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Department of Internal Medicine №2

EMPLOYMENT EXPERTISE
AND QUESTIONS OF REHABILITATION IN VIBRATION DISEASE

Methodical materials

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Compiled by:

Head Department of Internal Medicine № 2 MM Tebloyev Ph.D., Associate Professor

Assistant of the Department of Internal Diseases No. 2, Zhukaeva I.A.

Reviewers:

T.M. Butaev - Doctor of Medical Sciences, Associate Professor Head. Department of Hygiene MPF with Epidemiology FSBEI HE SOGMA

A.R. Kusova - Doctor of Medical Sciences, Professor Head. Department of General Hygiene and Physical Education of the Federal State Budgetary Educational Institution of Higher Education SOGMA

INTRODUCTION

Modern scientific and technological progress contributes to the widespread introduction into the industry of equipment and tools that generate vibration.

In recent years, in our country, complex medical, biological and hygienic measures aimed at preventing vibration pathology have been actively developed and implemented, as a result of which certain successes have been achieved in certain industries. At the same time, modern "vibration technology" does not always fully meet the hygienic requirements.

In a number of leading sectors of the national economy (machine-building, mining), vibration disease in terms of prevalence occupies one of the first places among other occupational diseases. Vibration disease is most widespread among trained workers of the most efficient age, with a fairly high qualification. Consequently, in addition to damage to the health of workers, vibration pathology also causes a certain economic damage.

Dynamic observations of the course of vibration disease showed the slow development of the latter. The pronounced stage of the disease is characterized by a progressive course, persistence of clinical signs, and a decrease in professional ability to work.

It is known that the clinical manifestations of vibration sickness can be detected for many years after the termination of vibration work.

It is also known that individual signs of this disease, both in those working with vibration and in the long-term period, do not significantly affect the ability to work.

At the same time, erroneous expert decisions are often made with unreasonably prolonged preservation of the disability group in practically able-bodied persons.

On the other hand, there is often an underestimation of the existing vibration pathology, irrational employment of such patients in conditions that aggravate the course of the disease; for example, for work related to cooling, significant physical overwork, etc. The purpose of the guidelines is to help improve the solution of issues of labor expertise and labor rehabilitation in vibration sickness. They are recommended for doctors of medical and prophylactic institutions providing medical care to workers of industrial enterprises, as well as senior students of medical universities and medical residents-occupational pathologists.

BRIEF HYGIENIC ASSESSMENT OF VIBRATION

Industrial vibrations are divided into local and general; by local means the application of vibrations to a limited area of the body, by general - vibrations of the whole body,

transmitted through the lower extremities and the spinal column in workers, standing or sitting on vibrating mechanisms, platforms.

Workers engaged in works with manual mechanisms are exposed to local vibration. In addition to vibration, these works are usually associated with a certain static stress, often with a forced posture, with noise, with exposure to low or high temperatures.

It is known that hand tools are subdivided into pneumatic, electric and motor, and according to the principle of operation - into rotary, percussion and pressure tools.

Vibration affecting the body of workers is a complex oscillatory process with a wide range of frequencies; The frequency spectra of power tools cover the frequency range from 10 to 2,000 hertz and differ among themselves both in the nature of the distribution of vibrational energy in frequency bands and in the levels of vibrational speed.

The frequency spectra largely determine the clinical features and timing of the development of vibration pathology. Vibration parameters and, consequently, its aggressiveness vary significantly depending on the technical condition of the tool, on the operating mode, on the type of workpiece, as well as other conditions. All these points should be taken into account when assessing specific working conditions.

The clinical features of vibration disease are largely determined by the frequency of vibration, the place of its application, the degree of static muscle tension and other unfavorable factors of the working environment (hypothermia, overheating, etc.).

VIBRATION DISEASE CLINIC, BASIC SYNDROME

The clinic of vibration disease consists of vegetative-vascular, neuromuscular, sensory and trophic disorders. It is characterized by a slow gradual development of the process, a chronic long course.

The most common complaints are dull, aching pains in the arms; pains are usually localized in the wrist joints, forearms, and, as the process grows, spread to the entire shoulder girdle.

Another common symptom of the disease is paresthesia in the extremities in the form of numbness, a feeling of creeping, and numbness. In the first period of the disease, pain and paresthesia bother only at rest - after work, at night, with cooling hands. As the process grows, they become constant, more intense; significantly increase at night, often cause sleep disturbances.

Various vegetative-vascular disorders are pathognomonic for vibration disease: marbling or cyanosis, hypothermia and hyperhidrosis of the hands, whitening of the fingers. Whitening of the fingers is one of the most common symptoms of this disease. Most workers associate the development of attacks of whitening with cooling - local and, in particular, general. Attacks often bother in the cold season, often occur when swimming in the river, rinsing clothes, etc. An attack of whitening lasts 5-10 minutes, in severe cases of the disease it can last 20-40 minutes, often ends with cyanosis of the fingers and a painful reaction. Whitening occurs first on the individual phalanges of the fingers of one hand, and as the process grows, it spreads to the fingers of both hands, the attacks become more frequent. Earlier the hand suffers,

In more severe cases, generalization of vascular disorders may be observed. Patients complain of headaches, general weakness, and mild pains in the region of the heart. These phenomena more often occur in persons over 40 years old with insufficiency of the vegetative-vascular and endocrine systems, who continue to work with a vibration instrument for a long time.

In paraclinical studies, peripheral vascular disorders in patients with vibration disease are manifested in the form of a persistent decrease in skin temperature, cyanosis or whitening of the fingers in response to a cold test, capillarospasm, a decrease in arterial blood flow to the hand, an increase in vascular tone and a decrease in pulse blood filling on

rheograms of the hands, less often stop.

A significant place in the clinical picture of vibration disease is occupied by disorders of the sensitive sphere. In the initial stage of the disease, a decrease in pain sensitivity is detected only at the fingertips, as the process grows, there is a significant decrease in pain, temperature and vibration sensitivity on the hands in the form of high "gloves". In the expressed stages of the disease, a segmental type of sensitivity disorders with the involvement of the cervical and upper thoracic segments can be detected. However, the intensity of the decrease in all types of sensitivity is much more pronounced in the distal parts of the hands. The widespread disorder of sensitivity is more often observed in patients who work for a long time with heavy pneumatic instruments.

Sensitivity is less affected when exposed to high-frequency vibration. At the same time, in the initial stages, hyperesthesia on the fingers and hands is usually observed, followed by hypesthesia.

Much attention in the diagnosis of vibration disease is paid to the state of the muscular system, especially the muscles of the shoulder girdle. Along with complaints of pain in the muscles of the shoulder girdle, there may be indurations, severity, and focal crepitus. Changes in muscles often and earlier develop in persons using heavy instruments with low-frequency vibration, since work in these cases requires a lot of static muscle tension. In the same professions, periarthritis, tendovaginitis, epicondylitis can be observed. An objective study of the neuro-motor apparatus, in addition to mild dystrophic changes, reveals a decrease in muscle strength and endurance on an electromyogram, a decrease in bioelectric activity, and some disorders of muscle metabolism (an increase in ATP in the blood, creatinuria).

On radiographs of the hands (in the metacarpal and carpal bones), symptoms of bone remodeling are often revealed: cystic enlightenment surrounded by a sclerotic ridge, small islands of spongy tissue compaction. The noted bone changes are benign and do not impair the function of the limb. Mild osteo-dystrophic changes can also be detected in the large joints of the limbs, in the spine. This is especially true for professions in which vibration is combined with great physical exertion on the musculoskeletal system. The development of osteo-dystrophic changes in such cases may be associated not so much with the effects of vibration as with static overstrain, forced posture. In the development of osteo-dystrophic changes, metabolic disorders, age-related changes, previous infections, etc. can play a

certain role.

The question of the role of production factors in the development of bone pathology should be resolved in each individual case, taking into account the specific working conditions, clinic, the nature of the development and course of the disease, concomitant diseases.

CLASSIFICATION OF VIBRATION DISEASE

Since the stages of vibration disease do not reflect all clinical variants and characteristics of the course of the disease, it is proposed in the classification conditionally, taking into account the nature of the leading clinical disorders, to single out individual syndromes:

1. Angiodystonic syndrome. This syndrome is observed in the initial stage when exposed to high-frequency vibration, in the initial and moderately pronounced stage when exposed to medium and low-frequency vibration. The leading complaints are moderate, more often nocturnal, pain in the arms and paresthesia; objectively, mildly expressed vegetative-vascular disorders (cold snap and cyanosis of the hands, hyperesthesia on individual phalanges or fingers) are observed.

2. Angiospastic syndrome is observed in stages I, II and III of vibration disease when exposed to high-frequency and medium-frequency vibration. For this, the syndrome is characterized by severe paresthesia and moderate pain and attacks of angiospasms in the hands of the "white fingers" type. Objectively, there is a decrease in the skin temperature on the hands, an increase in the thresholds of vibration sensitivity, a violation of all types of superficial sensitivity like “gloves”, capillarospasm, a decrease in the intensity of blood filling with an increase in vascular tone (according to rheography data). Angiospastic reactions, depending on the severity of the disease, can spread to the lower extremities, blood vessels of the heart, and the brain. In this case, angiospasms of the coronary and cerebral vessels, common neurocirculatory disorders,

3. The syndrome of vegetative-sensitive polyneuritis occurs when exposed to vibration of various frequencies, it is observed at a moderate and severe stage of vibration disease. This syndrome is characterized by intense pain and paresthesia in the extremities, impaired surface sensitivity of the polyneuritic type, decreased skin temperature (with a slower recovery after a cold test), more pronounced autonomic disorders (cold snap,

hyperhidrosis, cyanosis of the hands, swelling of the fingers).

4. Vegetomyofascitis syndrome occurs when exposed to low- and medium-frequency vibration, combined with significant physical exertion of the hands. This syndrome is detected moderately and more often in the pronounced stage of vibration disease. Vegetomyofascitis is characterized by a combination of vegetative-sensitive polyneuritis with dystrophic changes in the muscles of the shoulder girdle (such as fasciculitis, myositis, fibromyositis) and the ligamentous apparatus. Vegetomyofascitis syndrome is characterized by the presence of severe pain and paresthesias in the hands, a decrease in strength and endurance, dystrophic changes in the muscles and other tissues of the musculoskeletal system, impaired sensitivity in the polyneuritic and segmental type; on an electromyogram in such cases, a decrease in the bioelectrical activity of the muscles of the shoulder girdle is noted.

5. The syndrome of predominant damage to the somatic nerves (neuritis, plexitis) is characteristic of the effect of low-frequency vibration, combined with local microtraumatization of the corresponding nerve trunks and plexuses. Pure neuritis and plexitis when exposed to vibration are rare, we can only talk about the predominant suffering of the nerve trunks or plexuses, with obligatory syndromes such as vegetative-sensitive polyneuritis, vegetomyofascitis. Atrophies, impaired motor functions are usually mild, sensory and autonomic disorders prevail.

6. Cerebral syndromes of the hypothalamic or trunk-vestibular type can be observed in rare cases in a pronounced advanced stage of vibration disease, more often from the effects of general vibration. Cerebral syndromes usually develop against the background of long-term previous peripheral vegetative-vascular and sensory disorders characteristic of vibration disease. Cerebral syndromes are characterized by cerebral vasomotor and vestibular disorders, which can manifest as vegetative-vascular or vestibular crises. Stem and hypothalamic focal symptoms (oculomotor disorders, nystagmus) in such cases are mild and transient.

ADDITIONAL FUNCTIONAL TRIALS, RECOMMENDED FOR DEGREE ASSESSMENT SEVERITY OF VIBRATION DISEASE

A full-fledged diagnosis with a clarification of the degree of functional disorders largely

determines the correct solution to the issues of medical and labor expertise in vibration disease.

In diagnostics and in solving issues of examination of the ability to work, modern clinical and paraclinical methods of complex examination of the patient should be used, the main purpose of which is to obtain objective information about the functional state of the systems involved in the formation of the process (vibration disease), systems that provide compensation and full working capacity in these specific production conditions.

Of great importance in the examination is a comprehensive assessment of the autonomic and vascular systems, the main criteria for this are indicators of peripheral hemodynamics, such as thermometry, geography, capillaroscopy, tissue blood flow (radioisotope method, remote thermography).

For outpatient studies, the most accessible are:

1. Skin thermometry. The temperature of the skin is examined with an electrothermometer. The study is recommended to be carried out with a cold test, which helps to assess the severity of vascular disorders by the intensity of skin coloration and provides additional information about the depth of violations and the degree of compensation of the process. Measurement of skin temperature is more often carried out on the dorsal surface of the nail phalanges of the fingers. In healthy individuals, the temperature of the skin on the fingers usually ranges from 27 ° to 31 °; with vibration sickness, it can be significantly reduced to (18-20 °). The period of temperature recovery after a cold test is of particular diagnostic value. After measuring the skin temperature, the brushes are immersed in water (water temperature + 8-10 °) for 5 minutes. At the same time, attention is paid to the color of the brushes, the asymmetry of whitening. If whitening of the fingers appears, the test is considered positive. After stopping the sample, the temperature of the skin is measured again and the time of its recovery to the initial values is determined. The cold test not only causes bouts of whitening of the fingers, but also allows one to judge compensatory reactions. In healthy people, recovery usually occurs no later than 20 minutes. With a pronounced stage of vibration disease, a slowed down temperature recovery is observed.

2. Capillaroscopy helps to assess the extent of changes in small vessels. However, changes in the capillaries of the nail bed acquire diagnostic value only in the presence of other characteristic signs of vibration disease.

It is recommended to examine the capillaries of the nail bed of the 4th finger of both hands. In the study, attention is paid to the background and color (in healthy people, the background is pale pink, clear); the number of capillary loops (when determined by the first row, the norm is usually at least 8 capillaries per 1 mm). Each hinge is curved in the form of pins. The arterial sections are shorter than the venous ones, the blood flow is homogeneous. The capillary condition is usually characterized as normal, spastic, spastic-atonic, or atonic.

3. Algesimetry. To study pain sensitivity, in addition to the usual needle, algesimeters are used. The most common method of algesimetry in practice is based on determining the amount of immersion of the needle (in millimeters) required to cause pain. The algesimeter is installed vertically and by rotating the graduated scale, the pain threshold is found - the minimum amount of pain. Normally, the pain threshold on the dorsum of the hand does not exceed 0.5 mm; with vibration disease, a significant increase in the threshold can be observed.

4. Vibration sensitivity is determined using the IVCH-02 device. It can be used in vibration disease diagnosis and professional selection.

The study of vibration sensitivity is important in the diagnosis of vibration disease, changing the threshold allows you to judge the severity of the process.

Vibration sensitivity thresholds are usually determined on the palmar surface of the terminal phalanx of the 2nd finger of the right and left hands. In the presence of signs of vibration disease, an increase in the threshold is noted at all frequencies with a slower recovery after giving vibration load.

In the absence of a pallesesthesiometer, it is permissible to study vibration sensitivity with a C-128 tuning fork.

5. Strength and endurance muscles to physical effort is examined with a spring dynamometer and a Rosenblatt dynamometer.

With vibration sickness, there is often a decrease in strength to 15-20 kg (normally 35-50 kg for men and 30-40 kg for women) and endurance up to 10-15 seconds. (normally 50-60 seconds). If necessary, in a hospital setting, it is recommended to conduct more in-depth studies of peripheral hemodynamics.

6. Rheography method... It allows you to assess the vascular tone and the intensity of the pulse blood filling.

Synchronous polygraphic recording of a rheogram in lead 1 is usually carried out on a four-channel electrocardiograph ("Alvar" company), with a paper speed of 25 mm per second. The rheographic curve takes into account the shape of the rheographic wave, the nature of its top, the severity of the dicrotic tooth and its location on the catacroth, while determining the main values: a) the rheographic index, b) the steepness of the slope of the ascending part of the curve, measured in degrees, c) the duration of anacrotic rise - the time of the ascending part of the curve, d) the duration of the anacrotic part. Tonic indicators are in some cases more informative than the rheographic index.

7. Tissue blood flow can be investigated in a hospital setting using labeled iodine (I131). In the rear of the hand, 5 mccuries are injected intradermally. The results of the test are assessed by the time of resorption of I131 from the intradermal depot 50% of the initial injected amount of the indicator, taken as 100%. Normal resorption values of 50% of the isotope are 5-8 minutes. With vibration disease, especially with severe vascular disorders, there is often a significant slowdown in tissue blood flow.

EMPLOYMENT EXPERTISE

The correct solution to the issues of examination, in addition to the exact diagnosis and knowledge of the sanitary and hygienic characteristics of working conditions, requires in each individual case to determine the degree of impairment of functions that ensure the ability to work in these specific conditions.

The issues of the examination of the ability to work in vibration disease are solved taking into account the stage and clinical form of the disease, the leading syndrome, the characteristics of the course of the disease, the presence of concomitant diseases, taking into account the effect of treatment.

It is known that a decrease in working capacity in various forms of vibration disease can be associated with a violation of various functional systems.

However, the main reasons for the decrease in the working capacity of patients with vibration disease are persistent pain syndrome, impaired motor functions (reduced strength and endurance to statistical effort), as well as pronounced, long-lasting bouts of whitening of the fingers, pronounced regional vegetative-vascular shifts.

According to the severity of vibration disease, four stages are conventionally distinguished: 1-initial, 2-moderately expressed and 3-4 - pronounced stages of vibration disease.

At the initial stage of vibration disease, patients are disturbed by intermittent, paresthesias and pains, mainly at night, in the hands, when exposed to general vibration and in the legs. The strength and endurance of the muscles are preserved, there are no abnormalities on EM G. Vegetative-vascular disorders are also mild; there is an inconsistent decrease in skin temperature on the hands; cold test - negative, with a fairly rapid temperature recovery. There is a tendency to capillarospasm; the blood flow velocity and the intensity of the pulse blood filling are within the normal range.

A decrease in pain sensitivity is limited to the terminal phalanges of the fingers, there is a mild increase in the thresholds of vibration sensitivity.

Professional ability to work at the initial stage of vibration disease (including mild angiodystonic, angiospastic syndromes and phenomena of vegetative-sensitive polyneuritis) is usually preserved.

To prevent the growth of the process, it is recommended to carry out a complex of therapeutic and prophylactic measures. At the same time, it is recommended to transfer to a job that is not associated with exposure to vibration and cooling of the hands for a period of 1-2 months with the issuance of a sick leave in connection with an occupational disease; along with outpatient treatment, referral to a sanatorium is recommended. During the next vacation, treatment in specialized sanatoriums is recommended (Pyatigorsk, Evpatoria, Nalchik, Tamisk, Ursdon). In cases of significant improvement in the subjective state and objective indicators, persons with initial signs of vibration disease can return to work in their profession (with dynamic medical supervision and repeated (1-2 times a year) courses of preventive treatment.

The second stage of vibration disease is manifested by moderately expressed angiospastic syndrome, vegetative-sensory polyneuritis, vegetative myofascitis of the shoulder girdle, or a combination of these syndromes.

Pain and paresthesias at this stage are usually more persistent. A decrease in strength and endurance of muscles, a change in the bioelectric activity of muscles (an increase in bioelectric activity at rest, a tendency to decrease with voluntary contractions) are objectively revealed.

In the second stage, the indicators of peripheral hemodynamics are worse than in the first stage: acrocyanosis, a significant decrease in skin temperature with slow recovery after cold stress; when provoked (local or general cooling), attacks of angiospasm of the fingers easily occur. A decrease in the intensity of blood filling, an increase in vascular tone, and a slowdown in the speed of blood flow are revealed. Disorders of superficial sensitivity are also more pronounced in the second stage; hypersthesia in the form of “gloves” is revealed; the vibration sensitivity threshold is significantly increased, with a slower recovery after vibration loading.

In the second stage of vibration disease, patients are also recommended to be temporarily transferred for a period of 1-2 months to lighter working conditions (without exposure to vibration, without cooling and muscle strain) with the appointment of compulsory treatment. For the period of transfer and treatment, a labor (professional) sick leave is issued with the preservation of the average earnings.

In the case of complete recovery of functional indicators for all of the listed characteristics, in the absence of typical complaints, workers can be admitted to their previous work, with mandatory preventive treatment and examination after 6 months. With the resumption of characteristic complaints, deterioration of clinical and functional parameters and the absence of a significant effect from treatment, it is recommended not only to stop further work under vibration conditions, but also to transfer to work with limited static load, without cooling the extremities and other unfavorable factors that contribute to the deterioration of peripheral hemodynamics. At the same time, patients should be placed in jobs of equal qualifications, taking into account that patients in such cases remain able to work in a wide range of professions, such as toolmakers, turners, etc. Young and middle-aged persons (up to 45 years old) who do not have a qualification close to the previous one are recommended to be sent for retraining to special workshops and workshops of enterprises. In this case, if the acquisition of a new qualification is difficult (for example, due to insufficient education, concomitant diseases, age, etc.), patients, by decision of the VKK, are sent to the MSEC to determine the percentage of disability, if necessary, the disability group.

An expert decision is facilitated by high-quality medical documentation that characterizes the patient's occupational route, specific working conditions, clinic and

features of the course of the disease, the degree of functional disorders, which allows MSEC doctors to correctly determine the labor prognosis in each individual case.

The number of required documents includes 1) a copy of the work book, 2) a sanitary and hygienic characteristic (compiled and signed by an industrial and sanitary doctor) indicating the exact profession, length of service, the tool used, the nature and time of exposure to vibration, other unfavorable production factors (static stress, cooling, forced posture, noise, dust and others); 3) a detailed extract from the outpatient card. The latter should include not only an in-depth description of the state of health at the moment, but also information over the observation period, information about the features of the development and course of the disease (frequency of exacerbations, the effectiveness of the treatment given).

In addition to the general somatic assessment of the state of health, special attention in the discharge should be paid to an objective assessment of the state of the neuromuscular apparatus, vascular, autonomic and sensory disorders; accompanying osteo-dystrophic changes (description of X-ray images of the spine, hands, feet is necessary). In dusty professions, a comprehensive assessment of the bronchopulmonary apparatus is required (X-ray data of the lungs, heart, and respiratory function). The full-fledged execution of the listed documentation contributes not only to the correct determination of the degree of disability, but largely helps to recommend rational employment and improve the work prognosis.

Dynamic observation of a large group of patients who had group III disability due to vibration disease I-II, rarely stage III, found that rational employment with active retraining, repeated courses of treatment, in most cases within 2-5 years, provide a reverse development the most significant symptoms of vibration disease, which significantly improves labor prognosis. During this period, patients usually master a profession that is equal in qualifications to the previous one; upon re-examination in such cases, there is no reason to retain the disability group, since they are able to work in a wide range of professions. At the same time, certain restrictions for these persons remain, they are contraindicated to work with vibration, cooling, high static stress.

However, it is not uncommon for patients to unreasonably retain a group of disability for many years with certain signs of vibration disease, which do not limit the patients' ability to work. To prevent such cases, it is necessary to retrain patients in

professions of different qualifications (on the recommendation of KEK, MSEC) with the involvement of the administration of the enterprise.

Long-term preservation of disability in patients with stage II vibration disease is justified only if the latter is combined with somatic diseases that limit the ability to work. In such cases, attention should be paid to active treatment of somatic diseases.

Expressed, forms of vibration disease belong to the III-IV stage. Due to complex preventive measures in recent years, these stages of vibration disease are rare. At III-IV stages of the disease, the working capacity of patients is limited. MSEC in these cases defines III group of disability. Group II is determined only in cases of generalized vascular disorders with frequent attacks of cerebral, cardiac angiospasms. A similar combination is observed mainly in severe forms of the disease with severe complicated forms of degenerative-dystrophic changes in the spine, large joints, with amyotrophic syndromes. The II disability group can also be determined in the case of a combination of vibration illness with somatic diseases that sharply reduce the ability to work (hypertension stage III, ischemic heart disease and others). The criteria for determining persistent disability (III-II group of disability) with severe forms of vibration disease are persistent, not treatable, pain syndrome, pronounced vegetative-trophic and vascular disorders with frequent attacks of angiospasms.

Unlike the first and second, in the third or fourth stages of the disease, there is a significant deterioration in all of the above functional indicators of the neuromuscular and peripheral vascular systems. In particular, there is a significant decrease in muscle strength and endurance, which prevents patients from performing a light load. On the electromyogram, the bioelectric activity of muscles at rest increases, there is a significant decrease in activity during voluntary contractions, an increase in the excitability of motor neurons extends to the muscles of the legs, and the structure of the curve is disrupted. There is a significant decrease in the skin temperature on the fingers (up to 18-20 °), its slow (up to 1 hour or more) recovery after a cold load. The rheograms reveal a significant decrease in the intensity of pulse blood filling, a pronounced violation of the vascular tone.

Violation of sensitivity acquires a segmental character (in the form of a "jacket" or "half jacket", often extending to the legs). Trophism suffers significantly: the hands and feet are cold, spotty-cyanotic, edematous, painful compaction with muscle hypotrophy of the shoulder girdle can be observed.

In the III-IV stages of vibration disease, concomitant degenerative-dystrophic changes in the musculoskeletal system are often noted - in the spine, joints, ligaments. These changes are more often observed in highly trained individuals, whose work, in addition to vibration, was associated with great physical stress, forced posture, hypothermia (miners, casting cutters, etc.).

Pronounced osteo-dystrophic changes worsen the labor prognosis, significantly complicate the employment of patients. Cerebral forms of vibration disease with stem-vestibular and diencephalic syndromes are rare, mainly when exposed to general vibration. With cerebral forms of vibration disease, the labor prognosis is significantly worsening; employment of patients is difficult.

Expressed forms of vibration disease are characterized by a long torpid course, a significant persistence of neurovascular disorders. The latter, in some cases, against the background of age-related and endocrine restructuring, can acquire a progressive course. Regardless of the nature and severity of concomitant diseases, the cause of disability, in such cases, remains professional.

RECOMMENDATIONS FOR REHABILITATION OF PATIENTS WITH VIBRATION DISEASE

Rehabilitation is a complex set of measures for early diagnosis; preventive and rehabilitative treatment, rational employment, aimed at restoring health and working capacity.

Depending on the stage of vibration disease and in each specific case, the rehabilitation paths can be different, while maintaining the main goal - the restoration of health and working capacity.

Doctors of medical institutions KEK and MSEK, the administration of the enterprise, should take part in the implementation of rehabilitation measures.

Prevention of vibration disease is determined to a large extent by the correct professional selection, taking into account the list of contraindications, the quality and usefulness of subsequent periodic medical examinations of persons exposed to vibration.

Periodic examinations help to identify the earliest signs of vibration disease, which at an early stage do not affect the working capacity of the sick. At the same time, even at this stage, it is recommended to carry out measures to prevent the progression of the process and the development of pronounced forms of vibration disease (organization of the work regime, carrying out preventive treatment - warm baths for hands, self-massage of hands, therapeutic exercises, treatment in a sanatorium of a dispensary (injections, blood circulation) ...

In the case of the development of signs of vibration disease in a relatively early period of CEC, it is advisable to orient such persons to acquire a new profession (taking into account education, skills). This is especially true for persons with premorbid deficiency of the vegetative-vascular and neuromuscular systems.

If a vibration disease of the I-II stage is detected, in addition to the above measures, it is recommended to carry out outpatient treatment (antispasmodics, vitamins of the "B" group, massage, physiotherapy, exercise therapy), with a transfer during treatment (for a period of 1 to 2 months) to work, not associated with vibration, physical exertion on the hands and hypothermia. The transfer is appointed by the decision of the KEC. At the time of the transfer, the workers retain their wages. In case of insufficient effectiveness of outpatient treatment, treatment in a hospital setting is desirable.

During the period of the next vacation, such patients are recommended to undergo

treatment in a sanatorium, using mud, rhodon or hydrogen sulfide baths. It is recommended that the administration of such patients be used in complex teams, with the condition of limiting work on vibration instruments.

It has been established that repeated courses of preventive treatment, as well as periodic temporary transfer to lightened working conditions at the 1st and partly the second stage of vibration disease, provide a favorable labor prognosis, prevent the development of severe forms of the disease.

In the absence of the proper effect from treatment and temporary transfer (this often applies to people with stage II vibration disease), the KEK makes a decision on rational employment in professions that are equal in qualifications to the previous one. This takes into account the patient's occupational route, professional skills, education. It should be remembered that patients in this group remain able to work in a wide range of professions (locksmiths, toolmakers, turners, etc.), not associated with exposure to vibration, hypothermia, static overstrain of the hands.

In such cases, it is indicated to conduct periodic courses of rehabilitation treatment (injections of B vitamins, drugs that improve peripheral circulation and tissue trophism - halidor, angiotrophin, massage, physiotherapy, balneotherapy).

Rational employment in conditions that exclude unfavorable production factors (vibration, hypothermia, overwork), periodic courses of rehabilitation treatment in most cases provide medical and labor rehabilitation of patients with I-II and partially with III stage of vibration disease.

Rehabilitation is usually difficult in patients over the age of 45, in whom vibration sickness is often combined with somatic diseases. In cases of difficulty in the employment of such patients in professions similar in qualifications to the previous ones, these persons usually remain disabled; employment is recommended taking into account the general health status.

Considering that HI IV stages of the disease are observed in highly trained workers aged 40-45 years and older, their rehabilitation is difficult due to concomitant diseases (diseases of the cardiovascular system and musculoskeletal system, endocrine restructuring, etc.).

The ability to work of patients in this group is steadily reduced, their rational employment is significantly hampered due to the expansion of contraindications to the

performance of many types of work (taking into account the main and all concomitant diseases).

For such patients, MSEC defines a disability group for longer periods.

At the same time, rational employment, taking into account all contraindications, periodic courses of rehabilitation treatment in a hospital and in this group of patients improve the labor prognosis.

At the next re-examination at MSEC, patients under 40-45 years old should be actively recommended to improve their qualifications, retraining.

Implementation of activities for the employment of disabled people in connection with vibration sickness is provided by the administration of enterprises, trade union organizations.

The effectiveness of measures for the comprehensive prevention of vibration sickness and rehabilitation of sick people can be improved by joint efforts.