

## Conducting the rowing training using the blade passage time through the water

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### Abstract

This present paper aims to present an original method, never before encountered in the specialised literature, of a long-time conducting (during a competition, a macro cycle) the training of rowers. The method is called: *The method of conducting the sportive training of rowing using the blade passage time through the water. This method consists of the using the blade passage rate through the water as an indicator of the intensity of the effort.* By knowing the optimal time of passage of the blade through the water according to each type of effort desired to be achieved, the time of passage of the blade through the water will be planned according to each monocycle, so that the desired parameters will be reached until the competition. A blueprint of the projection of the time of passage of the blade through the water during the competition of an M4 team is presented in the paper.

**Key words** : *training, conducting the training, rowing, rate of passage of the blade.*

### Rezumat

Lucrarea de față își propune să prezinte o metodă originală, nemaîntâlnită până în prezent în literatura de specialitate, de dirijare de lungă durată (pe perioada competițională, pe macrociclu) a antrenamentului canotorilor. Metoda se numește : *Metoda de dirijare a antrenamentului sportiv la canotaj prin utilizarea timpului de trecere a palei prin apă.* Această metodă constă în utilizarea ca indicator al intensității efortului a timpului de trecere a palei prin apă. Cunoscându-se timpul optim de trecere a palei prin apă la care se dorește a se ajunge la fiecare tip de efort, se va planifica timpul de trecere a palei prin apă pentru fiecare mezociclu, astfel încât să se ajungă la data competiției la parametrii doriți. În lucrare este prezentat un model de proiectare a timpului de trecere a palei prin apă pe durata perioadei competiționale la un echipaj de M4.

**Cuvinte cheie** : *antrenament, dirijarea antrenamentului, canotaj, timpul de trecere a palei*

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If during the training of rowers some coaches check once in a while the blade passage rate through the water, this is not done systematically and does not build to a method of conducting the sportive training on long term structures (macro cycle or periods) or medium term (mezocycle) or short term structures (micro cycle).

**The purpose of this paper** is to present a new, original method of conducting the sportive training of rowing: the method of conducting the sportive training of rowing using the blade passage rate through the water.

### **Theoretical aspects**

The sportive performance in rowing is determined by many factors. Some of them are:

- Preparing methods used;
- Methods used;
- The ratio between the aerobic, mixed and anaerobic efforts;
- The ratio between the effort parameters, especially those between volume and intensity;
- The dynamics of these indicators (volume and intensity) from the beginning of a macro cycle to the objective competition;
- The ratio between the training components;
- The quality of the boats;
- The adjustment of the boats;
- The athletes' aptitudes (physical development, level of development of the motive qualities and combined, especially of the resistance during a force regime, the level of development of the great functions, as well as the athletes' physical development).

Besides these determining factors to obtaining high performances in rowing, **conducting the athletes' preparation is essential.**

To conduct the athletes' preparing process implies, essentially, to lead the athletes' preparing process.

The conducting may be:

- operative (in the training lesson);
- current (weekly/micro cycle and monthly/mezocycle);
- long term (periods, macro cycle).

Next, I will discuss long term conducting.

Only **a correct conducting of the training during a macro cycle can ensure high performance** in competitions, which could be regarded as the wish of every athlete and coach.

**To correctly conduct the athletes' preparation** implies to lead the process during a macro cycle, so that the athletes are capable of obtaining **the maximum sportive condition** and, with it, the best performance **at the moment of the objective competition.**

I find that **the long term conducting of the rowing training also has a specific form**, which I have not come across in the specialised literature: **Conducting the rowers' training using the blade passage rate through the water.** Multiple types of training are used in rowing, each ensuring precise training effects and each having its own code. Some coaches use four types of training, others five, others six and others seven; some coaches subdivide some types of training, such as the R3 training in: R3a and R3b. In table I a classification on seven levels of intensity of the types of training is depicted (Table I).

The level of lactate can go over the level of 20 mmol/l in the case of some athletes during the type RF and R1 training.

**Table I.** Classification of the types of training (after intensity)

Types of training	Intensity (%)	Lactate (mmol/l)
RV - resistance speed	106 - 110 %	~ 12.0
RF - resistance force	101 - 105 %	12.0 - 16.0
R1 - resistance in a race regime	98 - 100 %	8.0 - 16.0
R2 - specific resistance	85 - 96 %	4.0 - 8.0
R3p - general resistance (anaerobe threshold)	80 - 85 %	3.5 - 4.0
R3 - general resistance	70 - 80 %	2.5 - 3.5
R4 - general resistance/rendition	50 - 70 %	< 2.5

**The feature of the method** of conducting the rowing training using the blade passage rate is the **improvement of the blade passage rate through the water** from one mezocycle to another through **imposing certain blade passage rates through the water for each mezocycle** so as the desired parameters of intensity be reached in the mezocycle of the objective competition and especially in the objective competition (expressed in our case by the blade passage rate through the water).

The blade passage rate through the water is dependant of a number of factors, some of which are:

- the rowers' strength;
- rowing cadence;
- strike length;
- type of training;
- rowing rhythm;
- boat type;
- boat adjustment.

Regarding the strike length, one should mention the fact that it must be permanently kept in the optimal parameters. In this sense, it is recommended to use some marks on the wavebreak both at the "attack" and at the release.

The blade passage rate through the water is measured **only in the strikes with optimal length**.

To analyze the blade passage rate through the water during a macro cycle, this must be measured always in the same conditions. It is enough to change only one parameter from those mentioned above, so that the result of the measurement cannot be taken into account.

If the type of training, rowing cadence, rowing rhythm, boat type and boat adjustment are maintained and the blade passage rate through the water is improved, this can be laid onto the development of the rower's strength.

In the long term preparation process, the increase in intensity (of the blade passage rate through the water in our case) from one mezocycle to another can be achieved in a number of ways:

- improvement of the blade passage rate through the water in only one type of training;
- improvement of the blade passage rate through the water in two types of training at the same time or
- simultaneously in all the types of training.

### Practical aspects

I will further present, as an example, the dynamics of the blade passage time through the water of an M4 team on a structure of training on five mezocycles (mzc) (Table II).

**Table II.** Time of the blade passage through the water (sec.)

Type of training	mzc. 1	mzc. 2	mzc. 3	mzc. 4	mzc. 5
R4	1.00	0.91	0.83	0.77	0.71
R3	0.71	0.68	0.66	0.64	0.62
R3p	0.63	0.61	0.60	0.59	0.58
R2	0.59	0.57	0.55	0.53	0.52
R1	0.53	0.52	0.51	0.50	0.50
RF	0.50	0.49	0.49	0.48	0.47

The blade passage rates through the water according to the different types of training and the connections between them, can suffer changes, but also according to the individual traits of the athletes and teams.

### Conclusions

This method has been experimented on an M4 team that achieved a 9 seconds progress during the competition (from 6' 06'' to 5' 57''), conquering the title of champions of China and Asia.

To successfully apply this method, one requires, among others:

- advanced time measuring devices;

- a good reaction speed of the person that conducts the measuring;
- a good spirit of observation of the person that conducts the measuring.

The measurement the blade passage rate through the water can be also be used in the small structures of sportive training, such as: mezcycles, microcycles and during training lessons.

### Proposals

I think that this method can also be successfully used in other sports, such as swimming and canoeing.