

SECTION XXVIII. PHYSICAL CULTURE, SPORTS AND PHYSICAL THERAPY

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PHYSICAL EDUCATION IN THE DAY MODE OF IT SPECIALISTS

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In connection with the rapid development of information technologies, more and more people work in this field. The work of IT specialists is associated with a long stay in a sitting position, which negatively affects their health and well-being. Therefore, the issue of physical education and sports is of particular importance for employees of the IT industry.

The purpose of this work is to analyze the optimal sets of physical exercises that can be performed during the working day of IT specialists to maintain good shape, health and work capacity.

Impact of work in the IT sphere on health. The work of a programmer or IT specialist looks quite safe and comfortable - a workplace in a warm office, the absence of heavy physical labor. However, in reality, it is associated with a whole "bouquet" of risk factors for health [1].

The main feature of work in IT is a long stay in a sitting position. A whole day without movement leads to muscle weakness, poor posture, stagnant phenomena in the body, deterioration of metabolism, excess weight and other unpleasant consequences of hypodynamia.

The second "highlight" of work in IT is constant visual strain. At the same time, the eyes suffer: heartburn, blurred image and headache become professional diseases of programmers.

Another risk factor is a high level of stress due to complex tasks, creative work and tight deadlines. Plus, constant self-development and study of new technologies and programming languages. Such intense stress on the nervous system is exhausting and leads to burnout.

So, the health risks in IT are quite significant. And physical exercises here are simply necessary for prevention and maintenance of working capacity.

Negative consequences of hypodynamia for IT professionals. Postural disorders and scoliosis develop due to weakening of the back and abdominal muscles due to a sedentary lifestyle. This leads to curvature of the spine, stooping, back pain. Breathing becomes difficult, the internal organs of the abdominal cavity suffer, which are displaced.

Excess weight develops due to a slowdown in metabolism and fat exchange with a sedentary lifestyle. Fat deposits accumulate, which leads to obesity. This increases the risk of cardiovascular diseases, diabetes, gout, arthritis and arthrosis.

The cardiovascular system suffers because the heart muscle does not receive sufficient training loads. Blood circulation worsens, the body's endurance to physical exertion decreases.

A decrease in the flexibility of the spine and joints leads to their premature wear and tear and the development of inflammatory processes. There are problems with the musculoskeletal system.

Headaches and dizziness are associated with impaired blood supply to the brain due to a decrease in vascular tone during hypodynamia. The brain does not receive adequate blood supply and oxygen.

And finally, emotional disorders and depression develop due to the deficiency of "hormones of happiness" that are produced during physical exertion. Exhaustion of the nervous system occurs.

So, hypodynamia carries a whole cascade of threats to the health of a person's body and mind. And this issue is especially acute for IT specialists.

Recommended types of physical exercises. Stretching and flexibility exercises should come first. After all, due to prolonged sitting in the office, the muscles will inevitably stiffen, shorten, and pain in the back and neck will occur. Stretching will allow them to regain elasticity, relieve tension, and prevent injuries.

The second important direction is muscle strengthening. It is especially necessary to strengthen the muscles of the abdominal press, back, and legs - this is the key to correct posture and resistance to exhausting loads in a sitting position.

The third mandatory component is aerobic exercises aimed at supporting the respiratory and cardiovascular systems. Regular running, swimming or cycling is the key to preventing heart and vascular diseases.

And, of course, you should pay attention to special exercises for the eyes. After all, vision suffers almost the most in the profession of a programmer. Therefore, it is necessary to regularly train accommodation and moisturize the eyes.

So, taking into account all these points, you can make an optimal set of exercises specifically for IT specialists [2].

Complexes of exercises. For the prevention of diseases of the spine and joints.

Since IT professionals spend a lot of time working at a computer in a sitting position, their spine and joints are primarily at risk. Let's consider applied sets of preventive exercises.

1. "Cat". Knee-hand position, bend the back as much as possible. Exhale in a bent position.

2. "Stretching step." From the knee-hand position, extend, touching the surface of the floor, the opposite arm and leg, sitting on the other leg and picking up the arm under you (it is allowed to extend both arms)

3. "Cobra". From the knee-hand position, sit on bent legs, stretching out your arms and bending your back. Then move to a half-push-up position and return to a pull-up position.

4. "Bird". From the knee-hand position, simultaneously extend the interchangeable arm forward - to the side (at an angle of 45°) with the thumb up and the leg strictly back in one line with the spine. Fix the position. After that, repeat for the other arm and leg, alternating the required number of times.

5. "Lifting the pelvis." Lying on the back, the legs are bent in the knee and, to a lesser extent, the hip joints, the feet rest on the floor at the width of the shoulders, the

arms are along the body. On exhalation, the pelvis rises due to the simultaneous tension of the gluteal muscles and abdominal muscles.

6. "Squeezing the waist." Lying on the back, legs and arms are straightened. Shoulders are bent, hands are parallel to the floor. Without changing the position of the hands, at the same time as you exhale, firmly press your lower back to the floor.

7. "Press". Lying on your back, legs bent at the knees, hands in front of you, chin slightly pressed. On exhalation, we lift and twist the body up and forward until the lower back is off the floor.

Such simple exercises, if performed regularly, will significantly reduce the risk of problems with the musculoskeletal system.

To prevent vision problems. The eyes of IT professionals are subjected to tremendous strain every day due to prolonged work with a computer. This can lead to visual impairment, headache, and dizziness.

To prevent eye fatigue and maintain visual acuity, you should perform a number of exercises:

1. Close/open the eyelids in a sitting position. Such actions are repeated 8 times every 5-10 seconds. They help strengthen muscles and simultaneously relax them, improve blood supply.

2. Blink your eyes for 1-2 minutes. This exercise activates blood flow.

3. Move your gaze left-right, from below-CHAPTER 4 Complexes of exercises for the mountain in a standing position. Such simple actions help strengthen muscles and prevent visual impairment.

4. A better result can be achieved by combining these exercises with massage of the upper and lower eyelids. It is done with the pads of the fingers for 1-2 minutes. The upper eyelid is massaged, moving from the inner edge of the eye to the outer, the lower one in the opposite direction. The effect of such actions is significant: muscles relax, blood supply improves.

The large volume of information that the eyes perceive every day requires constant tension from them. The organ of vision is especially tired during long-term work at the computer. If you do not provide them with adequate rest, unpleasant symptoms appear. And if there are already problems, then relaxing techniques cannot be dispensed with. Exercises that contribute to the elimination of the tense state of the eyes are a simple complex:

1. Examination of near and far objects. If possible, such gymnastics should be carried out in an open space. Then you can focus your gaze on distant objects, concentrating on them.

2. "Drawing" through the eyes of various figures.

3. Relaxation of the organs of vision in the dark (palming). To do this, you should close your hands in front of your eyes so that no light enters. Eyelids are opened.

4. You can not just do exercises to relieve tension. Relaxing your eyes, you should imagine a pleasant picture. You can, for example, remember a vacation, a favorite movie, etc. You need to try to concentrate on your feelings and record positive emotions in your mind.

Regularly performing such sets of exercises for the eyes will help prevent vision problems and headaches associated with working at the computer.

Complexes of exercises to relieve stress and increase work capacity. The work of IT specialists is associated with a significant mental load, stress and overstrain of the nervous system. This can have a negative effect on productivity and general well-being. Special sets of exercises and techniques will help to cope with this, here are some of them:

Autogenic relaxation - this technique is based on awareness of sensations in one's own body and muscle relaxation. Consistently tense and relax your limbs, clench and release your fists, imagine the warmth and heaviness of your hands and feet.

Progressive relaxation - tense the muscles of the face, as if angry, then relax. Clench your fists, extend and tense your arms, then relax. Repeat with legs, back, stomach. Alternate tension and relaxation.

Breathing exercises - take a deep breath through your nose, inflating your stomach. Hold your breath for 5 seconds. Exhale slowly through the mouth, drawing in the stomach. Repeat 5 times. You can add diaphragmatic breathing with sound.

Aroma meditation - close your eyes, smell lavender essential oil. Imagine yourself in a lavender field. Focus on the scent and the picture. Breathe measuredly for 3-5 minutes.

Such gymnastics for the mind and body will help to get rid of fatigue and stress, and maintain high efficiency.

Recommendations for the nutrition of IT specialists. Proper nutrition is just as important for IT professionals as regular exercise. After all, it affects well-being, work capacity and general state of health. Let's consider the general recommendations.

First of all, there should be enough protein in the diet - it is a building material for the body. Meat, fish, eggs, dairy products, legumes, nuts are recommended.

Important complex carbohydrates: oatmeal, cereals, whole grain bread. They energetically "charge" for the whole day. It is better to limit simple carbohydrates.

Many vitamins and minerals are found in fresh vegetables, fruits and berries. Be sure to include them in your diet.

It is useful to use "anti-stress" products - fatty fish, almonds, chocolate, ginger. They relieve nervous tension and improve mood.

Adequate fluid intake, particularly water, is also very important for IT professionals. This will prevent exhaustion and eye fatigue, improve metabolic processes.

A balanced and high-quality diet should become part of a healthy lifestyle for every IT worker [3].

Rules for combining physical activity and mental work. It is extremely important for IT specialists to skillfully combine intense mental activity at the computer with regular physical exercises and training. After all, this is the key to maintaining high working capacity, concentration of attention and maintaining health.

First of all, it is not recommended to engage in intensive training immediately before important tasks that require maximum concentration and attention. Only light 15-minute warm-ups will be appropriate before the working day.

It is better to divide the working day into periods of intensive mental work lasting 1.5-2 hours, alternating them with 10-15-minute breaks for physical exercises and stretching. It's more efficient than trying to get through 8-10 hours without a break.

The ideal time for longer workouts is in the morning before work or in the afternoon after completing the main tasks. After intensive work, it is advisable to take a 2-3 hour break before returning to mental work.

Yoga, swimming, light running are good for relieving eye fatigue and improving concentration. But heavy athletics can, on the contrary, cause overfatigue.

Competent alternation of mental stress and physical rest is the key to the efficiency and longevity of an IT specialist.

Conclusion. The paper analyzes the impact of the specifics of IT specialists' activities on their health and physical condition. It has been established that the main

risk factors are a long stay in a sitting position (hypodynamia), overstrain of the visual apparatus and a high level of stress due to intense mental activity.

This leads to increased attention to the issues of physical education and a healthy lifestyle especially for specialists in the IT industry. In particular, the following types of physical exercises are recommended for them: stretching for muscle and spine flexibility, muscle strengthening, aerobic training, special eye exercises, relaxation techniques.

The work offers specific sets of preventive exercises regarding the main problem areas for IT specialists: spine and joints, eyesight, stress and fatigue. Recommendations for a balanced diet are provided, as well as rules for combining mental work and physical activity for maximum efficiency.

Regular performance of the suggested sets of physical exercises during the working day will help IT specialists maintain health, work capacity and professional efficiency at a high level.

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