

CARE PUMP

Guide to pneumatic compression therapy

with CarePump device

EXPERT8^{DUO}

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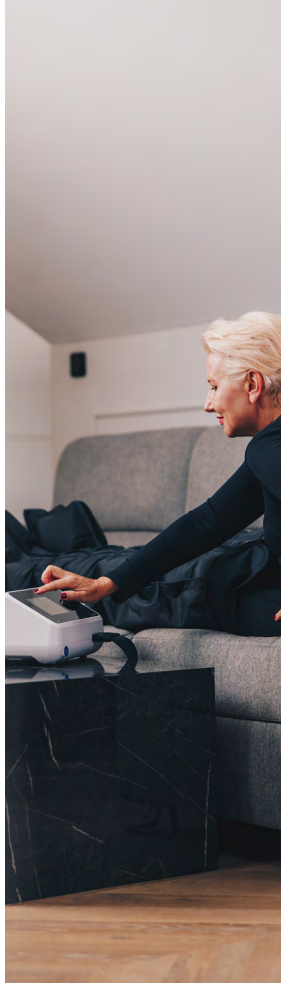
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Recommendations for the safe use of the device

All therapeutic programs should be selected individually. For the safety of the procedure, at least one first procedure should be performed with a pressure not greater than the current diastolic blood pressure measured on the limb on which the procedure is going to be performed. For subsequent treatments, a higher output pressure can be set, only if the treatment with the previous pressure value was well tolerated. Before the purchase and use by individual patients, the appropriateness of using the device should be consulted with a doctor or physiotherapist.

The treatment is recommended to be performed in the supine position (on the back) with the head slightly raised or the upper part of the body with the lower limbs

slightly raised, or in the sitting position (for the upper limb) with the limb placed up or horizontal. The treatment should not be performed on the limb in low position.

In case of alarming symptoms, the treatment should be stopped immediately (using the safety button or pressing the stop button on the screen) and consulted with a doctor, physiotherapist or the manufacturer / authorized distributor of the device.

The undesirable symptoms include:

- pain in the treated limb,
- sensory disturbances in the treated limb ,
- bruising of the distal part of the treated limb,
- occurrence or increase of genital swelling (scrotum, labia) when using lower limb cuffs,
- persistent itching under the cuff,
- unspecified anxiety or general malaise.





Attention! Patients with advanced atherosclerosis or advanced diabetes (with diabetic microangiopathy), peripheral sensory disturbances (e.g. diabetic polyneuropathy), varicose veins - should not perform pneumatic compression without consulting it with a doctor or physiotherapist.

Due to the fact that it is not possible to describe all undesirable reactions for each patient (with various conditions, including mainly comorbidities), it is not allowed to independently make a decision about the use of any of pneumatic compression devices, without consulting it with a physiotherapist or doctor who, after examining the patient, will recommend detailed parameters or therapy program.

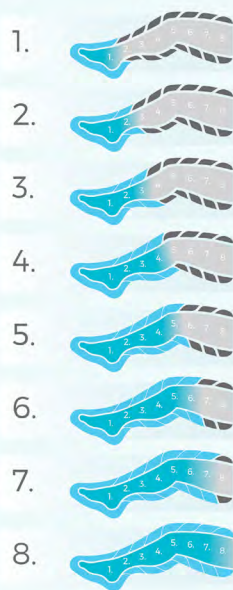
Description of the programs

Lymphoedema I

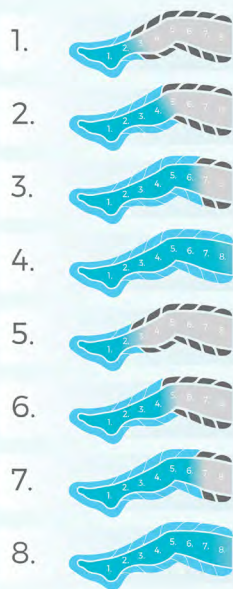
It is a standard program that efficiently displaces the edema fluid while keeping pressure in the previously inflated chambers.

It is dedicated especially for the treatment of people who tolerate compression well on the entire limb, suffering from therapeutically neglected lymphoedema with high cohesion of tissues (fibrotic, hard).

lymphoedema I



Gradient	1 mmHg
Time	50 min.
Hold	3 s
Interval	3 s



Gradient	1 mmHg
Time	50 min.
Hold	3 s
Interval	3 s

Lymphoedema II

It is a program that efficiently displaces the edema fluid, lymph and venous blood, while keeping constant compression in the previously inflated chambers. It is dedicated especially for the treatment of lymphoedema with less cohesive tissues (fibrosis). Twice as many cycles as in „LYMPHOEDEMA I” program, its impact covers the entire limb faster and efficiently moves the swelling fluid through tissues with lower flow resistance resulting from their lower cohesiveness.

It is dedicated for people who tolerate constant compression along the entire length of the limb, but due to the faster progress of the cycle - it will be better tolerated also by people who do not tolerate constant compression along the entire length of the limb.

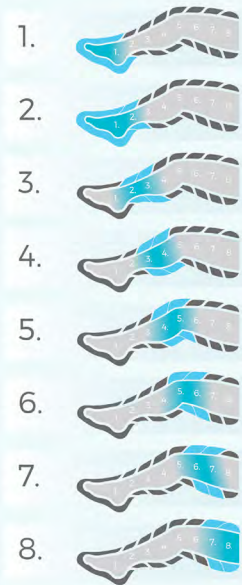
Lymphoedema III

(single ascending wave)

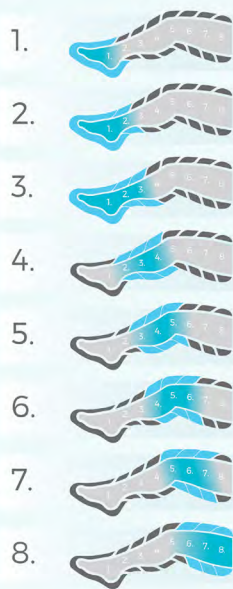
It is a program in which a compression ring with a width of one chamber „travels” across a limb. The slow movement of the „tourniquet” with a width of one chamber ensures effective pushing of the edema fluid, lymph and venous blood along the limb, while preventing reflux (return) of the displaced matter. The pressure wave travels continuously along the limb, i.e. immediately after finishing work in the proximal part of the limb, it starts to work on its distal part without interruption.

It is dedicated especially for people who do not tolerate constant compression along the entire length of the limb, suffer from swelling that is not yet fibrotic, and have soft tissues where the characteristic dimple is imprinted very quickly, often under the influence of a simple hand grip.

lymphoedema III



Gradient	1 mmHg
Time	50 min.
Hold	3 s
Interval	0 s



Gradient	1 mmHg
Time	50 min.
Hold	3 s
Interval	0 s

Lymphoedema IV

(double ascending wave)

It is a program in which two chambers always keep the pressure in accordance with a given gradient. The chambers are inflated one by one, but only two of them keep the pressure (the higher chamber has a pressure lower by the gradient value than the lower one). Moving along the limb, a „tourniquet” with a width of two chambers efficiently transports the edema fluid, lymph and venous blood through the tissues of slightly greater cohesiveness, in which crystalloid aggregation occurs.

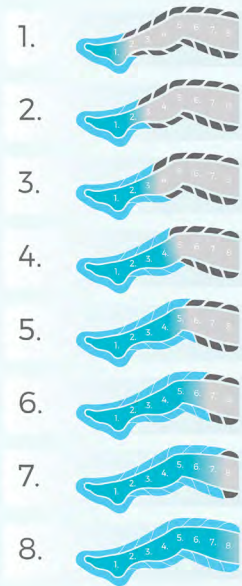
It is dedicated for use by people who do not tolerate constant compression along the entire length of the limb, suffer from gel swelling, on which it is still easy to obtain a characteristic pressure dimple, but it does not occur spontaneously under the influence of a simple, short grip with the hand.

Venous oedema I

It is a classic program consisting in filling individual chambers one by one while keeping the pressure in the previously inflated chambers.

It is dedicated for „old” venous edema that persisted for years and which have long ceased to be self-draining (e.g. after sleep). Especially recommended for people who better tolerate compression along the entire length of the limb. It can be also used effectively in non-fibrous lymphoedemas that only affect the distal part of the limb.

venous oedema I



Gradient	3 mmHg
Time	45 min.
Hold	2 s
Interval	3 s



Gradient	3 mmHg
Time	45 min.
Hold	2 s
Interval	2 s

Venous oedema II

It is a program that efficiently displaces the edema fluid, lymph and venous blood while keeping constant compression in the previously inflated chambers. The cuff is gradually inflated in two chambers, keeping the given gradient.

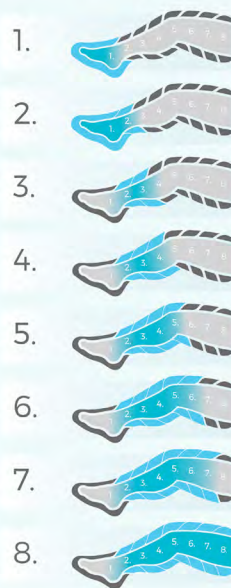
It is dedicated especially for the treatment of venous edema with less tissue cohesiveness. Almost twice as many cycles as in „VENOUS OEDEMA I” program, it covers the entire limb faster and efficiently moves the edema fluid through tissues with lower flow resistance resulting from their lower cohesiveness. It is dedicated for people who tolerate constant compression along the entire length of the limb relatively well, but due to the faster progress of the cycle - it will be better tolerated by everyone.

Lipoedema I

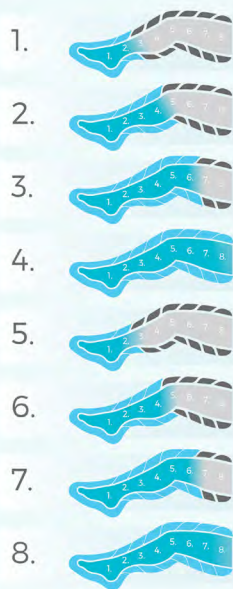
It is a program pumping the chambers in the classic way - one after another with the pressure in the previously filled chambers, except chamber 1, which deflates while chamber 3 is inflating. Due to the fact that the feet / hands in lipoedema are always free from swelling itself, the first chamber covering the most distal part of the limb may be released. However, in order not to reverse the edema fluid from the upper part of the limb - it initially inflates, and only after „putting on a tourniquet” in the form of the filled chamber 2, i.e. during the filling of chamber 3 - the first one deflates.

The program is dedicated especially for people who do not tolerate compression on the distal parts of the limb (e.g. bunions, postoperative conditions).

lipoedema I



Gradient	2 mmHg
Time	60 min.
Hold	3 s
Interval	3 s



Gradient	2 mmHg
Time	60 min.
Hold	3 s
Interval	3 s

Lipoedema II

It is a program in which the cuff inflates faster, because 2 chambers are pumped simultaneously while maintaining the set gradient and keeping the pressure in the previously filled chambers. Thanks to this, the patient's body in the proximal part of the limbs does not stay long under the set compression, and the distal parts of the limb are fully protected against uncontrolled reflux. In this program, the first chamber is not deflated as in „LIPOEDEMA I” program.

The program is dedicated for people with greater pain sensitivity to pressure and for use in cases of edema fluid reflux on the foot during „LIPOEDEMA I” program.

Post-injury therapy

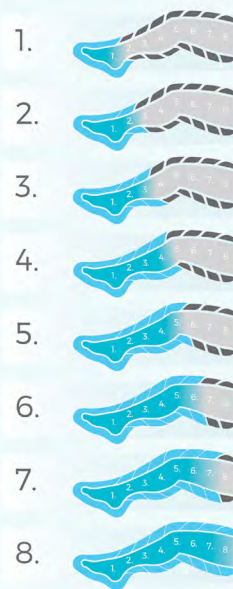
It is a program characterized by a high gradient (4mmHg), a moderate speed and a short treatment time. Due to the relatively small amount of proteins (in relation to the volume of the entire limb) in the exudate after minor injuries, there is no need to generate high pressure along the entire length of the limb. The applied value of the gradient ensures the efficiency of draining the protein-rich swelling fluid from the distal parts of the limb, which are most often injured.

Attention: In cases of:

- a) long-term, neglected post-traumatic edema,
- b) swelling after massive injuries,
- c) swelling after injuries within the proximal parts of the limb,

consider reducing the gradient value (to increase the compression value in the proximal cuff chambers), or use the lymphatic programs (especially for massive injuries with significant damage to the lymphatic system).

post-injury therapy



Gradient	4 mmHg
Time	30 min.
Hold	2 s
Interval	2 s



Gradient	1 mmHg
Time	60 min.
Hold	1 s
Interval	2 s

Cellulite advanced

It is a program with a complicated sequence of filling the chambers. Its aim is to first perform a gentle „massage” of the tissues within individual, 2-chamber sections of the cuff, and then push the tissue fluid out of the limb under this cuff section. The chambers are inflated 1-2 times and do not deflate until the end of the cycle. Then the chambers 3-4 „massage” the patient’s body by inflating and deflating one after the other, it means that filling the next chamber deflates the previous one; each chamber inflates cyclical three times and deflates three Times. Subsequently, the same massage which was performed by chambers 3-4 is performed by chambers 5-6, and after their constant filling - also by chambers 7-8. The entire cycle ends with the constant filling of chambers 7-8. Then the whole cycle repeats from the beginning.

The program is dedicated for people who tolerate constant compression on the entire limb, which is kept for a long time.

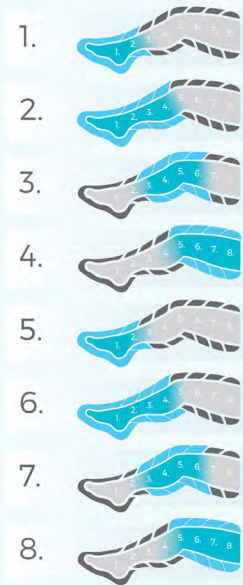
Regeneration

It is a program characterized by a high gradient and average values of holding and break. The program has modified the „double ascending wave”, known from, for example, the lymphatic programs, in such a way that the wave does not move over one chamber, but over two ones. This means that a „tourniquet” with a width of two chambers does not move smoothly (by one chamber up), but two chambers step by step. Thanks to this, its movement is faster and the entire cycle can be shorter.

Due to the need to discharge acid metabolites of metabolism, and not obligatory lymphatic ballast - there is neither a need to apply high pressure on the proximal parts of the limb, nor a need for a long treatment - therefore a high gradient with a value of 4 mmHg and a relatively short time - 45 min. The shortening of the procedure time is well suited to the shortening of the cycle time, causing that the number of cycles during the entire procedure does not change much.

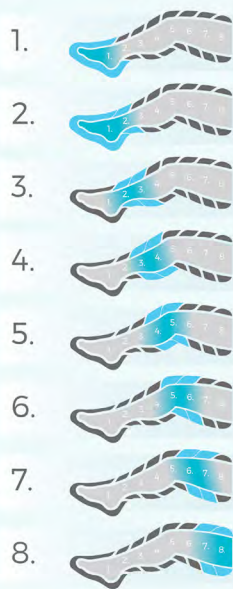
Recommended for use after physical exertion.

regeneration



Gradient	4 mmHg
Time	45 min.
Hold	2 s
Interval	2 s

prevention, relaxation



Gradient	0 mmHg
Time	60 min.
Hold	2 s
Interval	2 s

Prevention, relaxation

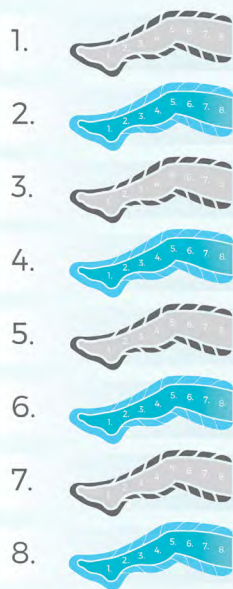
This program has a zero gradient which makes the pressure in all chambers the same. Due to the dedicated use by people without edema disorders and when there is no risk of edema, a gradient of 0 mmHg can be safely used. This program produces relatively high pressures on the proximal limb (relative to the distal limb), although high pressure settings are not recommended. The aim of this procedure is not the targeted movement of the edema fluid, but only the prevention of interstitial fluid stagnation and the stimulation of deep sensation receptors (proprioception). The program is a „single ascending wave“, which means that pressure with a width of one chamber moves sequentially along the limb, from the distal to the proximal part. Narrow (because it is only one chamber wide) the traveling pressure ring gives a favorable impression of a compression massage.

It is recommended to use high elevation of the treated limb during the procedure.

Dedicated for relaxation, especially during the day with reduced physical activity (long time of work in a sitting or standing position, but without visible swelling).

Attention: Do not use in people with a risk of edema, especially in patients who have had lymph node removal and have not yet experienced any swelling! Such people can only use programs with a gradient greater than 0; the venous programs may be considered as prevention.

all-chamber massage



Gradient	0 mmHg
Time	30 min.
Hold	2 s
Interval	3 s

All-chamber (global massage)

All chambers of the selected cuff inflate simultaneously and then keep the set pressure for 2 seconds, then deflate and after 3-second pause, the inflation of the entire cuff is repeated.

This program is an alternative to the „PREVENTION, RELAXATION“ program, it also affects the deep sensation receptors (proprioception) and is subject to the same applicability limitations as the previous program.



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