

## DEAR FRIENDS!

This booklet is issued for users of Electrostimulator «ABP-051» for the arterial blood pressure correction. Is this device unique? Half-and-half. From the one hand, the method of non-invasive electrostimulation is not new, it is applied quite for along time and its efficiency has been tested and proven many times. From the other hand for the first time it was perfected, programs of treatment were checked and completed and this device was made multifunctional, comfortable, compact and absolutely safe.

The content of this booklet helps to understand the principles of device's work and use the device with maximal efficiency.

110/70

mm Hg

LOW

120/80

mm Hg

OPTIMAL

130/90

mm Hg

BORDER-LINE

140/90

mm Hg

HIGH

## THIS UNCERTAIN PRESSURE

Cardio-vascular system is one of the essential systems of our body. It cannot stop for a second. To speak technically, the cardio-vascular system is a giant net of pipelines, which provides organs and tissues with oxygen and nutrients.

If you stretch the vasculature into one line, it would be more than hundred thousands kilometers. It is true, that pressure is needed to pump the blood through this «pipeline». Life is impossible without arterial pressure. Moreover, everyone needs to have optimal arterial pressure for good state — and long life.

ARTERIAL PRESSURE IS MEASURED IN MILLIMETERS OF MERCURY AND IS EXPRESSED IN TWO FIGURES — LEVEL OF SYSTOLIC PRESSURE AND LEVEL OF DIASTOLIC PRESSURE. THESE FIGURES ARE THE «UPPER» AND THE «LOWER» CHARACTERISTIC OF PRESSURE.

120/...  
mm Hg

### UPPER PRESSURE

— is the force of blood pressure towards vascular wall during systole, heart compression.

.../80  
mm Hg

### LOWER PRESSURE

— is the force of blood pressure towards vascular wall during diastole, heart relaxation.

## HOW TO REGULATE THE PRESSURE?

If the heart is the only one pump of cardio-vascular system, it is quite logical to believe that more or less active heart work results in rises and drops of blood pressure because of increase or decrease of cardiac rhythm and volume of cardiac output.

Actually, is not true. Heart work affects the pressure insignificantly. Vascular tone has more effect towards pressure. Diameter of blood vessel is not constant. According to circum-stances they can expand or coarct. They are fitted by unstriated muscles. Fast

changes of pressure are caused by spasm or relaxation of these muscles.

The changeability of vascular tone is necessary for adaptation of men to environment conditions, loads and stress. However, when this changeability is excessive, when vessels change its diameter without reason, it is a problem. Fortunately, they can affect the vascular tone either with drugs, or with devices, that help to correct blood pressure and achieve appropriate figures.

In which cases the blood pressure should be corrected? For example, if blood pressure is low and a person feels bad. However, first, high blood pressure needs correction. High blood pressure is also called **HYPERTENSION**.

Hypertension, also known as high blood pressure is the main problem of global public health. Cardiovascular diseases, which amounts about a third of all fatal outcomes, cause almost 17 millions of fatal outcomes per year, hypertension complications cause 9,4 millions of all fatal outcomes worldwide per year.

WHY THE **HYPERTENSION** IS SO DANGEROUS?

FIRST OF ALL, THE MAIN DANGER IS IN ITS COMPLICATIONS.

HIGH PRESSURE DESTROYS THE WHOLE BODY, EVEN IF THE FIGURES ARE NOT VERY BIG. THE SO CALLED «TARGET ORGANS» SUFFER FROM HIGH BLOOD PRESSURE.

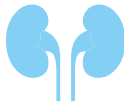
# TARGET ORGANS OF HYPERTENSION



Brain



Heart



Kidneys



Vessels

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## BRAIN

Vascular spasm, caused by high blood pressure, damages the blood circulation in small vessels of brain and it can lead to acute and chronic malfunctions in future: memory impairment, attention focusing, sleep pattern, etc.

## HEART

High blood pressure can cause cardiac abnormalities, coronary heart disease, that leads to heart attack.

IT IS HIGHLY IMPORTANT TO KNOW, THAT COMPLICATIONS CAN PROGRESS FROM ALL FORMS OF HYPERTENSION — MILD, MODERATE AND SEVERE.

THE SOONER THE TREATMENT IS STARTED, THE LESS IS THE POSSIBILITY OF COMPLICATIONS. MAINTAIN THE BLOOD PRESSURE ON AN APPROPRIATE LEVEL AND AVOID THE COMPLICATIONS.

## **KIDNEYS**

Kidneys may suffer not only from high blood pressure; also, they are damaged by rapid pressure reduction. The pressure cannot be reduced for more than 25% from the initial level.

## **VESSELS**

High pressure damages delicate vascular walls. It can result in sclerosis of small and then large vessels, fragility of vessels and can lead to a risk of hemorrhage.

## WHAT ARE SIGNS OF HYPERTENSION?

They say that high pressure is always accompanied by headache, palpitation, ear noise or bad general state. However, it is not true. In truth, all these symptoms can be caused by other reasons. What symptoms does arterial hypertension have? Unfortunately, this disease does not have any obvious symptoms. The only way to detect hypertension is the measurement of blood pressure with tonometer. If your results are 140/90 or higher twice a year it makes the reason to suspect hypertension and to see a doctor.

That is why the person, who doesn't measure his/her pressure, risks to find out this disease in resuscitation, when the person would suffer from severe complications — heart attack, stroke, cardiac and renal insufficiency, thrombosis, etc.



IF YOU FEEL GOOD, WHILE THE FIGURES OF BLOOD PRESSURE ARE HIGH — IT DOES NOT MEAN THAT YOU DO NOT HAVE HYPERTENSION. IT MEANS THAT YOU HAVE NO SYMPTOMS AND THE DISEASE COURSES IMPERCEPTIBLY.

### «DAILY PRESSURE»

Doctors insist that the concept «daily pressure» should be set aside. Daily pressure means the level of pressure when patient feels good. There is no such a term nowadays. Blood pressure can be below, normal and high. If you have high figures of blood pressure, you have hypertension, regardless your state.

### «JUMPING PRESSURE»

Concept of «jumping pressure» should have the special emphasis.

Doctors frequently hear the following «I don't have hypertension, only jumping pressure». Unfortunately, precisely these patients end up in hospital after stroke. The first reason is since «there is no hypertension», the patient does not have any treatment. The second reason is that abrupt change of pressure, either rise or fall, leads to a risk of stroke. It is strange, but the risk of stroke is less for those patients who have stable high blood pressure, than for those who have unstable pressure.

# HOW TO MAINTAIN THE BLOOD PRESSURE?

## BLOOD PRESSURE DIARY

Each measuring should be note in a journal of pressure observation. Mark those days when you felt bad with red pencil, or put other sign. Always take the diary with you when you visit a doctor.



- ✓ Date /Time
- ✓ ABP of the left hand
- ✓ ABP of the right hand
- ✓ Pulse
- ✓ State of health

## TONOMETER

Everybody should have device to measure blood pressure at home — tonometer. Tonometer is necessary if your relative has hypertension. You cannot treat hypertension without constant control of pressure, as well as without blood pressure diary, which you should show to your doctor.

What kind of tonometer is appropriate? According to opinion of majority of doctors, the automatic tonometer with a shoulder cuff is the most convenient for home use. It is quite precise and simple in use.

EVERY PERSON, EVEN HE/SHE DOES NOT HAVE HYPERTENSION, SHOULD MEASURE THE PRESSURE FROM TIME TO TIME. IF THE DIAGNOSIS IS SET, THEY SHOULD MEASURE THE PRESSURE DAILY AND KEEP BLOOD PRESSURE DIARY.

## PRESSURE MEASUREMENT

Do not drink coffee, strong tea or smoke before measurement. Take off or weaken compressive parts of clothes — ties, belts, corsets.

Sit comfortable, put on the shoulder cuff (do not put it on the shirt-sleeve), put the hand on the table, relax it, then press the button and

wait while the measurement is continued.

Sometimes the results of measurements can differ on different hands. In that case, fix the highest result. Blood pressure control is the best prevention of hypertension.

## IS IT TRUE, THAT HYPERTENSION IS UNCURABLE?

HYPERTENSION IS A DISEASE FOR ALL YOUR LIFE, WHICH YOU CANNOT CURE, BUT YOU CAN AND SHOULD CONTROL IT TO AVOID COMPLICATIONS.



Unfortunately, there are no scientific methods to treat hypertension once and for all times. This diagnosis is for all life, and if you have it you should study how to live with it and keep it under control. There is an exception — when another disease causes hypertension.

You can avoid hypertension if you notice it at once, when you have no complications, target organs are not damaged, and there are no other signs. However, this would

take serious efforts. You will have to get rid of excessive weight, limit salt and, what is more important, increase your physical activity.

In addition, it is highly important to avoid stress, since it leads to increase of blood pressure. If the stress lasts for a long time, the high pressure becomes chronic. If we detect the hypertension late, it

becomes not enough to change the way of life, it is important to control pressure and maintain it on the appropriate level with the help of treatment. It does not matter by what means you decrease the pressure level, it is more important that these means are effective, safe and available, since you need to use them every day during all your life.

**HYPERTENSION IS SERIOUS THING. IT IS A SERIOUS DISEASE, AND ITS NEGLECTING IS FATAL.**

## HOW TO TREAT THE HYPERTENSION?

APPROXIMATELY 10% OF PATIENTS HAVE SECONDARY HYPERTENSION, IN OTHER WORDS OTHER DISEASE CAUSES IT. 90% OF PATIENTS HAVE PRIMARY OR ESSENTIAL HYPERTENSION, IN OTHER WORDS IT HAS NO OBVIOUS REASONS



Every treatment starts from diagnosis. The treatment of hypertension starts from advanced survey: you need to detect the form of hypertension, level of complication risk, find out whether the target organs are damaged and whether the hypertension is a symptom of other disease, which can be cured.

## TREATMENT OF HYPERTENSION, DEPENDENTLY THE DEGREE

### I DEGREE

from **140/90**  
up to **159/99**

*Patient has no complaints about state of health. At the beginning of treatment, a doctor may recommend to change the way of life: saltless diet, physical activity increase, giving-up smoking, abuse of coffee and alcohol.*

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### II DEGREE

from **160/100**  
up to **179/109**

*Patient complains rarely to palpitation, lassitude, flabbiness, nausea, etc. It requires not only change of the way of life, but also additional treatment with the use of drugs.*

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### III DEGREE

from **180/110**  
**and higher**

*The pathological changes of health state. Doctor prescribes drastic medicines and increases the doze. When the disease develops into a severe form, the surgery may be required.*

# WITHDRAWAL SYNDROME

Sometime the drugs you use may cease to help. This is so called «withdrawal syndrome» that is familiar to doctors. In that case, you should correct your therapy with

your doctor. The usage of drugs along with physiotherapy (e.g., with Electrostimulator ABP-051) helps to postpone or even elude the «withdrawal syndrome».

## REMEMBER ABOUT THE SIMPLE MEANS TO PREVENT THE DEVELOPMENT OF HYPERTENSION



Limit  
the salt



Increase  
the activity



Lower the  
body mass



Avoid  
stress



## PRINCIPLES OF EFFECT?

The device ABP-051 is assigned to exert influence (upon) reflexogenic zones of body which situated on a wrist by an electric current of different frequencies for correction of the arterial pressure.

Stimulation by an electric current is the most universal way of excitation of receptors, triggering a cascade of regulatory and adaptive mechanisms of the body. The electric current is easily dosed in amplitude, it makes it possible to control the frequency of pulses, their

Transcutaneous Electrostimulator  
for arterial pressure normalization  
ABP-051



duration, shape, polarity and, finally, is an adequate stimulus for excitable tissues.

The researches show, that during electrostimulation there is a change of impedance of sub-electrode skin zone, as well as changes in heart rate variability, e.g. tension-time index by R.M Baevskiy\*, indicating high sensitivity of the regulation system to the electrical impact. They can selectively influence the regulatory system of body to restore homeostasis during electrostimulation by chan-

ging of frequency while the impulse height can be hardly felt.

The type of disease and comfortability of device usage at work, at home define the choice of points of impact, during the course treatment. The stimulation is conducted with pulse packet, the quantity of pulse packets corresponds to a set of frequencies to correct the arterial pressure. The effectiveness of treatment depends on patient's state before treatment and treated reflexogenic zones.

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\* Baevsky, Dr. scient. med, an honored scientist, senior researcher of State Scientific Center RF of Biomedical Problems Institute. The author of 400 scientific papers, 18 monographs and 14 patents of heart rate variability.

## HOW THE EFFECT OF BLOOD PRESSURE CORRECTION IS ACHIEVED?

Patient does not get used to the treatment by electrostimulation, moreover the impact of device ABP-051 has low intensity and duration, which can increase tolerance and make procedures safe. The clinical efficacy of blood pressure correction via electroneurostimulation is proven by numerous practical results and clinical studies published in specialized medical publications.

It is true, that regulation of arterial pressure depends on different facts, connected with genetics, stresses, nutrition and way of life. The incre-

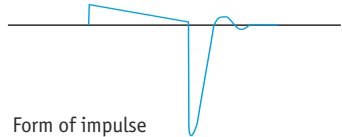
PRIMARILY, THE DEVICE INFLUENCES THE VASCULAR TONE. AT THE SAME TIME, THE DEVICE DOES NOT HAVE ANY IMPACT ON THE VOLUME OF CARDIAC OUTPUT OR CARDIAC RHYTHM.

ase of vascular tone or increase of rigidity of vascular walls, increase of intensity of neuronal regulation, quantity of sympathetic charges towards muscle vessels have certain dependences. The change in diameter of small vessels for a part of micron can affect quite essentially

the blood pressure, since the total volume of bloodstream is changed. Blood pressure increases during vascular spasm and decreases during its relaxation.

The device has practically no impact on the cardiac output and rate. The heart rate may be slightly reduced during the procedure in case of hypertension, but the only reason is reduced stress on the heart by lowering the pressure.

Nervous system is a bioelectrical system; electric impulses transfer its signals. During the procedure, the device forms electric impulses that are similar to natural electric signals. They influence those cen-



Form of impulse

tral systems that control cardiovascular system, particularly the vasomotor center in the medulla oblongata. It has two parts: pressory and depressory. Thus, there is a release of biologically active substances affecting the tonus of vascular nonstriated muscles.

Vascular nonstriated muscle cells respond by increase or decrease of tone, depending on the selected program.

## RULES OF USE THE DEVICE ABP-051

PHYSIOTHERAPY WITH THE DEVICE ABP-051 IS EFFECTIVE ON EVERY STAGE OF TREATMENT TO CORRECT THE PRESSURE, IMPROVE THE STATE OF HEALTH, DECREASE OF MEDICAMENT LOAD AND IMPROVE THE QUALITY OF LIFE.

The patient needs consultation of the physician, general tests, blood test for sugar and cholesterol, consultation of ophthalmologist (the damage of vessels can be detected while examination of eye ground), cardiogram, and also daily monitoring of pressure — observing of pressure and pulse pending on round the clock. This survey allows

detecting at what time the pressure increases, what are the maximal figures, whether the variations pending twenty-four-hours are big or not.

Sometimes, especially in a bad case, the patient may need to consult other doctors — neurologist, vascular surgeon, and nephrologist.

Modern way to treat hypertension does not direct to decrease high pressure, but to maintain the normal pressure. You can use treatment only by «requirement», that is only when the pressure is high. Every increase of pressure has a bad impact for whole body. Rapid decrease of pressure with drugs is another bad impact, even more hard.

These rules also apply to the use of ABP-051 device. Those who suffer from hypertension, it is better to use it regularly, every day, in order not to allow blood pressure to increase.

## **THERE ARE DIFFERENT WAYS OF TREATMENT**

- 1 Amendment of way of life.
- 2 Non-medicine therapy.
- 3 Treatment with hypotensive drugs (to maintain the normal level of pressure).
- 4 Application of physiotherapeutic device such as ABP-051 along with drug treatment and without drug treatment.

## INDICATIONS

ABP-051 — transcutaneous electrostimulator for arterial pressure normalization is a medical device, that is efficient in case of:

### **ELEVATED BLOOD PRESSURE**

♥ = 130-139 mm Hg

Systolic blood pressure values in the range of 130 to 139 mm Hg

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### **FIRST-DEGREE HYPERTENSION**

♥ = 140-159 mm Hg


Systolic blood pressure values in the range of 140 to 159 mm Hg


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### **SECOND-DEGREE HYPERTENSION**

♥ = 160-199 mm Hg

Systolic blood pressure values in the range of 160 to 199 mm Hg

 Systolic (or top)  
blood pressure

 Diastolic (or bottom)  
blood pressure

POTENTIAL SIDE EFFECTS OF THE  
DEVICE USAGE ARE UNASCER-  
TAINED.

### ISOLATED SYSTOLIC HYPERTENSION

  $\geq 140$  mm Hg      $< 90$  mm Hg

Systolic blood pressure values is equal to or greater than 140 mm Hg, diastolic pressure lower than 90 mm Hg

### DIASTOLIC HYPERTENSION

 -   $< 15-20$  mm Hg

The difference between systolic and diastolic pressure is less than 15-20 mm Hg

### HYPOTENSION

  $< 106$  mm Hg

Systolic blood pressure values are less than 106 mm Hg



## WHERE TO APPLY?



TO CORRECT BLOOD PRESSURE BY DEVICE ABP-051 PLACE IT ON YOUR LEFT WRIST AND IT WILL INCREASE THE PRESSURE OR DECREASE IT IN SEVERAL MINUTED DEPENDING ON ZONE AND PROGRAM CORRECTION SELECTED.

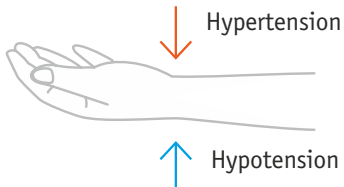
The device is designed to be used at healthcare institutions and at home. The device is a mobile, lightweight, compact device that allows carrying out the procedure at any time, anywhere.

- The procedure is carried out without percutaneous penetration without causing risk of infection;
- The procedure is carried out without pain;
- Time of procedure on a chosen zone of wrist is 5-7 minutes, depending on program;
- The design of the device allows to operate it with one hand and thus facilitate the operation process;
- The patient does not need hospitalization to conduct the procedure.

## THE DEVICE HAS TWO PROGRAMS

Place the device correctly on the chosen zone, since its size is about 10 millimeters and push the button to launch the needed program.

Treat the chosen zone with a wet tissue or cotton wool wad before the procedure to provide sufficient contact of electrodes with skin.



## HOW TO USE THE DEVICE TO TREAT HYPERTENSION?

Sit or lay down before the procedure. It is prohibited to use the device for correction of blood pressure (as well as tonometer) in a standing position. Measure the blood pressure with the use of tonometer if needed.

Let us assume that the figures of blood pressure are high. In this case, place the device on your left inner wrist and fasten the elastic bracelet.

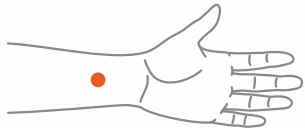
The stimulation of this zone has a sufficient sedative effect towards cardiovascular system. The treat-

ment of this zone helps to reduce the blood pressure. Pull forward your hand with palm up, count three centimeters from the wrist towards elbow on the midline of the elbow, and place the electrostimulator.

### **FOR THE PROCEDURE, DO THE FOLLOWING:**

- Place the device on your left inner wrist.
- Do not forget to wet the skin under electrodes to provide better contact.

The inner side of the wrist



THE RECOMMENDED COURSE OF TREATMENT SHOULD CONSIST OF 1-3 PROCEDURES DURING 14 DAYS. HEALTH STATE IMPROVES ONLY AFTER A COURSE TREATMENT, SINCE THE IMPACT HAS CUMULATIVE EFFECT.

- Fasten the elastic bracelet and push the button, placed above the upper panel of the device. The button is marked by three prominent points that makes them easy to find.

- You will hear a sound of buzzer and the white alarm LED lights up you will also feel a slight impact of current on our skin.

- Sit or lie down comfortably, relax and think about something good.

- When the correction program is

completed, you will hear a long sound of buzzer and the LED will turn off.

- Then you can remove the device from your wrist. Take a rest after the procedure for 20 minutes.

- Do not forget to clean the electrodes of the device after use and put it near the tonometer.

In modern medical practice hyper-tonia treatment is aimed not to lower blood pressure, but to keep it normal, and to prevent its elevation.

That's why if you have managed to lower your blood pressure up to target values, you should not stop and wait until your pressure will «jump» and you would feel unwell again. You should take at least 14 days course treatment!

The process of developing hypertension is very individual. Which method or medicine will help a person, one can only assume a different probability. Therefore, you should carefully follow the doctor's recommendations.

Experienced hypertensive patients, as a rule, have set of drugs, prescribed by a doctor. You should not stop taking these drugs. The device should be used in conjunction with

AT ANY HYPERTENSION DEGREE EVEN IF THE PRESSURE FLUCTUATES DURING THE DAY BETWEEN HIGH AND LOW ALONG WITH OF ANTIHYPERTENSIVE THERAPY — CONDUCT A COURSE OF PROCEDURES ON THE LEFT INNER WRIST.

them, to increase the therapy effect.

We pay your attention, that hypertension should be treated systematically and continuously. The device ABP-051 is perfect for this. You can use it on a daily basis at the time when your pressure usually increases. Those people, who have

suffered from hypertension for a long time and read popular literature about it, know that hypertensive patients are divided into those whose pressure often rises in the morning, and those whose pressure increases in the evening. It can be detected either by pressure diary, making measurements at least twice a day, either by daily monitoring which is made by a doctor. In the first case, use the device in the morning to correct pressure, in the second — in the evening.

The most reasonable way to use the device by hypertensive patients is to use it every day at the time when the pressure is most likely to rise. People with a «long-standing» hypertension get good effect while

conducting procedures twice a day — in the morning and in the evening, as well as when it is necessary.

It is important to understand that the device removes the spasm of blood vessels and as a result lowers blood pressure. So, if you drink strong coffee and thereby raise the pressure, it is hardly possible to reduce it with the help of the device. After a cup of coffee, the heart rate may increase. But coffee has little effect on vascular tone. That is why the «treatment» of reduced pressure by using a giant mug of coffee is a dead-end road that leads to heart diseases. It is better to correct hypotension as hypertension with the help of the device.

## FEATURES OF DEVICE WORK ABP-051

120|80



THE RESPONSE OF THE BODY AND, CONSEQUENTLY, EFFECTIVENESS OF THE PROCEDURES ARE INDIVIDUAL FOR EACH PERSON

### THE EFFECT OF A STABLE PRESSURE REDUCTION

IT IS RECOMMENDED TO KEEP A PRESSURE DIARY FOR 5-7 DAYS BEFORE USING THE ELECTROSTIMULATOR TO UNDERSTAND:

CHANGING OF BLOOD PRESSURE THROUGHOUT THE DAY, UP TO WHAT MAXIMUM VALUES COMES AND RISES WITHIN A DAY.

IT WILL HELP TO DETERMINE THE OPTIMAL NUMBER OF TREAT SESSIONS PER DAY.



However, you should pay attention on the following points:

The following categories of people need along course treatment and/or termination of the factors causing the rise in blood pressure is needed (if possible):

- people involved to work with emergency situations, noise, vibration, night shifts, increased attention, intense intellectual activity along with repeated heavy stress, negative emotions;
- those who have increased salt consumption — it is known that the excess of the daily salt rate more than 15 grams (3 tea-spoons), provides fluid retention, increases

the cardiac load, causing a spasm of peripheral arterial vessels;

- men over 40, women over 50 years old suffering from atherosclerotic vascular disease;
- patients with chronic kidney disease, diabetes, thyroid disease, infectious processes;
- smokers, since their vessels are damaged by the toxic effect of nicotine;
- alcohol abusers;
- people, whose family members suffer from essential hypertension, myocardial infarction and stroke.

The blood pressure of the previously mentioned people may not change after the first procedure or the course of treatment by the device. It is recommended to repeat the courses every month (for example, from 1 to 14 day of each month), and in severe situations, use the device every day to maintain the pressure on the target figures.

If a patient has atherosclerosis, the effect of treatment is achieved not by the change of vascular tone, but because of sedative effects of electrical stimulation. All that factors contribute to the development of atherosclerosis (overeating, overweight, physical inactivity),

and at the same time contribute to the occurrence of hypertension.

In case of chronic diseases, when the blood pressure was consistently high for many years against the background of diseases of the internal organs: kidneys, thyroid, adrenal, atherosclerosis and other reasons — the device should be used in course to normalize the vascular tone, which leads to lower blood pressure, improve state of health and reduce the drug load. When there are clear clinical presentations of hypertensive disease, it is necessary, first to treat the affected organs. In case of severe damage of organs, the device is used

THOSE PATIENTS WHO HAVE SAVED NORMAL MECHANISM OF SELF-REGULATION OF VASCULAR TONE AND WHOSE BLOOD PRESSURE RISES OCCASIONALLY ON THE BACKGROUND OF STRESS, EMOTIONAL OR PHYSICAL STRESS, HAVE MORE QUICK REACTION (OFTEN EVEN FROM THE FIRST SESSION) ON THE IMPACT OF THE DEVICE.

in complex therapy, and has no effect towards the mechanism of development of certain diseases.

After a course of procedures, the sustained reduction of blood pres-

sure is observed due to changes in the level of anxiety and stress index of the sympathetic nervous system.

It is known that after the procedures part of the patients, despite the significant improvement in subjective state has a slight increase of blood pressure that is then gradually decrease to the comfortable values.

This effect is connected with the fact, that electrostimulation (even of low power) has essential impact towards regulating vital functions of the body, which can be distinguished as slight stress from external impact. Thus, due to the low

adaptation level, i.e. low ability to respond to external impact is the result of the first exposure may differ from expected.

Level of adaptation possibilities can be assessed numerically on such parameter as the total power spectrum of heart rate in the measurement of its variability. There is an evaluation method developed by R.M. Baevskiy, MD. The total power of the spectrum reflects the stamina that tends to decline with age, especially if there are organic changes in the regulatory system, which means that the reaction to an external stimulus may not always be adequate when its value is less than

$1000 \text{ ms}^2$ . The value  $2000\text{-}3500 \text{ ms}^2$  is normal. Therefore, it is necessary to continue the course and observe stable effect at the end.

BEFORE YOU START USING DEVICE, KEEP A PRESSURE DIARY FOR 5-7 DAYS TO UNDERSTAND HOW YOUR PRESSURE VARIES THROUGHOUT THE DAY, WHAT ARE THE MAXIMUM FIGURES AND WHAT TIME OF DAY IS RISES. THIS WOULD HELD TO DETERMINE THE OPTIMUM NUMBER OF PROCEDURES PER DAY.



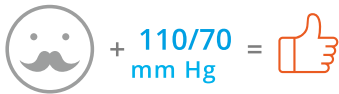
## HYPOTENSION IS A BLESSING OR A CURSE?

If you ask big group of people of an advanced age — e.g. 80-90 years, you will find out that the majority of them had low blood pressure. They had hypotension.

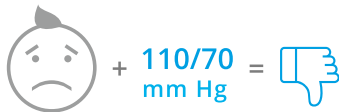
It is supposed to be true, that hypotension is a pass to a long life. That is a mercy. However, if you ask hypotensive patients whether they feel good or not, you will see that it is not. Weakness, fatigue, dizziness,

cold hands, sometimes even fainting — this is not a complete list of complaints of hypotensive patients.

That is why the answer what is hypotension — blessing or curse, depends on age. A young man, who does not think of long life, wants to feel good, and consumes that low pressure is a curse.



Elder hypotensive patient who get additional 10-15 years of life due to hypotension would adhere to an opposite opinion. Most hypotensive patients drink a lot of coffee. It gives only a short-term effect, at the same time breaking the night's sleep and thus worsens general state of health, and hypotensive patients sometimes simply do not have energy to exercise.



The only dream of any hypotensive patient is to save hypotension advantages in terms of longevity, but feel like a normotensive. Now they have such an opportunity. We will tell about it in the chapter devoted to the correction of low pressure with the device ABP-051.

**HYPOTENSIVE PATIENTS NEED REGULAR PROCEDURES AT LEAST ONCE A MONTH IF THEY FEEL BAD**

## IS IT POSSIBLE FOR HYPOTENSIVE TO BECOME A HYPERTENSIVE?

Often, when we ask a patient «what is your pressure?» we hear in response that usually he or she has low pressure, but recently is has begun to rise. Indeed, the pressure of many hypotensive patients rises and becomes higher, typical for people with mild or moderate hypertension.

The probability to get hypertensive disease for those, who in was hypotensive when he was young, is about the same as for normotensive. However, hypotensive patients suffer from hypertension much

EVEN WHEN THE FIGURES AROUND 140/90 THEY CAN HAVE A REAL HYPERTENSIVE CRISIS.

worse than those who had previously normal pressure. Even when the figures around 140/90 they can have a real hypertensive crisis. This happens because their vascular system is adapted to low blood pressure and high pressure completely disorganize it.

## HOW TO USE THE DEVICE TO TREAT HYPOTENSION?

IN CONTRAST OF HYPERTENSION, HYPOTENSION IS NOT A DISEASE. IT IS GENETICALLY DETERMINED FEATURE OF THE VASCULAR SYSTEM.

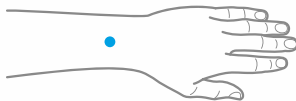
If the pressure is 100/60, and person feels good — everything is fine, there is no need to use the device. However, hypotension often causes many unpleasant symptoms: deterioration of emotional state, weakness, dizziness,

feeling of heaviness, pallor, etc. Furthermore, hypotensive patients often have problems with the awakening in the morning.

They should conduct treatment with the device only in case the patient feels bad. So, if you feel dizzy, have cold hands and feet, do not want to work (they should distinguish those attacks from usual laziness), have troubles in awakening in the morning, do the following:



The outer side of left wrist



- Place the device on the outer side of left wrist.
  - Do not forget to wet the skin under electrodes to provide better contact.
  - Fasten the elastic bracelet and push the button. It is marked by one prominent point that makes it easy to find.
  - You will hear a sound of buzzer and the white alarm LED lights up you will also feel a slight impact of current on your skin.
  - Sit or lie down comfortably, relax and think about something good.
  - When the correction program is completed, you will hear a long sound of buzzer and the LED will turn off.
  - Then you can remove the device from your wrist. Take a rest after the procedure for 20 minutes.
  - Do not forget to clean the electrodes of the device after use and put it near the tonometer.
- The pathogenesis of hypotension is the disorder of the neurohumoral system, which regulates vascular tone. The stimulation modes for hypotensives should give energy. These modes include modes with

THE RECOMMENDED COURSE OF TREATMENT SHOULD CONSIST OF 1-3 PROCEDURES DURING 14 DAYS. HEALTH STATE IMPROVES ONLY AFTER A COURSE TREATMENT, SINCE THE IMPACT HAS CUMULATIVE EFFECT.

amplitude modulation of high frequencies — 77 Hz and 140 Hz — lower — with frequency  $4\pm 5$  Hz, which increase centralization of regulation of autonomic tone and causes an increase of index voltage, thereby causing an increase of both systolic and diastolic blood pressure.

Pull forward your hand with palm down, count three centimeters towards elbow, and place the electrostimulator.

The point on the outer side of left wrist has a regulatory effect on the cardiovascular system, the nature of the effect is very close to the effect of the point on the inner side of left wrist, but has, in contrast to it, not a sedative, but mild toning effect. It has a stabilizing effect on vascular tone under atmospheric pressure fluctuations. It is used to treat headaches, vegetative-vascular dystonia with blood pressure fluctuations.

## WHAT TO DO IN CASE OF FAINT?

### ACTIONS MUST PERFORM:

1. If someone has fainted, try to catch the falling person, so he could not be injured, act calmly and do not panic.
2. Call the ambulance! Place the victim on his side, while he or she becomes conscious. It is necessary to avoid suffocation.
3. Push away the scaremongers. Some of these people may start doing cardiac massage to a living person.
4. As soon as the person wakes up, turn him on his back. Do not place anything under the head, let the head stay lower. On the other hand, place something under legs to let blood vessels of the brain fill with blood. Let him lie until he can stand up. It is to get up smoothly, without sudden movements.
5. Do not use a solution of ammonia to return consciousness, you can burn the nasal mucous membrane.



PEOPLE WITH LOW BLOOD PRESSURE ARE PRONE TO FAINTING. THUS, IN CONTRAST TO COLLAPSE, FAINT IS NOT ACCOMPANIED BY A CRITICAL PRESSURE DROP. IT OCCURS WHEN THE SUFFICIENT AMOUNT OF BLOOD DOES NOT ARRIVE TO THE VESSELS OF BRAIN AND THIS EFFECT IS CALLED «ANEMIZATION OF BRAIN VESSELS.»

6. When a person finally comes to consciousness, give him tea or necessary coffee.
7. Measure the blood pressure. If it is still low, use the device ABP-051 to normalize the blood pressure.

## **WHAT ONE SHOULD TO DO DURING HYPERTENSIC CRISIS?**

HYPERTENSIC CRISIS IS A LIFE-THREATENING CONDITION CONNECTED WITH THE RISE OF BLOOD PRESSURE.

Hypertensive crisis is characterized not only by pressure figures, but also by symptoms. The can occur at relatively low-pressure figures of one person and cannot appear at very high of another.

Specific symptoms of hypertensive crisis are the following: headache, dizziness, «dots» in the sight, blurred vision, shortness of breath, pain in chest, nausea, convulsions, loss or opacity of consciousness.

The first thing to do with these symptoms is to measure blood pressure. You should immediately take measures during was, because it can result in such complications as heart attack, stroke, pulmonary or brain edema.

### **THINGS TO DO:**

1. Let the patient to sit in reclining position, undo the constraining clothes, and provide complete rest.

2. Call the ambulance. Update information about the medicines taken and their availability.

3. Put on the hand the device ABP-051 and turn on the pressure reduction program. An important property of this device is that it does not reduce the pressure abruptly. The abrupt decrease of pressure during crisis is unacceptable!

4. After the crisis (especially the first), the patient must be supervised by a professional or hospitalized. It is important to understand that the emergence of crisis talks about the extremely unfavorable duration of hypertension.

## IS IT POSSIBLE TO USE THE DEVICE ALL THE TIME?

As every device, which has impact on health, the device ABP-051 has contraindications, that is, there is a list of conditions under which the use of the device is prohibited (absolute contraindications) and the list of states where usage is possible after consultation with a specialist (relative contraindications).

### **ABSOLUTE CONTRAINDICATIONS:**

- all implanted pacemaker;
- individual currency intolerance;
- children under 14 years.

The deterioration of health during

the procedure may be detected in the case of individual intolerance, it is necessary to stop the impact and consult a doctor.

### **RELATIVE CONTRAINDICATIONS:**

- epileptic seizure;
- neoplasm of any etiology and localization;
- acute febrile illness of unknown etiology;
- condition of acute mental, alcohol or drug excitation;
- ciliary arrhythmia;
- myocardial infarction.

# REGULATION IS POSSIBLE ONLY FOR CONTROLLED THING.

## LET'S REMEMBER IMPORTANT MOMENTS:

1. For the persistent positive result, the course of procedures should be conducted for at least 14 days. Repeating of courses are carried out as needed. The power and duration of the procedures are not regulated, the programs are fully automatic, and after the end of the procedure the device turns off.
2. In periods of bad state of health the patients with essential hypertension and hypotension need repeated regular courses of exposure at least once a month (e.g., from 1 to 14 of each month), and in severe situations need to use the electrostimulation daily to maintain pressure according on the targets.
3. The hypertension is not a joke. This is a serious illness, the neglect of which is mortally dangerous. The using of Electrostimulator ABP-051 in combination with drug therapy increases therapy effectiveness and reduces addiction from drugs.