

## CONTRIBUTIONS REGARDING THE IMPROVEMENT OF SPECIFIC PHYSICAL TRENING ON LAND OF ALPINE SKIERS

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**Abstract:** This work is designed to complement the shortcomings created in the preparation of alpine skiers in relation to technological development and the development of alpine skiing internationally. The work briefly presents all the components of alpine skiing training and makes major contributions in terms of specific physical training on land, of the alpine skier during puberty.

**Introduction:** Physical training in alpine skiing can never be dissociated and planned independently from snow training and all the complexity of sports performance. The central point of the whole training process is snow training that is planned, completed and even preventively prevented from physical training. Physical training is one of the most important factors of athletic training in achieving great performance, with two aspects of general physical training and specific physical training. General physical training is done with general means and methods.

The main objective of physical training is to improve effort capacity. The higher the work potential, the easier it is for the body to adapt to the continuous growth of physical and psychological training requirements. The current technique model is not always accessible to any beginner athletes, so the coach must simplify the technique and structure it. Such simple techniques must ultimately lead to the acquisition of the correct integral technique. The simpler the technique, the smaller are the differences in the execution of individuals, so the technique needs to be adapted according to the characteristics and skills of each skier. The technique is directly related to physical training and this limits the possibility of improving the skill if the athlete does not improve his / her physical training.

**Material-method.** Subjects who participated in this study are students of Gymnasium School Nr. 1 Vatra Dornei, Alpine Ski Practitioners, certified by C.S.S. Vatra Dornei.

The children expressed their wish and had the consent of their parents to participate in this study. A total of 12 pupils participated, of which 6 girls and 6 boys aged between 12 and 14, divided into two mixed groups, namely the experimental group and the lottery control group. Thus, the experimental group consisting of 6 subjects, 3 girls and 3 boys will follow during the preparatory period (May-November 2017) a training program that will include the 8 exercises proposed by us and presented below. And the control group made up of 6 pupils, 3 girls and 3 boys will follow the usual training programs of the club at the same time

### **The exercise no.1.**

Repeat the directional changes on the semi-fitness ball



- The objective of the exercise - improving the position of the skier when detouring with the emphasis on the two axes involved, the driving qualities concerned are coordination and force in the footsteps
- Exercise example used so far - passing weight from one foot to the other on the tips in a fundamental position.

### **The exercise no.2.**

Side jump on the elastic trampoline.



- Purpose of the exercise - Verification of force in resistance mode and highlighting the specific alpine ski axis - carving - Exercise example used so far - side jumps on the ground over a marking line in a fundamental position

### **The exercise no.3.**

Standing hanging at the fixed bar and pulling the knees obliquely to the chest



-The goal of the exercise - the development of the strength of the legs and the abdomen while repeating the movements generated in the bypass from the vertical balance.

-Example of exercises used so far - lifting oblique trunk from the back of the back

#### **The exercise no.4.**

Zig-zag shift between stakes in a basic position with the transport of balls.



-The objective of the exercise - the improvement of the skier's position at the time of detour, the targeted motorized qualities - the coordination speed.

-Example of the exercise used so far - runway runway bypass.

#### **The exercise no.5.**

Running the fitness ball, from a basic position, on the gym.



-The objective of the exercise - to improve coordination under force.

-Example of exercises used so far - side bends.



### **The exercise no.6.**

- Jumps in the base position with attached elastic strings.



-The objective of the exercise - the development of strength in resistance.

-Example of exercises used so far - jumping on and off the gym.

### **The exercise no.7.**

- Sloping plan route.

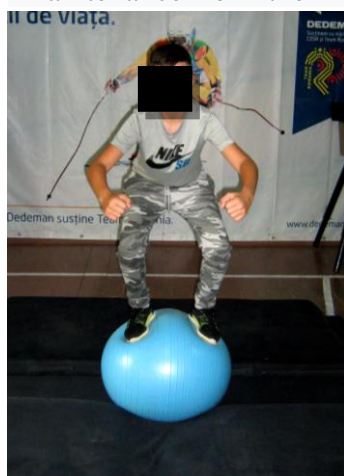


-The objective of the exercise - the development of speed coordination and the highlighting of modern alpine skiing - carving

-Example of exercises used so far - winding running with changing the direction to 3-5 steps by laterally fanning outwards.

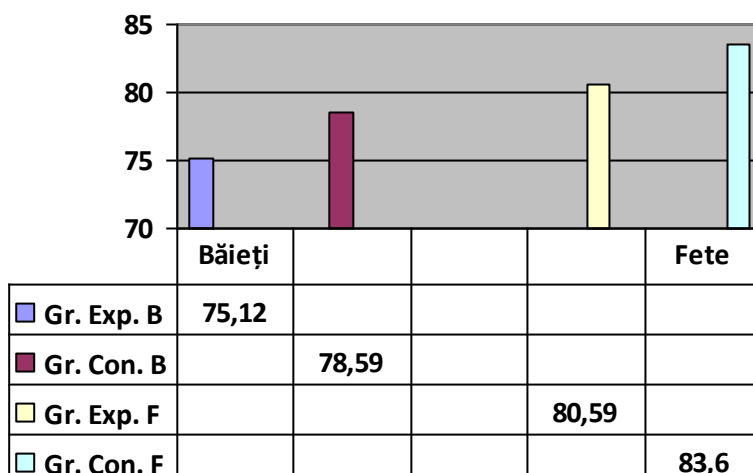
### The exercise no.8.

-Maintenance of the fundamental position on the fitness ball.



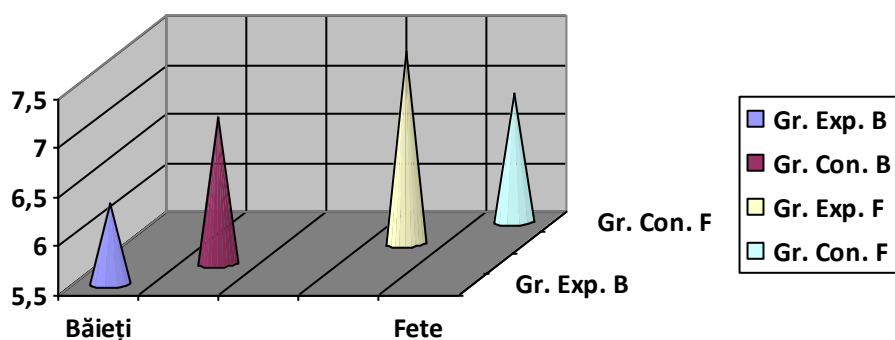
-The objective of the exercise - to improve the dynamic balance, specific to the alpine skier in isometric conditions.

-Example of exercises used so far - sitting in the position of lowering (fundamental position) on the ground.

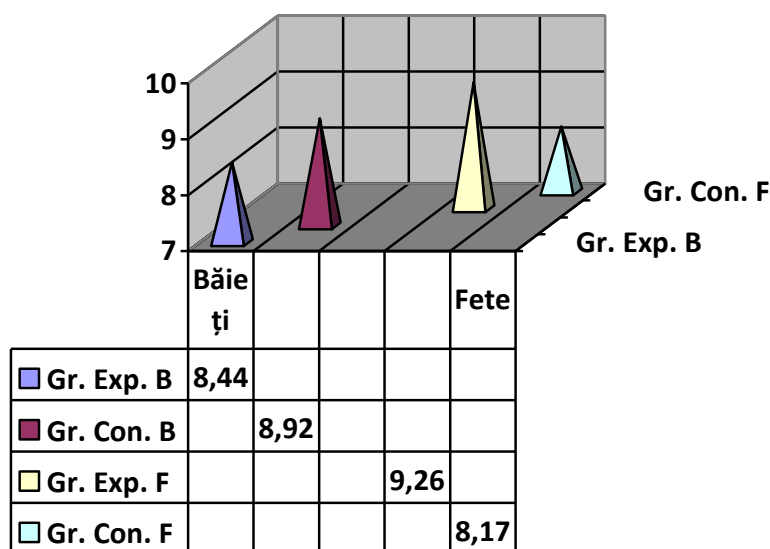


As can be seen from the data of the graph, regarding the arithmetic mean results, for the 3 samples of the two runs it is shown that for the

experimental group boys the average time of 75.12 s is better than the average of the boys' control time of 78.59 s In the case of girls, an average of 80.59 is shown for the experimental group, also a better result than that of the control group of 83.6 s.



In the case of the standard deviation of the sample, responsible for measuring the dispersion of its values around one that is considered to be medium, we notice in the case of the experimental boys a deviation of 6.34 s, lower than that of the boys control group that is 7.01 s, and in the case of the experimental group we observe a deviation greater than 7.47 s compared to the control group of girls with a value of 6.83 s.



For the coefficient of variability we observe 8.44% in the experimental group of boys and 9.26% in the case of girls, from which we can say that the scattering is small, the average is representative because the sample is homogeneous, framing - below 15%.

**Conclusions:** The idea behind this work was to improve the training system for alpine skiers in schools, clubs and associations in the field, a problem frequently raised by specialists and beyond. For this, new exercises had to be developed and tested, able to help field specialists in the training process and to demonstrate the right course to follow in order to inspire other teachers for this part of refreshing the field. We have shown that they solve the above issues to a great extent and come with a modern breath, are simple and accessible, any professor in the field can reproduce and integrate them immediately.

Based on the accompanying tables they can be easily recorded and calculated, they prepare the muscle groups involved in the competition effort and correspond to the current level of development of the alpine skiing internationally. We want these results to be capitalized by submitting for analysis to the Romanian Ski Federation for distribution to all schools, alpine skiing associations and clubs in the country and perhaps to be included in the national ski training system as we have succeeded with the means presented to the same federation in 2008, some of them being introduced into the training system.

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## **CONTRIBUȚII PRIVIND ÎMBUNĂTĂȚIREA PREGĂTIRII FIZICE SPECIFICE PE USCAT A SCHIORILOR ALPINI**

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**Keywords:** pregătire fizică specifică, schi alpin, uscat, perioada pubertății

**Abstract:** Această lucrare are menirea să completeze lipsurile create în pregătirea schiorilor alpini, în raport cu dezvoltarea tehnologică și cu evoluția schiului alpin pe plan internațional. Lucrarea prezintă succint toate componentele pregătirii schiorului alpin și aduce contribuții majore, în ceea ce privește pregătirea fizică specifică pe uscat, a schiorului alpin, în perioada pubertății.