

Научно-производственное предприятие

«САМОЗДРАВ»

# Комплекс "САМОЗДРАВ"

- тренажер-физкультурный имитатор
- капнометр

ТУ 9619-001-42529619-2001

EXP

# Application sheet

Developed on the base of inventions "The method of chronic hypoxia of tissues reduce"  
(Patent of Russian Federation № 2133629 of 03.04.1998)

"The method of adaptive and compensatory possibilities of an organism increase" (Patent  
of Russian Federation № 2187341 of 07.07.2000)

## 1. Function

Normal organism (organism of a healthy man) itself automatically maintains normal content of natural vasodilating substance – CO<sub>2</sub> inside. Owing to stresses and hypodynamia respiration becomes excessive and there appears a lack of CO<sub>2</sub> in organism with ages. Therefore blood vessels contract and blood supply of organs breaks, arterial pressure (AP) increases, heart load rises what causes appearance and development of hypertension disease, heart ischemia (lack of blood supply), stenocardia, arrhythmia, bronchial asthma, chronic bronchitis, pancreatic diabetes of the second type, stomach ulcer, gastritis, arthrosis, osteochondrosis, adiposis, constipations...

It is possible to eliminate illnesses and necessity of taking vasodilating preparations only by restoring of normal carbon dioxide content in blood. TGI is intended namely for this purpose.

## 2. TGI device

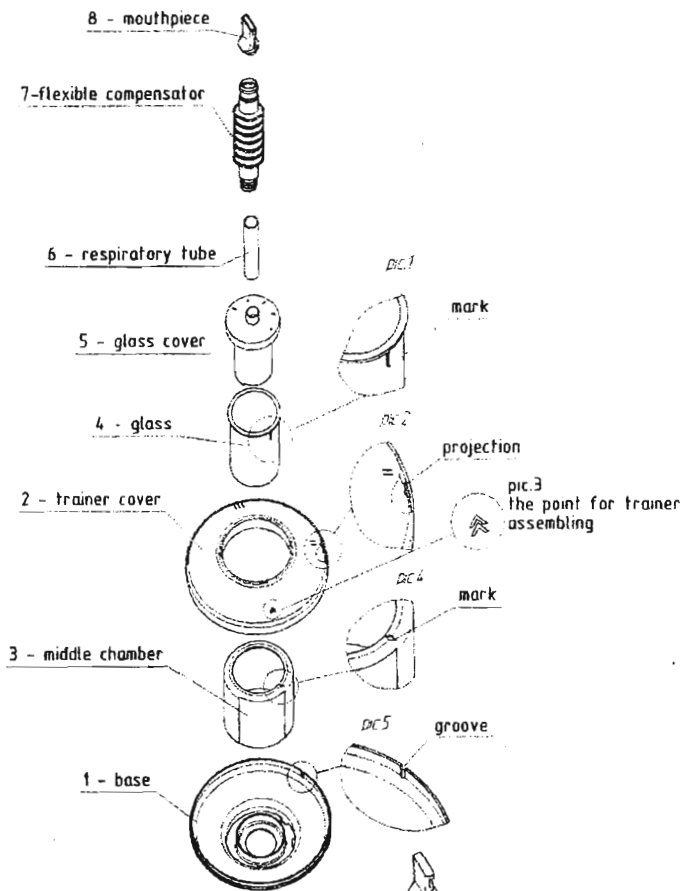
TGI trainer consists of three chambers, directly connected with respiratory tube. Internal chamber allows to regulate physical activity of an organism. External chambers are necessary for increase of carbon dioxide concentration and decrease of oxygen concentration in inspired air mixture.

Course of TGI exercises is divided into several stages. You should not make breaks between stage

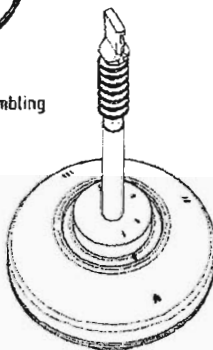
## 3. The trainer assembling

The trainer consists of;

- point 1 Base
- point 2 Trainer cover
- point 3 Middle chamber
- point 4 Glass
- point 5 Glass cover
- point 6 Respiratory tube
- point 7 Flexible compensator
- point 8 Mouthpiece



The trainer assembling



Assembled trainer

### 3.1. The trainer assembling on the first stage

On the first stage of the trainer use it is assembled in simplified form.

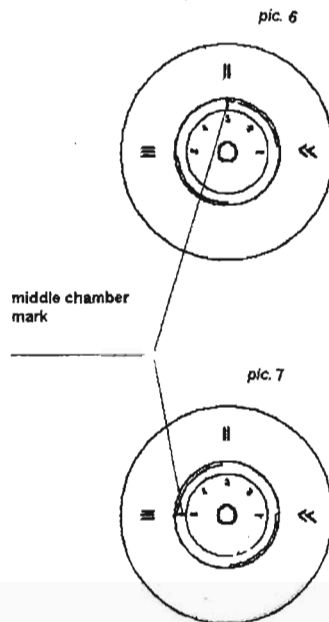
- Glass cover is inserted into glass in such way that glass mark matches with number 1 on the cover.
- One tail of respiratory tube is connected with glass cover projection and other with flexible compensator.
- Mouthpiece is connected with flexible compensator.

*Middle chamber, base and trainer cover are not used on this stage.*

### 3.2. The trainer assembling on stages 2-4

The trainer is assembled according to scheme on the page 2.

- The trainer cover is put on the middle chamber in the way that:
  - on the 2-d stage number II on the trainer cover matches with middle chamber mark (see pic. 6)
  - on 3-4 stages number III on the trainer cover matches with middle chamber mark (see pic. 7).
- Base is connected with the cover. Therewith projection of internal side of cover rim (pic. 2) should get into slot of base rim (pic. 5).
- Middle chamber is fixed on the base by pushing it from above up to the stop.
- Glass cover is inserted into a glass in the way that glass mark matches with number 1 on the cover.
- Assembled glass is dropped through middle chamber hole and inserted into the base in the way that glass mark matches with mark of the trainer assembling (in this position glass is firmly fixed in assembled construction).
- One tail of respiratory tube is connected with glass cover projection and other with flexible compensator.
- Mouthpiece is connected with flexible compensator.



### **3.3.Features of the trainer assembling on the 4<sup>th</sup> stage**

Before training you should fill up the glass with 3 tablespoons of warm boiled water.

Only on this stage:

After 15 days mark is placed onto number 2 of the glass cover.

After 15 days mark is placed onto number 3 of the glass cover.

After 15 days mark is placed onto number 4 of the glass cover.

*Remark: after every exercise on all stages don't forget to was TGI with flowing water and once a week with detergent for dishes.*

### **4. Duration of stages**

Counting of the stage duration is stated with the first exercise of 20 minutes and more.

Quantity and duration of stages depends on health level and age of a person.

**For children (under 10-12 years)** stages 1,2 are in one month, stage 3 is no less than two months (stage 4 is excluded).

**For persons under 70 years** stage 1 is in one month, stages 2,3 are in one and a half of month, stage 4 is two months.

**For persons older than 70 years** and those younger but having short breathe or regularly taking vasodilating (“against pressure”, “against heart”) preparations stages 1,2 are in one and a half of month, stage 3 is no longer than three months. Stage 4 is excluded

### **5. Method of training**

**Breathing should be only through mouth.** Nose is entirely closed by hands, cotton pellet or special clip.

**Body position should be free.** You can lie on 1,2,3 stages. Respiration condition is usual: respiration is even, calm, without strains and hold-ups. The main demand is that inspiration should not be deep and expiration should not be fast and cutting.

**Minimal duration of one full training** should be 30 minutes continuously, **maximal** should be 60 minutes continuously.

Duration of the first training on each stage is 10 minutes. You should add one minute each following day (i.e. 11 minutes, 12 minutes).

**Attention:** for persons older than 70 years and those younger but taking medicines regularly it is advisable to start first trainings of each stage from 3 minutes. They should add one minute each following day (i.e. 4 minutes, 5 minutes) up to 30 minutes.

There shouldn't be any efforts during training. If there arises condition of "air shortage" or acute itch to stop breathing with the trainer than training should be stopped.

**Periodicity.** Trainings can be conducted once a day at any convenient time before meal or 2-3 hours after.

In order to achieve maximal result it is advisable to conduct two trainings before breakfast and before sleep.

Persons with essentially increased AP on 2 and 3 stages are advised to conduct three trainings (before breakfast, before dinner and before sleep) and gradually increase their time up to 40 minutes.

**After AP is lowered and stabilized you should conduct two 30-40 minutes trainings in the morning and before sleep.**

Hypotensives should start each stage with 1-2 minutes and should not hasten to add minutes (one minute in two-three days). If lower (diastolic) AP is lower than 60 mm, they should exercise only before sleep.

## **6. Training continuation**

After passing all stages it is advisable to continue 30 minutes exercises constantly 1-2 times a day.

If your last stage is the 4<sup>th</sup>, there are following variants:

- To use 4<sup>th</sup> condition with putting the glass cover on one of the numbers (1, 2, 3 or 4) which has made exercise the most comfortable.
- To use 3<sup>rd</sup> condition, i.e. with a number 1 on the glass cover.

If you left off exercises and didn't proceed for more than 3 months, you should start with the 1<sup>st</sup> stage though you can pass the course in accelerated way – each stage should be no less than one month. If interval is less than three months you should recommence exercises from the stage preceding those you left exercises off.

In case you left off exercises after all assigned stages you should check CO<sub>2</sub> concentration once in two months with capnometer. If CO<sub>2</sub> concentration reduced noticeably you should make 30 minutes exercises with the trainer 2 times a day until CO<sub>2</sub> concentration rises up to the level you had had before you left off exercises.

## **The device to determine carbon dioxide CO<sub>2</sub> concentration in arterial blood**

Carbon dioxide CO<sub>2</sub> concentration in arterial blood in dormancy\* is the key index which most generally detects abnormality of basic physiological and biochemical processes in human organism. Level of blood supply (oxygen supply) of all organism cells depends exceptionally on CO<sub>2</sub> concentration in arterial blood. Blood shortage (tissue hypoxia) is the prime cause of most widespread chronic illnesses.

\* dormancy is implied as organism condition just after sleep or after prolonged (no less than 40 minutes) immobility period.

CO<sub>2</sub> concentration is determined by measurement of pulmonary ventilation according to RMV (respiratory minute volume) index – volume of air (litres) a man inspires (expires) for a minute. CO<sub>2</sub> in arterial blood and RMV are connected by interdependence known from human physiology.

RMV is measured by this device in the following way.

Chamber of measuring device has fixed capacity (13 litres). A man fills the chamber at common calm respiration with expired air. Simultaneously filling time of the chamber (13 litres) is determined by stop-watch or second hand of watches.

RMV index is determined by dividing the chamber volume (13 litres) by filling time. For example, if the chamber is filled in 2 minutes, RMV will be  $=13:2 = 6,5$  litres per minute. If it is filled in 3 minutes RMV will be  $=13:3 = 4,33$  litres per minutes.

RMV index and CO<sub>2</sub> % subject to filling time of the chamber is determined by table (p. 15).

### **The device pre-starting procedure.**

The chamber is convolved, i.e. there is no air inside. Respiratory tube connected with mouthpiece (from the trainer set) is inserted into dispenser hole with certain effort.

### **Application order of the device.**

Measuring procedure is made in sitting position. Nose is closed by fingers, clamp or cotton pellets. Mouthpiece is taken in mouth. Respiration is mouth, common and natural.

**You should not deliberately “puff up the sack”. Inhalation and exhalation are made through the tube.**

The purpose of the procedure is to determine filling time of camera by common quiet breathing!!!

Start of breathing is fixed by switching of stop-watch or by watches. The moment of camera filling by expired air is determined visually (all “creases” are stretched). It gives a signal to stop breathing through the apparatus. Filling time of camera is determined. Measured interval is found in first column of the table and respiratory minute volume (RMV) and CO<sub>2</sub> % are determined in obtained line. After measuring procedure air exhaust valve needs to be pushed and held to bleed camera.

RMV can change within 10-40 % during a day depending on emotional state, food intake, physical activity, so RMV should be measured in the morning after sleep.

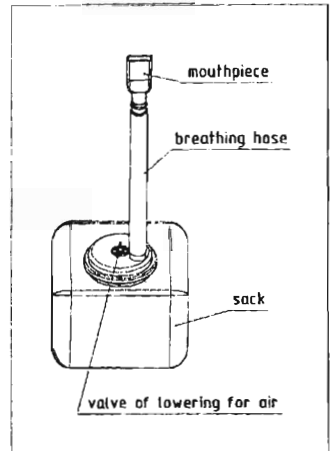
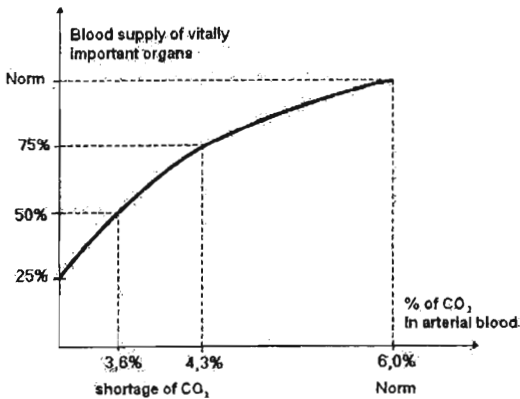
Regularly leading breathing séances with the trainer RMV will gradually go down to individual physiological norm (about 4 liters per minute) during several months. Though measuring regime once a week, for instance sometimes will show measuring results higher than in previous week due to error which are made by the organism objectively.

Pending physiological recovery of the organism following to exercises with the trainer filling tome of camera will increase during several months, accordingly RMV index will reduce and CO<sub>2</sub> concentration in arterial blood will increase. This will continue until organism comes to a condition which can be named your normal, i.e. to a condition which provides normal course of physiological and biochemical processes. In this condition change of all measured parameters will stop, what means restoration of normal physiology of your organism.

**Attention! Do not disjoin camera and dispenser.**



Time Min. sec	RMW L / mia	CO <sub>2</sub> %	Date of measurement
1min 00sec	13.0	3.3	
1min 10sec	11.1	3.6	
1min 20sec	9.8	3.8	
1min 30sec	8.7	4.0	
1min 40sec	7.8	4.2	
1min 50sec	7.1	4.4	
2min 00sec	6.5	4.6	
2min 10sec	6.0	4.8	
2min 20sec	5.6	5.0	
2min 30sec	5.2	5.2	
2min 40sec	4.9	5.4	
2min 50sec	4.6	5.6	
3min 00sec	4.3	5.8	
3min 10sec	4.1	6.0	
3min 20sec	3.9	6.2	



## **Additional recommendations**

Normal organism automatically supports necessary carbon dioxide concentration (6-6,5%) in arterial blood. Inherently carbon dioxide is natural internal vasodilating. At its normal concentration in blood vessels are hold in normally dilated condition, what guarantees normal heart load and normal blood supply of vitally important organs.

With ages carbon dioxide in blood reduces under the influence of stresses and hypodynamia, so appropriate vessels contraction with their gleam reduction happen. Blood supply becomes worse and heart load rises.

TGI trainer allows to recover perfect tuning of an organism. In the issue of training carbon dioxide concentration approaches to normal in several months. Normal blood flow is restored and heart load is taken away. All those illnesses which spring up from blood supply violation and heart overload. Ischemic stroke and myocardial infarction threat decrease.

### **Recommendation to hold trainings:**

1. During training you should maintain even, natural, quiet breathing. "Breathe as it is", i.e. you should not pay especial attention to "respiration process". During training you should keep breathing as if without the trainer.

If it is impossible, you should reduce time of the séance or temporarily pass to the next stage. Exact execution of recommendations to increase gradually the séance duration guarantees an organism to get gradually accustomed to the training influence.

Smoothness and graduality are the main distinction of this method from all early used, where component of voluntary interference in respiratory process certainly existed. This method completely excludes undesirable influence on an organism.

2. You should have training fasting or 2-3 hours after food intake.
3. The training should not be accompanied by any exertion. Don't conduct a séance:
  - obviously irritated;
  - in state of psycho-emotional stress.

To get relaxed it is additionally advisable to take 20-30 drops of Korvalol, Valokordin or 2 pills (or 30 drops of tincture) of valerian root and take a glass of pharmaceutical herbal harvest or one teaspoon of honey dissolved in 0,5 glass of warm water 10-20 minutes before the séance

4. If all the rules given in instruction are executed sequentially and correctly, than person hasn't to make any physical or volitional efforts during the séance. During the séance person doesn't feel any changes in his ordinary state, though breathing through the capnicator.

Attention: don't try to "quicken the process", "get sensible load", i.e. in defiance of instruction to make breath-holdings, intensify breathe, pass from stage to stage prematurely, etc. Don't run unnecessary experiments!

The so-called "sensible load", "attempt to quicken the process" have always brought instruction violator to one of following negative consequences:

- abrupt deceleration or stoppage of recovery process:
- worsening of reached indices.

Explanation: human organism is very complicated self-tuning "biological machine". Organism needs certain time to make changes in its activity. Take for example, acclimatization process when moving to another region with different climate, quickly crossing several time zones, climbing uphill, etc.

5. The process to restore normal carbon dioxide composition of arterial blood and make vessels' gleam normal takes 4-10 months. The older a man is, the longer should be the course and time to get an effect. Account also must be taken of the fact that organism needs several months after restoration of vessels' gleam, improvement of blood supply of vitally important organs and heart overload removal to restore: to carry out regeneration processes (restore joints, spine and vitally important organs), compensate (indemnify) impaired functions. Don't expect "prompt effect" as the course is deliberately intended for 4-10 months and "recovery work" takes additional several months .
6. At the beginning of exercises one third of patients have sanogenesis reaction. It is clearance of an organism, aimed to restore its disturbed functions. It resembles the disease symptoms. Increased salivation or dry mouth, nose discharge, lacrimation, frequent urination, liquid stool, possible AP rise appear.

This effect usually lasts 1-2 weeks since the beginning of exercises or passage from one stage to another. You shouldn't stop trainings. If AP rises than 20 mm Hg more it is necessary to take medicines a patient used to take. After reaction of clearance considerable health improvement comes.

In some sufficiently rare cases there can be barriers which impede carbon dioxide concentration to increase up to normal in an organism.

After "Samozdrav" complex influence on an organism there should be planned decrease of RMV and appropriate planned increase carbon dioxide concentration in blood. If RMV decreases insignificantly as the course is exercised, we advice the following.

You should take valerian pills daily for three weeks (no more than 6 a day), make walks within your powers. Try to master relaxation technique. With a glance to hyperreactivity state, take a course by following procedure.

Each stage start with 3-5 minutes séance adding 1 minute each day or every third day. After reaching 30 minutes pass the stage in 1,5-3 months. There should be no tension when passing the séance. Conduct it totally relaxed in reclining position, put legs on small eminence. Before the séance and afterwards lie down for 7-10 minutes and relax completely. If you can't relax, take sedatives 20 minutes before the séance. Complete relaxation is an indispensable condition because any tension causes adrenalin excretion into organism. It is vasoconstrictive which to invalidates positive effect of each séance.

### **Influence of organic disturbances**

By the old age there accumulate some organic (irreversible) age-related changes in an organism, which can not be removed by any means. In this case "Samozdrav" provides rising of organism natural forces to compensate organic changes and improve life quality. For example, even if norm of carbon dioxide concentration in an organism is reached, AP often remains "increased" at this age. In fact organism itself determines this AP, which appears to be normal, because it is the only that ensures the best of possible blood supply of brain and heart through vessels sclerosed by the old age.

In very rare instances there are organic causes in an organism owing to which increased up to normal CO<sub>2</sub> doesn't fully make its usual beneficial impact on an organism. It is presenile sclerosis of vessels (by 75 yaers), which makes vessels similar to tough plastic tubes.

Though there is also a great advantage of using "Samozdrav" complex in this case. Arterial pressure becomes stabilized on the undermost of possible levels. Pressure "jumps" have not already been found. This AP can not be reduced by pills as if decreased, it would make blood supply of brain worse and threaten by ischemic stroke.