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PREVENTION OF STRESS AND FATIGUE THROUGH TECHNICAL MEANS FOR MONITORING THE JUNIORS

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Summary. Stress is usually perceived as an unpleasant emotional reaction to situations threatening or inability to attain the objectives of performance. Expose children to the competitions, especially in individual sports, where the stress cannot be shared between colleagues of the group. Regardless of the level of competition, excessive stress has adverse consequences, such as insomnia, lack of appetite and nausea before competitions.

Victory rush, pressure exerted by both parents and coaches, the worse the degree of stress experienced by children. The level of stress you living children is greater if a parent's love and appreciation is subject to good performance. This pressure from parents, coaches or h-of-age is, in most cases, too big to deal with, especially at early ages.

Although specialists and researchers in the field of sports training refers often to the negative effects of stress of competitions, they do not, however, focus on understanding and tension felt by children at the training prior to the competition. Often, these workouts generates negative effects similar to those produced by competitions. Moderate levels of stress can lead to a stimulating environment for motivation and performance in children. Competition-related stress manifests itself before, during and after it.

Evaluating through experiment stress manifests itself through fear of not evolve well, not to make a contribution to the team's performance expectations by team mates sleep disturbances, agitation and frequent diarrhea.

Keywords: stress, fatigue, junior competition.

STUDY ON THE MORPHO-FUNCTIONAL CHANGES RESULTED FROM ARTISTIC GYMNASTICS PRACTICING - CLASS IV (9 – 10 YEARS OLD)

Potop Vladimir, Ecological University of Bucharest, Faculty of Physical Education and Sport

Abstract

This paper aims to highlight the features of effort in women's artistic gymnastics at different stages of preparation by a functional exploration of the training requirements for the female gymnasts 9 to 10 years old.

This scientific approach has led to a study carried out in the artistic gymnastics department of School Sports Club no.2 of Bucharest. The study group consisted of 5 gymnasts of class IV. The study was conducted in three stages throughout the period October 2011 – May 2012, monitoring the level of somatic development of anthropometric measurements, which was assessed initially and finally; the evaluation of the physical training by using control tests and functional exploration tests was made in three stages, by applying the medical-pedagogical observation, corresponding to the three stages of training: preparatory period – basic stage, pre-competitive stage and competitive period plus the assessment of performance level at final testing – through the results achieved in Children's National Championship, Buzău 2012.

The study results point out the characteristics of effort in women's artistic gymnastics at different stages of training that is efficiently performed by the functional exploration throughout training requirements. The application of some physiological tests at rest, before

and after effort, in various stages of training leads to highlighting the effort features in artistic gymnastics.

Key words: adaptation, effort, gymnastics, morpho-functional changes, performance.

RECOVERY OF DISORDERS TREATMENT OF LUMBAR SPINE

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Summary

The study was conducted at INRMFB on a 42 years old patient suffering from back pain due to the efforts that has undergone during athletics performance practice.

The patient was advised that everyday life takes account of a specific spinal hygiene and treatment for 10 days following the institute consisted of physiotherapy, relaxing massage and physical therapy exercises. Following treatment the patient felt made a very slight improvement, but its effect on felt after more than a month can be resumed when bending movements, lifting weights greater than 1 kg and went quickly. The notion of physiotherapy is defined as "the method of treatment of disease by physical factors: air, water, light, temperature (heat and / or cold), electricity (Encyclopedic Dictionary, page 369).

Real role of physiotherapy is valuable adjunct of recovery, including techniques not insignificant. Also, you should not consider it extreme fell most important recovery method, mentality perpetuated in many offices in Romania.

Physiotherapy includes all therapeutic applications based on the use of physical agents, including magnetic waves, mechanical waves, cryo-thermotherapy, especially electric currents.

Kinesiology is part of physical medicine and studying neuromuscular and joint mechanisms that ensure human normal driving activities. Based on motion made by well-structured rehabilitation programs are aimed at the restoration of reduced functions.

Effects of exercise are fast or slow, grouped morphogenetic, physiological and education, on this basis we can get gymnastics prophylactic and therapeutic effects.

Keywords: pain, spine, treatment

THE TREATMENT IN CONGENITAL LUXATION OF THE HIP

Ambrus Paula, student UEB – EFS

Summary:

The congenital luxation of the hip is one of the severe malformations of the members, relatively frequently found, which leaves functional sequels particularly important, hard to treat and with invalidity high level. Unlike the traumatic luxation of the hip in which femoral head loose the contact with the acetabular cavity after a major trauma and where the elements that make the articulation are normal developed, in congenital hip luxation, the loss of the right of home of the femoral head is done gradually because of the cotyle dysplasia and of the femoral head. The luxation itself is a consequence of the dysplasia and may appear sooner or later after birth, because of the dysplastic cotyle and maintaining of the thighs in adduction or of the body weight placing on femoral head. The geographical repartition is very variable; frequently encountered in European country (France, Italy, Germany, Czech Republic, approximately 3‰), is exceptionally at the yellow race and practically unknown at the black race. In our country the percentage is 1‰, the disease meeting more frequently in the north-

vest of Transylvania. There are a lot of treatments of this disease which I will enumerate here, but I will talk only by a few things from physical therapy (Kinetotherapy). These treatments are: the prophylactic treatment, the orthopedic treatment, hydrotherapy, the surgical treatment, thermotherapy, electrotherapy, the massage, occupational therapy (ergo therapy).

Key word: etiopathogeny, symptomatology, physical therapy, the congenital dislocation of the hip bone.

CONSIDERATIONS ON DOPING, AT THE LIMIT OF THE ATHLETE'S BIOLOGICAL

Professor Phd. Sanda Toma Urichianu
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Summary. The problem of doping in sport cost treated and covered under both aspects due to the danger it can find out the health of athletes and the ethical values of sport injury. The international press has revealed the doping cases of some famous athletes who have been appreciated which represented a model for young people, when their sports performance was considered as a result of the fair in preparation sports arena. There are cases of famous athletes who have acknowledged that they used doping substances, but also cases of athletes who were found to have "stolen" sports performance using unlawful means (banned substances). Sensational revelations emerged in the press recently about doping in cycling exemplifies the gravity of a situation worrying, with resonance and other sporting disciplines.

The doping in sport "means the Administration to sportsmen or the use by them, of pharmacological classes of doping agents or doping methods" (Convention against doping, Strasbourg, 1989).

The recent evolution of doping study can distinguish three periods: empirical (historical), pseudo-scientific and, in actuality by developing the concept of "biological preparation". The beginnings of the miraculous recipe in getting higher gaming performance sports arena were owned and transmitted in an aura of mystery genre "spinach Popeye the sailor in his box," after which was the effect of coffee and a glass of sunny, continuing with the role of Aether, the liquors of Fowler (metarsenit) and immunity to poisons, like strychnine.

Keywords: doping, sport, health, and performance.

PARTICULARITY HOLIDAY AND RECOVERY IN SPORTS

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Summary. Most of the athletes, especially those elite attending the demanding workouts often two or even several times a day. In such conditions, they can overcome the physiological and psychological norms. In addition, they felt and other stress factors of professional and social, that increase the overall voltage of training and competitions. To cope, the athletes must maintain a good balance between workouts, social life and recovery. After training, the athletes are tired and the fatigue is greater, the greater her side effects are: poor recovery rate, poor coordination and the speed and power of the muscle contractions. Strong emotional fatigue stresses often normal physiological fatigue, especially after the competitions which require a longer recovery time.

Coaches and athletic training professionals must continually seek ways to enable athletes to overcome their limits and to increase performance. One of the most effective is to

rebuild. Coaches need to understand and contribute actively to the process of restoration, for it to become an important component of the training. There are few coaches that, in parallel with the increasing requirements on training and incentives, grants the same intensity and recovery after workouts and races. Researches are also few in this extremely important area. A good rate of return between the restoration enhances training lessons, do to decrease fatigue, increase and facilitate the use of overcompensating for great workouts. It can even lead to a decrease in the number and frequency of injury problems, because fatigue hampers coordination and concentration, resulting in a weak control of movements.

Key words: restoration, fatigue, training, competition.

SPECIFIC RECOVERY TECHNIQUES TO IMPROVE RECOVERY AFTER ENDURANCE TRAINING

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Summary. Most of the research and information that we have about fatigue and overtraining cares what needs to be done after the athletes have experienced the negative effects of intensive training programmes. Very little is done to prevent overtraining and decreased performance before important competitions.

Determination of the equilibrium of the effort and redo is an essential element in the creation of effective training programs for athletes. Adaptation to higher training loads will lead to results only if there is a relation between load and correctly. Training of appropriate cargoes creates a degree of fatigue which diminishes the ability of the athlete on a temporary basis. Athlete adapts to training stimulus during the recovery process, which reînnoiește energy sources and can regenerate them beyond the initial levels. Progressive implementation of an adequate training stimulus during overcompensation phase, therefore, will increase the achieving peak form. Further, the preparation must not commence until the advent of overcompensation.

In practice, we are dealing with a complicated matter. It is difficult to define the moment of recovery and overcompensation phase. Individuals are able to recover and respond to training in different ways, even in the same loads of training. Adaptation programmes, therefore, should be adjusted after the subtle differences between individual athletes. Personal journals and scientific testing can produce data to help coaches and athletes to develop and publish the program after the specifics of the individual.

Keywords: rehabilitation, training, fatigue, overtraining.

METHODOLOGICAL ASPECTS OF THE RECOVERY AND RESTORATION AFTER INJURY OF 10 TO 14 YEARS OLD JUNIOR GYMNASTS

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Abstract

This paper highlights the methodology of application of the means of recovery and restoration after injury of junior gymnasts 10 -14 years old.

This scientific approach involved the organization of a study conducted over 6 months (3.I.2010- 24.VI.2010), including three macro-cycles of training. The study was carried out in School Sport Club no.2 of Bucharest, with a group of 9 gymnasts, having different levels of training (the 1st group - level 1 and 2, Class Junior IV; and the 2nd group - Level 3, 4 and 5 of Junior classes.

The results of the study emphasize the content of the recovery means and some examples of post-injury recovery individual cases in various periods and stages of training in women's artistic gymnastics; relationship of effort parameters during the training sessions of verification and the content of technical training on uneven bars during the basic and specific preparatory stage and the competitive period and the effectiveness of application of post-injury recovery and restoration means through the performances of gymnasts in the verification training sessions and the scores achieved in competition.

Performance gymnastics is currently experiencing an outstanding dynamics and is considered to be a sport and a show at the same time. In recent years, artistic gymnastics has made remarkable progresses, developing itself in terms of continuous increase of movements difficulty and complexity and of exercises composition as well (Niculescu, 2003; Grigore, 2001, Vieru, 1997).

The efforts made during training sessions and competitions in artistic gymnastics often involve a fast restoration of the physical and mental capacity, so that after certain periods of time the athletes are able to act in the fullness of their physical forces and in the completeness of their mental abilities (Vieru, 1997, Potop, 2008).

Key words: gymnastics, recovery, restoration, means, injuries, performance

KINETIC DEBUG IN PATIENTS WITH DOWN SYNDROME

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Summary

The whole world and all living beings, including humans, are the result of evolution. Evolution is a wide process of nature, which occurred in three billion years ago, was possible due to three main factors: mutation, genetic recombination and natural selection. Mutation - a broader term change - is an attribute of all living beings. They all have the ability to transform and thus to change, to transform, and so evolve. The mutation is in fact largely responsible for the variability of the living world. The mechanism of genetic recombination, different genes mutated form new genetic programs that are virtually limitless. Natural selection favors only preserves the individuals in every generation are better adapted due to their genetic program, a program that corresponds and responds best environmental conditions in which they live, feed and reproduce. Obviously, these individuals will be able to produce and a larger number of offspring. Individuals with genetic programs unfavorable are lost gradually in that breed in smaller numbers. Mutations - these sudden changes that occur in the genetic material of an individual and that is hereditary - is really the source of variation and evolution

of the foundation that is built. They accumulate during tens of thousands of generations during the formation and establishment of such species. But of course not every mutation that occurs is preserved. Removal particularly unfavorable mutations is more active, the more species is older and more adapted environment. Latest species to which genetics is sufficiently stabilized, preserved in greater numbers mutated genes that are not useful. They will be gradually removed, as species evolve through natural selection phenomena district. Therefore, the entire set of genes, or genotype of each species today is the end result of an era of evolution. Once for-mat but it does not mean that the gene remains unchanged.

Key words: gymnastics, recovery, restoration, means, injuries, performance

LA IMPORTANCIA DE INGERIR GLÚCIDOS ANTES DEL ENTRENAMIENTO Y LOS PARTIDOS PARA MEJORAR LA RESISTENCIA

Profesor Toma Ion, Subdirector LPS Mircea Eliade

Resumen

Uando se realiza un esfuerzo, los glúcidos constituyen nuestra principal fuente de energía. Desafortunadamente, las reservas corporales de glúcidos (azúcares) son limitadas. Se componen esencialmente del azúcar que circula en la sangre, y del glucógeno muscular y hepático.

En este artículo se analiza la elección de la calidad de los diferentes glúcidos antes del esfuerzo, asimismo se dan las pautas para adaptar las ingestas a las necesidades específicas de cada deportista y situación de entrenamiento o competición.

Es importante resaltar el análisis de las posibilidades que tenemos de sobrecargar los músculos de glucógeno para ampliar la intensidad de los esfuerzos de nuestros jugadores.

Finalmente se realiza un estudio de las diferentes bebidas que podemos utilizar antes de los entrenamientos y partidos. Papel de los glúcidos en la Resistencia.

Cuando se realiza un esfuerzo, los glúcidos constituyen nuestra principal fuente de energía; presentan la ventaja de estar mucho más rápidamente disponibles en los músculos que la energía grasa. En nuestra sociedad moderna absorbemos tanto azúcar que el cuerpo se ha especializado en la utilización de este carburante. Esta especialización se ha producido en detrimento de la oxidación de lípidos, que se almacenan más fácilmente.

Desafortunadamente, las reservas corporales de azúcar son limitadas. Se componen esencialmente del azúcar que circula en la sangre, y del glucógeno muscular y hepático.

Cuando alcanzamos este límite en el transcurso de una prueba de resistencia, nuestro cuerpo debería funcionar automáticamente con su carburante alternativo: las grasas.

Palabras clave: gimnasia, recuperación, restauración, medios, las lesiones, el rendimiento

PILATES EN LA HERNIA DISCAL EN EL FUTBOLISTA

Profesor Uzunea Dumitru Liceul Mircea Eliade

Resumen

A pesar de que una hernia discal puede aparecer en cualquier momento de la vida debido a que sus factores productores son de lo más variado como a continuación se detalla más adelante, a partir de los 30 años se recomienda comenzar a observar si todo va bien en las zonas lumbar y cervical.

Por qué? Pues, porque las hernias de disco son más frecuentes a este nivel, ya que son estos los segmentos con mayor movilidad de la columna, y porque es a partir de esa edad cuando

comienzan a producirse cambios degenerativos en el disco que conducen a una pérdida de resistencia del mismo.

Además de las lesiones por traumatismos o caídas -algunas parecen inofensivas, pero pueden esconder un grave problema de fondo-, y deportes como el fútbol figuran entre los que conllevan un desgaste paulatino de los discos, lo cual, a la larga, puede derivar en hernia discal. Cabe añadir que el riesgo de lesiones aumenta principalmente entre quienes realizan deporte de forma esporádica -el esquí es un deporte estacional-, de ahí que los expertos recomienden realizar ejercicio de forma regular y durante todo el año para fortalecer la musculatura de la columna.

Palabras clave: hernia discal, degenerativos, elementos anatómicos.

STATIC OR DYNAMIC STRETCHING? BENEFITS AND INCLUDES ATHLETIC TRAINING

Reader **Corina Ivan**, Ph.D. UNEFS

Abstract

The main objective of high level sport is performance increase. This can not be achieved if not in perfect health conditions. Therefore a complementary objective appears, that covers injury prevention. Over time, one of the many concerns of professionals was finding the means to satisfy the two. The answer to their search was stretching, a very fashionable activity at the moment, which is increasingly infiltrating sports. Practiced heavily in performance sports, it has in fact become an appendage of any activity, even if only for *leisure*.

Long considered the miracle cure, stretching has been given undeserved virtues, such as that of a leading role in heating and injury prevention, or recovery.

This article brings into question an interesting topic for both coaches and athletes (what type of stretching used at the start of preparation will influence performance and / or injury), based on a series of specialized studies abroad. Many trainers recommend the use of static stretching before exercise. It has been widely used over the years, for the two following reasons: injury prevention and execution improvement. Static stretching involves maintaining certain positions in order to stretch muscle fibers. The time spent for static elongation varies between six seconds and two minutes.

We are often advised to force elongation despite the unpleasant feeling.

Does static stretching help prevent injuries and increase performance? Research has shown that the results can be just the opposite. Thus, according to Rod Pope (physiotherapist in the Australian Army), who monitored more than 1,600 recruits in races and trials, there is no difference between those who practiced static stretching and the others.

Keywords: stretching, sports performance, injury

LUMBAR DISCOPATHY

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Summary

The vertebral column, also known as backbone or spine, is a bony structure found in vertebrates. It is formed from the vertebrae.

The spine is the axial skeleton of the trunk and is located posterior and medial. The vertebral column is a tube articular bone long, which lies between the base of the skull and pelvic bones. Discopathy lumbar spine is a disorder, manifested by degenerative changes in the lumbar intervertebral discs. Manifeste discopathy lumbar pain is located in the lumbar-sacral. Intervertebral disc degeneration occurs because the spinal musculature loses tone and sustains no spine.

In human anatomy, the vertebral column usually consists of 24 articulating vertebrae, and nine fused vertebrae in the sacrum and the coccyx. It is situated in the dorsal aspect of the torso, separated by intervertebral discs. It houses and protects the spinal cord in its spinal canal, and hence is commonly called the *spine*, or simply *backbone*.

There are normally 33 vertebrae in humans, including the five that are fused to form the sacrum (the others are separated by intervertebral discs) and the four coccygeal bones that form the *tailbone*.

The upper three regions comprise the remaining 24, and are grouped under the names *cervical* (7 vertebrae), *thoracic* (12 vertebrae) and *lumbar* (5 vertebrae), according to the regions they occupy. This number is sometimes increased by an additional vertebra in one region, or it may be diminished in one region, the deficiency often being supplied by an additional vertebra in another. The number of cervical vertebrae is, however, very rarely increased or diminished..

Key words: spine, pain, treatment, lombosciatics

THE CLINICAL EXAMINATION OF A PATIENT WITH DIZZY PROBLEM ABOUT NYSTAGMUS AND DEVIATIONS NOTIONS

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Dima Marius, Lect. Univ. Dr. UEB - EFS

Summary

Any patient with dizzy problems is from the beginning a difficult patient. Any human been that describe the same problem may be in the future a very difficult patient, because, the dizziness is one of the problem who may not be put in evidence in crisis state. In this lecture we try to describe some parts from the clinical examination that may be effectuated by any trained person who knows a little bit about vestibology science. The vestibology is the science that study the dizziness problem of any human been and the balance as a part of our life also. A trainer or a coach is by the beginning a part of the life of the athlete. In this career a coach must be trained at his turned in study of the balance problems. In our country are very less persons who knows about that science and they admit that the balance is importing in life of the athlete. Without balance any athlete may not be prepared to keep up with the life of performance athlete.

The research for nystagmic secusis appearance outside of any external stimulus. The head should be maintained in the fixed position and the eyeballs will follow different movements indicated verbally by examiner. The patient is asked to stand with your head still and look straight ahead. Then is asked to look in turn to the right and to the left on the top and bottom passing every time by the position was looking straight ahead. for a better fidelity of the examination, spontaneous nystagmus is search under Frenzel glasses or infrared camera.

Keywords: nystagmus, segmental deviation, deviation from the body, anamnesis.

APPLICATION OF FLUID DYNAMICS IN AQUATIC THERAPY

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Abstract

Understanding the movement in water and how different is from the land movement is essential in planning a progression in aquatic therapy. The disease type and degree of disability will determine the types of exercises (curved, angular, supported floating, floating with support, the water resistance), the optimal position for exercise, movement speed, water depth and types of equipment used during each phases of treatment. Type and composition of body and skill level will influence the choice of aquatic posture, type of exercise, flotation devices and water depth for therapeutic exercises.

Body floating in water facilitates independent practice during aquatic therapy sessions. This encourages greater responsibility in recovery and participation in group meetings. In western countries in recent years, aquatic therapy exercises were conducted in a progressive group. In general, exercise helps establish group socialization and malleability. Sharing feelings of isolation, anger, depression or anxiety that usually accompany an injury or illness in the context of participation in hydrotherapy sessions blur intensity or lead to their elimination.

There are three underlying physical properties of any actions taken in water: density, viscosity and hydrodynamic pressure.

Density and viscosity are responsible for resistance to movement through water.

Viscosity can be defined as a resistance to fluid flow. The more viscosity of a fluid is higher, the more will be resistant to flow. Viscosity is better considered by the difference between movement in oil and movement in water.

Key words: water quality, flotation, gravity, water resistance, hydrodynamics.

ASPECTS OF WATER PARTICULARITIES AND PRINCIPLES HYDRODYNAMICS IN AQUA FITNESS

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Summary

Knowledge of water features and principles underlying the practice of physical exercise leads to more efficient water programs designed for each stage of age or skills of the participants.

Aquatic fitness programs develop strength, endurance, mobility, balance, sense of well-being. They are designed to nurture mind, body and spirit. Equilibrium that is established between the body and the aquatic environment ensures optimal deployment of water activities.

Movement through water is very different from the movement on land. Water has features in common with air, but is 800 times denser than air so that the effects of these qualities are more pronounced.

Viscosity is the friction that exists between the molecules, causing them sticking to each other. „It is felt much more in water than on land, and is responsible for the resistance our bodies experience when we try to move in water. It also accounts for the adhesion of the water molecule to anything immersed in it. This phenomenon is illustrated by what happens

when you execute a movement in water, then stop.” (Rodrigues Adami M., 2002). Motionless water accompanies body in motion and continues its movement when the body stops moving.

Turbulence is represented by any movement through the water that react by creating waves, and vortex. The more exercise is done, the greater turbulence it is created. Such as, walking through quiet water in a swimming pool and walking through water on the beach, where waves breaks or a swimming pool with water jets - situations in which effort is higher.

Keywords: floating, turbulence, viscosity, friction, acceleration, inertia.

THE VERTIGO, A PROBLEM THAT MAY APPEAR BOTH THE “ORDINARY” HUMANS AND AT SPORTIVE ONES

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Summary:

The maintaining of position and equilibrium (balance) both in repose conditions and in movement is a complex process, at which contribute the proprioceptive, visual and vestibular information. The affecting of this, especially if has place suddenly, influences negative the maintaining of equilibrium – the evident situation especially when one of two related are not complete (the walking in the dark, on soft surfaces or narrower).

By definition the process represent a walk, an upheaval, a transformation, an evolution, performed in to a continuous sequence that has place naturally or that is created and controlled by human been, and consist in changes of some proprieties, attributes or states of a system or object. The word is coming by Latin *processus* that means movement. By definition the behaviour represent an observable activity of an organism, an interaction with its environment.

The term may make reference at the activity in general (ex: “Since I know him, X behave very nicely with people”) or at a some activity, so a particular case (ex: “Today X had behaved unusual when I had meted him on the street”). The term has begun to be used in psychology by J.B. Watson and H Pieron, in psychology paradigm called Behaviourism (in English from behaviour= code of conduct).

In sport in general and in tennis in particular, the maintaining of equilibrium is very important. Just as important are space orientations relative to the field and with the player settlement on the field, the movement front – back, up- down, right diagonal – left diagonal, the movement with cross steps.

All these movements may not be achieved without whole vestibular organ by physiological point of view.

Keywords: vestibule, equilibrium, imbalance, orientation, organism, interaction, environment.

SCOLIOSIS AND EFFECTIVE EXERCISE

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Abstract: scoliosis is a medical condition manifested by the displacement of the spine to one side. The causes that lead to the development of this medical condition are extremely varied starting with incorrect seating position or during sleep hours and spending much time

standing or lifting weights. Scoliosis is the condition in which the spinal column is deflected in the frontal plane (to the side), the spine is normal otherwise. At the same time it can also be a twisted spine (rotation around the axis). Scoliosis usually occurs in middle back (thoracic spine) or in the lower back (lumbar spine).

Many people have some degree of deviation of the spine. In fact, the curvature of the spine of less than 10 degrees is considered normal deviation of the spine. Scoliosis is when the deviation of the column is greater than 10 degrees. The spine curves usually in the shape of the letter S or C.

Patients having reached skeletal maturity are less likely to have a worsening case. Some severe cases of scoliosis can lead to diminishing lung capacity, putting pressure on the heart, and restricting physical activities.

The signs of scoliosis can include:

- Uneven musculature on one side of the spine
- A rib prominence and/or a prominent shoulder blade, caused by rotation of the ribcage in thoracic scoliosis
- Uneven hips, arms or leg lengths
- Slow nerve action (in some cases)

Keywords: scoliosis, therapy, recovery, method

LASER APPLICATIONS FOR THE TREATMENT OF OSTEOARTICULAR DISORDERS

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ABSTRACT:

Low Level Laser Therapy-LLLT from 0.1 to 50mW. It is a painless, non-traumatic, aseptic therapy that does not emit ionizing radiation.

LLLT therapy has *direct effects*:

- biochemical effects, evidenced by: stimulating the release of such substances like histamine, serotonin, bradykinin; stimulation of ATP; acceleration of mitoses;
- bioelectric effects: they consist of normalizing the membrane potential of the cell by interfering with the regulation of the sodium pump;
- bio-energetic effects.

Indirect effects represented by:

- stimulation of the local micro-circulation: the laser keeps open the precapillary sphincter which will lead to an improvement of the trophic area as a result of the vascular supply and therefore of oxygen and nutrients; the catabolism products will be more readily cleared from the area submitted to laser beam exposure;
- local trophic growth is achieved by increasing mitochondrial ATP and accelerating cell mitoses.

The laser is one of the most important discoveries in the second half of the twentieth-century. Among its major applications, the laser has become successful in medicine and biology, both as a research tool, especially in diagnosis, therapy and surgery. Virtually all medical

specialties benefiting from the contribution of this new instrument to yield benefits in the accuracy of surgical, non-invasive treatments or diagnostic great finesse.

KEY WORDS: biostimulation effect, analgesic, therapeutic, anti-inflammatory effect, LLLT therapy