

INITIATIVE OF NC KAZMUNAYGAS JSC «10 STEPS TO HEALTH»

Dear colleagues!

Health, safety and well-being of employees of NC KazMunayGas JSC (hereinafter referred to as KMG) are the priority issues same as for hundreds of millions employees in the world. They have prime importance when we talk about labor productivity, competitiveness and stability of companies.

According to estimates of World Health Organization (hereinafter – WHO), every year 38 million people die of non-communicable diseases (hereinafter – NCDs), of which 17.5 million people account for cardiovascular diseases, 8.2 million people die of cancerous diseases, 4 million people – respiratory diseases, and diabetes – 1.5 million people. In these 4 groups of diseases, approximately 82% of all deaths account for NCDs. In addition, they are all vulnerable to risk factors that contribute to the development of NCDs, such as stress, unhealthy diets, lack of physical activity, exposure to tobacco smoke or alcohol abuse.



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Hence, we offer **10 PRACTICAL STEPS** leading to improvement of your health at your workplaces.

First of all they are aimed at increasing physical activity and eliminating unhealthy food habits and they also are efficient in improving the results related to your health.

I am sure that this initiative will favor improvement of your health condition, creation of positive corporate spirit, decrease staff turnover and the number of sick absence, as well as decrease of sickness benefits and disability allowances.

These 10 practical steps will certainly create favorable conditions for the involvement of the employees to corporative health-improving program.

Step-by-step you will understand **WHY** it is necessary to be done and **WHAT** is the most important for you.

Each employee should remember that this initiative and propaganda of healthy lifestyle have voluntary nature and at the same time provide opportunity to improve health.

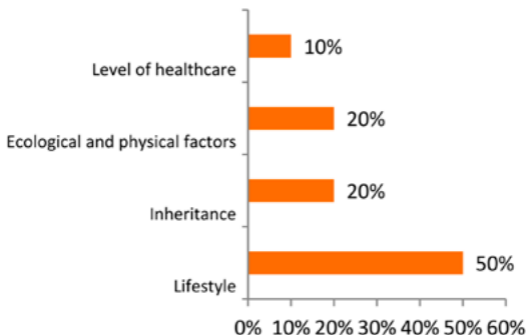
**Chairman
of the Management Board
S. Mynbayev**



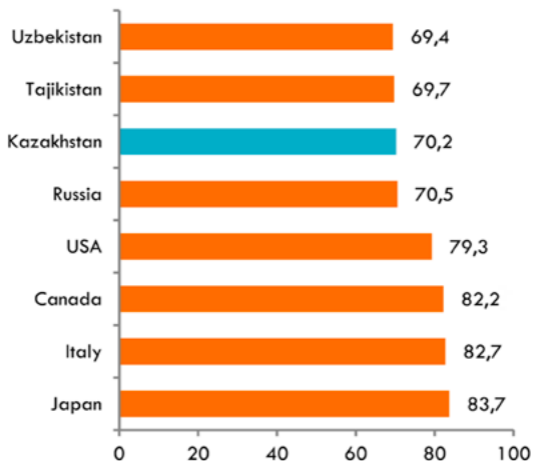
FACTORS AFFECTING HEALTH

According to the data of WHO, human health depends on the following factors: inheritance, external environment (ecological condition), level of healthcare. However, the most important factors affecting health are lifestyle and nutrition.

Factors affecting health



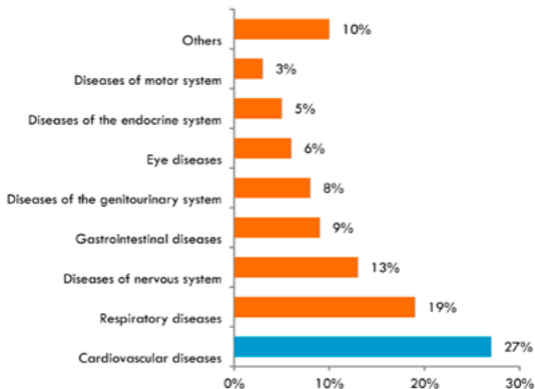
Average life expectancy¹



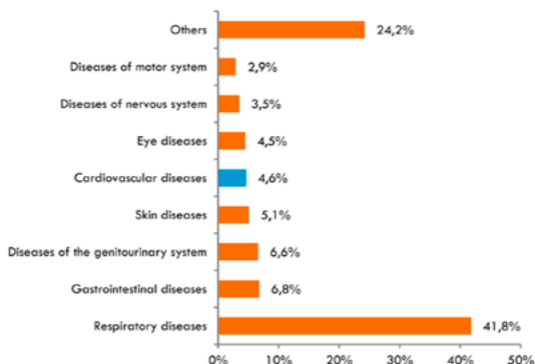
¹ Pursuant to the data of World Health Organization, http://www.who.int/gho/publications/world_health_statistics/2016/en/

Current morbidity situation in KMG group of companies

Morbidity structure for KMG group



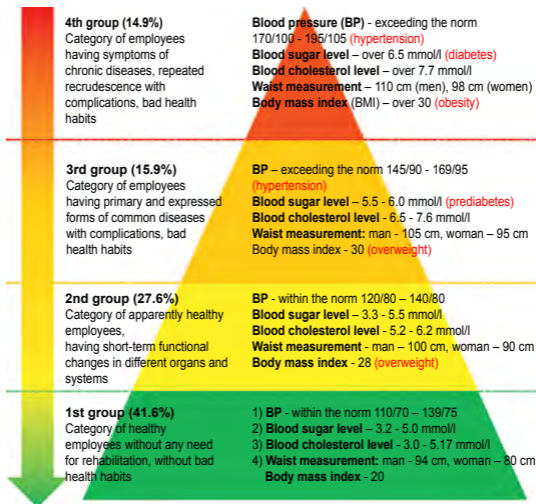
Morbidity structure for Kazakhstan





Belonging to groups and the possibility of moving to a better group

Morbidity pyramid²



²According to specialized medical organizations that provide services to KMG and SDEs



KEY SUCCESS FACTORS

1. Corporate culture supporting the initiative and involving employees and managers at all levels in it/ Commitment of KMG management³.
2. Involvement of employees/Active participation of employees themselves in assessing health risks and in various activities.
3. The significance of a favorable environment/ Impact of external factors on the workplace.
4. Involvement of interested parties/Trade unions, medical organizations, insurance companies, fitness clubs to participate.



AIMS OF THE INITIATIVE

1. Develop a pilot program for recovery and prevention for KMG employees on the basis of reputable scientific research and studies.
2. Increase the knowledge of KMG employees about the risks associated with non-communicable/communicable diseases and counter-measures aimed at their prevention.
3. Build an optimal pilot program, which can then be applied to the KMG group of companies.

³Member of Board, Managers of functional units of KMG



STEP 1. Health assessment (screening examination)

The introduction to practice of target screening examinations of employees' health in addition to periodical medical examinations becomes relevant. Screening examination is preventive medical examination the main aim of which is the detection of diseases at early stages and prevention of disease development, detection of risk factors, which give rise to diseases, quality control of performed preliminary and periodical medical examinations, formation and promotion of employees' health.

Advantages of screening examinations are as follows: low cost, high informational value and ease of use, possibility to perform examinations directly at the workplace or on-the-job in the territory of the company.

In particular, screening examinations have the best impact when they are aimed at cardiovascular risk factors, in particular, high blood pressure (hypertension) and cholesterol level in blood serum.

Hypertension or arterial hypertension are easy to diagnose and have many efficient treatment methods. However, there is one main problem – a lot of people do not suspect that they have high blood pressure. Now a majority of young people have high blood pressure. But it is hypertension that is the main reason of such fatal cases as strokes and heart attacks.

High blood pressure is one of the main global mortality risk factors in the world and is responsible for 13% of all mortality cases in the world⁴.

Regular preventive checkup and examination in accordance with age and risk group.

It is particularly important to have regular screening examination after the age of 40. Interval of examinations may differ for different diseases and ages.

⁴Pursuant to the data of World Health Organization, <http://www.who.int/publications/list/2015/global-health-risks/ru/>



STEP 2. Healthy nutrition and weight management

Healthy nutrition plays an important role in prevention of a variety of diseases including heart diseases, stroke, hypertension, diabetes and cancerous diseases.

Unhealthy food leads to the reduction in life expectancy. Consumption of a large amount of calories from solid fats, added sugars and processed grains leads to overweight or obesity.

Obesity leads to cardiovascular diseases. Consumption of soda water washes out calcium from the body and after the age of 40 people start intensively lose bone mass. Because of constant consumption of unhealthy food, body accumulates dangerous mutagenic substances, which lead to the formation of cancer cells in body.

Balanced nutrition allows to keep body in tone and normalizes internal metabolism. If it is required to lose or gain weight, it is necessary

to plan an everyday diet taking into account the amount of consumed calories and specific of lifestyle, because a body uses more energy during physical exercise.

A healthy diet helps to prevent diseases, including diabetes, heart disease, cerebrovascular diseases and cancer.

Overweight and obesity are the result of the formation of abnormal or excessive fat deposits that may be harmful to health. Body mass index (BMI) is a simple ratio of body weight to height, often used to diagnose obesity and overweight for adults. The index is calculated as the ratio of a body weight in kilograms to a height in meters squared ($BMI = \text{Weight} / \text{Height}$).



BMI Classification ⁵		Health risk
Underweight	< 18.5	There is a risk of development of other disorders. Likelihood of the development of diseases associated with obesity is dramatically reduced, Deficiency of body mass arises for various reasons. Professional medical consultation is required!
Normal range	18.5 – 24.9	Everything is okay. Eat healthy. Do active sports, or at least 20,000 steps a day. Keep your weight!
Overweight	> 25	There is a risk of development of complications. Reduce the consumption of sweet, salty, spicy and fatty food. Increase physical activities, sports, or do at least 15,000 steps a day. Get rid of excessive weight!
Preobese	25.0– 29.9	
Obese 30.0 – 40.0	> 30.0	High risk of developing diseases associated with obesity. There are already diseases of various organs and systems of the body. It is necessary to see a doctor urgently for examination and preparation of an individual program for body weight loss and treatment of not only obesity, but also existing complications. Moderate, but systematic physical exercises, physical training, or at least 10,000 steps a day. Intensively lose weight under the supervision of a doctor!
Obese class I	30.0 – 34.9	
Obese class II	35.0 – 39.9	
Obese class III	> 40.0	

⁵10 facts about obesity, World Health Organization, <http://www.who.int/features/factfiles/obesity/facts/ru/>

If possible, try to consume more fruits, vegetables, legumes (lentils, kidney beans), nuts and whole grains (unprocessed corn, millet, oats, wheat, unpolished rice).

At least 400 grams (5 servings) of fruits and vegetables per day.

Include less than 5 grams of salt in your diet (equivalent to about one teaspoon) per day and use iodized salt⁶.



STEP 3. Water consumption

Water is more important for life than food. People can survive without food 3 weeks, and no more than 3 days without water. In hot weather, people can get dehydrated without water just in a few hours. This is explained by the fact that human body consists of water for 75 percent.

Water purifies human body from toxins and polluting substances and takes part in all physical and chemical reactions of a body. Water

⁶Pursuant to the recommendations of World Health Organization: <http://www.who.int/mediacentre/factsheets/fs394/ru/>

serves as a coolant to decrease body temperature to the required level, helps to control appetite and lubricates joints.

Water schedule represents a rational order of water consumption. Correct water schedule provides normal fluid-and-electrolyte balance and creates favorable conditions for life activities of body.

It is necessary to drink 1.5 – 2 liters of water per day. This index should be selected individually, depending on weight, season, activity, etc. There is a formula of required volume of drinking water: $\text{weight} \times 0.04 = \text{liters of water per day}$.

Not to drink or restrict the consumption of soda water: carbon dioxide containing in such water can increase thirst and have bad influence on digestive system.

Drink water only before a meal – 15–20 minutes beforehand. Never drink water during a meal or right after it. Water leaves stomach within 10-15 minutes. If you drink during a meal, water dilutes gastric acid that will lead to

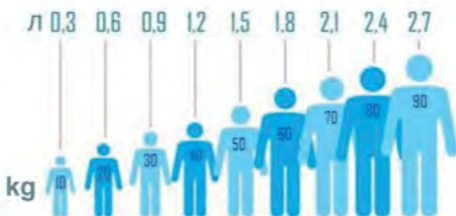
digestive disorders. If you drink water right after a meal, liquid will push indigested food out of stomach and this food will decompose and ferment. Starchy food digests during 2 hours; protein food digests during 4-6 hours. Only after this period of time (depending on food) you can drink water after a meal. It is healthy to drink a glass of water on an empty stomach with a slice of lemon every morning (it is better to put lemon into a glass of water in the evening so that it would infuse during the night). Then before breakfast drink a glass of tea, herbal infusion or brew. You should drink before lunch, before noon and in the afternoon and, at last, drink a couple of glasses of liquid (tea, juice, water) before dinner.

In hot weather, when sweat loss and thirst perception increase, your body needs more liquid. In these cases, it is better to drink a glass of water not in a single sitting but step by step taking 1-2 swallows with short intervals.



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EVERYDAY NORM FOR WATER CONSUMPTION



WATER IN HUMAN BODY





STEP 4. Quitting smoking

According to WHO data, every year about 6 million people die of smoking, of which more than 5 million cases happen among smokers and ex-smokers, and more than 600,000 cases among non-smokers who were affected by secondary tobacco smoke.

Smoking is the main reason of malignant diseases: cancer of a lung, a throat, a mouth, lips.

Smoking people 6 times oftener suffer from heart attack, than non-smokers, and, more likely, suffer from heart diseases or other serious cardiac problems 10 years earlier than non-smokers.

Consult a doctor what may help increase the likelihood of quitting smoking forever.

Reduce tobacco use or quit it.

Do not smoke on an empty stomach and 1,5-2 hours before and after meal, try to postpone smoking first cigarette.

If you want to have a smoke, wait little, try to do something or distract yourself, do simple physical exercises.

Replace a cigarette with a glass of juice, mineral water, chewing gum, sugarless fruits.



STEP 5. Stop drinking alcohol

There are 3.3 million of deaths every year due to excessive drinking of alcohol which amounts to 5.9% of all deaths in the world. Harmful alcohol consumption is causative factor of more than 200 types of health problems related to diseases and traumas. Alcohol consumption leads to death and disability rather early in life. Among people at the age of 20-39, approximately 25% of all deaths are related to alcohol. There is cause-and-effect relation between harmful alcohol consumption and a number of mental and behavior disorders, other non-infectious health problems and traumas⁷.

Alcohol abuse affects brain functions that leads to difficulties with mood and behavior control, coordination and thinking. Alcohol may can lead to cardiac diseases, hepatic disorders and disorders of pancreatic gland; it weakens immune system and increases risk of cancer.

⁷Pursuant to the data of World Health Organization: <http://www.who.int/mediacentre/factsheets/fs349/ru/>

Alcohol abuse leads to absences, being late, high indexes of personnel turnover, injuries at production site and violence.

It is necessary not to abuse alcohol, and lead a healthy lifestyle and pay special attention to a regular nutrition and encourage physical activity. When necessary, visit a specialized health-care facility and consult a doctor.



STEP 6. Stress management

Unfortunately, stress at a workplace is widespread. From the point of view of International Labor Organization (ILO), stress is a painful physical and emotional reaction caused by violation of balance between acknowledged demands and available resources and the ability of people to satisfy these demands. Stress depends on labor organization, labor relations and interrelation mechanisms. It appears in case when demands to an employee do not correspond or exceed his abilities, resources or needs, or if knowledge or capabilities of an employee

(group of employees) do not satisfy expectations provided by the corporate culture.

Negative interrelation between labor conditions and human factor may cause emotional disturbances, behavior problems, biochemical and neurohormonal changes which in its turn entails increased danger of mental or physical diseases. To the contrary, if labor conditions and human factor are in balance, work bears to a feeling of perfection and self-confidence, encourages motivation, increases work efficiency and job satisfaction, improves health.

Stress may also lead to serious physical problems with health, such as immunodeficiency, chronic headaches, cardiovascular diseases and decrease in ability to recover after illnesses. Moreover, strenuous work conditions may impede ability to undertake other necessary changes in lifestyle, such as quit smoking, eat healthy food, be physically active.

A number of factors related to work process may provoke stress. For example, employees will have stress when they feel that they do not have enough support from the side of manag-

ers and colleagues. When they feel that they do not have enough control and influence in work processes. When work requirements become uncontrolled or when there are fewer opportunities for promotion and professional development.

Employees exposed to stress factors are more likely to be absent from work, resign and have relation to accidents as well as work worse than their colleagues, who are less stress-susceptible.

A certain stress level at work is inevitable, that is why the purpose is to minimize it and manage it at all levels.

Therefore, it is necessary to strengthen the overall health through a balanced diet, adequate rest and sports. Physical activity is one of the best ways to deal with stress. Deep diaphragm breathing, autogenic training and meditation are also effective for stress reduction.

It is necessary to organize work environment in a way that warm relationships are encouraged. Each employee understands that he or she may count on support from other employees.



Workplace collective measures to prevent work-related stress⁸:

1	Control	ensuring adequate staffing levels
		allowing workers a say in how their work is to be carried out
2	Workload	regularly assess time requirements and assign reasonable deadlines
		ensure that working hours are predictable and reasonable
3	Social support	allow for social contact between workers
		maintain a workplace that is free of physical and psychological violence
		ensure that there are supportive relationships between supervisors and workers
		provide an infrastructure in which supervisory staff take responsibility for other workers and there is an appropriate level of contact
		encourage workers to discuss any conflicting demands between work and home
		reinforce motivation by emphasizing the positive and useful aspects of the work

⁸Workplace stress, “a collective challenge”, International Labor Organization, 2016. http://www.ilo.org/wcmsp5/groups/public/europe/ro-geneva/sro-moscow/documents/genericdocument/wcms_485968.pdf



4	Matching the job and the worker	match jobs to the physical and psychological skills and abilities of the workers
		assign tasks according to experience and competence
		ensure proper utilization of skills
5	Training and education	provide adequate training to ensure that worker skills and jobs are matched
		provide information on psychosocial risks and work-related stress and how to prevent them
6	Transparency and fairness	ensuring tasks are clearly defined
		assigning clear roles, avoiding role conflict and ambiguity
		providing job security to the extent possible
		providing adequate pay for work performed
		ensuring transparency and fairness in procedures for dealing with complaints
7	Physical working environment	providing appropriate lighting, equipment, air quality, noise levels
		avoiding exposure to hazardous agents
		taking into account ergonomic aspects to limit workers' stress



STEP 7. Sleeping

Sleep is a basic and absolute need in person's life. An average person spends one third of his of her life, i.e. 25 years, asleep. Sleeping is an important part of health and welfare, as it can protect mental health, physical health, quality of life and safety. Good sleep quality improves education, ability to concentrate, make decisions, emotional control and creative abilities.

Sleeping takes part in regenerative processes and recovery of heart and blood vessels, weight management, food choices and improvement of immune system.

Sleep deprivation also may lead to depression, suicide, risk behavior, consumption of drugs or alcohol as a sleeping aid. Poor sleep also poses danger for drivers: sleep debt influences the ability to drive car in the same way or even more as under the influence of alcohol.

The majority of employees find less time for a sleep and contribute more time and attention

to work. This is related to a number of factors. For instance, an employee works more hours, works at home, or works in several jobs or has long business trips. This leads to an employee working more hours to fulfill the whole scope of work. But sleep deficit decreases labor efficiency of an employee, forcing him to work more hours and worsen the physical and mental body state.

Person's sleep is usually divided into four phases, which can repeat several times during the night.



First phase – falling asleep	At this stage, a person feels drowsiness and sinks into a sleep. There may be half asleep dreams or ideas of overcoming life problems (10 % of sleep)
Second phase – light, downy sleep	Muscle tone decreases, heart rhythm slows down, body temperature decreases of sleep)
Third phase is generally named "slow wave sleep"	At this stage, a person is drowned in calm, deep sleep, body rests and refreshes (20 % of sleep)
Fourth phase is a rapid eye movement (REM) sleep	At this stage, rapid eye movements of a sleeping person may be observed. In this period, breath and heart rhythm become irregular and a person may see dreams (20 % of sleep)

Recommended normal range for sleep for adults is within 7-8 hours per day.

It is recommended to avoid eating before going to bed. Two hours before sleeping you can eat only delicate food (vegetables, fruits, cultured milk products).

It is recommended to go to bed not later than 22-23 hours. For normal night sleep it is enough to sleep 5-6 hours. The most useful time for sleep is from 11 p.m. until 5 a.m.

It is recommended to sleep with your head northward (or eastward). Requirements of correct body orientation in space is related to the necessity of coordination with electromagnetic fields. Directions of movement of electromagnetic waves of earth shell and a person should coincide.

It is better to sleep on plane, solid surface. Human body bends on soft feather-bed and it leads to disturbance of blood supply in spinal cord and other organs which become pressed. Moreover, this leads to jamming of nerve terminals that may have a negative effect for any part of the body.

Healthy people would do better sleeping without a pillow or use a thin and rather tight

pillow. This keeps cervical vertebrae in normal condition, improves cerebral blood flow, normalizes intracranial pressure

The worst thing is to sleep on your stomach all the time. It is better to sleep edgewise, turning several times during the night from one side to another (turning occurs automatically) in order not to overload kidneys and other organs. Also it is possible to sleep on the back. Bedroom should be ventilated before sleeping.



STEP 8. Physical activity

According to WHO data, insufficient physical activity is the fourth death risk factor in the world. Every year about 3.2 million of people die of insufficient physical activity.

Regular physical activity is one of conditions for successful professional activity and happy life.

There are convincing scientific evidences that regular physical activity decreases risks of heart diseases, diabetes, obesity, hypertension, insult and depression. Physical activity has great influence on mental health. Regular phys-

ical exercises enhance mood, sleep, thinking, education and uptake of information.

Insufficient physical activity is the main reason for the following diseases: 21-25% of cases of breast cancer and colon cancer, 27% of cases of diabetes and 30% of cases of ischemic heart disease.

Increase of physical activity among employees may create healthier work environment, increase labor productivity and decrease absenteeism⁹.

Researches show that physically active employees are absent at work more rarely than their inactive colleagues. Employees who have at least 75 minutes of active physical exercises per week are absent 4.1 working days less in average annually.

Obviously, that increase of physical activity and, as a result, improvement of health condition, may lead to significant financial savings.

Intensity of different forms of physical activity differs between people. For physical activity

⁹Behavioral model, in which an employee is systematically absent from workplace, and avoids his duties

to benefit cardiovascular and respiratory systems, it is necessary to do exercises for at least 10 minutes.

To get better results, healthy people at the age from 18 to 65 years need moderate physical activity during at least 150 minutes per week, or high physical activity during 75 minutes per week¹⁰.



STEP 9. Social relations

Our relations both at home and at workplace take significant place in our health.

People with strong social relations much more likely live longer, than people with weak ones, and the effect is so strong that it is comparable to the influence of such risk factors as smoking, hypertension, obesity and lack of physical activity.

In particular, strong relations increase the functioning of vitally important systems, keeping people's health and preventing diseases.

¹⁰Pursuant to the recommendations of World Health Organization, <http://www.who.int/mediacentre/factsheets/fs385/ru/>

In addition to the improvement of physical health, strong relations improve mental health. Systems of social support help preventing or managing stress, depression and anxiety.

Employees with strong social relations at a workplace have increased level of work satisfaction, labor productivity, improved communication with colleagues, team spirit and commitment to their colleagues and organization. Social relations lead to an increase of confidence level and reaching common goals and exchange of new ideas, which in its turn increases the quality and quantity of work performed.

It is necessary to improve communication level with colleagues at work and other stakeholders. Take active part in workshops and training courses to enhance communication skills.



STEP 10. Workplace ergonomics

Ergonomics is a science of adaptation of a workplace and labor processes to the capabilities, size and needs of staff. Ergonomics deals with a real environment around the workplace, instrument and technology designing, shaping workplaces, work process requirements as well as a physiological and biomechanical body burden.

Ergonomic conditions may influence the psychosocial aspects of labor, person's satisfaction with the work environment, health and well-being. For instance, discomfort and mess caused by poor ergonomic conditions, make an employee more exposed to stress and psychological breakdowns, and may also strengthen somatic effects of stress.

First of all, the workplace should meet occupational safety requirements. Additionally, it should be comfortable, i.e. meet the anthropometric, physiological and psychological requirements as well as match the type of work (seated activities or standing activities).

The workplace should be organized in a way that an employee could easily move in the process of work activities, make all movements necessary for maintenance of equipment, properly acquire audio and visual information. Additionally, an employee should have an opportunity to leave his or her workplace in case of emergency.

Organize workplace in a way that the impact on spine and vision are minimized. Monitor should be at eye level, the distance from the edge of the table to the keyboard should be about 30 cm or more. The distance from a monitor to an employee should be at least 70 cm, which serves as a preventive measure for «computer visual syndrome». The height of a chair is selected in accordance with the height of an employee, that is, it should be equal to the length of the shin.

As a precaution for visual fatigue of employees, during breaks (10-15 minutes), it is necessary to do special exercises for eyes and simple physical exercises to restore ability to work.

Workplace should be comfortable and properly lit, the light field should be evenly distributed throughout the whole work space, the light rays should not fall directly in the eyes.



CHECK LIST

The beginning of the upcoming year is perfect time to challenge yourself, set goals and make decisions to achieve healthy lifestyle. We offer a list of quick and simple steps to improve your health right now.

Make changes towards healthy lifestyle and see how many steps from the list you can achieve in new year!

- **To pass annual medical examination.** Regular annual preventive medical examination is an important method to be aware of your own health. Many doctors recommend passing annual medical examinations even if you do not feel any disorders. In addition to annual medical examination, you shall pass screening examinations, visit dentist and check your eyes. Talk to your physician about what examinations you should plan every year.
- **To know your indicators.** There are 5 main indicators, which can be used to monitor your overall health condition.

These 5 numbers you should know: blood pressure, level of triglycerids, glucose, cholesterol and body mass Index (BMI). You may find out these indicators during your annual medical examination and use them to be sure that your health is in good condition during the whole year.

- **To quit smoking.** Smoking harms almost every organ in body, causes many diseases and worsens your health in general. If you smoke, please, think about giving up smoking. When you quit smoking, you will see positive changes in your state of health almost immediately. After you give up smoking, the risk of heart attack decreases in a few days, sense of taste and smell improve, lung capacity increases and breathing becomes easier. In several weeks blood circulation improves, physical activity is endured easier, respiratory symptoms such as cough and air sinus blocks are reduced. In about 5 years, the risk of lung cancer is reduced by half. Talk to your physician about how you could quit smoking.



- **To make physical exercises for 30 minutes every day.** Absence of physical exercises and unhealthy diet is the second most wide-spread preventable cause of death (smoking is the first one). Nobody is too young or too old to do physical exercises. Current recommendation includes at least 30 minutes of moderate physical exercises or from 10,000 to 20,000 steps a day.
- **To decrease the level of sodium consumption.** Sodium is an essential mineral as it can be found in all liquids and tissues in body. However, excess of sodium may increase blood pressure and risk of cardiovascular diseases and stroke. The largest part of sodium comes from fast food and restaurant products but not from the salt in a salt cellar. To decrease sodium consumption it is necessary to avoid salt in food products, such as deli meat, frozen dinners and conserved soups.
- **To lose excessive weight.** Excessive weight or obesity is a significant risk for development of type 2 diabetes and other

health problems. Nevertheless, by losing an insignificant amount of weight, only from 5 to 7% of total body weight, you can prevent or postpone the development of diabetes. Try drinking water before meals to be less hungry, use smaller plates, eat less desserts.

Do not forget to visit your physician before you make any changes in your lifestyle, to be sure that you know possible consequences and benefits of these changes.

If you do the recommended 10 steps to health – every healthy day will bring benefit not only to you but also to your family!