of 2.63 at a critical value of 2.07.

CONCLUSION. The results showed the correlation between the Digital Pelvic Inclinator Test and the Functional Lordosis Test. This study confirmed that the applying of the Digital Pelvic Inclinator give an opportunity to precise the diagnostics of lumbar lordosis in children.

Keywords: *Digital Pelvic Inclinator, lordosis*

6. Tasheva, R., Kolev, K., Belchev, V., Dalev, V., Popova, D., Mitrev, G. (2017) DIAGNOSTIC OF THE FOOT IN CHILDREN VIA A TENSOMETRIC PLATFORM. PROCEEDING BOOK **First International Scientific Congress “Applied Sports Sciences”, NSA, Sofia, 1-2 December:** 485-488. ISBN (Print): 978-954-718-489-3 ISBN (Online): 978-954-718-490-9

DIAGNOSTIC OF THE FOOT IN CHILDREN VIA A TENSOMETRIC PLATFORM

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Dalev Valentin, Popova Desislava, Mitrev Georgi

Introduction

The foot disorders in children are a wide-spread problem and the studies in this aspect are very scant.

THE AIM of the research is to assess the symmetry in loading of the foot in children via a tensometric platform.

Methodology

The tensometric platform ISTEP 5000 was applied in 145 children (76 girls and 69 boys) with the average age 8, 66 (from 7 to 10 years) at the School “Iordan Iovkov” – Sofia during the period April – May 2017.

Results

The results were processed through IBMSPSS Statistics v.19 program and MS Excel, using: variation analysis, statistical hypothesis testing, which includes Student's t- distribution among the indicators with guarantee probability P (t). The differences between loading of the left and right foot are statistically significant: in girls $d = -3.974$ with $t_{emp} = 6.65$, P (t) 100.00; boys $d = -2.710$ with $t_{emp} = 3.98$, P (t) 99.99. The results demonstrated statistically significant asymmetry in loading of the foot.

Discussion

Methods for the functional diagnostic of the foot are very limited and innovation in this area is essential for the prevention of the disorders.

Conclusions

This study confirmed that the applying of the tensometric platform ISTEP 5000 contribute very important data and give an opportunity to precise the functional diagnostics of the foot in children at primary classes.

Key words: children, foot, tensometric platform

7. Tasheva R. (2020) PHYSIOTHERAPY FOR CONTROLLING THE COMPENSATORY MECHANISMS AFTER SURGICALLY TREATED COMPLEX ACETABULAR FRACTURES. Trakia Journal of Sciences, N2, Vol. 18. ISSN 1313-7050 (print) ISSN 1313-3551 (online) doi:10.15547/tjs.2019.03.020

PHYSIOTHERAPY FOR CONTROLLING THE COMPENSATORY MECHANISMS AFTER SURGICALLY TREATED COMPLEX ACETABULAR FRACTURES

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The social relevance of the topic is the opportunity to prevent by physiotherapy the compensations that lead to complications which affect patients' daily lives. **THE PURPOSE** of this study is to present the physiotherapy to control the most common compensatory syndromes, namely "short leg", in patients after surgically treated complex acetabular fractures. **METHOD** Twenty two patients were operated on surgical stabilized method with reconstructive plates and screws from 2000 to 2019. Pelvis stabilization was achieved by physiotherapy modalities such as unilateral relaxation of hamstrings, erector spinae, multifidus and quadratus lumborum, and their contralateral stimulation. The patients were educated to control pelvis, to flex knee, to strike and rock the heel. **RESULTS** There were differences between greater trochanter-to-ankle and spina iliaca anterior superior-to-ankle measurements with average 1, 7 cm. Were found the unilateral shorten muscles. The results of the tests were negative at the end of the relative protection phase for 7 procedures. **CONCLUSION** The social importance of physiotherapy is not only to restore correct and optimal patients, but also to provide prevention of complications after surgically stabilized complex acetabular fractures through avoid the compensatory mechanisms as a "short leg" syndrome.

Key words: acetabular fractures, physiotherapy, "short leg" syndrome

8. Tasheva R. (2020) PHYSIOTHERAPY AFTER SURGICALLY STABILIZED PROXIMAL TIBIA FRACTURE. Trakia Journal of Sciences, N2, Vol. 18. ISSN 1313-7050 (print) ISSN 1313-3551 (online) doi:10.15547/tjs.2019.03.020

PHYSIOTHERAPY AFTER SURGICALLY STABILIZED PROXIMAL TIBIA FRACTURE

Rumiana Tasheva

THE AIM OF THIS STUDY is to present the physiotherapy for overcoming the substitution movements and to restore the correct function in the phase of relative protection after surgical stabilized proximal tibia fracture. **MATERIAL AND METHOD** Seven patients after fracture in the proximal lateral compartment of the tibia (type b1 in AO classification) with average age of 42, 9 years were treated. After surgery, an average of 30 days of brace was used for relative protection. The aim of the physiotherapy was to overcome muscle imbalance to achieve proper movement in the respective planes. Emphasis on recovery was the proper weight bearing on the operated lower limb. **RESULTS** The results of the first recovery phase demonstrated very limited knee flexion in range of 22, 7° and knee extension deficit in range of -15°. After two weeks the results progressed to 115, 5° flexion and full restoration of the extension. Control of edema and hypotrophy of the thigh were proven by circumference. **CONCLUSION** The adequate physiotherapy provides overcoming of the substitution movements and to restore the correct knee function in the phase of relative protection after surgical stabilized fracture in the proximal tibia.

Key words: physiotherapy, proximal tibia fracture, substitution movements

9. Ташева Р. (2019) Въвеждане на ERGON IASTM TECHNIQUE в кинезитерапията в България. Сп. Медицина и спорт, бр. 1-2:42-46. **1312-5664 (Print) 2682-9878 (Online)**

INTRODUCTION OF THE ERGON IASTM TECHNIQUE IN THE PHYSIOTHERAPY IN BULGARIA

Rumiana Tasheva

ERGON Technique is an innovative therapeutic approach combining static and dynamic manipulations of soft tissues of the body through tools to treat neuro-musculoskeletal pathologies. The impact of the technique is aimed at achieving short-term and long-term therapeutic adaptations. Opportunity to explore through tools. ERGON® Technique is based on the theory of myofacial meridians, first described by Thomas Meyers and Ida Rolf.

Key words: ERGON Technique, physiotherapy, soft tissue

10. Димитров Х., Ташева Р. (2016) Мускулна активност на низходящата част на трапецовидния мускул при упражнения от отворена и затворена кинетична вериги. Сп Военна медицина, бр. 2: 41-45. ISSN **1312-2746**

MUSCLE ACTIVITY OF TRAPEZIUS PARS DESCENDENS DURING CLOSED KINETIC CHAIN AND OPEN KINETIC CHAIN EXERCISES

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Introduction. Studies about influence of closed kinetic chain exercises for upper and lower limbs has grown in recent years. Using open kinetic chain exercises in shoulder girdle are beneficial, due to high mobility of glenohumeral joint and scapula mobility during scapulohumeral rhythm. However, many physiotherapists prefer in early rehabilitation stage of painful shoulder conditions to use closed kinetic chain exercises, because of proximal stability and proprioception training.

Aim. The aim of this study was to compare trapezius pars descendens activity in open kinetic chain and closed kinetic chain exercises in healthy subjects with asymptomatic glenohumeral joint and cervical spine.

Material and method. Nine asymptomatic patients were included in our research. We used single channel electromyographic device Statik-Relax Science to measure activity of muscle trapezius pars descendens. Subjects perform in prone position open kinetic chain exercises emphasizing scapular retraction. The technique “stabilizing reversal” from PNF concept in quadruped position is used to emphasize scapular retraction in closed kinetic chain.

Results. The results were processed with IBM SPSS 19 using variation analysis. The maximum values for right shoulder joint in open kinetic chain were 260 μ V, in closed kinetic chain were 110 μ V. Mean values were respectively 179 μ V and 81,33 μ V.

Conclusion. Closed kinetic chain exercises decreases trapezius pars descendens activity when compared with open kinetic chain exercises. It can be used in early rehabilitation period in painful shoulder joint and will provide adequate physiotherapy to reduce pain, restore proprioception and proximal stability of glenohumeral joint.

Keywords: open and closed kinetic chain, trapezius muscle, muscle activity

11. Митрев Г., Ташева Р. (2016) Система за функционална диагностика и профилактика на коленен комплекс. Военна медицина, бр. 2, стр. 45-50.
ISSN 1312-2746

FUNCTIONAL DIAGNOSTICS SYSTEM FOR KNEE COMPLEX IN BASKETBALL

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PURPOSE AND THE STUDY

The study aims to establish a system of adequate functional tests to investigate the knee area during the basketball training process.

The objects of research are 32 healthy men middle-aged of 22,6 active basketball players in BC “Rilski sportist” – Samokov and Bulgarian National youth basketball team (U18) 2014.

METHODS

Functional diagnostics system includes range of motion measurement, relative and absolute length of the legs, Thomas test, Patrick’s test, Duncan-Ely’s test, Shark-skill test for coordination and balance, hamstring elasticity test. All surveyed will complete a part of the

IKDC questionnaire. Innovation in functional diagnostics is the Q-angle measurement in joint resting and joint acting position and the Ober' test.

RESULTS

Initial results show a variance of the Q-angle in healthy basketball players - 69% of researching people had a Q-angle asymmetry at joint resting position and 25% at joint acting position. Twenty-five percent of researching people had asymmetric elasticity of iliotibial band and correlation between the values of Q-angle and impaired elasticity for m. rectus femoris.

CONCLUSION

Selected tests are sufficiently informative about the state of the knee complex. The implementation of a specialized system for functional analysis in basketball will help the early diagnosis of functional disorders, which are a risk factor for subsequent traumatic injuries. Based on the test results will be possible to create a physiotherapy program for prevention, adapted to individuality and to the basketball training process.

Keywords: system test; physiotherapy; basketball

12. Ташева Р. (2016) Иновативни нервно-мускулни техники за biceps femoris. Сп. Медицина и спорт, бр. 1-2:32-34. **1312-5664 (Print) 2682-9878 (Online)**

INNOVATED NEUROMUSCULAR TECHNIQUES OF THE BICEPS FEMORIS

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THE AIM OF THE STUDY is to trace on the innovated physiotherapeutic techniques for biceps femoris as the key component for the recovery of medial knee flexors after the arthroscopic anterior cruciate ligament reconstruction.

MATERIAL AND METHODS

During the period 2009 – 2014 are observed 52 athletes with average 29, 6 years after the anterior cruciate ligament reconstruction. The innovated lead from us in practice methods for the overactivity of hamstrings and for the shortness of biceps femoris is applied.

RESULTS

An initial contraction of hamstrings or erector spinae was found in all patients. The orientation of the lower limb towards an external rotation in the hip joint is evidence of a higher activity of m. biceps femoris. Reduced elasticity and discomfort are indicative of biceps femoris overactivity in hip flexion with internal rotation. Initially, there is a limited amount of movement - an average of 36, 7°, which recovers during the course of an average of 12 physiotherapy procedures. Improvement of hamstring muscular function through the use of physiotherapy is indicative of the progression of knee flexion of the operated lower limb.

SUMMARY

The control of the overactivity of biceps femoris by physiotherapy facilitates the activity of the medial knee flexors as an important component for the recovery of the knee function after the arthroscopic anterior cruciate ligament reconstruction.

Key words: biceps femoris, physiotherapy

13. Ташева Р., Димитров Х., Митрев Г., Колев К. (2015) Промоция на активен и здравословен начин на живот при хора със седящи професии. Сборник – научни статии и доклади, Първа национална научна конференция по трудова медицина, работоспособност и безопасност при работа, 15.05.: 212-221. **978-619-7265-02-6**

PROMOTION OF HEALTHY AND ACTIVE LIFESTYLE FOR PEOPLE WITH STATIC PROFESSIONS

Assoc. Prof. Tasheva Rumyana, PhD, Dimitrov Hristo, Mitrev Georgi,

Kolev Krasimir

Introduction. Each profession instigates the specific tension leads to muscle-skeletal dysfunction. The static posture and repeatedly motions are one of the basic reasons for the muscle imbalance and progressive complications. Promotion of healthy and active lifestyle is one of the leading competences of the sports physiotherapists which give reasons for development of the project in this area.

The aim of this study is to develop a system for functional diagnostics of upper quadrant, objectifying the results by electromyography biofeedback device and application of physical therapy in people with static professions.

Material and methodology. Thirty-two healthy subjects were included in our study for the period November 2014 - March 2015 using 1-channel electromyography biofeedback device Static Relax-Science. Applied both kinesiotaping and Postisometric relaxation.

Results. The results were processed through IBM SPSS Statistics 19 program, using variation analysis. The largest difference found in the final examination of persons with right-sided application of kinesiotaping of upper trapezius. They muscle activity increased from 53 μ V to 99,2 μ V. The results of the first examination of the muscle levator scapulae showed asymmetric elasticity by 70% of the studied people which regressed to 50%.

Conclusion. The methodology for the functional assessing of the musculoskeletal system contributes to develop adequate physiotherapy program for prevention of muscle imbalance in people with sitting professions.

Keywords: electromyography biofeedback apparatus, physiotherapy

14. Ташева Р. (2015) Кинезитерапия за балансиране на контрактилните елементи на скапулата. Сп. Медицина и спорт, 1-2: 13-16. **1312-5664 (Print) 2682-9878 (Online)**

PHYSIOTHERAPY FOR BALANCING OF THE SCAPULAR CONTRACT ELEMENTS

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National Sports Academy “Vassil Levsky”

The aim of this study is to trace out the possibilities to adequate assessment of the scapular contractile structures as a key in the functional restoring of the shoulder.

MATERIAL AND METHODS

During the period 2006 – 2014 were observed 27 patients. The accent of our physiotherapy methodic is to restore the first of the shoulder force couples in the scapular elevation and abduction.

RESULTS

Initial results show positive tests for m shortening of m. subscapularis, m. levator scapulae et m. trapezius pars descendens in all patients despite different clinical diagnoses. Initial averages for m. subscapularis are 7, 67 %, which progress to 72 %. About m. levator scapulae mean values decreased from 13, 1 cm to 4, 5 cm and per m. trapezius pars descendens from 7, 8 cm to 2, 7 cm.

The supraspinatus dysfunction test was also positive in all patients.

The intensity of pain on VAS was from 8, 3 degree to 2,7.

CONCLUSION

The physiotherapy for the shoulder functional restoring in the different clinical diagnosis is necessary to begin with the adequate assessment and treatment of the scapular contractile structures as a key in the increasing of the humeral range of motion.

Key words: abduction, elevation, scapula, shoulder

15. Ташева Р. (2014) Кинезитерапия при футболисти с хондромалация. Сп. Медицина и спорт, 3-4: 24-27. **1312-5664 (Print) 2682-9878 (Online)**

PHYSICAL THERAPY IN SOCCERS WITH CHONDROMALACIA

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The purpose of the study is to investigate the possibilities of kinesitherapy for soccer players with chondromalacia.

MATERIAL AND METHODS

Twenty-seven soccer players, aged 23.7 years, were monitored with kinesitherapy for 10 procedures for early 2000–2008 chondromalacia symptoms. The kinesitherapy algorithm involves pain management; restoring the mobility of the patella; achieving a transversal fiber balance of m. vastus medialis and m. vastus lateralis; relaxation of the iliotibial tract, etc.

RESULTS

In clinical diagnosis there was pain with moderate intensity 4-5 grade, reflex weakness of m. vastus medialis, patella inclination, joint crepitations, poor effusion.

The finding from functional diagnostics was that when trying to passively move the patella laterally, the patient is contracting m. quadriceps femoris and impedes the movement of the patellae. Provoking pain at extension of 30° flexion in the knee joint against resistance, as well as the compression of the patella to the femur.

Overcoming pain and effusion, as well as muscle imbalance by relaxing those muscles and stimulating m. vastus medialis reached an average of 3 weeks.

CONCLUSION

Timely accurate diagnostics and properly implemented kinesitherapy were the main factors for the full recovery of football players for the early stages of chondromalacia.

Key words: kinesitherapy, football players, chondromalacia

16. Mitrev G, **Tasheva R.**, Petrova B. (2014) Q-angle approbation of diagnostic potentialities in basketball players. 9th FIEP European Congress, 7th International Scientific Congress "Sport, Stress, Adaptation", NSA "Vassil Levski", Sofia, 9-12 October: 75-80.

Q-ANGLE APPROBATION OF DIAGNOSTIC POTENTIALITIES IN BASKETBALL PLAYERS

THE AIM of the research is improving functional diagnostic's possibilities and traumatic prevention in basketball players using Q-angle.

The objects are 21 healthy men middle-aged of 22,5, active basketball players in BC "Rilski sportist" – Samokov.

METHODS

Anthropometric data for growth, weight, relative and absolute length of the legs, elasticity of m. rectus femoris are explored. Accent in the functional diagnostic is Q-angle applying for both of legs in supine and weight bearing positions.

RESULTS

Q-angle averages (11,6° and 11,3° at supine, and 12,7° and 11,4° at weight bearing position) are comparable to male norm - 12°. Q-angle asymmetry is established at 71% of researching people in joint resting position, and 76% in joint acting position. 4 of researching people with Q-angle asymmetry have a difference between relative and absolute length of the legs. 80% of researching subjects have an elasticity asymmetry of m. rectus femoris.

CONCLUSION

The results show Q-angle variance in healthy basketball players. Received deviations and their connection with elasticity asymmetry of m. rectus femoris are risk factors for sport injuries during basketball game. This fact requires elaboration of physiotherapy program for knee traumatic prevention, basing on results and adapted to basketball-training specificity.

Key words: injury, Q-angle, physiotherapy, prevention

17. Tasheva R., Kolev K. (2014) Detailed functional diagnostic in lumbar lordosis through Hamstring length test. 9th FIEP European Congress, 7th International Scientific Congress "Sport, Stress, Adaptation", NSA "Vassil Levski", Sofia, 9-12 October:122-126.

**DETAILING FUNCTIONAL DIAGNOSTIC IN LUMBAR LORDOSIS
THROUGH HAMSTRING LENGTH TEST**

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THE PURPOSE OF THE STUDY was to precise the functional diagnostic for the lumbar lordosis in children at primary classes through applying the hamstring length test.

MATERIAL AND METHODS

The screening examination involved 83 children with the average age 8, 7 from II and III classes at the School "Iordan Iovkov" – Sofia. The investigation was implemented in October – December_2012.

Initially was applied the test for the kind of the lordosis in weight bearing position. The hamstring length test was performed in supine position with straight leg raise. The both lower limbs were examined. The hip flexion was measured when the muscle resistance and/or pain and/or discomfort were ascertained. The standard is 80°.

RESULTS

The lordosis was presented at 21 (25, 30%) of the children and the hamstring was shortened in 20 (95%) of them with average 61, 1° (minimal value 45° to maximal 75°). Only 20 children were free of spinal deformities. Their average hip flexion was 75° (minimal value 60° to maximal 90°).

CONCLUSION

The hamstring length test gave the opportunity to specify the functional diagnostic of the children with lordosis. The data demonstrated the shortened muscles which is the mean reason for the imbalance and strain. This is contribution to develop and to apply the correct physiotherapy in lumbar lordosis.

Key words: children, hamstring, lordosis, physiotherapy

18. Popova G., Tasheva R. (2014) Application of of Mulligan's mobilization with movement techniques in patients after distal radius fracture. 9th FIEP European Congress, 7th International Scientific Congress "Sport, Stress, Adaptation", NSA "Vassil Levski", Sofia, 9-12 October: 144-147.

APPLICATION OF MULLIGAN'S MOBILIZATION WITH MOVEMENT TECHNIQUES IN PATIENTS AFTER DISTAL RADIAL FRACTURE

Popova Gergana, PhD student, Assoc. Prof. Tasheva Rumiana, PhD

The aim of this study was to investigate the effect of Mulligan's mobilization with movement (MWM) techniques on restoring range of supination in patients after distal radius fracture treated by immobilization in plaster or pins and plaster.

Material and methods: 10 subjects with distal radius fracture, 2 males (mean age 24,5 years) and 8 females (mean age: 62 years) in the early postimmobilisation phase received a comprehensive kinesitherapy program that included traditional means and MWM. MWM was applied for 3 sets of 10 repetitions per treatment session during 5 sessions over a 2-week period.

Results: Analysing the results indicated improvement of painless range of forearm supination by an average of 9,5 degrees for all patients directly after the first application of the techniques.

Conclusion: Including the MWM techniques in the ordinary kinesitherapy leads to significant release of supination and facilitates its earlier and painless restoration.

Key words: MWM, distal radius fracture, supination

19. Ташева Р. (2013) Нервно мускулно-скелетно изследване на цервикален и на cervикоторакален дял. Сп. Медицина и спорт, 1-2: 22-25. **1312-5664 (Print) 2682-9878 (Online)**

NERVE MUSCULOSKELETAL EXAMINATION OF THE CERVICAL AND CERVICOTORACIC SPINE

Tasheva Rumiana

The purpose of the study was to systematize the methods of neuromuscular examination of the cervical and cervicotoracic spine, focusing on specific muscle tests.

Five grade scales were introduced for the intensity (I) of pain and the periodicity (P) of headache according to Edeling, 1988. For the first time in the Bulgarian literature the analytical positions for the study of muscles - m. rhomboideus, m. trapezius pars transversa et pars ascendens, m. latissimus dorsi, m. pectoralis minor, were presented.

Accurate diagnosis, systematic examination, and adequate kinesitherapy for problems in the cervical and cervicotoracic spine were essential both locally and throughout the spine and upper extremities.

Keywords: musculoskeletal examination, cervical and cervicothoracic spine

20. Ташева Р. (2013) Възможности за приложение на нервно-мускулен тейпинг. Сп. Медицина и спорт, 3-4: 54-58. 1312-5664 (Print) 2682-9878 (Online)

OPPORTUNITIES TO APPLICATION OF THE NEUROMUSCULAR TAPING

Tasheva Rumiana

The purpose of this article is to look some of the possibilities for application of neuromuscular / kinesio taping. Aspects for the application of elastic taping are both in clinical practice and in the field of sports, as well as in the prevention of healthy people. Effective impact of kinesiologic taping requires precise clinical and functional diagnostics and a properly selected and performed application technique.

Key words: kinesitherapy, neuromuscular taping

21. Ташева Р. (2012) Физиотерапия при тендинопатия на biceps femoris. Сп. Медицина и спорт, 3-4: 44-46. 1312-5664 (Print) 2682-9878 (Online)

PHYSIOTHERAPY FOR TENDINOPATHY OF BICEPS FEMORIS

Tasheva Rumiana

The purpose of the research is to create and apply a methodology for functional diagnostics and physiotherapy for tendinopathy of m. biceps femoris.

MATERIAL AND METHODS

36 athletes, average age 31, 7 years, 2009-2011 were surveyed.

Physiotherapy for tendinopathy of m. biceps femoris aims to use mobilization techniques to reduce pain and then incorporate positional-relaxation techniques and post-isometric relaxation.

RESULTS

Considering the individual approach of physiotherapy, the extension of the knee joint and the limited posterior sliding of the caput fibulae were first restored, and the symptoms of palpation and isometric test were subsequently resolved. Indicative of training include the lack of flexion pain in the hip joint with resistance to both running and ball play.

CONCLUSION

The precise selection of the test methods ensured the correct identification of functional deficits and the progressive use of physiotherapy techniques for the complete repair of the m. biceps femoris tendon injury.

Keywords: tendinopathy of m. biceps femoris, physiotherapy

22. Ташева Р. (2011) Кинезитерапия при реферални модели на екстензорите в колянна става при спортисти. Сп. Медицина и спорт, 1: 4-6. 1312-5664 (Print) 2682-9878 (Online)

PHYSIOTHERAPY FOR REFERRAL KNEE EXTENSOR MODELS IN ATHLETES

Tasheva Rumiana

The purpose of the study was to monitor the referral models of knee extensors and to provide adequate physiotherapy to athletes.

MATERIAL AND METHODS

From 2007 to 2010, 32 athletes with an average age of 19.7 years were surveyed. The more common referral models of rectus femoris and vastus lateralis were analyzed and also the impact of trigger points through physiotherapy. The established physiotherapy program includes techniques for positional pain relief, muscle-energy and neuromuscular.

RESULTS

When treating satellite trigger points (TT) without processing the key points referral models were reactivated.

CONCLUSION

Tracking the referral models of knee extensors and applying adequate physiotherapy contribute to the refinement of diagnosis and to the prevention of soft tissue damage in athletes.

Keywords: physiotherapy, referral models, athletes

23. Tasheva R., Kolev K., Kitseva E., Mitrev G. (2012) Approbation of the Matthias test. Proceeding Book XVI International Scientific Congress "Olympic Sport and Sport for All", VI International Scientific Congress "Sport, Stress, Adaptation", NSA "Vassil Levski", Sofia, 17-19 May: 575-577.

THE AIM OF THE STUDY was to approbate of the test of Matthias for the first time in Bulgaria, and to get data about its correlation with the paravertebral upper muscles in the postural deviation in the frontal plane in the thoracic part of spine in primary school age children.

MATERIAL AND METHODS

During the period from 13 October 2008 until 22 October 2010 were studied 141 children from preschool to third grade in the school "Jordan Yovkov" – Sofia. This report includes 46 children from that group. Informed consent was taken from all parents of the

children and agreed by the school management. The study activities were organized in sport classes, attended also by the teachers and medical doctor.

To objectify the data there were applied a Matthiaß test and an upper-paravertebral muscle static strength test.

RESULTS

The results of the study showed that 26 (56%) of the children have passed the Matthiaß test and those who were not - have 20 (44%). The average time was 25. 63 sec, with a minimum of 15 sec and a maximum of 30 sec. The initial examination of the paravertebral muscle was 5. 93 sec with an average of 14. 05 sec. An improvement of 8. 10 sec was observed.

CONCLUSION

The approbation of the Matthiaß test for the first time in Bulgaria gave an opportunity to trace back the postural control and to examine the upper upper-paravertebral muscle in primary school age children with postural frontal deviations in the thoracic spine.

Keywords: physiotherapy, postural deviations, Matthiaß test

24. Tasheva R., Mitrev G., Kitseva E., Kolev K. (2012) Variability of m. quadratus lumborum in rhythmic gymnastics. Proceeding Book XVI International Scientific Congress "Olympic Sport and Sport for All", VI International Scientific Congress "Sport, Stress, Adaptation", NSA "Vassil Levski", Sofia, 17-19 May: 432-435.

THE AIM OF THE STUDY was to identify changes in elasticity and static-strength endurance of m.quadratus lumborum and the accompanying subjective complaints in rhythmic gymnastics athletes.

MATERIALS AND METHODS

Fourteen female athletes on average age 20.4 years, exercising gymnastics averagely since 10.7 years, were examined voluntary in two periods – between 16 March 2009 and 23 March 2009 and between 10 March 2010 - 31 March 2010. There were implemented standardized tests about the static elasticity, strength endurance of m.quadratus lumborum, by doing monitoring and subjective complaints of the respondents.

The examination of the elasticity of m. quadratus lumborum was made by the starting position of standing up against a wall. Lateral tilt moves are doing on left and right. The distance from the middle finger of the hand to the floor was measured with a centimeter in cm.

RESULTS

92, 8% from the studied athletes had asymmetry in the elasticity of m. quadratus lumborum. For 7 of them the shortening was left sided, and for 6 – right sided. It was established also asymmetry in the static- strength endurance, as for 51% of the studied rhythmic gymnastics athletes the endurance was bigger left sided, as for 21% - right sided. There was a statistically significant correlation between subjective complaints of pain in the lumbar and thoracic area and shortening and static strength-endurance m. quadratus lumborum.

CONCLUSION

In rhythmic gymnastics athletes revealed asymmetry in the elasticity and static-strength endurance of m. quadratus lumborum. This leads to discomfort and pain in the lumbar and thoracic spine. Subsequently the performance of the athletes is going difficult and worsening. Practically it was proved that use of the physiotherapy is necessary for functional diagnosis of changes in m. quadratus lumborum and the correct selection of physiotherapy techniques to improve the training process.

Key words: m. quadratus lumborum, rhythmic gymnastics, physiotherapy

25. Ташева Р., Михалкова Цв., Колева Ив. (2008) Ефикасност на динамичните тестове за n. medianus след порезна рана. Октомври, Плевен. Сп. ПРЕВЕНЦИЯ И РЕХАБИЛИТАЦИЯ, том 2, 2008, бр. 2: 48-51. 1313-2784

DYNAMIC TEST EFFICIENCY FOR N. MEDIANUS AFTER A HAND CUT WOUND

Dynamic tests of the nervous system are significant for its integrity and mobility.

THE AIM OF THE STUDY was to follow the effectiveness of the I and II dynamic tests for the recovery of n. medianus after a hand cut wound.

MATERIAL AND METHODS

The female patient at the age 49 was observed after a cut wound manus with the integrity of n. medianus. Sutura cutis mani dextra was going on 20 May 2007. The hand was immobilized for 21 days. Physiotherapy was applied initially and ultrasound and paraffin' applications were added after 5 days.

The newest at the methodic of the physiotherapy was the using of the I and II dynamic tests for the examination and the improving the mobility of n. medianus after 20 days. The examination methods were: elbow and wrist goniometry; characterization of the tests movements; functional tests – fist and pinch grips.

RESULTS

At the first there was not the difference in elbow the range of motion, but there was a deficit in wrist dorsal flexion -20° and the palmar one -25°. The radial movement was

with -10° deficit and the ulnar one with -15°. The deficit of the right wrist got over after one month. The fist grip with the thumb was achieved after 7 days of applying of the I and II dynamic tests. Full recovery of the fist and pinch grips was recognized after 45 days. The performance of the neurodynamic tests lightly and with the full range of motion during the steps was achieved after 2 months.

CONCLUSION

The performance of the I and II dynamic tests at the physiotherapy program there was the main meaning for the restoring of the mobility of n. medianus and the hand's function.

Key words: neurodynamic tests, n. medianus, physiotherapy

26. Ташева Р. 2007 Въвеждане на портфолио във формалното обучение по кинезитерапия на магистри. Сп. Неврореабилитация, Том 1, бр. 2: 65-68.

INITIATE A PORTFOLIO IN THE FORMAL LEARNING OF PHYSIOTHERAPY IN MASTER'S LEVEL

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The Masters Programs in Physiotherapy at the National Sports Academy (NSA) – Sofia, Bulgaria started in 2002/2003. The next years the programs were developed according to the requirements of European Union (EU) in education of physiotherapy. The last three years the NSA was a core group partner in the Leonardo da Vinci project Sports Physiotherapy For All (SPA project).

THE AIM OF THIS STUDY is to demonstrate the process of innovating the formal learning in Master's level of physiotherapy by competence-based approach applying portfolio and audit toolkit.

MATERIAL AND METHODS

During the second semester in 2006 and 2007 seven Master's students in the formal learning of physiotherapy chose the module Portfolio according to requirements of EU. It included only one credit with 15 hours lectures. The physiotherapists were educated in what a portfolio is, its aims and how to work with the portfolio. The important part of the lessons was to give the examples, to discuss what we need and how to test the level of competency by the audit toolkit. The individual self work of the Master's student was supervised by the academic from the NSA who is an expert in competence-based approach of education.

EVALUATION

Seven Master's students wrote the case study, collected the evidence and demonstrated the new way for testing and developing their competency. The portfolios were self-assessed and assessed by the researcher using the ATK.

CONCLUSIONS

Portfolio is the basic and necessitates approach for developing the competence of the physiotherapists. We put the base in knowledge and skills of building and writing the portfolio by collecting digital materials which give evidence for being competent.

Key words: formal learning, Master's students, portfolio, physiothetapy

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27. Ташева Р. SPA&WELLNESS – същност и приложение. Сп Медицина и Спорт, 2007, 1: 16-18.

SPA&WELLNESS – NATURE AND APPLICATION

Rumiana Tasheva

The philosophy of SPA is to achieve the enjoyment of a life in which the harmony between body and mind is a source of true beauty and health. The human body is a self-regulating subsystem in the organism-environment system. It is characteristic that it does not simply balance with the environment, but actively adapts to it. The increasing pace of life and the ever-increasing stress give rise to the need to build a life-long concept of how to secure and live a fuller and healthier life. Achieving relaxation on the one hand and toning on the other determines the association of SPA with another term Wellness. The essence of these two concepts is aimed at achieving well-being through the application of different water procedures and treatment of the body with water (mineral, marine, spring) for both pleasure and recovery. The basic physical and mental influence at all ages is achieved through water, but is complemented by the effects of various procedures (massage, wraps, yoga, etc.), as well as of various products (alkali, mud, etc.) and aromas (honey, chocolate, fruit, champagne, etc.). Properly combining the different elements and applying them individually to everyday life is at the heart of building a vibrant philosophy for a healthy lifestyle.

Keywords: well-being, water, healthy lifestyle, SPA