

MODERN PROCEDURES FOR THE CONSTRUCTION OF MACROCYCLES

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The author discusses the construction of macrocycles and presents several variations of recommended mesocycles in the preparation and the competition periods. The article is a condensed translation from Studentexte zum Lehrgebiet, published by Deutsche Hochschule für Körperkultur, Leipzig, former German Democratic Republic. Re-printed with permission from Modern Athlete and Coach.

Macrocycles normally cover the training processes of a year, or half a year, and are made up from several meso- and microcycles that differ in their structure and contents. The objective in the construction and co-ordination of the single elements of a macrocycle is an optimal development of the performance through different phases, divided into preparation, competition and transition periods.

The first period of a macrocycle must always be a period of fundamental preparations to develop the necessary pre-requisites for top performances by improving the level of the functional capacities of the organism. The stability of this base depends largely on the general preparation state of an athlete. The higher it is, the better are the possibilities to establish a “foundation” for higher performances.

At the same time, it must be taken into consideration that there are limits to how much the total volume of general preparations can be increased. There is also a definite correlation between general and specific preparations in which the specific preparation becomes increasingly more important as the athlete’s performance level improves.

For these reasons, it is common to divide the preparation period into general and specific phases. However, without discussing this terminology, we would like to draw attention to the fact this structure of the preparation period is not realistic. Each of the two phases has specific structural elements that change during the training in order to establish a system of mesocycles that correspond to the actual demands.

MESOCYCLES IN THE PREPARATION PERIOD

Experience and the available theoretical material allows us to accept that the first phase of the preparation period is characterized by two types of mesocycles — the introductory mesocycles and the fundamental mesocycles. The second phase includes, next to the fundamental cycles, control and preparation, as well as perfection and pre-competition types of mesocycles.

The introductory mesocycles have the character of continually increased loading, particularly in endurance events. These mesocycles can in certain situations be repeated with an increased load. The need for a repetition depends on the adaptation capacity of an athlete, on the specific demands of the event and the type of work executed in previous training.

The dominating type of mesocycles in the preparation period is the fundamental cycle. These cycles are expected to improve the functional capabilities of the organism and to re-arrange or to stabilize the previously established performance format. From this viewpoint, it is possible to divide fundamental mesocycles into developmental and stabilizing types. The number of fundamental cycles in the training program depends largely on the time available for the preparations.

The control and preparation mesocycles are regarded as transition phases between the fundamental and competition cycles. These cycles are combined with some minor competitions or control tests to evaluate the progress of the preparations for the main competitions. The perfection mesocycles are attached to the control and preparation cycles to eliminate any shortcomings discovered during the latter cycles.

The described mesocycles are made up from three to six mesocycles. The general work load is here in most cases based on a wave-like pattern in which the load drops to its lowest level in the last microcycle, known as the restoration cycle. Although the duration of the mesocycles is influenced by several factors, it is generally accepted that it should be about a month in the preparation period.

Mesocycles in the preparation period can be regarded to be building blocks. Under different situations it is possible to use all, or only part of the blocks, to complete the preparation period. In case of a prolonged, all-year, macrocycle (common in endurance sports), the mesocycle system can be organized as follows:

- Introductory + Fundamental (developmental) + Fundamental (stabilizing) + Control / Preparation + Perfection + Pre-competition.

This system covers the full compliment of mesocycles.

Other variations can, for example, be based on:

1. Variations for a shortened preparation period in the year's training cycle (explosive power events):
 - Introductory + Fundamental + Control / Preparation + Perfection (with elements of the pre-competition cycle), or
 - Introductory + Fundamental + Fundamental (including some control competitions) + Pre-competition (with elements of the perfection cycle).
2. A variation for a half-year preparation period:

- Introductory + Fundamental + Pre-competition.
3. A variation for the second half cycle in double periodization:
- Introductory + Fundamental (shock type) + Pre-competition.

MESOCYCLES IN THE COMPETITION PERIOD

The role of the competitions in the second half of the macrocycle is well known. While it is not our aim to establish at all cost the number of competitions, it should nevertheless be kept in mind that the arrangement of competitions according to their significance is one of the most important factors in planning of the training processes. Only a limited number of competitions can during the competition period have fundamental characteristics.

A relatively limited number of main competitions is the key factor in the structuring of training during the competition period. The preparations and the load dynamics have to be organized accordingly. The intervals between the main competitions are here not only dictated by the reproduction of the performance capacity, but are also dependent on the preparations for the climax competitions.

The remaining competitions have an entirely different meaning. They are normally approached without special preparations and serve as part of specific training means. Because of a limited psychological and physical after-effect, the intervals between the preparatory competitions can be much shorter than between main competitions. The intervals are usually restricted by the time required for the restoration of performance capacities. A series of starts in preparatory competitions, with short (2 to 3 days) intervals, is sometimes appropriate to achieve an accumulating effect.

The basic structure of the competition period is made up from preparatory competitions, the climax competition and a short post-competition restoration phase. In its simplest format the competition period is made up from three mesocycles:

- Competition 1 + Competition 2 + Competition 3

The duration of the single mesocycles ranges from two to six weeks and their structure depends on the specific demands of an event and the competition calendar. The structure becomes more complicated when the competition period exceeds three or four months, in which case interval mesocycles are required. We distinguish between two types of interval mesocycles:

1. A restoration and preparation cycle that follows a short active recovery and is based on the principles of the fundamental and perfection mesocycles of the preparation period.

2. A restorative and supportive cycle that is included after a series of demanding competitions and is based on the structure of the preparation cycle with a reduced training load.

The changes from the competition to interval mesocycles depend on the duration of the competition calendar as well as some other minor factors. The following variations are possible:

- Competition 1 + Competition 2 + Interval (restorative/supportive) + Competition 3, or Competition 1 + Competition 2 + Interval (restorative/preparatory) + Competition 3 + Competition 4, or;
- Competition 1 + Competition 2 + Interval (restorative/preparatory) + Competition 3 - Interval (restorative/supportive) + Competition 4.

One of the interval mesocycles can be replaced by a specific pre-competition preparation phase when the most important competitions take place in the middle or in the second half of the competition period. This applies particularly to situations when the main starts take place at higher altitudes or in hot climates. In this case the structure of the competition period looks as follows:

- Competition 1 + Competition 2 + Interval (restorative/supportive) + Competition 3 + Pre-competition + Competition 4.

Compromising solutions are often necessary when the interval cycles have to be replaced. The possibilities include an increased training load during some of the days of the pre-competition cycle, or even during some days of the last week prior to the competition. However, it should be kept in mind that the reliability of this action becomes doubtful whenever a tight competition calendar is involved.

Consequently, it is advisable to employ during a prolonged competition period with a large number of starts a system where main competitions are followed by interval mesocycles. At the same time it is necessary to decide which variation of the mesocycles is most suitable for a particular situation.

THE TRANSITION PERIOD

It appears advisable to add a few remarks on the subject of the transition period. Although we hear occasionally recommendations to drop this phase from the macrocycle, there are no well founded arguments to support this. On the contrary, there appears to be no justification to discuss the subject any further, as the transition period remains an important link in the structure of macrocycles.