

Thus, the conducted research of the influence of workout classes during additional sectional classes for the students of high school in Vetka has proved the effectiveness of our proposed approach, which has resulted in the increase of physical fitness of the students.

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THE APPLICATION OF ELASTIC SHOCK ABSORBERS TO IMPROVE THE PHYSICAL CONDITION OF SPORT VETERANS

This article presents the results of the analysis of the use of elastic shock absorbers to improve the strength and flexibility of sports veterans, middle-aged men, members of the Gomel regional organization of the Belarusian public association “Veterans of Physical Culture and Sports”.

We have received reliable information about the improvement of the physical condition of sports veterans, which indicates the rationality of using elastic shock absorbers for individual correction of the physical condition of sports veterans, middle-aged men.

The analysis of the scientific and methodological literature and the results of the research on the practical activities of the Gomel regional organization of the Belarusian public association “Veterans of Physical Culture and Sports” made it possible to identify the theoretical prerequisites for the need for individual correction of the physical condition of sports veterans, middle-aged men, in modern conditions.

The social significance of the professional and social activities of sports veterans in the formation of a healthy lifestyle for young people is great, as well as the preservation, strengthening and improvement of the physical condition of representatives of economically active age groups [1; 2; 3].

It should be noted that veterans of sports, middle-aged men, whose multifaceted professional and social activities require good physical condition, often themselves need its individual correction.

The purpose of the study is to experimentally evaluate the effect of using exercises using elastic shock absorbers to improve the physical condition of sports veterans, middle-aged men.

Organization and research methods

We used the following methods: study and analysis of modern domestic and foreign scientific and methodological literature, interviewing sports veterans, pedagogical experiment and methods of mathematical and statistical analysis.

The ascertaining experiment to substantiate the expediency of using exercises using elastic shock absorbers to improve functional indicators, strength capabilities and flexibility of sports veterans, middle-aged men, was conducted on the basis of the Gomel regional organization of the Belarusian public association “Veterans of Physical Culture and Sports”.

Research results

The survey conducted by us among the members of the Gomel regional organization of the Belarusian public association “Veterans of Physical Culture and Sports” showed that sports veterans do not perform enough exercises to develop flexibility and only a few use the elastic resistance of elastic shock absorbers to develop strength qualities.

The weekly plans of physical culture and health-improving classes developed by us with sports veterans, participants of the second control group in the ascertaining experiment, provided for group classes aimed at improving functional indicators and strength qualities using modern elastic shock absorbers 2 times a week. Also, the participants independently daily (at the main stage) performed exercises to develop flexibility and improve mobility in the joints using modern elastic shock absorbers [4; 5].

In our work, we used popular and commonly available types of shock absorbers: mini-ribbons, rings, rope and tubular shock absorbers. Each shock absorber has variations in the degree of resistance: "light", "medium" and "heavy", while different manufacturers produce them in different colors.

It must be emphasized that the mounting options for shock absorbers are also very different. Depending on the location of the training, we used various attachments for fastening: carabiners, holders, loops, etc., as well as different-level shock absorber attachment points – lower, middle and upper.

Based on practical experience, we have developed for sports veterans, middle-aged men, sets of exercises using elastic shock absorbers for group strength training plans and individual flexibility training (Table 1).

Table 1 – Plan for strength training with sports veterans at the “main” stage (second 8 weeks of the stage)

Content	Dosage	Recommendations for the use of shock absorbers type “medium” and “heavy”	Time
1	2	3	4
Preparatory part			
Main part			
bending the leg at the knee joint (standing on one knee, the second leg on the stand)	3-4 sets of 8-12 reps per leg	tubular shock absorber with mounting point at the bottom	4-6 minutes
alternating traction with the knee towards the chest (standing on one knee)	3-4 sets of 8-12 reps per leg	tubular shock absorber with upper attachment point	4-6 minutes
alternating bench press in front of you forward at chest level (sitting)	3-4 sets of 8-12 reps	tubular shock absorber with mounting point at the middle level behind the back	4-6 minutes

End of table 1

1	2	3	4
alternately bringing the hands to the opposite shoulder (sitting)	3-4 sets of 8-12 reps per arm	ring or tubular shock absorber with mounting point at the lower level on the side	4-6 minutes
simultaneous pull of the hands to the chin (standing)	3-4 sets of 8-12 reps	ring with lower attachment point on the side of the legs	4-6 minutes
alternate bending of the arms in the elbow joint (sitting)	3-4 sets of 8-12 reps per arm	tubular shock absorber with mounting point at the lower level in front of you	4-6 minutes
pull to yourself with two hands from above (standing)	3-4 sets of 8-12 reps	ring with attachment point in front of you at the top level	4-6 minutes
simultaneous bending of the legs at the knee joint and pulling them to the chest (lying on your back)	3-4 sets of 8-12 reps	ring with the upper attachment point in front of you	4-6 minutes
Final part			

It should be noted that sports veterans independently carried out an individual selection of shock absorbers and the distance from the attachment point to the trainee, which was carried out in a certain sequence in accordance with the step-by-step algorithm developed by us (Figure 1).

Step 1 – taking into account the stage of conducting the training and methodological recommendations in the plan, the trainee needs to choose the type of shock absorber used (Figure 1-A).

Step 2 – taking into account the stage of conducting the training and methodological recommendations in the plan, the trainee needs to choose the degree of elasticity of the shock absorber (Figure 1-B).

Step 3 – if necessary, the student needs to choose a mount for inventory (Figure 1-C).

Step 4 – depending on the exercise being performed, the practitioner needs to mount the shock absorber at the indicated point: lower, middle or upper (Figure 1-D).

Step 5 – The trainee needs to slowly move away from the attachment point until the shock absorber is brought into a state of light tension (Figure 1-E)

Step 6 – the trainee needs to independently, empirically, individually for each free limb, determine and fix the distance at which he can complete the number of repetitions recommended in the training plan in one approach (Figure 1-F).



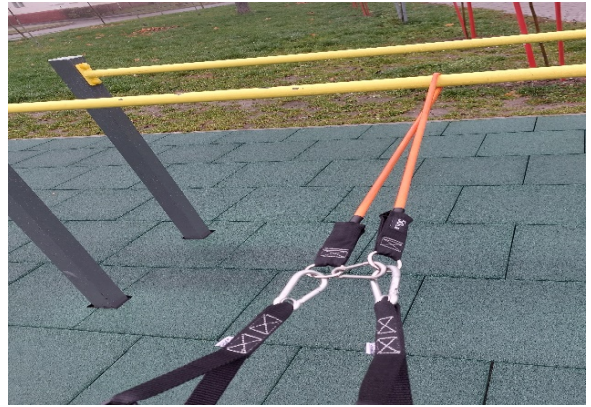
A



B



C



D



E



F

Figure 1 – Algorithm for individual selection of shock absorbers

During the training, the principle of gradual and consistent application of physical activity was used. The individual characteristics and physical capabilities of those involved were also taken into account. It was taken into account that compliance with the condition of unlimited loads is an important factor in the health-improving effectiveness of training. In physical culture and health-improving training with sports veterans the most important role was assigned to the degree of adequacy of physical loads, which were selected individually.

It should be emphasized that during the training the dynamics of functional indicators was recorded, the optimal values of heart rate were within 60–80% of the maximum heart rate determined for this specific age of veterans.

The main attention during group sessions was given to individual dosing of load volumes. When working with elastic resistance, the used shock absorbers were often adjusted according to the degree of elasticity, as well as the distance from the attachment point, which was selected individually, taking into account the physical condition of those involved.

After statistical processing of the obtained data on the dynamics of indicators of the functional state, strength abilities and flexibility of sports veterans from EG-2, we recorded the following:

- blood pressure indicators were significantly improved from 132.31 to 129.75 mm Hg. Art.;
- positive shifts of the Romberg test from 9.37 to 13.25 seconds were recorded;
- performance of strength-oriented exercises made it possible to obtain significant positive changes in carpal dynamometry indicators of both the right (from 50.69 to 55.50 kg) and left (from 40.25 to 43.94 kg) hands;
- along with the indicators of carpal dynamometry, positive dynamics was also shown in tests for flexion and extension of the arms in an emphasis lying on the floor (from 8.75 to 13.25 times), as well as in pull-ups from the hang on a high crossbar (from 3.44 to 5.19 times) and in standing long jump (from 144.75 to 151.81 cm);
- positive dynamics was recorded in the test for lifting the body from a supine position (from 11.37 to 13.62 times);
- regular performance of exercises for the development of flexibility using various elastic shock absorbers determined significant positive changes in the performance of the "forward bend from a sitting position" test (from -0.06 to 3.94 cm).

Conclusion

Thus, the rationality of the use of the health-improving physical culture means proposed by us to improve the physical condition of sports veterans, middle-aged men, namely, strength training using modern elastic shock absorbers 2 times a week and daily exercise for developing flexibility using elastic resistance, is substantiated by the results of the study.

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