**Physical exercises as means of health promotion**

**and development of physical abilities in a musician**

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Physical exercises are known to have great beneficial effect on health strengthening and the development of physical abilities of a creative person, in particular - a musician. Musical lessons, in addition to the positive effect of developing the emotional and spiritual skills of the personality, unfortunately have also negative concomitant effects. Musicians, both professionals, who have been practicing for many years, and beginners as well, develop physiological problems which interfere with the professional, unencumbered by anything playing the musical instrument.

Among these problems the most common can be distinguished as follows: these are diseases of the back, spine, joints and muscles. Psychological problems also appear. They include insecurity, lack of concentration, focus, and calmness.

Exercises can help to overcome these situations.

It’s worth recalling that there are many articles proving the positive influence of music or musical practice on sports or on improving the athletic achievements.

The veracity of these statements is undeniable, of course. In the community of musicians there is a strong belief that a musician and physical culture are difficult to combine and P.E. classes have a negative impact on the musician's hands, on his spirituality, etc.

Perhaps, because of this reason, sports have become a kind of “taboo” for a musician. Nowadays there are very few research works which consider the real benefits and necessity of physical education for musicians. In this article we would like to dispel these misconceptions and to show the need of P.E. lessons for a creative person. There is a lack of coincidence that at the Moscow Conservatory, the leading university in our country, there are two main subjects (spoken without irony, of course) - Speciality and Physical Training.

Indeed, there is no scientifically grounded evidence concerning the dangers of the chosen sport for a musician.

If you turn over the recent pages of history, you will see that many musicians, in order to maintain their physical shape, are engaged in some kind of sport they love or are fond of, such as swimming, horseback riding, martial arts, tennis. The famous pianists Alexander Goldenveizer and Sergei Dorensky, for example, were fond of tennis greatly. Svyatoslav Richter liked and prefered hiking, Igor Butman goes in for hockey, Denis Matsuev plays football, Vladimir Spivakov is engaged in boxing, National artist, a graduate of the Central Music School and the Moscow State Conservatory, Mario Durand has been engaged in swimming for all his life and has the 1st category in this type of sport.

Almost all these types of sports, in addition to the positive aspects, have also a negative effect on the human organism. For example, horseback riding or running put a lot of stress on the back and spine. Martial arts training can injure the joints of the hands, fingers, and shoulders. Tennis exerts much stress on the elbow and shoulder joints. Swimming, despite the fact that it affects the development and strengthening of the shoulder girdle, and improves the respiratory system (which is very important not only for practicing wind instruments) is very popular with the musicians. Nevertheless, it does not fully strengthen the muscles of the back and the development of the muscular endurance.

In addition, the specificity of swimming is such that a slouch is developing, since the sportsmen do not straighten their shoulders, but rather - narrow the shoulder girdle for less resistance to water.

Moreover, many activities in these sports just aimed only to maintain physical fitness, absolutely do not contribute to the development of the psychological component: endurance, concentration, composure, calmness and self-confidence.

For these reasons we suppose to make some specific proposals on the issues raised.

Having the experience of a violinist and violist, I believe that exercises from the Olympic sport of weightlifting are the most suitable as a means of overcoming the above mentioned problems.

The basis of physical endurance and health for any person (and not just a musician) is a rationally developed musculoskeletal system and muscular systems. For example, leg muscles of a solo musician let him stand for a long time without fatigue, while performing a musical composition. Back muscles provide a correct body position. The same applies to the orchestra musicians.

The main problem that almost all the violinists-beginners have is the stoop. Besides the risk of developing scoliosis or, for example, lordosis or kyphosis or intercostal neuralgia, a stooped, crooked violinist or violist does not look very nice on the stage. The educator constantly tells the student, "Straighten your back!" But unfortunately, with weak back muscles and an undeveloped shoulder girdle, this has no effect. Even if the student begins to keep his back straight and shoulders unfolded all the time, this will be achieved due to muscle tension, which leads to rapid tiredness and muscle fatigue.

Many musicians use, for example, pressing exercises to strengthen the shoulder girdle, exercises with dumbbells to strengthen the muscles of the forearm and hands. To strengthen the muscles of the back, various types of inclinations are used (sitting, standing, with straight legs, inclinations through a horse, etc.).

We recommend practicing exercises of a general developmental nature used by weightlifters.

As a result of the analysis of parallel music lessons and physical exercises, we came to the following conclusions.

The starting position of the weightlifter when approaching the bar is as similar as possible to the position of the violinist or violist before starting to play the musical instrument: the legs are shoulder-width apart, stable stance, the shoulders are straightened, the back is straight, the shoulder joints are lowered and not tense, the arm muscles (shoulders, forearms, hands) are relaxed. Besides, weightlifters at this moment are calm and concentrated. I.M. Sechenov, the famous physiologist and one of the founders of psychology, in his book "Reflexes of the Brain" (1863) approves that "any mental activity ends and finds its expression in physical action".

At the moment of approaching the barbell and preparing for the exercise, the weightlifter seems to be performing this exercise in his mind, he seems to have already lifted the barbell and after that he physically carries it out correctly. This is possible only with complete calmness, confidence, concentration on the action.

There is a historical fact about the famous violinist Leonid Kogan. At one of the concerts he was supposed to perform Glazunov's concerto. While going onto the stage, he played parts 1 and 2 in his mind at once; and when on the stage he started to perform the third part. The point is that for the human brain it makes no difference whether we imagine any action or perform it physically. Any physical inconvenience always distracts the musician from the main thing - musical expressiveness. Therefore, you should remove the distractions that prevent you from immersing yourself in the music completely.

In order to strengthen the lats, trapezius, large rhomboid and deltoid muscles, as well as to strengthen the lumbar-thoracic fascia, weightlifters use the exercise "tilting through the horse" with or without weights. 4-5 sets of 8-10 times can strengthen the back without excessive muscle fatigue. The benefits of this exercise are such that the muscles begin to support the spine; the problem of rapid fatigue and back pain is eliminated, and the blood and oxygen supply to the brain improves, which also contributes to greater endurance and better concentration during the exercise.

In order to strengthen the muscles of the back and also (what is very important for the musician) to develop the strength and endurance of the muscles of the legs, you need to use the squat exercise with a barbell or a barbell bar on your shoulders. You can start the exercises with a barbell bar with a low weight of 7 kg with 3-4 sets and 3-4 repetitions in each set. Over time, with increasing strength and endurance, you can use 10 kg, 15 kg and 20 kg bars and add the number of the sets up to 4-5 with 4-5 repetitions in each set. You should know that with performing the exercises mentioned above there is a cheinotonic effect, which also has a positive influence on strengthening the muscles of the neck and, as a result, the correct posture and holding the musician's head.

For the development of the shoulder girdle I recommend to use such exercise as a push press jerk grip from behind the head while standing. You can start with a small weight - a bar of 7 kg for 3-4 sets with 3-4 repetitions in each set. With an increase in physical strength and endurance of the muscles of the arms and shoulders, you can use bars of 10, 15 and 20 kg with the changing of the number of sets to 4-5 and the number of repetitions 4-5 in each set. This exercise does not ensnare the muscles of the arms and has a strengthening effect on the ligaments and tendons of the arms.

There is a very useful exercise: a power jerky broach or a power broach + squats. These exercises are used by weightlifters for warming-up and for a musician they will primarily affect the development of the muscles of the legs and back. In the starting position the body is in a low squat, the bar is taken with the palms in the "lock" (the thumb grabs the bar from below but it is inside, under the fingers and not above them); the shoulders are loosely lowered, the hands are free, they are not tense and the bar just hangs on the free, non-tense hands. The back is straight, the pelvis is slightly laid back, which helps to maintain the back straight and does not let it relax; the shoulders are not brought forward but, on the contrary, they are straightened. The gaze is directed straight. The pumping begins only with the legs while maintaining the position of the body and the head.

While the bar approaches the groin, the arms are involved and the bar is lifted over the head with outstretched arms. In the upper position the projection of the bar does not pass through the crown of the head, but through the shoulders. For this purpose the shoulder girdle should be kept open, and the bar in the upper position with outstretched arms ought to be pulled back slightly behind the head.

Squats can be done from this position. The back remains straight, the gaze is directed forward, the arms are extended, the shoulders are deployed. In the squat only the muscles of the legs work. You should not change the position of the body. In addition to training the legs and back muscles, you also exercise body flexibility, coordination, balance, concentration and focus on the correct execution of the drill. You should not forget about looking ahead, which contributes to the cheinotonic effect and helps to maintain the correct position of the back and balance.

This exercise can be started to perform not with a bar, but with an ordinary light wooden or plastic stick 1-1,5 meters long. The grip can be used at first slightly wider than the shoulders, but with the development of the sense of balance, coordination and flexibility of the shoulder joints, you can use a wider grip. Over time, you can move on to performing these exercises with a bar of 7, 10, 15 and with sufficient training 20 kg. I recommend performing 3-4 sets with 3-4 repetitions and then increasing to 4-5 sets with 4-5 reps. All of the above recommendations will be beneficial while practicing even 2 times a week.