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THE PLANNNING AND PERIODIZATION OF THE MUSCLE CONDITIONING TRAINING THROUGH THE R.E.D. TRAINING PROGRAM

Mihaela CHICOMBAN[1]

Abstract: *R.E.D. Training is a program within the broader Muscle Conditioning training that relies on the concept of localized (isolating) muscle endurance workout, which can be implemented in fitness/aerobics classes and whose main objective is the development and enhancement of muscular endurance, strength, flexibility (joint mobility), coordinative abilities (i.e. orientation, rhythm, balance) as well as of kinesthetic control.*

Key words: *R.E.D., planning, periodization, training, muscular endurance.*

1. Introduction

R.E.D. Training is a program within the broader Muscle Conditioning training that relies on the concept of localized (isolating) muscle endurance workout, which can be implemented in fitness/aerobics classes and whose main objective is the development and enhancement of muscular endurance, strength, flexibility (joint mobility), coordinative abilities (i.e. orientation, rhythm, balance) as well as of kinesthetic control. These variants ensure a general improvement of the body shape by significantly reducing the body fat percentage to a metabolic level, with the implicit increase of muscular definition and toning.

2. The R.E.D. Training Program

The objective of the R.E.D. Training program is to propose new trends in physical training and to diversify traditional methodologies thus generating innovative theoretical and practical improvements in such a way as to introduce a localized muscular endurance workout for fitness centers which would be safe, dynamic and entertaining.

R.E.D. Training entails the provision of alternative training methodologies that facilitate the periodization of muscular workout, the promotion of motivating sessions which are created by means of an innovative system regarding lesson structure, the improvement of the technique (every participant's proper exercise execution and posture), the elimination of the monotonous system

[1] *Transilvania* University of Braşov.

upon which the traditional toning classes rely.

2.1. The Principles of the Training

Nowadays athletes tend to train several times a day. Their annual schedule does not allot any period of interruption; only a so-called period of transition, which focuses on the maintenance of physical fitness, can be allocated; it is a mental recovery rather than a physical one which bears the name of complementary training [1], [3], [5].

Graduality and Progression:

By gradual we understand the observance of the basic principles of learning, from accessible to difficult, from the known to the unknown, from simple to complex. Progression refers to the intensity and amount of the suggested workload.

Versatility:

The necessity of introducing a physical or technical workout by taking into consideration various perspectives in order to be able to identify the most adequate variant for each subject and the most appropriate manner of diversifying certain exercises which could become monotonous and which raise barriers within the body, at both physical and mental levels, that eventually hinder the improvement of athletic conditioning.

Specificity:

The training must be oriented towards the subject which is preponderantly connected to the practiced high performance sport. The more progress we make in identifying the most adequate type of training, the more our performance results improve and our training becomes more specific [12, 13].

Scheduling:

It has been discovered that the body responds efficiently to periodized training. The training schedule is based on a certain cyclical alternation which allows for the variation of intense workout intervals (concentrated loading cycle) with lighter workout intervals (recovery cycle).

Awareness:

The aim is to give the subject enough information so as to understand the rationale of the accurate performance of the training, its goal and outcome as well as the deployed physical effort. As a matter of fact, the instruction of the subjects will be done gradually until they manage to grasp, at the visceral level, both the necessity of training and the methodologies employed in its outlining [8].

Stabilization:

This can be defined as the ability to correctly perform basic drills from the field of athletics. For this to happen, at the beginning, a serious number of repetitions is required in order to have a solid foundation when considerably more complex exercise systems are introduced [2], [4], [6].

Customization:

Because every subject has distinct physical and psychological characteristics, the training program should be customized as much as possible, i.e. adapted to each individual's abilities.

The adaptability of the program:

This refers to the trainer's improvisation skills that allow them to instantly offer an

alternative to the previously suggested training course in the event of not being able, for various reasons, to carry it out according to the training schedule. These unforeseeable changes can be triggered by external factors (e.g. unfavorable weather conditions) or by internal ones (e.g. fatigue, difficulties in performing certain exercises or, on the contrary, in the most fortunate cases, exaggerated ease of exercise performance).

The effectiveness of the workload:

With reference to the workload, mention should be made of the effort required by a single exercise or the necessary effort for the entire range of exercises that a training session consists of. Specifically, with regard to intensity, it is known that the workload has to exceed the minimum threshold in order to be considered challenging.

Exercise and workload variation:

When a new exercise is introduced, it is characterized by a certain degree of effectiveness. The latter depends, apart from the previously established load, on the effort required at the level of the neuromuscular system to perform an unfamiliar combination of movements. For the same reason, there is also a certain mental demand for focus.

In conclusion, the training should be:

- continuous,
- gradual and progressive,
- multilateral (or polyvalent),
- specific,
- scheduled,
- explained to the subjects,
- stabilized,
- with alternating work and recovery stages,
- customized,
- adaptable,
- effective,
- variable from the point of view of exercise typology and workload.

3. Training Methods

The alternating body segments method.
"Power Direct"

The series of exercises are devised with the aim of alternating the body segments (lower limbs and upper limbs) in such a way as not to repeat the muscle groups from the same segment.

The series can consist of 3-4 exercises which can be further made up of 16-32 repetitions.

The alternating muscle groups method.
"Power Indirect"

This is characterized by the elaboration of the series of exercises so that, during the successive exertion of the same segment, the worked-out muscle groups should be alternated. The objective is to systematize the series of exercises such that the leading muscle group in action should not be directly involved in the performance of the preceding or of the following exercise. Thus, we can isolate muscle action by involving only one joint in the performance of the movement. The series can consist of 3-4 exercises comprising 16-32 repetitions, which consecutively engage muscle groups from the same segment but which put to work either the upper limbs or the lower limbs at the ratio of 3 to 1.

The method of localization on a single segment

This method is characterized by the development of a series of exercises whose objective is the “localization” of the

action of a muscle group thus subjecting it to a submaximal effort by structuring the series into 10-15 repetitions and consequently engaging the same muscle group into two consecutive exercises which are immediately followed by other two exercises for a muscle group pertaining to another segment [9], [11].

The method of localization on a priority segment

This method is characterized by the development of a series of exercises whose objective is the "localization" of the action of a specific muscle group thus subjecting it to a maximal effort by structuring the series into 8-16 repetitions for each of the four exercises. Three of the four exercises exert direct action over a muscle group and are immediately followed by an exercise for another muscle group pertaining to the other segment.

The agonist and antagonist method

This is the method that presupposes the involvement of certain antagonist muscle groups. Within a muscular action, the primary engine of the movement, namely the agonist muscle, performs a concentric contraction in order to generate the movement whereas the antagonist muscle lowers its tension level and relaxes thus ensuring the achievement of the movement. This method, whereby two opposing muscles operate, builds massive endurance, ensures the performance of a harmonious training session and develops an optimum musculoskeletal balance. The series consist of four exercises each amounting to 8-16 repetitions and the training is performed on two segments, with two antagonist muscle groups [3].

The combination method

This is the method that entails the simultaneous combination of segments and muscle groups belonging to the same segment. This system is not recommended for beginners because it reaches a high level of motor coordination. The series can include symmetrical and asymmetrical movements.

3.1. Planning and Periodization

The R.E.D Training program involves workout sessions at the muscular level, which are optimal and planned in such a manner as to offer a complete and effective training program to all types of participants [7].

Programming and periodization are of fundamental importance in the training process and the methodology assures continuous progress in the improvement of results.

Programming by set objectives means:
- precisely defining skills and strategy,
- identifying the training course by dividing it into smaller sections,

The stages of programming:
- initial evaluation,
- setting the objectives,
- choosing the appropriate strategy through which they could be achieved,
- the application of the methods,
- feedback assessment by means of final control.

The microcycle, the mesocycle and the macrocycle of the training

The training process is divided into cycles which are denominated according to their duration as follows:
- Microcycle (short).
- Mesocycle (medium).

- Macrocycle (long).

A mesocycle normally comprises three to four microcycles, whereas the macrocycle gathers two or more mesocycles.

The periodization of the training is divided into:

- The base building phase.
- The specific preparation phase.
- The competitive phase.
- The transition phase.

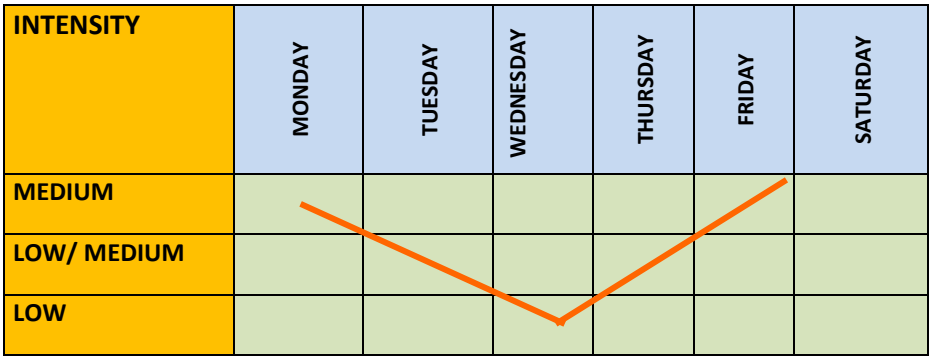


Fig. 1. *Microcycle – beginners' group*

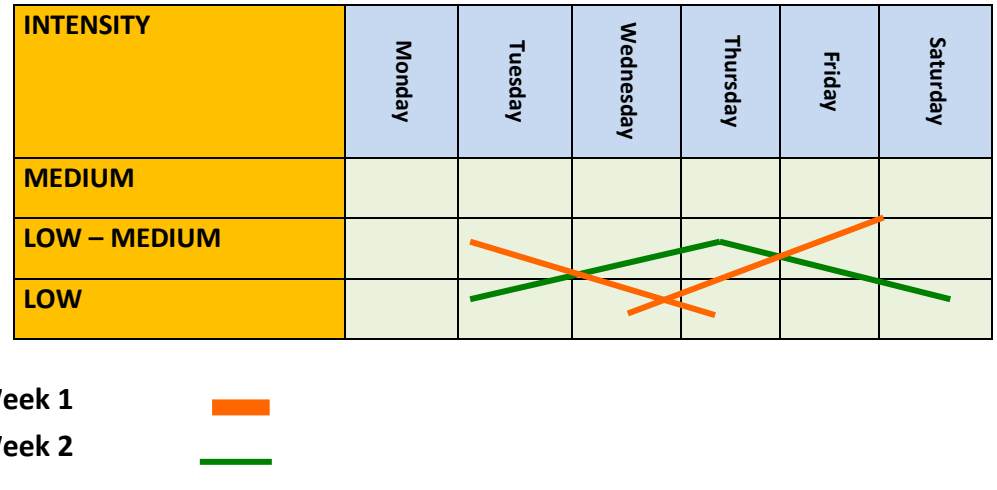
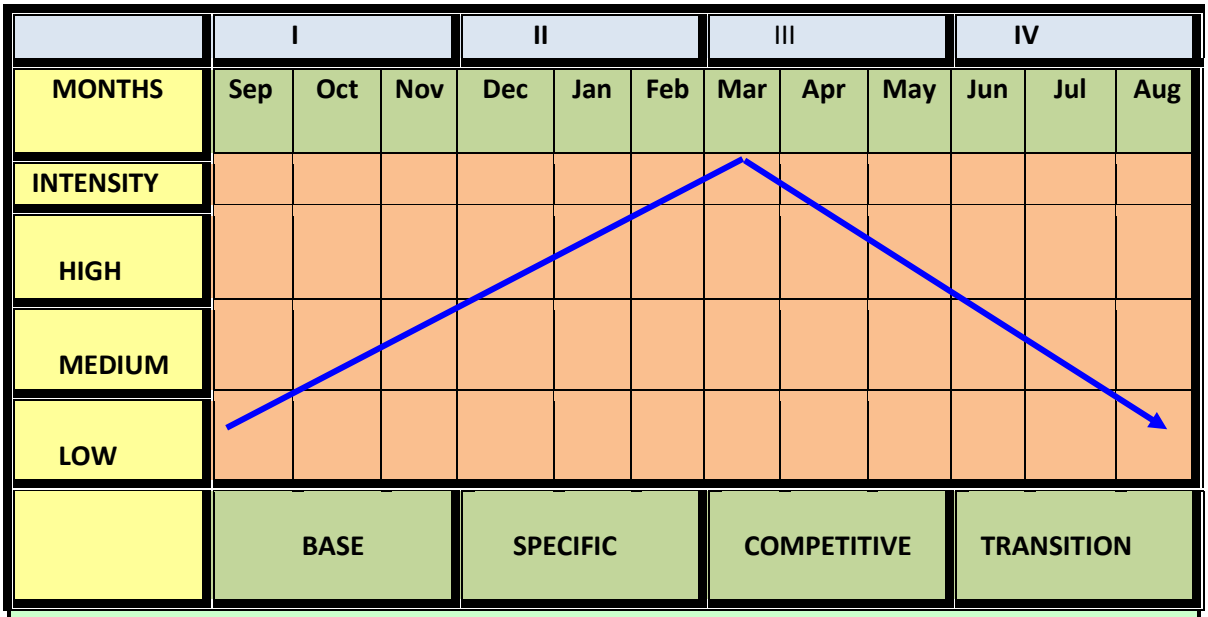


Fig. 2. *Mesocycle – beginners' group*



The Application of the Methodology and Physical Abilities

Character-istics	The Base Building Phase	The Specific Preparation Phase	The Competitive Phase	The Transition Phase
Methodol-ogy	Alternated/Segment "Power Direct" " Power Indirect" Agonist/Antagonist	" Power Indirect" Agonist/Antagonist Local/Segment Simple and priority	" Power Indirect" Agonist/Antagonist Local/Segment Priority Combination	" Power Direct" Local/Segment Simple Combination
Physical Abilities	General LME Aerobic Endurance Joint Mobility Coordination Rhythm Balance Postural Reeducation	Specific LME Aerobic Endurance Strength Resistance Coordination Rhythm Balance Postural Reeducation	Specific LME Aerobic Endurance Strength Resistance Coordination Rhythm Balance Stabilization	General LME Aerobic Endurance Coordination Rhythm Balance Stabilization

Fig. 3. *Macrocycle of the beginners' group with the application of the methodology and physical abilities*

The volume varies during training by increasing the number of repetitions, by increasing the number of exercise series and by adding to the weekly training workload. The intensity varies during training by increasing the weight of accessories, by changing the speed of exercise performance, by augmenting the amplitude of movements and by shortening the rest intervals. At the basis of the trainings there was the expertise of the trainer who, through active involvement, implemented the key points for the achievement of the program.

The applied R.E.D program finally led us to the conclusion that the training sessions have to be structured as follows:

- four times a week – it is essential not to have two consecutive sessions in which the same muscle group is trained.
- three times a week – it is important not to schedule three consecutive sessions working out the same muscle group and to allot a 48-hour recovery period.
  e.g.
  Monday/rest/Wednesday/rest/Friday.
  - for female subjects a greater emphasis should be placed on gluteal muscles, abductor muscles and abdominal muscles.
  - for male subjects special attention should be paid to pectoral muscles, the dorsal region, upper limbs, abdomen.

The R.E.D Training Program calls for the following **suggestions**:

- the diversification of the training program.
- the use of methods and means which should be adapted according to the subjects' level of training, gender and specialization.
- the provision of alternative training methodologies.
- the promotion of motivating training sessions for the subjects that take part in the program.

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