K-Active®

CryoPush by K-Active®
The next-generation dynamic cold compression system

Faster Return to Play – With cold compression

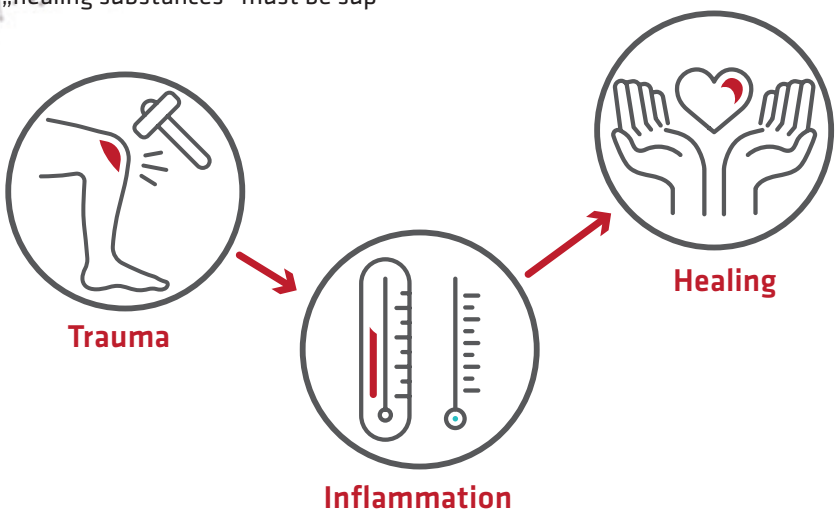
After overexertion, injuries and operations, only one thing counts for ambitious athletes and workers: returning to sport or work as quickly as possible. In order to accelerate the "return to play" or the "return to work", healing must be supported at the highest level from beginning to end.

It is essential to know the mechanisms and processes in the body in order to optimally influence the auto repair processes.

Trauma – inflammation – healing

Over many millions of years nature has developed a system to heal destroyed structures in the body: the inflammation. It is often perceived negatively, but it is the only way the body can heal well. For this reason, inflammation should never be suppressed. However, a "sensitive modification" or even support of this can help to obtain the optimal "healing result".

If structures in the body have been damaged, then, on the one hand, fluids must be drained off and structural debris disposed of, and on the other hand, the necessary energy and the body's own „healing substances" must be supplied. The resulting local inflammation is therefore a natural and even necessary process in order to „heal". The results are heat, redness, swelling, pain and impaired function.



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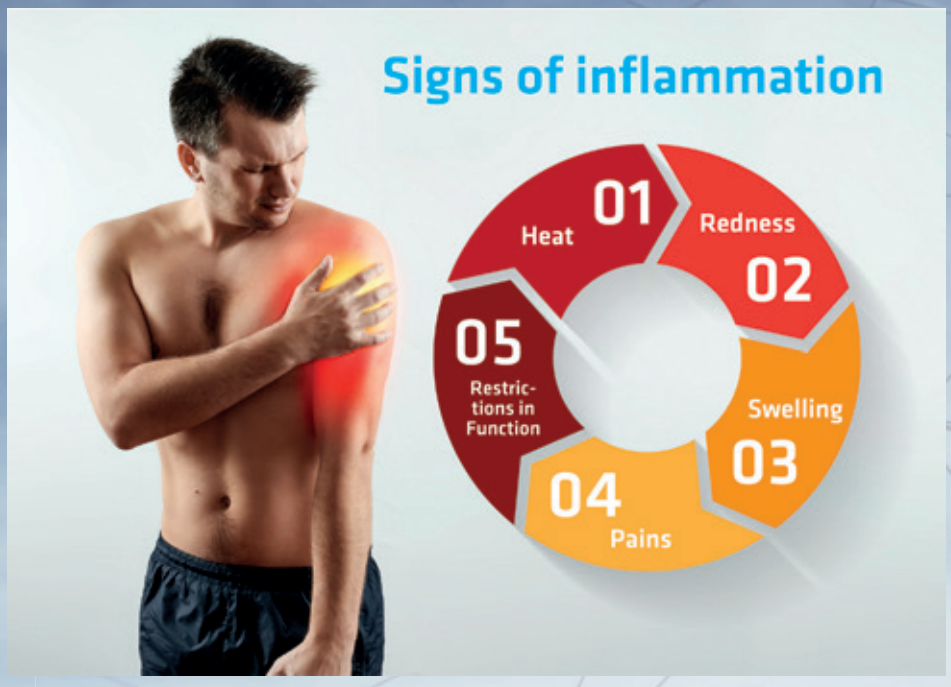


Heat

One result of the inflammation is the development of increased heat in the area of the damaged structures. This makes the tissue more "penetrable" and metabolic processes can take place faster. Under certain circumstances, excessive heat generation can occur, so that other symptoms, such as pain and swelling, become even more pronounced.

In such situations in particular, it can be of advantage to lower the greatly increased heat and energy level with the help of so-called cryotherapy. Various studies support the fact that cryotherapy can be useful.

A cold compression system like **CryoPush by K-Active®** offers optimal possibilities to do just that: Cold water is passed through a cuff that adapts perfectly to the corresponding part of the body. As a result, energy is continuously withdrawn from the affected area and the heat is thus gently and evenly reduced over the duration of the application. The perfect fit of the cuffs creates the cooling effect that is evenly and extensively and not only selectively, as would be the case, for example, with a cooling pack.

Der CryoPush von K-Active®

The moderate and controllable withdrawal of energy and the associated cooling of the structures modifies the inflammation, but at no time prevents its function of self-healing.

Swelling

Another symptom of an inflammation is swelling. This can be caused by hemorrhage, backlogs in vessels or the body's consciously controlled supply of liquids and substances.

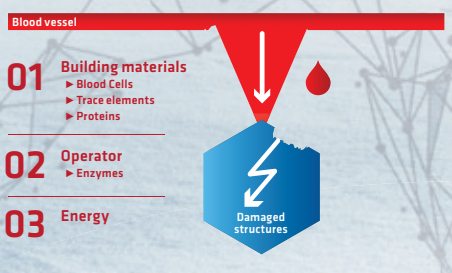
Hemorrhage used to have a negative image. Today, however, we know that it is an important step to self-healing. For instance blood cells, trace elements, proteins and enzymes (= biocatalysts that accelerate ostomy processes) are transported to the place where it happened, namely the injury.

The swelling, as well as the heat development, should be modified. External compression can help.

Limited function

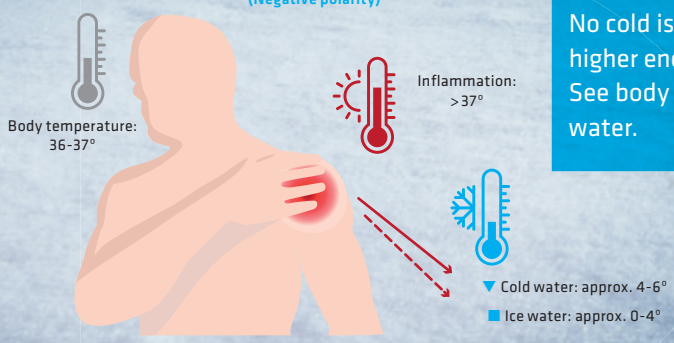
In addition to the pain, the swelling has another negative effect: intra-articular swelling primarily causes an immediate reduction in the controllability of the affected muscles, as Prof. Dr. Jürgen Freiwald has shown in his work. According to this, swel-

Hemorrhage

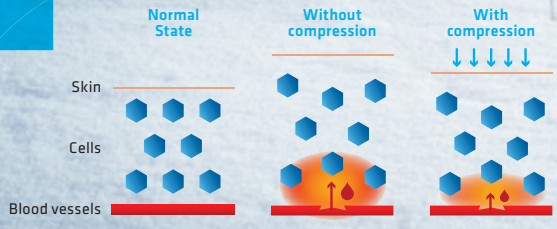


Cold or cryotherapy = Energy deprivation

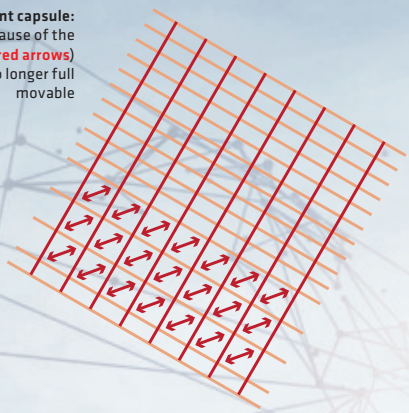
(Negative polarity)



Cold or cryotherapy
No cold is supplied, but energy from higher energy levels reduced.
See body temperature and cold water.



Consequences of a swelling



Joint capsule: Because of the swelling (**red arrows**) it is no longer full movable

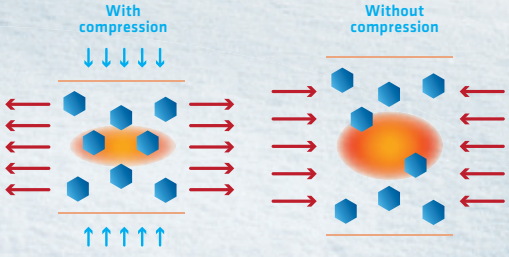
ling reduces the maximum strength of the surrounding muscles by up to 25-30%.

Capsules are also basically created to have complete freedom of movement, a „full range of motion". A swelling immediately leads to restricted mobility in the affected joint. This is due to the fact that the ability to stretch the surrounding fascia tissue is already partially exhausted by the swelling.

Over many years, in the common "hands-on therapy", manual lymphatic drainage and compression have proven to be effective in the event of swelling. A cold compression system can be an additional, instrumental option to reduce swelling. Different cuffs are attached to the corresponding part of the body, which is „squeezed out" by the pulsating pressure inside the cuff. Liquids are shifted out of the body region or between cells, which helps to reduce tension and thus prevents further negative consequences.

Shift of liquids

(The sponge effect)



At the same time, the pulsating compression enables an improved transfer of fluids and waste materials into the neighboring, healthy structures as well as into the venous and lymphatic system. This form of therapy is also particularly suitable for the removal of structural debris which, due to their size, can only be disposed of via the lymphatic system. The pulsation also simplifies the absorption of the debris into the lymphatic system.

The "cleansing" within the destroyed structures also promotes the supply of essential substances for healing in the next step. You can imagine pulsating compression therapy like a sponge: the old is pushed out, the new fills up the sponge again due to the suction.

Pain relief and faster regeneration

By reducing swelling and removing - among other things - liquids, waste products and neuroactive substances, the region is „cleaned" and the basis for faster regeneration and healing is created. Simultaneously important substances can be supplied via the arterial system, which carry out their tasks to build up the structures.

Both the volume reduction and the cleaning of the tissue as well as the provision of new energy and necessary substances enable the body to reduce the pain. This is accompanied by a significantly increased ability to move, which is the greatest impulse to the body for active self-healing.

Summary:

The combination of cold and compression can significantly promote regeneration and healing. The cold compression system **CryoPush by K-Active®** offers exactly that: cold water and pulsating compression in the cuffs can optimally support the various processes in the body. To meet the most diverse requirements, the temperature of the water can be individually adjusted by adding ice cubes and as well the strength of the compression.

Due to the improved situation of swelling and pain, the use of medication may even be reduced or stopped.

The return to everyday life, whether at work or in sports, can be effectively accelerated with the right measures. The use of the **CryoPush by K-Active®** is therefore suitable for a wide variety of target groups, such as medical facilities, sports clubs, chronic or acute patients. If the **CryoPush** only is needed temporarily, it can also be rented.

Authors: *Siegfried Breitenbach, Lisa Bachmann*

The CryoPush in action with various cuffs:

Knee

Ankle

Hip

Shoulder

K-Active®

BEWEGUNG. LEISTUNG. LEBEN.

K-Active Europe GmbH

Frohnradstraße 2 | 63768 Hösbach

Phone: +49 (0) 6021 62998-100

Fax: +49 (0) 6021 62998-999

service@k-active.com

www.k-active.com