



## **THE LEVEL OF PREPARATION OF PLAYERS DEPENDS ON MAXIMUM OXYGEN CONSUMPTION**

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<b>ABSTRACT</b>	<b>KEY WORDS</b>
Determination and evaluation of the aerobic capacity of football players. Using the PWC170 test, a person's ability to perform physical work is determined by calculating the energy expended on the work performed at a heart rate of 70 beats per minute. As can be seen from the table, the maximum oxygen consumption of the players on average for the group was a good 8 and a satisfactory 7, which indicates an incomplete training of the cardiac reserve.	special training places, PWC170 test, ascent and descent coefficient, physical abilities, physical qualities, maximum oxygen consumption.

### **Purpose of Work**

The activity of a football player is characterized by a constant change in the intensity of the movements performed by him. It alternates with an increase in high muscle intensity and a decrease in their activity and a transition to a relatively calm state. They alternate with fast running, walking, stops, direction of movement, rhythm and speed are constantly changing. In this case, the activity is associated with the performance of certain physical activities, and vegetative processes, first of all, continue with serious functional changes in metabolism, respiration and blood circulation.

Tactics is a branch of martial arts, and in order to achieve success, it is necessary to use the strength and all the capabilities of an athlete more correctly. The technique used in constant and changing environmental conditions for tasks that need to be solved quickly according to a predetermined plan is considered the main tool of tactics. Functional training includes special preparatory exercises that have the following effects: Improving the function of the nervous system It is necessary to prepare the central nervous system in such a way that it has a certain strength of the nervous process in order to withstand great physical and mental stress.

Under stress, all functions are disrupted, primarily the vegetative supply of cerebral vessels and subtraction organs.

Development and improvement of the programming functions of the analyzer. Influences the development of the musculoskeletal system for the development of physical qualities. In the training of football players, the gradual and maximum increase in the training load, the fulfillment of the requirement is reflected in the distribution of the training load on inter-game categories, in which the load increases freely.

These include: with an increase in sports load, the preparation of the body for the adoption of the next, somewhat greater load;

Creation of conditions for the realization of the great potential of the body through the use of non-specific means of preparing for competitions;

Refinement of the regimen learned through the extensive use of recovery exercises and tools that accelerate the recovery process in a high intensity state. A gradual and maximum increase in the training load is necessary and depends on the recovery unit and the integral relationship between them. Putting these requirements into practice is a creative process[1,2,3,4,5].

These requirements require good theoretical and practical preparation for training, normal conditions for training, strict adherence by players to the general and sports regimen. Individualization of training allows you to get rid of the violation of the load norm, the occurrence of unnecessary repetitions and other defects characteristic of group training. It also makes it easier to monitor the effectiveness of training. The main form of individual training is the independent training of a football player under the supervision of a coach and a team doctor.

The improvement of various aspects of training: physical, technical, tactical and psychological aspects must be taken into account when using three special training places[6,7,8,9,10,11,12,13,14,15,16].

#### Methods for studying FerSU players.

##### Determination and evaluation of the aerobic capacity of football players.

Using the PWC170 test, a person's ability to perform physical work is determined by calculating the energy expended on the work performed at a heart rate of 70 beats per minute.

The result of the PWC170 test should be divided by the test weight for greater reliability. For the PWC170 test, 4 minutes out of the same 3 minutes of the second type of strength work are performed on bicycle ergometers or specially prepared ladders.

The power required to perform one job is found by multiplying the test power by a specially calculated coefficient of 1-minute resting pulse according to table 1 below. By counting the pulse for 10 seconds and multiplying it by 6, you can find the 1-minute pulse (CHSS).

**Table 1 Finding Coefficients for Heart Rate at rest/min.**

heart rate at rest/min.	Coefficient	
	Husband.	Female
90	2	1,5
85	3	2
80	4	2,5
70	6	3,5
75	6	3
65	7	4
60	7	4,5
55	9	5
50	10	5,5

For example: 70 coefficients per minute of the subject's pulse are equal to 6, the power required to perform 1 work is  $70.6 = 420 \text{ kg / min.}$

Five people to calculate the power needed by two people to complete the first task, the pulse of the subject is counted for 10 seconds and multiplied by 6. Then, dividing the energy expended on the first work by the impulse after the work is completed, the coefficient of the second work is found.

For example: After completing the first task, the subject's pulse increased to 120. The power required to perform this work is 420 kg/min.

$$K_2 = \frac{420 \text{ kg/min}}{120 \text{ pulse/min}} = 3,5 \text{ Znechet} = 3,5.$$

Finding the power factor required to do work  $K_2$ . The PWC170 test is calculated using the following formula:  $PWC_{170} = (N_1 - (N_2 - N_1) \cdot (\frac{170 - f}{f_2 - f_1}))$ ;

**Table 2**

1- work (kg/min)		$K_2$	2-work (kg/min)	
Husband.	Female.		Husband.	Female.
300	200	<b>3,5</b>	<b>675</b>	<b>450</b>
375	250	<b>44</b>	<b>750</b>	<b>500</b>
450	300	<b>4,5</b>	<b>625</b>	<b>650</b>
525	350	-	-	-
600	400	<b>5</b>	<b>900</b>	<b>600</b>

For example: When  $K_2=3.5$ , men need to work kg/min to get the job done. After completing these 2 tasks, the subject's pulse will be counted for 10 seconds and multiplied by 6.

**Table 3 Converting the power expended on a bicycle ergometer, in kg / min.Wt**

	1,9	4,0	8,0	12,0	16	20	24	28	32	48	64
10	60										
15	10	36									
20		48									
25		60	36								
30		72	42								
35		84	48								
40		96	54								
45			60	36							
50			66	40							
55			72	44							
60			78	47	36						
65			84	52	37						
70			90	56	42						
75			96	60	45	36					
80					48	38					
85					51	41					
90					57	43	36				
95					60	46	38				
100					66	48	40				
110					72	53	44	38	36		
120					78	58	48	41	39		
130					84	78	62	52	45		
140					89	67	56	48	42		
150					90	72	60	51	45	36	

160					96	77	64	55	48	32	
170						82	68	58	51	40	
180						91	72	62	54	44	
190						96	76	65	57	44	
200							80	69	60	44	
220							88	75	66	48	36
240							96	82	72	52	39
260								84	78	56	42
280								96	84	60	45
300									90	64	48
320									96	68	51
340										72	54
360										76	57
380										80	60
400										90	67
450										100	75
500											82
550											90
600											97
650											

Here: Nf 1=1- power expended to do the work

Nf 2 = 2- power spent on work

Nf 1= pulse-min after work completed

Nf 2= pulse-min after work completed

For example: Nf 1= 420 kg/min F1=120 pulse-min

Nf1=675 kg/min F2=150 pulses/min.

$$PWC170 = 420 + (675 - 420) \cdot \left( \frac{170-120}{150-120} \right) = 815 \text{ kg/min.}$$

If the tester weighs 70kg,  $PWC170 \text{ kg /min.} \cdot \frac{815 \text{ kg /min.}}{70 \text{ kg}} = 11,6 \text{ kg /min.}$

The subject's pulse is counted for 5 minutes, after a break of another 1 minute, and the pulse-min indicators are determined along the abscissa axis depending on the power after performing exercises 1, 2 and 3, and how much it passes when the pulse / min is 170.

PWC 170 test score

kg/min	Grade	Average
from 8	This is bad	This is bad
to 10	Satisfactorily	Middle
up to 12	middle	Middle
up to 15	Good	Good
up to 20	tall	Good
until the 25th	Very high	Great
over 20	Great	Great

Determination of maximum oxygen consumption athletes:

Maximum oxygen consumption, ml / min = 2.2. PWC 170+1070 PWC 170 for non-training maximum oxygen consumption ml/min = 1.7.

PWC 170 +1240 maximum oxygen uptake is also often found using the Dobeln formula.

$$\text{MIC ml/min} = \sqrt{\frac{W}{H-60}} \cdot K$$

In the absence of bicycle ergometers, a special ladder 22.5 cm high is used. 1-2-3 steps up the stairs, 1-2-3 steps down the stairs (the so-called cycle 1). 6 steps make cycle 1.

10 cycles at 60 steps/min, 15 cycles at 90.20 steps/min, etc.

Each step is accompanied by a metronome.

If the subject weighs 70 kg, if he performs the 1st task in 10 cycles, and if he performs the 2nd task in 20 cycles, then the power spent on these tasks is calculated as follows.

$$T = R \cdot A \cdot F \cdot 1.5$$

T = weight (kg). Ladder height.cycle number. 1.5 where R = subject weight (kg)

A= ladder height (meters)

F = number of cycles

K = ascent and descent coefficient

K is independent of test or gender, and adult stair-climbing speeds are 1 and 0.5.

So: N1=70 kg. 0.45 m.10 cycles.1.5=472.5 kg/min N2=70 kg. 0.45 m 20 cycles. 1.5 \u003d 945 kg / min, Here W is the time required to complete the work. N-stage 5 min. Number of pulses/min after start.

If the pulse is less than 180 times during operation, the duty cycle should be increased. But the pulse should not exceed 150 per minute after 5 minutes. The K-age coefficient is a variation of the coefficients used depending on the age of the subject.

Table 5 Estimated maximum oxygen consumption MIC/kg/min

Men	Women	Grade
55-60	45-50	Excellent
55-54	40-44	Good
45-49	35-39	Satisfactorily
Below 44	less than 34	you are not satisfied

Below is the energy consumption of the football team "FerSU-football info" during training for the PWC 170 physical performance test.

Table 6 PWC 170 test results

№	FULL NAME	PWC 170	Kg/min	Grade
1	Khomidkhzaev A.	764	13.1	Medium
2	Egamberdiev M.	756	13.2	Medium
3	AbdullaevZh.	844	12.4	satisfactory
4	Abdumalik U.	780	13.0	Medium
5	Abdukodirov U.	788	12.9	satisfactory
6	KhozhimatovSh.	916	11.9	satisfactory
7	Nuriddinov M.	844	12.4	satisfactory
8	KobilzhonovZh.	780	13.0	Medium
9	Egamov T.	828	12.5	satisfactory

10	Shomatov D.	812	12.7	satisfactory
11	Ermatov M.	828	12.5	satisfactory
12	Khoshimov F.	780	13.0	Medium
13	Soipov U.	812	12.7	satisfactory
14	Rakhmatov Z.	884.	12.0	satisfactory
15	Mirsodikov F.	908	11.9	satisfactory

From the data presented in the table, it can be seen that the physical performance of the players was rated as 5 average and 10 satisfactory. This requires them to reinforce their workouts in new ways. We also studied the maximum oxygen consumption of football players. The results obtained are presented in the table below.

Table 7 The results of the maximum oxygen consumption of football players

FULL NAME	Maximum oxygen consumption ml	Maximum oxygen consumption, ml kg/min	Grade
Khomidkhzaev A.	2539	43.7	Good
Egamberdiev M.	2525.2	44.3	Good
AbdullaevZh.	2675	39.3	Satisfactorily
Abdumalik U.	2666	42.0	Good
Abdukodirov U.	2580	42.2	Good
KhozhimatovSh.	2727	36.3	Satisfactorily
Nuriddinov M.	2675	39.3	Satisfactorily
KobilzhonovZh.	2566	42.0	Good
Egamov T.	2647	40.1	Good
Shomatov D.	2626	40.9	Satisfactorily
Ermatov M.	2647	40.1	Satisfactorily
Khoshimov F.	2566	42.0	Good
Soipov U.	2620	40.9	Good
Rakhmatov Z.	2442	37.6	Satisfactorily
Mirsodikov F.	2783	36.6	satisfactory

### Findings:

As can be seen from the table, the maximum oxygen consumption of the players on average for the group was a good 8 and a satisfactory 7, which indicates an incomplete training of the cardiac reserve. We studied the physical capabilities of 15 members of the FerSU-football info football team in a pre-emotional way. The data obtained in the experiments allow us to draw the following conclusions:

1. According to the PWC 170 test, 15 members of the football team "FerSU-football info" had their physical performance and aerobic energy consumption during exercise assessed at 5 average and 10 satisfactory points according to the international standard.

2. This result shows that it is necessary to reinforce training in a new way that saves energy in your body.
3. The maximum oxygen consumption of 15 members of the football team "FerSU-football info" was calculated using special formulas, of which 8 were rated "good", 7 - "satisfactory". This indicates that their satisfaction with training in the new methods did not reach the limit of their endurance when doing aerobic exercise.
4. In order to further develop the FerSU-football info football team, filling and selecting a team with young amateur players shows the need to use new methods.

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