

Cross-Shaper



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The Cross-Shaper

An invention of orthopedics and sports medicine

CROSS-SHAPING is a new outdoor sport. A healthy and effective „low impact workout“, so it is a joint-gentle full body workout for young and old with enormous prevention and rehabilitation potential! Arms and legs are equally trained and raising up the spine appreciably and sustainably.

Training ...

- ... at different fitness levels
- ... at any age
- ... to individual taste
- ... ideal for the prevention and rehabilitation
- ... possible almost everywhere

Equipment:

- movable arm rest
- anatomic soft handle
- infinitely adjustable expander to set the training intensity
- continuous adjustment of height
- wheel with backstop for strong repulsion

Models:

CROSS-SHAPER Beginner

ref. no. CS 10300015

CROSS-SHAPER Advanced

ref. no. CS 10301015

Accessories:

Carrying Case

ref. no. 512.10.10



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About Cross-Shaping

The **CROSS-SHAPER** was invented by Bonn orthopaedist and sports doctor Dr. Georg Kaupe and further developed with the assistance of sports scientists and engineers.

The **CROSS-SHAPER** enables: upright, unburdened walking by taking the bodyweight on two ergonomically shaped sport sticks with forearm rests and wheels at the bottom end. Adjustable rubber expanders between the rest and stick allowed both prestressing and the increasing of force for the pressing down of the armrest with one's elbow. The wheels at the bottom end of the sport device enable to move forward freely but block backwards rolling.

The human body is permanently grounded via three points while **CROSS-SHAPING**. The correct, parallel guidance of the two curved sports devices provides coordinative stimuli and optimally promotes perception of own motor activity. The combination of the muscle groups performing the main work and those adjusted to each other is optimised. Those individual muscles that work together functionally in a movement are called muscle loops.

Because one returns to the body's original, genetically inherent four-point-contact locomotion when **CROSS-SHAPING**, three muscle loops are involved, which can absorb and store energy. This new type of walking counteracts sterno-symphyseal stress syndrome (sternum and symphysis become closer), which is predominantly caused by seated activity. The trunk musculature near the stomach is here shortened by incorrect posture that curves the spine.

CROSS-SHAPING straightens up the spine and stretches the shortened musculature. This relieves the spinal discs of the lower segments of the backbone! The deep muscle layers that are so important for a healthy back are stimulated.

Target Groups for CROSS-SHAPING

POPULAR SPORT

YOUNG PEOPLE
SPORTS BEGINNERS
SPORTSPEOPLE OVER 50
RECREATIONAL
SPORTSPEOPLE
COMPANY SPORTSPEOPLE

HEALTH SPORT

CARDIOVASCULAR TRAINING
REHABILITATION PATIENTS
PREVENTION CONCEPTS
ANTI-AGING CONCEPTS
DIABETES PATIENTS
OBESITY

HIGH-PERFORMANCE SPORT

BALANCING TRAINING
ENDURANCE TRAINING
CONDITION TRAINING
STRENGTH TRAINING
ADDITIVE TRAINING

The right technique

The diagonal movement patterns support the vegetative nerve system and lead to flowing, round movement sequences with muscle stimulation that is gentle on the joints. The alignment and correction of the three axes, spine, shoulders and pelvis, are the pre-requirement for correct training, which promotes and increases body perception enormously. Even smaller muscular dysbalances are quickly noticed and can be optimally corrected.

The load on the arms from the traction of the elastomer bands during walking combine aerobic and anaerobic training modules. The four extremities are thus subjected to even muscular loading and the bipedal gait is turned into a quadrupedal gait. This increases calorie consumption enormously.

The wrist is supported by the forearm rest. The strength of the entire arm can now be optimally transmitted so that the upper body and trunk musculature are effectively trained at the same time.

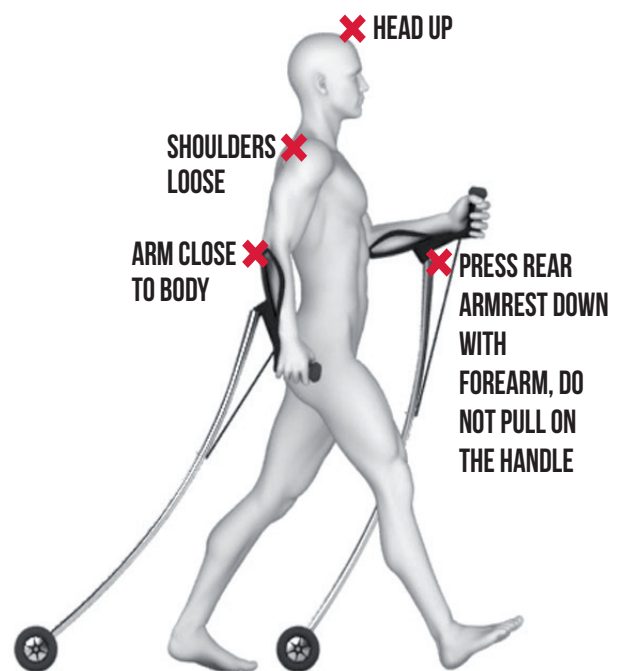
The breathing volume is optimised by the expansion of the chest area. A precondition for this is straightening of the spine with raising of the arms above chest level. To be added to this are the relieving of the lower segments of the lumbar spine and of all joints of the lower extremity. **CROSS-SHAPING** is a predominantly aerobic form of endurance training with intensity-adjustable strength training.

Study extracts

The **CROSS-SHAPER** was examined in the period September to October 2010 by the INSTITUTE OF MEDICAL PHYSICS (IMP) in Erlangen:

The aim of this study was to record the acute effect of the **CROSS-SHAPER** on the metabolic and cardiac reaction during a walking exercise. The study represents a controlled, randomised study with a crossover design, in which each experimentee completed two tests under different conditions. Walking without a device was used for a comparison to walking with the **CROSS-SHAPER**.

ing. In this way, the exercising person receives the benefits of the diagonal movement pattern together with the advantages of muscle training. The messenger substances sent out, the myokines, activate the metabolism, have an anti-inflammatory effect, protect against osteoporosis and diabetes, stimulate the production of skin-tightening collagen, cause new blood vessels to emerge and widen the existing ones.



In this study, the **CROSS-SHAPER** has proven to be suitable for increasing heart-rate, oxygen intake and energy consumption in comparison to classic walking without a device. In the test walks, the respiratory quotient without a device and with **CROSS-SHAPER** was identical. Accordingly, the increased cardiac and metabolic reaction when walking with the **CROSS-SHAPER** is to be interpreted as due to the use of additional muscle groups in the upper body area, whereupon more muscles are working in the same range of intensity and/or metabolic range. In summary, the **CROSS-SHAPER** is a training device

Study extracts

that has proven itself in this study to be effective at raising heart-rate, oxygen intake and energy consumption significantly and the use of which during walking can accordingly be recommended for the increasing of energy consumption and intensification of cardiovascular training. Even well-exercised people had an increase in energy consumption of up to over 30%.

Extracts from the study at the Institute for Biomechanics, Lindenplatz Clinic, Bad Sassendorf

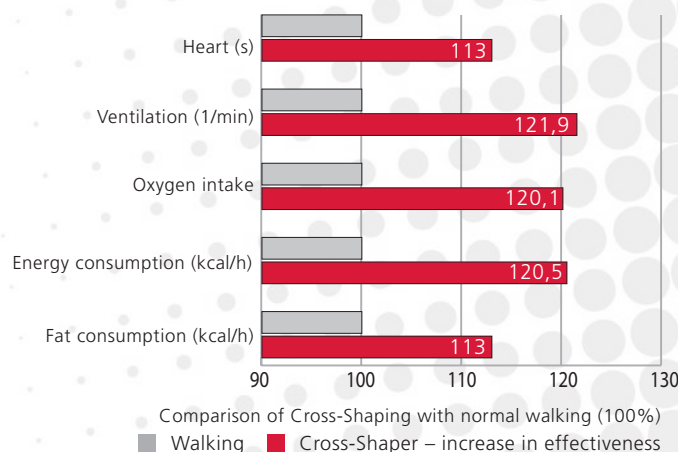
A further study at the Institute for Biomechanics in Bad Sassendorf, carried out by Prof. Dr. Thomas Jöllenbeck, produced the following result with regards to straightening of the trunk and effective upper body training by means of **CROSS-SHAPING**:

The results of this pilot study prove impressively that **CROSS-SHAPING** leads on the one hand to substantial and effective straightening and on the other to vertical additional movement of the upper body.

The design of the **CROSS-SHAPER** allows, in the swinging-back and/or pressing phase due to placing of the forearm on the armrest, direct and mechanically effective force transmission from the **CROSS-SHAPER** - in comparison to Nordic Walking - i.e. from the forearm placed on the armrest to the shoulder, which is present throughout the whole step cycle. The increased straightening, associated with the direct force transmission, and the increased vertical movement produces relief and mobilisation of the spinal column via the raising of the shoulders.

The additional pressure pulse is in a similar magnitude to that of Nordic Walking but has greatly reduced shock due to the wheels. Unlike in Nordic Walking, the vertical maximum force in treading is reduced by around 5% and relief of the joints of the lower extremity occurs.

The whole pulse exerted through the upper extremity - produced by bending of the expander in the swinging-forward phase and active pressing down of the **CROSS-SHAPER** during the swinging-back phase - is, with a magnitude of on average consistently approx.



Results of the Institute for Medical Physics of the University of Erlangen-Nürnberg

11% body-weight, much higher than that occurring in Nordic Walking and responsible for the substantial additional exertion of the cardiovascular system compared with walking.

Altogether, the upper and lower extremities are physiologically evenly trained, positive effects upon the cardiovascular system are substantially increased compared with Nordic Walking and walking, but the recommended maximum loads are not exceeded.

Summary of the study

Altogether, this pilot study shows the consistently positive health effects of the **CROSS-SHAPER**, which appear more extensive than those of walking and also - taking into account our own earlier studies - more extensive than those of Nordic Walking.

The path of motions is similar in its harmoniousness to classic-style cross-country skiing with grounding at 3 points. Pushing down and away is substantially more effective in comparison to Nordic Walking but at the same time has markedly reduced impact (shock). Large parts of the musculature are physiologically effectively trained, the cardiovascular system is loaded in the health-compatible range, the upper body is straightened up more and the spinal column is given effective relief.

You can find the whole studies at

www.cross-shaper.com

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Expert opinions

The developer, Dr Georg Kaupe, selected the Institute for Biomechanics for the practical test because the institute has an excellent scientific reputation. Prof. Dr. Thomas Jöllenbeck is regarded as an expert in the field: seven years ago he proved in a large study that Nordic Walking unfortunately does not always enable the relieving of the joints of the lower extremities for everyone that is frequently publicised. „This sport is only effective if the sticks are also used correctly“, says Prof. Dr. Jöllenbeck. „Many Nordic walkers, however, have not been correctly instructed, so that incorrect movement patterns quickly creep in and the desired training effect does not occur. On the contrary, it is often even the case that the joints are subjected to even more stress than is good for them.“

He does not see this problem with this new sport, because here, instead of the normal stick points, wheels that only turn forwards are used. This means that there are no irritating noises either. The arms are placed on special, movable forearm rests. Adjustable rubber expanders between stick and rest enable both prestressing and the increasing of force for the pressing down of the armrest with one's elbow. With **CROSS-SHAPING**, unlike Nordic Walking, the human body is grounded over three points. Movement is simple and you cannot do anything wrong either.

„To date I see exclusively positive aspects of the training“, explains Prof. Dr. Jöllenbeck. When using the **CROSS-SHAPER**, only a few soft impacts to the joints and skeletal muscles occur. This is substantially gentler for the locomotor system.

At the same time, the entire upper-body, shoulder and arm musculature builds momentum intensively during **CROSS-SHAPING**, and the upper body is supported and straightened up. This results in effective whole-body training, in which motor skills and coordination are trained in the endurance and strength range. The metabolism is also stimulated.

„In addition, this sport is very suitable for people of any age and level of fitness, due to the simple handling and individual adjustment“, adds Jöllenbeck. „**CROSS-SHAPING** can also be used on any terrain and at any time of year“, explains Juliane Pietschmann.

The Institute for Biomechanics is a unique institution in Germany within a rehabilitation clinic. The institute is highly respected in science and research. Here, movement is made visible. The cooperation between the institute and Lindenplatz Clinic is extremely intensive. The clinic can thus benefit from the research on a daily basis.



Effects

What changes in health can regular CROSS-SHAPING bring?

- ✗ improvement of cardiovascular functions
- ✗ normalisation of blood pressure
- ✗ improvement of circulation
- ✗ reduction of the risk of heart attack
- ✗ improvement of breathing functions
- ✗ improvement of brain performance - a weak heart makes the brain seem old
- ✗ positive influencing of the cholesterol and blood sugar metabolism
- ✗ prevention of diabetes diseases due to increasing of insulin effectiveness
- ✗ higher bone density
- ✗ reduction of muscular weaknesses and dysbalances
- ✗ better coordination skills
- ✗ improvement of mental recovery and mental fitness
- ✗ improvement of tolerance of frustration and stress
- ✗ natural weight reduction
- ✗ After thirty minutes of exercise in the aerobic range, hormones such as serotonin and endorphins are released. These substances have a relaxing effect and stimulate - like dopamine - imagination and creativity.

Further advantages of CROSS-SHAPING:

- ✗ is a so-called low-impact workout, a sport with few shocks and impacts
- ✗ when attention is paid to keeping cross-coordination, enables gentle treatment of the active and passive locomotor system
- ✗ with **CROSS-SHAPING**, training intensity can be individually adjusted very well. The heart-rate can thus be kept stably within a favourable pulse range.
- ✗ is suitable for people of any age and level of fitness

- ✗ offers a natural, safe and effective way to improve the cardiovascular system and at the same time to train up to 90% of body musculature
- ✗ ensures increased circulation and a better metabolism
- ✗ abilities learnt can be transferred to everyday life. This can be noticed in a gait with more body-awareness, in better body control and posture.
- ✗ **CROSS-SHAPING** is an innovative, sensorimotor training of back, body and spirit

Differences to nordic walking

- ✗ strength and endurance training
- ✗ the body is grounded via three points instead of only two
- ✗ only slight to little impact on joints and skeletal muscles
- ✗ substantial straightening of the spinal column and stretching of the trunk musculature
- ✗ no irritating noises

INFORMATION

You can find more information on **CROSS-SHAPING** at the homepage:

www.cross-shaper.com

You Tube - Cross-Shaping

facebook - Cross-Shaping - The official site

www.rebotec.de

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