16 - STEP - A SEGMENT OF GYMNASTICS

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INTRODUCTION

The life of modern man is increasingly oriented to face critical situations for their livelihood, which directly influence the body (physical and functional).To improve the functioning of this body, exercise is arguably a distinguishing factor between people who want quality of life.When introduced as a frequent activity contributes to improving the quality of human life, giving you a lifestyle more healthy, the man goes on to become one "ideal" for carrying out various activities. Within this focus, step classes have gained prominence in recent years been used as an important tool within the set of measures to deliver improvements in cardiovascular fitness and muscular development with localized exercise program, and provide moments of relaxation, with music and lots of choreography.

CONCEPT

It consists of an aerobic workout, intense, low impact, rise and fall of an adjustable platform, also using upper limbs in a choreographed sequence with musical accompaniment, allowing the simultaneous participation of people with different fitness levels.

The proposal form is to provide a balance between cardiovascular fitness of aerobic and development work the lower body muscles with localized exercise programs. (Cooperative Center, 2008) Step History Although this is one method explored recently (in Brazil was introduced in the late 80 - regarded as exercising the déc. 90), this is a reissue of the Swedish bank (made of wood with more than 30 cm time endangering the safety of articulate limbs and spine), used since déc. 50. However, it can be said that the step, ie, the practice of aerobic exercise in gyms located, is facing one of the most significant since the introduction of aerobics, low-impact in the United States in mid-80 (Candice by Copland). In the United States, the impact of the new edition of the bank or step training was great, because the proposal until then was considered unprecedented by AFAA and the IDEA, as proposed to solve a difficult equation: to offer both cardiovascular fitness (own of aerobic exercise) while promoting visible improvement in overall muscle tone (own the gym located). In addition, providing the advantage of being practiced sparingly by people with joint damage.The development of the current step is the substance of the gym teacher Gym Miller in 1986, after suffering an injury in the knee joint, she was advised by his physiotherapist up and down a step and from the observed benefits, she perfected the database support, even to the step as it is today marketed. In the United States to step training was issued by Reebok, which used to this end an aggressive marketing campaign. Reebok hired the couple Lorna and Peter Francis, Ph.D. and physical education teachers at the University of San Diego to set up a workout with a scientific basis, in order to guide and inform instructors about their use and benefits.

Since then, classes have been improved step until you have the refinement sequence of steps according to the muscle stimulation organized and clear, with appropriate musical rhythm of the foundation desired valences physical classroom. (JUCÁ, 1993).

Effects and Changes Physiological Effects: Aerobic exercise induces physiological changes in almost all body systems, especially in skeletal muscles and cardio-respiratory system. These changes are influenced by the frequency, duration and mainly by the intensity of effort and biological individuality. Biomechanical Effects: Any vigorous physical activity will produce forces that will exert the most diverse actions on the muscles, bones, joints, tendons and ligaments. Controlled exposure to certain levels of force is important because the mechanical stress will provide structural changes that tighten certain anatomical structures. Specific exercises may increase the strength of tendons and ligaments, reducing the likelihood of rupture and inflammation. You can also increase bone density, providing greater resistance to fractures through vigorous exercise.

The physiological effects of the step training can be defined as: Biochemical changes, that occur at the tissue level, systemic changes that affect the respiratory and circulatory systems, changes in body composition changes in cholesterol and triglycerides, blood pressure changes, change the heat acclimation. Changes are aerobic top 3: 1. higher content of myoglobin (myoglobin only be increased in skeletal muscle used after training with the step, of course depending on the frequency and intensity, which is done) 2. Increased oxidation of carbohydrates (glycogen) - In addition to increased capacity to oxidize muscle glycogen, is also a noticeable increase in the amount of glycogen stored in muscle after training. There is also an increase in the number, size and surface area in the mitochondrial membrane of skeletal muscle, improving aerobic capacity of the practitioner. 3. Increased fat oxidation - Enhancing the capacity of muscle to fat oxidation after aerobic training, is related to 3 factors: increase in reserves of intramuscular triglycerides, increased release of free fatty acids from adipose tissue and increased activity enzymes involved in the activation, transport and disintegration of the fatty-acids.

Changes anaerobic: It improved the ability of the ATP-PC. The effects of training on anaerobic glucose indicated that several key enzymes that control glucose are significantly altered by physical training. Changes in fast twitch and slow-After the aerobic training appears that the aerobic potential of skeletal muscle also increases in both fibers. But the relation to fiber size, there is a selective hypertrophy of the same, and the slow twitch fibers occupy a larger area of the muscles in aerobic sports athletes, such as the step.

The magnitude of these variables in response to exercise is dependent on many factors such as genetic types, intensity, duration and frequency of exercise is prescribed and environmental conditions in which it is done. There are 5 major changes that result in the continued practice of aerobic activity and can be observed at rest: Changes in heart volume, lower heart rate, increased stroke volume, increased blood volume and hemoglobin and changes in skeletal muscles. (Cooperative Center, 2008). Research has shown an improvement of up to 16% in cardiovascular fitness, the average increase of 13% in oxygen consumption (VO2máx.) and decreased 1.4% in the percentage of fat in the original program control of twelve weeks (considering three skinfolds).

For these values are obtained safely by anyone, scholars suggest an optimal frequency of three times a week as any other physical activity. Unlike other classes, the step is an activity that requires a teacher's continuous action and for that reason, researchers also focused their comments on those professionals who come to deliver 5 and 6 classes a week. They concluded

that the physiological basis can be compared to the athletes runners. In fact, teachers often have to step VO2max. higher, lower body fat percentage, resting heart rate also lower and strong legs. It is extremely important that the teacher who carries a high amount of weekly lessons are well prepared to physical, psychological, physiological and socially, so that the results are beneficial, both for him and for the students.

Caloric expenditure of Step To calculate the expense of activity during class, do the following operations: 10 x weight practitioner (kg) x time of activity in min./60min. Note: It can increase or decrease according to the intensity of the class and level of training of participants. The authors suggest that patterns of movement less intense may be more appropriate to assist participants to join moderately fit safely in Step Training.

The energy cost of the class Step According to Miller Gym is a race of 11.2 km / h with the same benefits. (Francis, 1990). And second Reebok Instructor News, Volume 4, Number 3, 1997, the burning of calories depends on the height of the step as described in the table below:

Height Step Calories / min. Calorias/10 min. Calorias/30 min.
4 inches (10.24 cm) 4.5 45 135
6 inches (15.36 cm) 5.5 55 165
8 inches (20.48 cm) 6.4 64 192
10 inches (25.6 cm) 7.2 72 216

The table below shows the calorie expenditure of a 55-kg and a man of 77 kg. (Reebok, 1997).

Height of Step Women's 55 kg Men's 77 kg
4 inches (10.24 cm) 48 66
6 inches (15.36 cm) 58 80
8 inches (20.48 cm) 67 92
10 inches (25.6 cm) 75 104

Regardless of tables and operations each case is unique, we can not generalize and use the same for all forms, if any goals and / or different body composition.

Technical Implementation Stepping into the center of the step, supporting the whole foot on the platform. In the first touch down with the tarsus of the foot (toes) and determine the movement with the heel. On the way down, keep a short distance between the step and the first support. On the way down the first step should be done directly "down and backwards. Make contact with any plant the foot on the step. Not practice any choreography that practitioners fall back to the step (the impact is increased by 25%). Note: the knee should not be flexed beyond ninety degrees to climb the step and the student must maintain eye contact with it. (Cooperative Center, 2008).

Safety Standards Avoid turning movements for beginners, and its application to the other should also be restricted: To raise and lower the step use technical security standing in front of the platform and lift it using the legs, not your back or arms. When loading the platform keep it close to the body. Up and down the step in a controlled manner (soft), not to increase impact. Switch always the first step upward. The height of the step should always be in accordance with the level of the student. Not up and down his back to the step. Movements with their arms only after the area of movement of limbs.

Going up the step to step through the soles of the feet completely avoiding getting your feet out of it (reducing the impact), center step (avoiding problems of the Achilles tendon). When moving from step to step and close and let your heels touch the floor. Wear shoes suitable for the practice Note: students should always observe the step during routine especially when learning new choreography. It is one of, if not the most important point to be careful, for if, in the range (for any repairs), or the end of each class, we do not take precautions, both in body movement, and with bad objects managed, both may injure the body.

Postural alignment

When the step up, maintain postural alignment while the head, shoulders backwards, the pelvis in neutral position (seated) and knees relaxed. Do not tilt your torso forward, but go up as if a straight line toward the ceiling. Avoid hyperextension of the spine. Avoid hyperextension of the knee (sharp snap). Shoulders aligned behind. It enhances the bending of the trunk upwards. Do not bend your knees more than ninety degrees, to climb to avoid back problems. You will need to have a trained professional to develop this year, but due to being very active class, the teacher is not always able to focus their error, so it is also the duty of a student self-analysis of movements.

The step and its height

The Step is a portable platform made of injected plastic or wood, their height can be adjusted from 4 inches (10.24 cm), 6 inches (15.36 cm) 8 inches (20.48 cm) 10 inches (25.6 cm) and up to 12 inches (30.72), where the distribution of students varies according to fitness levels, and uses the 4-for sedentary inexperienced in step 6 for non-sedentary students without experience in step 8 for students conditioned and experienced 10 for students conditioned, with plenty of experience in step 12 for students and advanced level athlete.

Having the advantage of being part of the same class students of different levels of conditioning. With respect to the width, the authors do not seem to accurately determine this value, giving importance only to the time when the practitioner is going up and down, changing the intensity of the step movements. Note: avoid using too high a platform that forces beyond an angle of 90 degrees regardless of fitness level of the student. That height is just enough to stimulate the cardiovascular system bringing aerobic benefits.

Often at the insistence of the student, the teacher ends up skipping steps without careful consideration, and that can cause serious injury, the student's progress is determined by the level of aerobic fitness, age, personal goals, etc. The professional must place the welfare of their students first, having the duty of awareness when necessary.

Framework

Step One class is divided and organized into three different parts, but all of them important: Heating, Home Party and Stretching.

Heating: It has, as its name implies, the goal of raising the overall temperature of the body, which is achieved through low-impact movements and focus primarily on large muscle groups, which will produce greater demands of the whole system circulatory and respiratory systems. It is also part of a set of heating light stretching exercises that focus on giving some elasticity to the muscles and so prevent some kind of injury that may occur as a consequence of a less well executed by the practitioner.

Global warming is the preparation for the main part of the lesson. Main part: The object is a cardiovascular work using the step where you run multiple choreographed to the music. These are taught gradually to allow students to acquire the same without the need to stop the exercise, and thereby benefit from the training-induced cardiovascular practice of step. At the end of the cardiovascular, it's the beginning ai toning workout that includes various exercises with a focus for training and lower abdominal muscles.

Stretching/Relaxation: Its objective is a final stretch that will focus mainly on the muscle groups most used, and that,

besides giving some elasticity to the muscles, allows the elimination of some lactic acid accumulated during the year, helping in recovery. (Fitnnes Amora, Health and Welfare, 2008). It is extremely important to properly follow all parts of a lesson, because the benefits will be achieved not only during but before (in preparation weight), or after doing all the body back to relaxation (relaxing), and can do that from the muscles, substances produced by the body are improved.

Questions Students Area Contagem0de0batimentos0em0uma0música. How to identify and determine whether the music should be, for example, 132 bpm? How to make this selection for use in the classroom, as the goal of the teacher? (Andreza - Student, 2001). Responding to your question: A song is composed of octaves, ie, hit eight times. And in some songs they are well marked by loud sounds and easy identification of rhythm, as dance music, electronic, etc.. Although there are songs that are not well marked. But anyway, to count the beats of a song is simple, we count the hits, starting with the loudest music (usually comes with a change of pace or stanza), each beat for one minute. Simply put put music, check the time at the right time to start playing it, and start counting the beats until you reach 1 minute. If you want, you can count on 10 seconds and then multiply by 6, as we do with the heart rate. If in 10 sec. der, for example, 14 beats in music, multiplying by 6 get 84 bpms, but if you count 26 beats of the music will be 156bpms. Start counting from the first strong beat.

FINAL

This study concluded that the step achieves results proved satisfactory in the body, it also offers moments of relaxation and joy to the students, providing the best results also in life in relation to physical, psychological and social.

We also had the opportunity to learn how, when and what to do to get better returns. We also saw the role of the healthcare professional should be and how their actions and reactions to his students and himself, yet we understand the importance of the lessons step in a very broad approach (physical, psychological, physiological and social).

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STEP - A SEGMENT OF GYMNASTICS

ABSTRACT

This paper aims to show the importance of step classes, citing his record since the benefits generated by the frequent practice. It also shows the effects and changes that cause the body and the body, and very clearly how to act so that the lessons become ideal. This study concluded that the step achieves results proved satisfactory in the body, it also offers moments of relaxation and joy to the students, providing the best results also in life in relation to physical, psychological and social.

KEYWORDS: Step, Physiological Benefits and caloric expenditure.

STEP - UN SEGMENT DE GYMNASTIQUE

RÉSUMÉ

Ce document vise à montrer l'importance des classes étape, citant son record depuis les bénéfices générés par la pratique fréquente. Elle montre aussi les effets et les changements qui causent le corps et le corps, et très clairement comment agir pour que les enseignements deviennent idéal. Cette étude a conclu que l'étape d'obtenir des résultats s'est avéré satisfaisant dans le corps, il offre aussi des moments de détente et de joie pour les étudiants, en fournissant les meilleurs résultats aussi dans la vie par rapport à des sévices physiques, psychologiques et sociaux.

MOTS-CLES: Step, des avantages physiologiques et dépenses caloriques.

PASO - UN SEGMENTO DE LA GIMNASIA

RESUMEN

Este artículo pretende mostrar la importancia de las clases de paso, citando su registro ya que los beneficios generados por la práctica frecuente. También muestra los efectos y los cambios que hacen que el cuerpo y el cuerpo, y muy claramente cómo actuar para que las lecciones a ser ideal. Este estudio concluyó que el paso que logra resultados fueron satisfactorios en el cuerpo, sino que también ofrece momentos de relax y de alegría a los estudiantes, proporcionando los mejores resultados también en la vida en relación con la física, psicológica y social.

PALABRAS CLAVE: Step, beneficios fisiológicos y el gasto calórico.

STEP – UM SEGMENTO DA GINÁSTICA

RESUMO

O presente trabalho teve por finalidade mostrar a importância das aulas de step, citando desde o seu histórico até os benefícios gerados com a prática freqüente. Mostra ainda os efeitos e alterações que causam no corpo e no organismo, e de forma bem clara como agir para que as aulas se tornem ideais. Com este trabalho conclui-se que o step atinge resultados comprovadamente satisfatórios no organismo, como também oferece momentos importantes de descontração e alegria aos alunos, proporcionado assim também melhores resultados na vida em relação ao físico, psíquico e social.

PALAVRAS-CHAVE: Step, Benefícios Fisiológicos e Gasto Calórico.

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