BUTEIKO'S METHOD

METHOD OF VOLITIONAL CONTROL OF DEEP BREATHING

Guide for Training

[Translation of *Small Buteyko Manual*]

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AUTHOR'S PREFACE

Thirty eight years have passed since I revealed that a great number of so-called "civilisation-induced diseases" widely spread now (bronchial and vasomotor spasms, allergic reactions, etc.) are caused by one and the same factor, namely, alveolar overventilation, or in other words, by deep-type breathing. I conceived the idea of diminishing the depth of respiration, i.e. its normalisation, and I became convinced that it can contribute to recovery. Experiments have confirmed this assumption, for it has been substantiated by general laws of physiology, biochemistry, biology and other sciences.

Here are the basic postulates of our theory:

1. It is known that in deep breathing a large amount of CO_2 is removed from the organism and, consequently, its content is reduced in lungs, blood and tissue cells.

Deficiency of CO_2 caused by deep-type breathing produces pH alkaline shifts in tissue cells and in the blood.

pH shift interferes with the activity of all proteins (approx. 1000) and vitamins (approx. 20) and brings about alterations in metabolic processes. Consequently, when pH reaches the value of 8 the metabolic disorders can produce a fatal result.

2. It is known that CO_2 deficiency causes spasms in the smooth muscles of bronchi, cerebral and circulatory vessels, intestines, biliary ducts and other organs. Late in the 19th century Werigo, a Russian researcher from the town of Perm, discovered a peculiar dependence: as a result of diminishing the CO_2 content in blood, the oxygen binds with the blood haemoglobin and impairs the transport of oxygen to brain, heart, kidneys and other organs. In other words, it can be described as follows: the deeper the breathing, the less amount of oxygen reaches the brain, heart, kidneys and other organs. This is precisely the law which forms the basis of our discovery but has not been appropriately appreciated up to now. The dependency revealed by Werigo has been concealed and ignored. At the same time similar regularities were discovered by Bohr, a Swedish (ed: Danish) researcher, and became known as the Bohr effect much later. Unfavourable treatment of the above dependency makes it impossible to clearly understand the theory suggested.

3. Brain oxygen starvation (hypoxia) caused by deep breathing promotes more intense bronchial and cardiac spasms. Hypoxia in vital organs is counter-balanced by the rise in arterial tension (artery hypertension), enhances blood circulation and the provision the organs with blood. Oxygen starvation in combination with overventilation produces a false feeling of air deficit, excites the respiratory centre, enhances breathing intensity and adds to the progress in disease development. CO_2 deficiency in the nerve cells excites all the structures of the nervous system thus making the process of breathing still more intensive.

As a result, oxygen starvation in nervous cells in combination with metabolic distortions and nervous system hyperexcitation brings about mental disorders, destroys

the nervous system (sclerosis of cerebral vessels) and, finally, causes a personality degradation.

Disorders brought about by deep breathing are aggravated by environmental pollution, pesticides, chemicals and drugs found in nutrition products. If assumed as such, the basic principles of Western medicine, the remedial and preventive measures based on them which widely employ deep-breathing methods just add to the development of such diseases, since the application of strenuous exercise and the administration of drugs relaxing the bronchi and blood vessels which enhance the removal of CO_2 from the body do not improve a patient's condition, but make it still worse. This is the reason why the so-called "civilisation-induced diseases" cannot be subject to treatment and are so widely spread. The discovery of the fact that the main cause of such diseases is deep-type breathing, allows to rigorously substantiate and prove by experiments the fallacy of existing remedial methods and principles.

A deep-breathing (overventilation) test suggested by the author can serve as decisive evidence that this method is true. A key point can be described as follows: a patient is offered to make his breathing deeper and to evaluate the result of a well-known command: "Take a deep breath!" In a few seconds or minutes a deep-breathing test will cause or enhance the pathological symptoms, while the reduction of the depth of respiration will remove them almost at the same rate. Thus, the only justified principle to be used for prevention and treatment is the reduction of the depth of respiration to restore the normal respiratory function.

On this basis the method of volitional normalisation of deep-type breathing or the method of volitional control has been developed. The essence of this technique is that a patient, by the exertion of will, deliberately diminishes the respiratory depth by relaxing the smooth muscles till he feels a slight deficit of air. The method can be assimilated by adults who do not suffer mental disorders and. by children aged above three.

The method can be widely used in obstetrics for matemity patients and the new-born, for teaching children the norms of physiology and for health-improvement programs. The ideas developed by the author can be widely used in space medicine, surgery (preparation to surgical interventions), pedagogics, training vocal singers, sports, etc.

To general opinion, medicine like other branches of science requires a comprehensive restructuring. The author considers his ideas and other similar progressive approaches which have been ignored earlier, as a basis for medicine-of-the-future.

The top priority objective, in our opinion, is to provide people with information concerning this method in order to stop the propaganda of the advantages of deep-type breathing in the mass media and to withdraw deep-breathing exercises from sanitary (ed: health care) institutions.

The method developed by the author will win when every human being realises that his in-born greediness (including breathing) to take more is the cause of all disasters, diseases and collapses.

K. P. Buteiko

PART ONE

METHOD OF VOLITIONAL CONTROL OF DEEP-TYPE BREATHING (VCDB)

BUTEIKO'S METHOD

I. DEEP-RESPIRATION TEST

Prior to learning the VCDB technique it is required to carry out a deep-respiration test.

1. Test Procedure

The essence of the method is that a patient must vary the depth of respiration on the orders given by the teacher (to take a deep or shallow breath).

If during the tests the symptoms of bronchial asthma, headache caused by a rise in arterial tension (ed: pressure), pain in the pit of the stomach typical of ulcerative disease, skin itching etc. are manifested, the patient is offered to diminish the depth of respiration using the VCDB method (see Section V) so as either to relieve his condition or to remove these symptoms and then to inform the teacher. The time required for removal of a certaih symptom should be recorded. If the training is conducted properly the effect will be observed in 3-5 minutes.

Then a patient is offered to make his breathing 2-3 times deeper, but not to the maximum (to avoid improper test results) and to record the time of the symptoms' emergence. Then a patient again will try to check an attack or a symptom by the VCDB method.

If a patient has not understood the essence of a testing procedure or he has not got convinced that his disease was caused by deep breathing, then the test will be repeated. In the event a patient has not assimilated the VCDB method and cannot control the breathing process (this is primarily observed in adults who suffer mental disorders or in children under 3) then he is not able to use this method.

In the course of VCDB tests it is required to follow the pulse rate variations recording its acceleration or slowing-down. If the pulse accelerates rapidly (exceeding 30 percent of initial value) or becomes more soft (fall in arterial tension) then the test should be stopped in order to avoid tachycardia or fainting which can be caused by prolonged (for more than 3 minutes) deep breathing.

If some time later a patient does not give an answer to the question "What is the reason for your disease?" as "Deep respiration" and sticks to false conclusions (like allergy, chill, psychic trauma, fatigue etc.) then it is necessary to delay a deep-respiration test for the moment until a patient gets convinced that the cause of his disease is nothing but deep-type breathing. Full understanding of the method is one of' the key factors which facilitates the VCDB technique assimilation. Otherwise neither learning nor a proper attitude to the treatment are possible.

2. Test Evaluation

The test will be considered as positive if deep respiration aggravates the patient's condition, and diminishing it improves it. A positive test is considered as a specific one if as a result of a deep-respiration test there appear the primary symptoms of a disease (asphyxia in patients with bronchial asthma, angina attack in cardiac patients, etc.), and as a non-specific one if other negative symptoms have been observed (dizziness in patients with bronchial asthma, heaviness and discomfort in lower extremities in cardiac patients, etc.).

Negative results (i.e. when deep respiration improves the patient's condition while a reduced depth of respiration aggravates it) were not registered for a period of more than 25 years.

The test allows to determine the system of a body which to a greater extent is affected by deep-type breathing. For instance, in a patient with bronchial asthma the test causes in addition to asphyxia such symptoms as dizziness, other manifestations associated with the spasms of cerebral vessels or cardiac pains (stenocardia) etc. Such a patient can possibly face an insult or cardiac infarction rather than lung damage.

The best results are obtained if a deep-respiration test is carried out on the stage of a certain (but not the topmost) aggravation of a patient's condition. The test should not be carried out if a patient has taken antispasmoic drugs or other medicine.

As has been indicated above, it is strictly prohibited to apply the VCDB method without preliminary deep-respiration tests because a patient has not yet got convinced that his disease was caused by the deep-type breathing. At the beginning of introduction of this method the effect of treatment was 2-3 times lower.

II. CONTROL, VOLITIONAL AND MAXIMUM INTERVALS. MEASURING PROCEDURE

Carbon dioxide (CO_2) content in pulmonary alveoli is determined by Table 1 in conformity with a control interval (CI) - holding of breath after a natural breathe-out till the first desire to take another breath.

Table 1.
Lungs ventilation criteria

Indices	Patient's Condition												
	Superendurance					**Norm.**	**Disease**						
Type of Breathing	Shallow					Norm.	Deep						
Level of deviation	V	IV	III	II	I	0	I	II	III	IV	V	VI	VII
CO_2 in alveoli (%)	7.5	7.4	7.3	7.1	6.8	6.5	6	5.5	5.5	5	4.5	4	3.5
mmHg	54	53	52	51	48	46	43	40	40	36	32	28	24
CI in patients who mastered VCDB or MI in beginners	180	150	120	100	80	60	50	40	40	30	20	10	5
MI in patients who mastered VCDB	210	190	170	150	120	90	75	60	60	50	40	20	10
Pulse rate per minute	48	50	52	55	57	68	65	70	70	75	80	90	100

It is recommended to measure the pulse rate, maximum and control intervals under standard conditions within equal time intervals at one and the same time (morning and evening) following a 10-minute rest to restore even respiration.

A patient should take a convenient position and an appropriate bearing (ed: posture), i.e. to draw-in his stomach and then to relax retaining initial position, looking upwards not raising his head, and to relax again.

Relaxation of respiratory muscles will induce a natural unforced breath out at the end of which the patient will slightly press (ed: pinch) his nose with two fingers, then to note the moment of holding the breath with a stopwatch, to look upwards not raising his head and - hold the breath till the first discomfort is felt (slight deficit of air); this will determine the first slight (**control) interval** of breath-out delay.

In case it is difficult to hold the breath for a longer period the **volitional interval** can already be determined - it will be a period from the first feeling of air deficit to the utmost discomfort in further holding of breathing. At the end of a volitional interval the patient must record the time again. The mouth will still be shut.

Total sum of control and volitional intervals will give a **maximal interval (MI).**

Later on it is required to measure only the control interval duration from which the C02 content is determined. Volitional and maximum intervals will be recorded only for a special purpose, for instance during unhurried running.

Correct measurement of volitional and control pause duration must not provoke deep respiration. If such is observed, it means that a patient makes a mistake by holding his breath for too long time. Therefore a prolonged delay will have a bad effect on the treatment.

The patient should never forget that the pause is not a means of treatment but serves only for respiration measurements.

A control interval allows to determine the depth of respiration (alveolar overventilation) using the following formula: depth of respiration expressed in percent is equal to the result of division of a standard control interval in a healthy individual (60s) by the control interval in a sick person, multiplied by 100. For instance, a control interval in a sick person is 15s, then

$$\text{depth of respiration} = (60/15) \times 100 = 400\%.$$

In such case it is necessary to explain that depth of respiration is 4 times exceeded as compared with the normal value, i.e. a patient with each breath inhales 4 times as much as it is necessary, making on average 40 thousand respiratory movements a day.

With control and volitional intervals the patient's volitional index can also be determined: volitional index expressed in percent is equal to the result of division of a volitional interval by the control interval multipiled by 100. For instance, the control interval is 20s and a volitional one is 10s, then

$$\text{volitional index} = (10/20) \times 100 = 50\%.$$

The normal volitional index is equal to 100 percent. If a patient has a volitional index of 50%, it means that his will is 2 times weaker as compared to the norm.

It is worthy of note that the VCDB method can be used for the strengthening of one's will.

III. INDICATIONS FOR VCDB METHOD APPLICATION

The VCDB method is administered in the following cases: availability of overventilation (deep breathing, deficit of CO_2 in pulmonary alveoli) and, as a consequence, deep-respiration disease availability.

Contra-indications (relative): mental disorders and cognitive defects when a patient is not able to realize that his disease has been caused by deep breathing and to study the VCDB method.

Note: The most suitable moment to begin training is when a patient is in critical condition, then the recovery is observed within a shorter period and the effect of treatment is more pronounced.

IV. PREPARATION OF A PATIENT FOR TRAINING

With the objective to successfully assimilate the VCDB method, a patient should be thoroughly prepared with the exception of emergency cases.

The VCDB must not be combined with other methods of treatment and the patient must refuse them. An exception is made with respect to such drugs which are generally used in symptomatic treatment to cope with bronchial asthma attacks, sharp rise in blood pressure, etc. In these cases the drugs will be prescribed in 2 to 3 times reduced doses at the first period of training so that a patient could assimilate the VCDB method in order to use it independently to cope with an attack.

Withdrawal of hormone drugs demands a specific consideration. For instance, in asthmatics it is required to determine the minimum by increasing or diminishing the hormone dose to reveal the disease symptoms (bronchial asthma) within a week and then to eliminate them by the VCDB method.

The patients should undergo a full examination with the purpose to reveal the pathological symptoms.

It is obligatory to record the pulse rate, the duration of control and maximum intervals, determine the respiratory minute volume, depth of respiration (CO_2 content in pulmonary aiveoli) with special instruments or from the Table prepared in our Laboratory of Functional Investigations.

V. VCDB METHOD DESCRIPTION

The VCDB metod consists in a gradual reduction of depth of respiration till the moment when a patient feels an air deficit and in continuously maintaining this state over the period of training.

To facilitate the memorizing of the technique a right-hand rule consisting of 5 items is used (corresponding to fingers beginning with the thumb):

1. reduction,
2. of depth
3. of respiration
4. by relaxation of the diaphragm
5. till an air deficit is felt.

The fifth item is most significant and difficult therefore it should be thoroughly explained to the patient who is learning the VCDB method.

There are three stages of intensity of learning:

1. Reduced (control) stage characterized by the level of discomfort similar to that at the end of a control interval (see Section IV).

2. Intense (maximum) stage characterized by the level of discomfort similar to that at the end of a maximum interval.
3. Middle stage - intermediate state.

The intensity of learning varies and can be changed by the VCDB teacher who controls the process taking into account the patient's condition, namely, the gravity of symptoms, stage of a disease and the need for urgent assistance in respiration correction.

As a result of proper training CI and MI will be increased by a third as compared to those before the studies.

VI. STAGES OF VCDB METHOD ASSIMILATION

Patients who study the VCDB method can take various positions (they may move or make supine, seated or standing exercises), but the training should be conducted when a convenient position has been chosen.

There are 6 stages of assimilation: theoretical studies, application of the VCDB method with the purpose of control over the pathological symptoms and attacks, preventive application for protection against pathological symptoms and the disease attacks, continuous training of volitional replacement of deep-type breathing, VCDB accuracy control made by the teacher, strenous exertion.

1. Assimilation of Theory

In the first place the patient must assimilate the following simplified representation of the deep-respiration disease theory:

1. Deep breathing brings about alkaline shifts in the body which interfere with metabolic processes, causes the manifestation of allergy, susceptibility to chill, excessive growth of bone tissues (commonly known as 'salt deposition') etc. and can provoke even the development of tumors.

2. Deep breathing produces a harmful effect since it is associated with an excessive removal of carbon dioxide and promotes a deficit of CO_2 in the body.

3. A defensive response of an organism is effected through the constriction of pathways which serve for CO_2 elimination (nasal cavity, bronchs, arteries) making a spasmodic impact on smooth muscles of intestines, biliary ducts etc, causing sclerotic changes in blood vessels and tissue cells down to complete loss of their functions. With the changes in acid-base equilibrium evidenced in Werigo-Bohr's effect (increase in oxygen affinity to haemoglobin, alterations in oxyhaemoglobin dissociation). Observed is the situation when the blood gets fully saturated with oxygen, while the cells and tissues suffer the oxygen starvation, i.e. deep breathing brings about oxygen starvation of the organism. Thus, a distinct physiological

mechanism is acting in the process: the deeper the breathing, the less amount of oxygen is delivered to the tissues.

4. Oxygen starvation causes a rise in arterial tension (ed:pressure) (hypertension can develop) so as to provide the tissues and organs suffering oxygen deficiency with blood by raising its flow rate.

5. Oxygen starvation of the body causes a false feeling of air deficit, thus making a patient's breathing deeper. But the deeper the breathing, the heavier the suffocation, and a vicious cycle is completed.

6. Sputum formation in the lungs in deep breathing is considered as a positive factor for it protects against deep breathing, while the cough is harmful as it is accompanied by extremely deep inhalation and exhalation which damage the lungs and cause heart overstrain, driving the sputum deeper into the lungs and preventing it from being excreted. The patient can cough only after he has taken a slight breath through the nose with his mouth shut if the sputum is brought up. At the diminishing of depth of respiration the sputum becomes useless and is easily brought-up if the patient is coughing as described above.

The VCDB techniques are not disclosed to the patient on the first stage of training if there are no vital indications.

The patients study the theory within 1 to 3 days, then their knowledge is checked and they are given marks according to the 5 scale system (ed: 5 point scale?). There exists a direct interconnection between the level of the theory assimilated and the effect produced by the treatment. Quick-witted patients begin to reduce the depth of respiration independently and manage to improve their condition.

Such patients who have undergone deep-respiration tests and assimilated the theory with an excellent mark are allowed to proceed with the second stage of training. Those who have not understood the theory will continue the studies.

2. Control of Pathological Symptoms and Disease Attacks

This stage of learning offers a patient who has assimilated the theory and acquired the habits of determining the depth of respiration by means of a control interval to use the VCDB method only when it is necessary to improve the condition and protect against the disease attack. If the patient's condition is satisfactory he must not use the VCDB method.

Mastering the methods of control over the disease attacks and symptoms means that a patient has assimilated the VCDB method.

The patient is obliged to keep a diary and make entries which will show his progress in VCDB. The following data should be entered in the diary:

- disease symptoms;
- all drugs and methods of treatment applied earlier and the effect produced;

- all drugs and methods of treatment administered prior to the VCDB method application;
- deep-respiration test results.

Day and time of measurements will be entered in a diary every day: the pulse rate per minute, control interval duration, as well as the patient's condition and the period required to eliminate the symptoms of a disease. Records are made twice a day - in the morning and in the evening (before going to bed). After the VCDB method has been studied, a report on the treatment results will be made.

The second stage can last for 2-3 days, but the patient can stay on this level for all his life if there is no possibility to continue learning under the supervision of a teacher who has an authority to administer the VCDB method.

If a patient manages to control the disease symptoms (attacks} for no more than 10 minutes it is considered as evidence that he has assimilated the VCDB method and can proceed with the third stage of learning.

3. Preventive Measures Against the Disease Symptoms and Attacks

On the third stage the patient is allowed to independently follow his breath and to use the VCDB method when the breathing becomes deeper so as to protect himself against the disease attacks. The patient must record the pulse rate before and after the use of the VCDB method, register control and maximum intervals and enter these three data in a diary.

4. VCDB Continuous Training

On the fourth stage a patient is allowed to continuously follow his breathing and to use the VCDB method even if his condition is satisfactory.

This stage is sufficient for a greater part of patients and serves to provide the levelling of breathing and maintaining the CO_2 level in alveoli, thus promoting recovery. This will be confirmed by the approaching of a control interval to the norm and by slowing-down the pulse rate sometimes to 50 per minute.

If further reduction of depth of respiration is not observed (i.e. there were no mistakes while training) and the symptoms of the disease have not been revealed once again (these can be observed in focal infection and unnoticed violations from the training procedure) then a patient can be moved to the fifth stage.

5. Control of Accuracy of Training

On the fifth stage it is required to fulfil all requirements of the preceding levels of training. On this stage the teacher will conduct control studies for 30-30 minutes with the recording of

volitional interval every 3-5 minutes. The worse the patient's condition, the more infrequently the control interval is measured.

Volitional interval dynamics reflects procedure errors with the utmost precision.

There are three types of evaluations:

1. A patient has not acquired the method and cannot reduce the depth of respiration since all volitional pauses (prior to, in the course of and after training) are equal.

2. A patient does not reduce the depth of respiration but makes it deeper, since the second and the third volitional intervals exceed the initial one (by the extent of an increase in depth). The intervals to follow will be reduced as oxygen starvation caused by deep breathing will grow, and a patient will provoke an attack of a disease.

3. The training is correct since the second interval is shorter as compared with the initial one (by the extent of reduction in depth of respiration).

If a patient has diminished the depth of respiration by a half, then a volitional interval will be 2 times shorter. This is rather difficult and a patient cannot endure it for too long a time - the breathing will become uneven and he will try to take a deep breath.

If the second volitional interval is by a third shorter as compared with the initial one, it means that a patient has reduced the depth of respiration by a third. This is a comparatively simple exercise and a patient can continue it for 30 minutes and more.

If a patient has been trained properly and the depth of respiration has decreased, then the third and the fourth intervals will get longer: oxygen accumulates in tissues and a respiratory centre accomodates to the increase in CO_2 content in the blood. In this case a volitional interval after 20-30 minutes of training will be by 20-50 percent longer as compared with that observed before training.

It is possible to determine the duration of training by the volitional interval dynamics. The training will last till the growth of a volitional interval is observed. When a patient gets tired this interval shortens and the training must be stopped.

Highly intensive exercise will rapidly exhaust the patient and a drop in a volitional interval will be observed in 15 minutes; less intensive exercice will shorten a volitional interval in 20-30 minutes, and weak exercise will decrease it in 40 minutes.

These three-stage single trainings accelerate the reduction of depth of respiration, but the number of them should be determined individually in dependence on a patient's condition and a supposed period of treatment.

In general, the patient is trained in the morning and in the evening before going to sleep. Training in the morning serves for an immediate control of breathing after the sleep, and the evening training is used to ensure the minimum depth of respiration before the sleep and for protection against the attack of a disease in the morning. A patient can also make breathing exercises in the afternoon if the symptoms of a disease appear. In this case he should

remember that a volitional interval is used only to check the breathing, but the main purpose is to decrease the depth of respiration. When severe attacks of a disease are removed the intensity and frequency of training ought to be reduced because, in principle, it is recommended to rapidly decrease the depth of respiration only at the first stage when a patient's state is dangerous and it is necessary to take urgent measures to control an attack and to stop the harmful impact of deep breathing as soon as possible.

The lower the rate of normalization of respiration process, the more time is required for the restructuring of common processes in the organism and, consequently, the clearance response of the body is more poorly expressed. This resembles a well-known utterance: "Don't think of a greater wealth if you have a little". In our case it means that the better a patient's condition. the less frequent are the trainings, and vice versa. Still, the patients do not follow this principle and do just the opposite: when the symptoms of the disease have been eliminated they begin to hastily enhance their activity making the training more intense. This leads to an untimely restructuring response which must be continuously controlled by an experienced teacher.

6. Exertion Exercises

A patient who has assimilated the VCDB technique and can do exercices in a sitting position must make the training more intense, i.e. to train continuously in slow, quick or unhurried running, etc.

Bodily exercices and training in walking are recommended on every stage on condition that a control interval lasts for 20 seconds and the main symptoms of the disease have been eliminated.

The less the depth of respiration, the greater exertion can be applied, but only on condition that no breathlessness is observed and a control interval after the training is longer than that before it. If a control interval is shorter it testifies to an excessive exertion.

If on some day it appeares that a control interval before the training is shorter then usually, the physical exertion is to be reduced in advance.

VII. SUPPLEMENTARY RECOMMENDATIONS

All patients should have a clear knowledge of the factors which aggravate their breathing and try to avoid them. They must independently record a control interval and try to reveal extra factors which aggravate their breathing.

Factors which enhance respiration intensity:

- false idea of the usefulness of deep respiration
- deep-breathing exercises;

- overeating (high-protein diet). The most harmful products are fish, chicken, beef, (mutton and horse-flesh are less harmful), milk products, fats (vegetable fats are less harmful), broth, fish-soup, tea, coffee, cocoa, chocolate, large amounts of vegetable proteins - beans, peas, mushrooms (yet they are less harmful than animal fats), all kinds of purified and preserved foodstuffs;
- food-borne allergens such as citrus fruits (oranges etc.), strawberries, raspberries, walnuts, tomatoes, aubergines, potatoes, honey;
- chemical agents such as domestic chemicals (moth-balls, DDT, aerosols), toxic chemicals, herbicides, synthetic varnishes, paints, most of the drug preparations (antibiotics, ephedrine, adrenaline etc.);
- hypodynamia (shortage of physical exercise);
- environmental factors such as synthetic clothes, stuffy air, overheating, slow cooling by draughts, confinement to bed, prolonged sleep;
- overstrain of the nervous system (stress), long discussions, smoking, alcohol, narcotics (second stage of action), excessive sexual activity.

Factors which reduce respiration intensity:

- starvation, reduced diet, vegetable diet, raw eating;
- sleeping on one's stomach on rigid covering, moderate physical exercise (unhurried running), fresh air (mountainous especially), massage, hydrotherapeutic procedures, endurance training (beginning with feet), steam bath (dry steam, sauna);
- comfortable nervous disposition;
- proper bearing. looking upwards without raising one's head;
- some drugs and herbs;
- tight chest bandages, corsets.

One must remember that the identification of the factors which reduce the depth of respiration with the VCDB method is a mistake, for these factors play a secondary part, but a key objective is the reduction of depth of respiration itself. That is why it is prohibited to inform a patient of the factors which reduce the depth of respiration if he has not assimilated the theory. Otherwise he will not be able to concentrate on volitional efforts to reduce the depth of respiration.

VIII. PATIENT's MISTAKES

In the course of the VCDB technique assimilation the patients make the following common mistakes:

- miscomprehend the essence of the theory and do not realize that it is the deep breathing that causes their diseases;
- forget the essence of VCDB method and get convinced that holding of breath is a means of treatment, and that control and volitional intervals are basically used for check-up;
- try to attain the results as soon as possible and begin to misuse the holding of breath thus making the respiration deeper and aggravating the situation;
- do not concentrate on the depth of respiration but pay attention to its frequency and try to prolong the intervals thus making the depth of respiration greater. If the training is

correct, i.e. the drop in depth of respiration is achieved, then at the beginning the breathing is accelerated which is an evidence of a correct training;

- during the measurement do not look upwards but follow a stopwatch trying to prolong a control interval;
- do not follow the supplementary instructions and continue to take the drugs thinking that they are very helpful.

IX. CLEARANCE REACTION (SANOGENESIS)

1. Physiological Grounds for Clearance Reaction

Deep respiration interferes with metabolic processes in cells, causes oxygen starvation, eliminates vital substances from the body (sodium, potassium, calcium, phosphorus) to compensate internal alkaline shifts, distorts immune reactions and results in the accumulation of incompletely oxidized products and substances which come into contact with incoming protein allergens and can provoke allergopathological responses.

Deep respiration impairs the functioning of kidneys, liver, intestines and other organs. As a result, a large amount of metabolites is accumulated in the organism, i.e. incompletely oxidized products, waste salts, residual drugs, toxins which cause focal infections, elevate the blood cholesterol and enhance calcium and phosphorus depositions in joints and blood vessels etc.

With the liquidation of deep respiration the metabolic processes become normal improving the excretory functions and clearing the body of harmful products. In addition, the vascular and muscle tones also become normal. but in the course of recovery all these manifestations can resemble the disease symptoms.

Since the symptoms of deep-respiration diseases (bronchial asthma etc.) have never been eliminated completely earlier, then nobody could observe the above clearance reaction prior to the VCDB method development. Nevertheless, this reaction is often observed in a greater part of patients after application of the VCDB method. Such reactions are not permanent and can occur irregularly, in cycles, depending on carbon dioxide levels reached as the result of elimination of CO_2 deficiency and its normalization, and do not depend on the training duration. Thus the organism is accumulating power for the excretion of all harmful substances formed in the course of disease and the preceding courses of treatment.

We have discovered the four main levels of a clearance reaction corresponding to 4, 4.5 5.5 and 6.5 percent of CO_2 content in alveolar air, the latter being in conformity with a control interval which is equal to 10, 20, 40 and 60 s, respectively.

Generally speaking, the clearance reactions resemble the disease reverse development (like a film rewinding). The symptoms which appear first, at the very beginning of a disease, disappear in the last turn.

2. Precursors of a Clearance Reaction

The precursors of a clearance reaction are as follows:

- growth of CO_2 content in the organism (increase in a control interval and its approximation to corresponding or a greater level);
- nervous excitation;
- superficial sleep or sleeplessness;
- rigor:
- body temperature of 39-4 IøC especially in pulmonary patients;
- headaches;
- pains in muscles, joints, intestines and other organs which have been damaged by the deep-respiration disease;
- recurrence of slightly changed old symptoms;

Before the clearance reaction occurrence the control interval becomes longer and then during the reaction period it is sharply shortened.

3. Basic Manifestations of Clearance Reaction

A clearance reaction is often accompanied by excessive salivation, eyewatering, sweating. nasal cold, sputum, pus in nasal passages, vomiting, diarrhea, frequent urinations (of red or dark-brown colour), dysmenorrhea, scaling, hair bulbs atrophy and loss of hair. All excretions can contain blood admixtures and have a smell of drugs administered earlier.

Reactions last from several hours to several weeks, but more frequently they cease in 1-2 days. The heavier the disease and the greater the amount of drugs taken earlier, the stronger is the reaction which in such case is longer.

The patient's condition can be rather unusual - through tortures he comes to recovery: high temperature, anorexia, foul-smelling, excessive sweating, abundant sputum, liquid stools, gnawing pains in bones, joints, itching especially in places of injections made earlier - all these emerge against the background of the disease symptoms manifested previously.

In about one third of patients such reactions are not accompanied by severe manifestations and are of a moderate character.

4. Personnel and Patients' Behaviour During Clearance Reactions

The teacher administering the VCDB method must foresee the beginning of a reaction and provide a patient with appropriate recommendations. This is usually done after the VCDB technique has been learnt since the recovery sometimes is observed in a few hours after the exercise.

A teacher who has been specially trained in the VCDB method application can predict the pattern of a clearance reaction for a patient from a test group for, in general, such reaction will resemble the symptoms of the disease; a number of concerned clearance pathways will be

employed in the process: abundunt sputum in asthmatics, nasal discharge in those who suffer chronic rhinitis, vomiting in patients with liver disorders, etc.

The teacher must prepare a patient for the reaction to occur so that the latter would not have been frightened, convince him to continue with training and try to eliminate the symptoms by means of the VCDB method. In some cases such symptoms are not eliminated but on the contrary get more vividly expressed after the training. It testifies to an accelerated reaction and serves as an indication for retaining the achieved training intensity. Yet the training must not be interrupted otherwise the depth of respiration will grow and the clearance reaction will not be completed. If the depth of respiration returns to initial level, then the disease will also come back. This concerns primarily such symptoms as headaches, retrosternal and other pains associated with sodium, potassium and, occasionally, with other (magnesium, calcium, phosphorus) ions deficit which have been eliminated from the organism by deep breathing. In this case the teacher will recommend corresponding preparations: sodium chloride (0,5 teaspoonful), potassium (1 g), magnesium sulfate (2 g) per glass of water (drink in little swallows until the symptoms disappear or become weaker), a teaspoonful of chalk, 2-3 tablets of calcium glycerophosphate (chew to crushes) etc. Sometimes the drug preparations which had a good effect formerly can be administered, but the dose is to be reduced by a half.

A patient ought to restrain from physical overstrain but make every effort to walk as much time as possible in the open air. Recommended is a reduced diet, but it does not concern liquids (mineral water is advisable).

The pulmonary patients whose condition is satisfactory, especially the asthmatics, are recommended to take a steam bath, the sauna being preferred (nevertheless, the patient must not interrupt the use of the VCDB method).

During the clearance reaction assistance should be provided to the organism. If vomiting, the patient should drink as much warm water as he can with sodium bicarbonate (1 g) and table salt (2 teaspoonful) dissolved in 1 litre and to induce vomiting. To eliminate constipation a cleansing enema (1-2 litres of warm water), hot shower (in a sitting position), hot-water bath (if a patient's circulatory system is satisfactory) etc. are recommended.

After the clearance reaction the patient's condition will be improved or he will completely recover if the normalization of breathing will be confirmed by the control interval indices.

X. PATIENT'S BEHAVIOUR AFTER RECOVERY

After the patient has recovered he must not forget that his disease has been caused by deep breathing. Even though his breating has been normalized, he must check a control interval in the morning (after the sleep) and in the evening (before the sleep) so as to avoid the return of. deep respiration and, consequently, the disease itself'.

In case a control interval becomes shorter and drops below the normal value the training must be renewed or made more intensive.

XI. UNHURRIED RUNNING WITH APPLICATION OF THE VCDB METHOD

Indications:

- Deficit of CO_2 in pulmonary alveoli and lack of physical exertion (hypodinamia).

Contra-indications:

- Disorders in locomotor system
- marked insufficiency of vital organs (heart, kidneys, etc.)
- the disease in progress or the rehabilitation period following acute infections, insult, infarction etc.
- excessively deep breathing (too high overventilation), shortness of breath at rest or while walking, reduction of CO_2 content in pulmonary alveoli below 5 percent
- absence of teacher's permanent control
- other contra-indications which have been specified by the VCDB teacher

1. First Stage

1) Instruction in measuring the CO_2 content in alveoli by the control interval with the help of a stopwatch and of the pulse rate control.

2) Instruction in entering the records in a diary of unhurried running schedule The diary will contain the following data:

- date
- time of training
- duration of running
- pulse rate
- breathing rate
- maximum interval after exhale before the training
- the same at the first minute after the training
- the same at the fifth minute
- the same at the tenth minute
- at the fifteenth minute of rest in walking or in a sitting position
- disposition before training
- the same after training

Patients having unstable arterial tension are recommended to record the following:

- arterial tension before the training
- the same after training including fifth, tenth, fifteenth minutes during the rest. If the unhurried running lasts more than 5 minutes then it is advised to measure a maximum interval during running following every 5 minutes.

3) Training to maintain correct bearing in a standing position, while walking and while running. A patient will come close to the vertical surface (a wall without skirting) with the back of his head, shoulders and sacrum touching the wall surface at 2-4-finger width. Feet centre of gravity will be shifted to heels and will be at a distance of 2/3 from the tiptoes and

1/3 from the ends of heels. Head and trunk will be held in such a manner as to ensure the clearance between the wall surface and the vertebral column and the neck curves exceeding no more than the palm width (3-4 cm).

Stomach will be drawn-in, all muscles not employed in running or in a static position will be relaxed.

Elbows will be at an angle suitable for a patient (80-140 degrees). The patient will look straight forward so as to see the ground at a distance of 1-2 m (limited by the lower border of peripheral vision).

The patient will breathe through the nose, but if while running such breathing becomes insufficient one should stop the exercise. Patients with a chronic rhinitis who cannot breathe through the nose should be trained preliminarily so as to restore nasal breathing.

Clothes and footwear should not be tight.

Before running it is required to walk fast for 2 to 5 minutes checking the correct bearing and nasal breathing. In case the pulse gets accelerated by more than 20 percent of the initial value and a patient cannot breathe through the nose running will be prohibited.

If a fast walking is not accompanied by undesirable symptoms it is allowed to proceed with running. The body weight should be transferred to the heels but not to the tiptoes which is considered as a mistake.

Patient should try to get pleasure from his movements for such shaking is useful for the viscera.

At the beginning the running should be as slow as possible (gradually moving forward) and its rate should not exceed that of wa!king.

The running is dosaged only by duration, the pulse rate, nasal breathing, maximum interval and the patient's status indices, but not by the distance. While running the pulse rate should accelerate by no more than 20 percent, maximum interval should not be less than 20s, free nasal breathing and a proper disposition should be maintained otherwise the running must be stopped and the patient should be trained in fast walking.

2. Second Stage

On the second stage the following primary indices are first determined: the time interval when the pulse rate does not increase by more than 20 percent, maximum interval of no less than 5s, nasal breathing, absence of arhythmia, perfect disposition. All these indices are the so-called running duration criteria. Running period can last from a few seconds to a few minutes and even for several hours depending on the level of being trained, the disease character, the patient's age and other factors.

If a patient maintains a correct bearing and observes all requirements the running will be uniform and it will be possible to prolong it by no more than 25 percent in the first 3-5 days,

then the running period can be increased by no more than 10 percent a day. The above duration criteria should be strictly observed otherwise the running should be stopped immediately.

It is recommended to avoid excessive sweatening (if such is the case, the running should be stopped) with the following slow cooling. Hydrotherapeutic procedures should be taken carefully for they add to the circulatory overstrain. Preferable is a warm-water shower taken in a sitting position with the control of pulse rate.

While running all the patients who have assimilated the VCDB technique must observe basic requirements specified by this method. They must also remember that a maximum interval measured while running and being compared with that in a sitting position is nearly a half shorter. All running duration criteria must be observed in order to stop running when they are exceeded. All questions are to be cleared with the VCDB teacher.

Those who have not assimilated the VCDB method must not make the breathing deeper deliberately, reduce its rate or change its pattern in some other way. In such case control effected in a natural way by the respiratory centre is considered to be more safe.

After training the appetite can be suppressed. It is a positive sign, and the patient should not take meals immediately but wait until he will get hungry; he should drink mineral water or simply some potable water, or the like.

Symptoms of sleeplessness observed in those who got accustomed to train in the evening must not be taken for sleeplessness as such. The patient should not make himself go to sleep, on the contrary, he is advised to use the free time and energy, being the result of training, for something he considers useful.

If CO_2 content is below 4,5 percent (control interval less than 20 s) it is recommended first to raise CO_2 level to the above value using the VCDB method and only then to proceed with the unhurried running.

If a period of running is too short, i.e. less than 2-3 minutes, then the training will be conducted repeatedly for 2-3 times a day. Total time of running will be agreed with the VCDB teacher in dependence of a patient's condition, the purpose of training and with the consideration of a total amount of daily physical exertion. On average, total unhurried running time can be considered optimal within the limits of 30-60 minutes a day. Moderate exercise for the middle-aged including walking in the fresh air must be of no less than 2-3 hours. In principle, as a person gets older the time of physical training must also increase, as only a young and healthy individual is capable of spending a lot of time in closed premises. Thus, the older the patient, the more time he must spend in the open air in movement, for it by no means can be counter-balanced by vitamins. Volume of training is calculated for each patient individually under the supervision of the VCDB teacher who must control the training dynamics.

XII. FUNDAMENTALS OF BUTEIKO'S THEORY

1. Key Issue of Discovery

The key issue of Buteiko's theory is based upon the assumption that deep breathing eliminates excessive amount of CO_2 from the organism and, as a consequence, causes changes in homeostasis which are partially counter-balanced by various defensive mechanisms. Homeostatis disturbances in the course of time are summed up (in fetus at the expense of mother's breathing) causing irregularities in biosynthesis and other processes. Condition of a patient with a reduced carbon dioxide level is aggravated by defense reactions manifested through impairment of respiratory processes and circulatory dynamics. Still, such defense reactions which obviously aggravate the patient's condition serve to protect the organism otherwise it can be destroyed much earlier.

2. First Fundamental Rule

If in the course of deep respiratory movements the rate of CO_2 removal from the body to some extent exceeds the rate of its accumulation in tissues; the process is then transformed into a respiratory alkalosis which is characterized by decrease in pCO_2 and the elevation of pH.

Respiratory alkalosis is generally accompanied by oxygen starvation which develops as a result of Werigo-Bohr's effect thus leading to formation of incompletely oxidized products in blood, and, consequently, to metabolic acidosis which to some extent counter-balances the pH deviations caused by respiratory alkalosis although such compensation is incomplete. Changes caused by these processes are as follows:

1. shift in extracellular fluid electrolytic composition;
2. pH shift in extracellular fluid;
3. as the cells participate in the pH reaction of normalization in extracellular fluid the pH shifts in them also occur;
4. as the result of the kidneys functioning associated with HCO_3^- elimination caused by the necessity of pH normalization the plasma buffer capacity gets exhausted;
5. owing to alterations in HCO_3^- cell/ HCO_3^- plasma ratio the HCO_3^- diffusion rate from a cell to plasma also changes;
6. impaired is the efficiency of the process

$$H_20 + CO_2 \ <---> \ H_2C0_3 \ <---> H^+ + HCO_3^-$$

$$HbO_2 + H^+ \ <---> \ HbH^+ \ + \ O_2$$

   owing to small CO_2 content, as there is no other acid which can compete with H_2C0_3 action in oxygen interchange reactions.
7. impairment of synthesis of aminoacids, nitrogen bases, fats, carbohydrates.

All these alterations bring about the following:

- impairment of formation of proteins and peptides, nucleic acids, lipids, carbohydrates.
- impairment of proteins action being a consequence of pH alterations, change in carboxylation intensity
- change in a body energetics (diminishing of ATFF formation {ed: ATP?})

The above disturbances cause changes in various systems of the organism. With the fall in p CO_2 and in $[H^+]$, which is the result of deep-type breathing, the respiratory centre accomodates to such concentrations, and, as a result an approved emergence of deep- type breathing is observed. Then, after the CO_2 content gets reasonably low, the organism will manifest an acute shortage of O_2 and will give a response not to the excess of CO_2 but to the deficit of O_2 by increasing the depth of respiration. This will be followed by a positive feedback leading to an increased intensity of the system action, and in the case under consideration, the breathing can get so deep that it can lead to a lethal outcome.

It is reasonable to suppose that there exist certain defensive mechanisms which protect against the excessive CO_2 removal from the body such as vasoconstriction, changes in the cardiac activity, narrowing of respiratory tract.

It is implied that a choice of a type of protection depends both on the individual properties of the organism and on the range and intensity of the processes which lead to the deepening of breathing. Therefore in a number of cases the constriction of blood vessels in a definite organ primarily occurs against the background of less developed narrowing of other vessels and organs of respiratory tract, and in some cases a complete change in a respiratory pattern and(or) in circulatory system may occur.

3. Correlation of Theoretical Conclusions and Practical Experience

Let's consider the correlation of theoretical conclusions and practical results.

In "Introduction to Clinical Biochemistry" edited by Prof. Ivanov I.I., AMS Corresponding Member (1969), it is pointed out that in patients with mitral vascular disease a distinct dependence between a level of pathology and metabolic processes in the myocardium on the IV-V stages of the disease (according to Bakulev's classification) in an auricle muscle of the left atrium and a drop in oxygen consumption, succinate dehydrogenase activity and the diminishing of creatine phosphate concentration are observed. In addition, glycolysis intensity grows and the inorganic phosphate content is raised. The same source says that in 1963 Dr. Karsanov upon studying the extracts from the myocardium in individuals who had died from chronic congestive cardiac insufficiency caused by cardiac defects, hypertension in pulmonary and systemic circuits and cardiosclerosis, revealed a fall in the total amount of actomyosin. The greater the insufficiency of the heart contraction function, the more significant was the drop in a total amount of actomyosin in the extracts from various chambers of the heart. Practically, in combined vascular disease the actomyosin reduces in the extracts from the left atrium, right ventricle and right atrium. In vascular diseases which bring about left ventricle incompetence the reduction in actomyosine content in the extracts from the left ventricle prevailed over the volume by which it has been reduced in the extracts from the right ventricle.

F.Z.Meyerson and T.P.Zayats (1960) made a suggestion that the myocardium contraction function impairment in chronic cardiac insufficiency can be attributed to irregular protein synthesis in the myocardium and to the depletion of the cells plastic reserve.

In rabbits with aortic stenosis F.Z. Meyerson and G.P. Ramenskaya (1960) revealed a considerable fall in DNA in the myocardium.

It is known, that demyelination is one of the most typical pathological processes occurring in the nervous tissue, which develop as primary disorders or are associated with other irregularities in the functioning of the nervous system. The process of demyelination consists in the damage of a compound structural enzyme-lipide complex which forms the myelin sheaths of pulp nerves and is controlled on the molecular level. It has been assumed that the process of demyelination relates to changes in lipide metabolism activity.

R.N. Pilkevich in his article "Changes in lipide metabolism in patients with some forms of dermatosis" (Proc. of the Research Centre for Dermatovenerologic Studies of the USSR Ministry of Health. 1978, N 22) has pointed to disproteinelytic shifts availability confirmed by the investigation of lipid fractions in serum by means of electrophoresis.

V.S.Schelkunov, et al. in the article "Impact of fasting-diet therapy on protein metabolism, metabolic dynamics in circulating blood and extracellular fluid in acute pancreatitis" (Acute Pancreatitis. Biochemical Aspects, Leningrad, 1978) described the development of considerable protein-volumetric alterations in patients with acute edematous pancreatitis.

The same work has plenty of indications related to protein metabolism distortions in ulcerative disease of the stomach, atherosclerosis etc.

A great many works have been written which will not be referred to herein which concern the changes in fatty acids metabolism and the reduction in O_2 absorption in coronary disease. We think it neecessary to remind of the work by I.I.Zhuravsky, et al. "Impact of carbonic acid (HCO_3^- and CO_2) level in blood on antibody biosynthesis in chicken" (Reports. Ukrainian SSR Academy of Sciences, 1981, No 8) where it has been suggested that the occurrence of metabolic acidosis in chicken impairs the antibodies formation by 12.7-32.8% as compared with the test group.

In the article "Cromoline and brochospasm caused by deep-type breathing" (Pneumonologie, 1975, 153) (1) Messerlich et al. describe the development of bronchospasm caused by deep-type breathing. Kilham H. et al. in the article "Running, walking, overventilation-induced asthma in children" have come to a conclusion that the overventilation is the cause of asthma in children.

To complete the review, we shall refer to the article by Chr. Marinov "Alterations and some mechanisms of acid-bace equilibrium irregularities in acquired heart defects" which gives a description of 76 cases of acquired heart defects and cardiac insufficiency of different stages with the availability of respiratory alkalosis combined with associated metabolic acidosis.

Upon analysis of the data obtained the authors have all grounds to confirm that the above data fully agree with the conclusions made on the basis of Buteiko's theory, that is, various diseases are accompanied by the change in pH in that very direction which is stipulated by the theory and, in addition, by the alterations of the synthesis of polymers and the oxygen absorption in the tissues.

Thus, the theory which has been developed on the basis of the intrinsic logic regularities can be represented in a number of conclusions which do not contradict the experimental results obtained independently. This means that the theory under discussion can give comprehensive

grounds for elucidation and structurization of existing empirical data related to the principles of diseases origin.

4. Second Fundamental Rule

According to the first fundamental rule the concept of a "disease" has two components:

1. The disease as an alteration of the body functions caused by a deficit of CO_2;
2. The disease as a defensive response of the organism to the removal of CO_2. As the second component is determined by the first one, then, in K.P.Buteiko's opinion, it would be quite sufficient to eliminate the disease caused by a deficit of CO_2. The consequence will be the elimination of a disease by a defensive response of the organism to the CO_2 removal.

This response can be inverted as all considered biochemical pathways can be reversed either directly or through a number of positions.

Thus, the discovery made by K.P.Buteiko allows at least to suspend the disease, to improve the patient's health at the expense of enhancement of various metabolic reactions and other related processes and to change the development of a disease till its full regression and the restoration of a primary status of the organism.

It is necessary to point out that at present the physicians concentrate their efforts (including the search for numerous spasmolytics, activators of cardiac activity and their administration, etc.) on the removal of marked symptoms of a disease which are nothing but the defensive responses of the organism to the deficit of CO_2. This, in conformity with Buteiko's theory, aggravates the primary disease caused by the CO_2 deficiency and will never lead to the elimination of the secondary disease, since the suppression of the primary disease manifestations in one place can give birth to manifestations of such in the other.

5. Method of Volitional Control of Deep-Type Breathing

To eliminate the primary disease, K.P.Buteiko offered the method of volitional control of deep-type breathing (VCDB).

As the depth of respiration decreases, the volume of oxygen entering the lungs diminishes, and the respiratory centre accomodates to the accumulating CO_2. Werigo- Bohr's effect becomes more vividly expressed, it means that oxygen is more rapidly transported to the tissues promoting the substrates oxidation and, consequently, reducing the concentration of incompletely oxidized products. The $[H^+]$ elevation as a result of VCDB method application is eliminated through the action of kidneys which on one hand enhances the elimination of H^+ ions, and on the other, impairs HCO_3^- removal. As result of this process the non-volatile acids concentration diminishes, the plasm buffer capacity grows, and in combination with the restoration of all the above-mentioned processes the primary disease can be eliminated.

6. Conclusion

Fundamentals of Buteiko's theory are based on comprehensive practical data concerning the role of carbon dioxide in vital activity of the human organism and on the concept of conversion of biochemical processes which involve the regress in the disease. The theory has been confirmed by repeated approbations in Moscow and Leningrad.

PART TWO

USSR MINISTRY OF PUBLIC HEALTH
ORDER

April 30, 1985 No 591
Moscow

On Measures to be Taken for the Introduction of the Method of Volitional Control of Deep Breathing in the Treatment of Bronchial Asthma

In recent years the non-drug therapy for patients with bronchial asthma have been applied on a growing scale. Studies carried out by a number of research institutes confirmed the validity of a modified method of a volitional reduction of depth of respiration (Author's Certificate No 1067640 issued on September 15, 1983 "Method of Hemohypocarbia Treatment") for the treatment of bronchial asthma in children and adults by combining the medicinal and physical methods.

With the purpose of further development of non-drug methods of bronchial asthma treatment the order is given to:

1. I.S.Sechenov First Moscow Medical Institute of the USSR Ministry of Public Health (V.I.Petrov) will continue the study of the volitional reduction of the depth of respiration for the treatment of children and adults with bronchial asthma, to develop recommendations for practicing physicians with the following submission to the USSR Ministry of Public Health by the 1st of December, 1985.

2. Central Research Institute of Tuberculosis of the USSR Ministry of Public Health (A.G.Khomenko), All-Union Research Institute of Pulmonology (N.V. Putov), Moscow Research Institute of Tuberculosis of the RSFSR Ministry of Public Health (A.A.Prijmak) will carry out the investigations of the volitional reduction of depth of respiration method used for the treatment of bronchial asthma in children and adults, develop teaching instructions with the following submission to the USSR Ministry of Health by the 1st of January, 1986.

3. Institute of Physiology and Pathology of Respiration in the Siberian Branch of the USSR Academy of Medical Sciences M.T.Lutsenko), Institute of Clinical and Experimental Medicine of the Siberian Branch of the USSR Academy of Medical Sciences (V.P.Kaznacheyev), Therapeutical Institute of the Siberian Branch of the USSR Academy of Medical Sciences (Yu.P.Nikitin} will carry out in 1985-1986 the investigations of the volitional reduction of depth of respiration method used for the treatment of bronchial asthma in patients with various visceral disorders, develop teaching instructions on their application with the following submission to the USSR Ministry of Health by the 1st of December, 1987.

4. Academic Board of the USSR Academy of Medical Sciences (O.K.Gavrilov) in participation with the Maternity Care General Department of the USSR Ministry of Public Health (I.I.Grebesheva) and the Remedial and Preventive Aids General Department of the USSR Ministry of Public Health (A.M.Moskvitchov) will held a Scientific and Practical Conference on "Non-Medicinal Methods of Treatment of Patients with Bronchial Asthma"in December, 1986.

5. Siberian Branch of the USSR Academy of Medical Sciences (Yu.I.Borodin) by June 15, 1985 will submit to the RSFSR Ministry of Public Health an application for supplementary budget allocations to be directed to the setting-up of a Research Group which will perform the function of a Guidance Centre to be engaged in a detailed study of the volitional reduction of depth of respiration and its application for the treatment of various pathological processes.

6. I.S.Sechenov First Moscow Medical Institute of the USSR Ministry of Public Health (V.I.Petrov) by June, 1985 will submit to the USSR Ministry of Public Health an application for supplementary budgetary allocations to be directed to the Chair of Exercise Therapy (Prof. V.A.Siluyanova) for the research of the method of volitional reduction of the depth of respiration.

7. Chairman of the Coordinating Board of the All-Union Scientific and Technical Program 0.69.08 (A.G. Khomenko) by the 1st of June, 1985 will introduce in the Program the supplementary subjects for the next 12th five-year plan concerning the study of non- drug methods of treatment to be used for the treatment of patients with bronchial asthma by the method of volitional reduction of the respiratory depth.

8. Supervision of the execution of this order will be effected by the Academic Board on Medical Studies Of the USSR Ministry of Public Health (O.K.Gavrilov), Maternity Care General Department (I.I.Grebesheva) and the Remedial and Preventive Aids General Department of the USSR Ministry of Public Health (A.M.Moskvitchov).

S.Burenkov
Head of the Ministry