

*Otto Bock*<sup>®</sup>

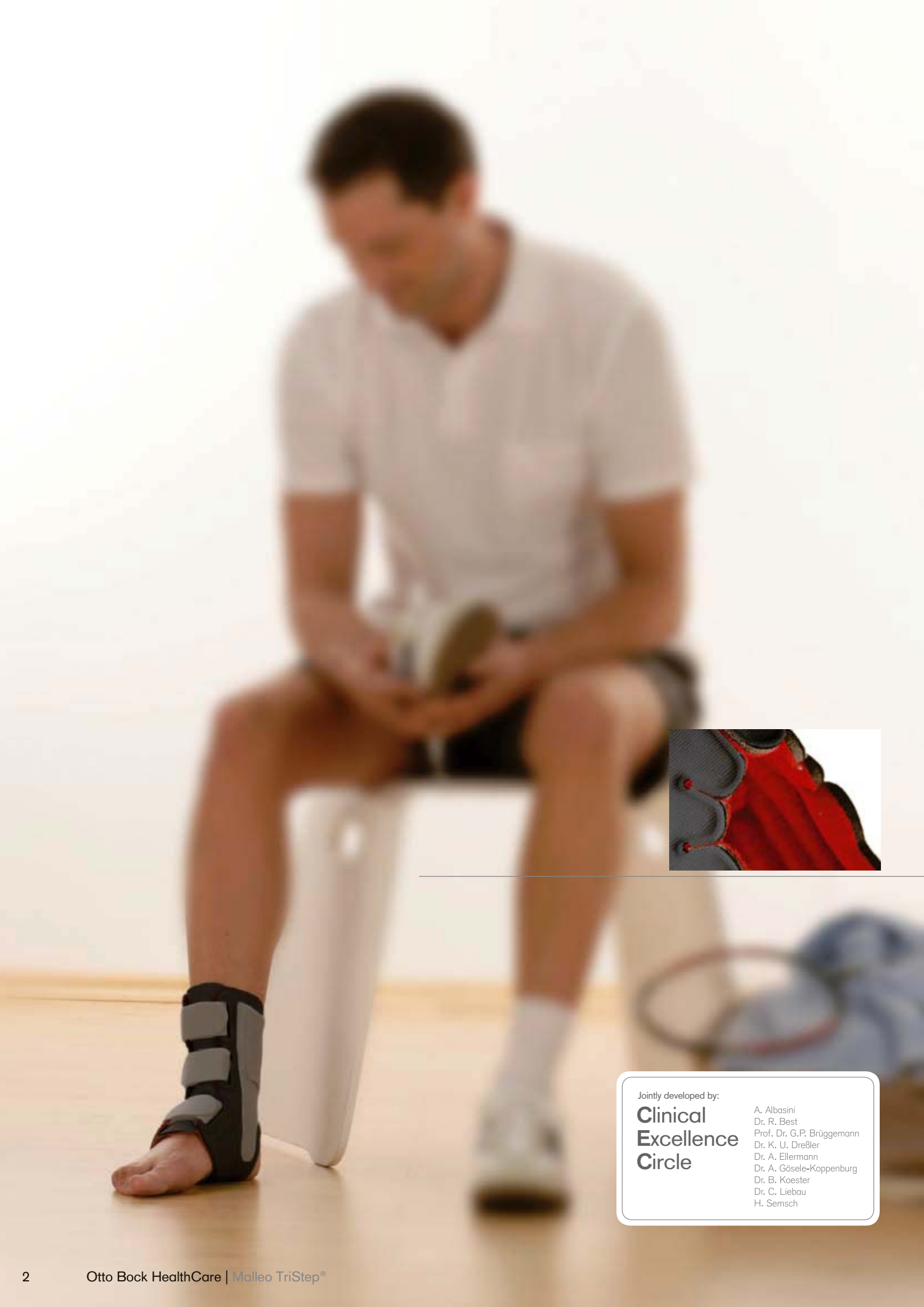
QUALITY FOR LIFE



## Malleo TriStep<sup>®</sup>

Product Information





Jointly developed by:

**Clinical  
Excellence  
Circle**

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# Malleo TriStep®

## Phase-Adapted Rehabilitation

The innovative Malleo TriStep® multifunction ankle orthosis facilitates systematic rehabilitation of the capsule-ligament system of the ankle with a three-phase fitting concept. In conjunction with increasing patient mobility, the stabilising function of the Malleo TriStep® can be systematically adapted in each therapy phase. Phase adaptation of the Malleo TriStep® supports the patient as he or she regains muscle coordination, and provides adequate support for the ligamentous apparatus of the ankle in each therapy phase.

# Malleo TriStep®

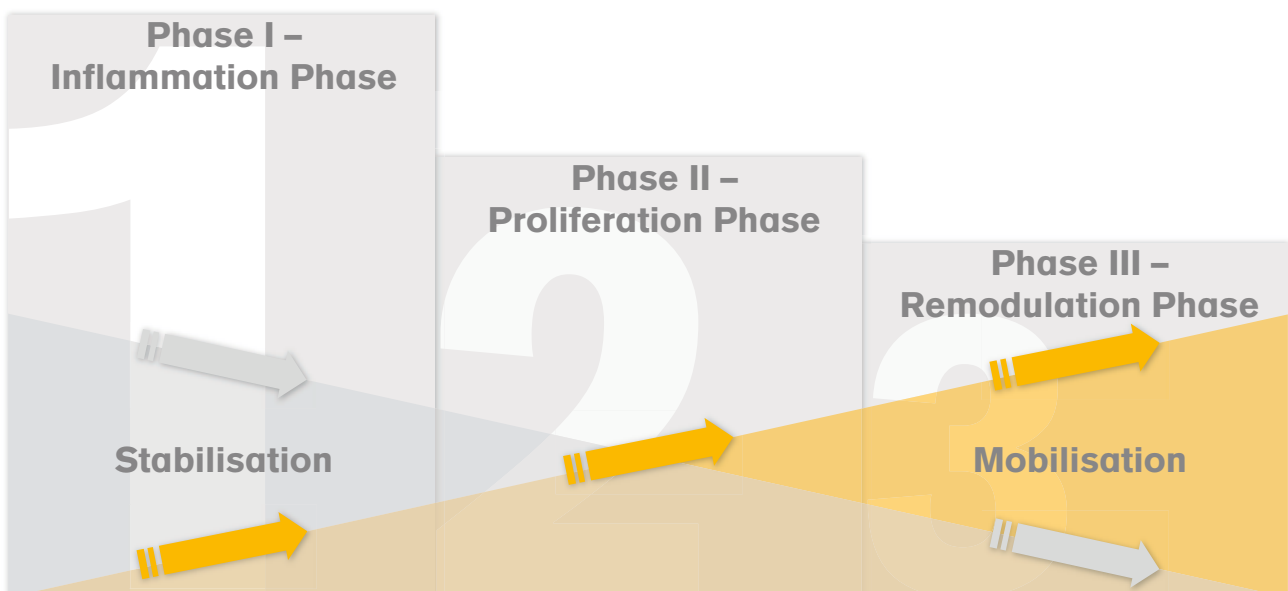


## Indications

- Acute and chronic capsule-ligament instability, ligament insufficiency and injuries to the upper and lower ankle joint as well as serious distortions and exterior ligament ruptures
- Peroneal tendon disorders and injuries
- Inflammatory and degenerative joint disorders of the upper and lower ankle joint with recurrent irritation, or chronic reactive effusion
- Post-operative use for phase-adapted protection and rehabilitation after ligament reconstruction

# Features

- The auto-adaptive synthetic lining adjusts to individual patient anatomy, thereby increasing the level of wearer comfort.
- Special slits in the lateral stabilising elements in the area of the malleoli prevent unhealthful pressure.
- The functional and stabilising elements can be added or removed in a few easy steps without the use of tools.
- The length of all hook-and-loop closures is adjustable, offering custom attachment and adjustment possibilities.
- Thanks to adjustable hook-and-loop closures, the orthosis can be opened fully. This makes it easy and comfortable to put on.
- Optional functional and stabilising elements facilitate custom adaptation and adjustment to patient requirements in any therapy phase.







# Effects

## Inflammation Phase

### Therapy goal:

The first phase focuses on immobilisation and stabilisation of the affected ankle. The primary goal is to reduce pain and swelling by following the PRICE rule.

- P – Protection
- R – Rest
- I – Ice
- C – Compression
- E – Elevation



Phase I

## Proliferation Phase

### Therapy goal:

This phase focuses on purposefully increasing ankle mobilisation under controlled loads. The degree of activity is increased and muscular stability is improved. Continued decrease in swelling of the affected structures is promoted.



Phase II

## Remodulation Phase

### Therapy goal:

The primary goal of Phase III is to promote enhanced functional stability of the ankle and to improve mobility, coordination and balance.



Phase III

# Therapy Example

Possible course of phase-adapted rehabilitation with the Malleo TriStep® orthosis based on a therapy example according to the “Clinical Excellence Circle”, consisting of A. Albasini, Dr. R. Best, Prof. Dr. G.P. Brüggemann, Dr. K.U. Dreßler, Dr. A. Ellermann, Dr. A. Gösele – Koppenburg, Dr. B. Koester, Dr. C. Liebau, H. Semsch.

The periods specified here are intended as examples for the course of treatment. Please note that each fitting must be individually assessed and evaluated by the attending doctor or therapist based on actual circumstances.

## Inflammation Phase (Day 1-3)

During these first few days, the Malleo TriStep® is used with all its components.

The foot cup and pronation strap position the foot with slight pronation and in the plantigrade position, so that sufficient stabilisation is guaranteed while inflammation recedes and initial primary healing can be induced. In this early fitting phase, weight bearing on the foot should be kept below the pain threshold and forearm crutches should be used if re-

quired. Foot and toe movements should also be conducted in the pain-free range.

In this phase, the foot cup must be worn day and night in order to maintain the described neutral position. The orthosis is not to be worn inside a shoe.

## Proliferation Phase (Day 4-28)

The patient should use the red stabilising elements at the beginning of phase II, since they guarantee the required level of stability in combination with the semi-elastic stabilisation strap. Over the course of this therapy phase, the patient can exchange the stiffer red elements for the more flexible grey elements in order to adapt the degree of stabilisation to increasing mobility. Thus the patient can assure lateral ankle stabilisation against supination loads while still permitting plantar flexion and dorsal extension of the foot.

While sports activities such as cycling, walking and swimming are definitely possible during this rehabilitation phase, they should first be discussed with the attending doctor or physiotherapist.

Exercises to improve muscular stability, strength and performance can also be conducted with the orthosis in a controlled manner and under professional supervision.

## Remodulation Phase (Day 29 – 42)

Through the gradual elimination of stabilising elements, the final therapy phase only uses the support itself. Continuing to use the stabilisation strap is optional (e.g. during sports) and depends on the severity of the injury. Furthermore, the positioning splint should be used at night time in both phase II and phase III. This is because the injured foot automatically drops into the supination position at night, which can increase the risk of recurrent ruptures.

At this point, the Malleo TriStep® offers customisable options for targeted neuromuscular training thanks to external stabilisation.

Even after the end of phase III, the patient can continue wearing the Malleo TriStep® as a preventive measure in order to avoid additional injuries.



# Applying the Orthosis

## 1 Inflammation Phase



Phase I

## 2 Proliferation Phase



Phase II

## 3 Remodulation Phase



Phase III



## Phase I – Inflammation Phase

To apply the orthosis, first open the cross straps and individual hook-and-loop closures completely. Opening the orthosis completely allows it to be applied without pain and with corresponding foot positioning in the orthosis (Figure 1). After the length of the hook-and-loop closures has been adjusted, the centre hook-and-loop closure should be fastened first. In order to do so, pass the strap through the eyelet and close it (Figure 2). Then fasten the remaining two hook-and-loop closures (Figure 3). Now the cross straps have to be applied in order to keep the foot in its neutral position (90°). Note that the outer part of the cross strap (lateral) (Figure 4) is applied first, followed by the inner part (medial) (Figure 5) of the cross strap. Finally, apply the pronation strap. In doing

so, the lower section is attached to the orthosis first so that the foot can be pulled into the desired pronation position with the upper section (Figure 6).

## Phase II – Proliferation Phase

At the beginning of the phase, the foot cup is removed by opening the pronation strap and the cross straps (Figure 1). Now the stabilisation strap must be applied in order to provide continued external stabilisation for the ankle. In order to do so, please attach the strap to the orthosis from behind using the hook-and-loop fastener (Figure 2). Ensure that the “Otto Bock” lettering is right side up and is positioned in the centre of the orthosis. To close the stabilisation strap, place the outer (lateral) strap across the instep (Figure 3), pass it across the inside edge of the foot and under the foot (Figure 4) and then attach it over the outer part of the ankle using the hook-and-loop fastener. The position of the inner (medial) part of the strap is a mirror image (Figure 5).

Over the course of this therapy phase, the stiffer red stabilising elements can be exchanged for the more flexible grey elements (Figure 6). The timing for exchanging these elements must be discussed with the attending doctor.

## Phase III – Remodulation Phase

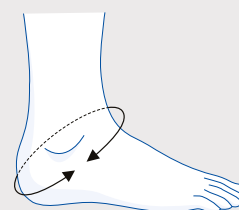
The stabilising elements are removed entirely (Figure 1), and the orthosis is used solely as a support in this therapy phase.

Using the stabilisation strap is optional and depends on how safe the patient feels and on the recommendations of the attending doctor (Figure 2).



**The size of the orthosis is selected according to ankle circumference:**

Order nr.	Side	Size	Ankle Circumference
50S8=	L/R	-XS	25.5 – 29.0 cm
50S8=	L/R	-S	29.5 – 31.5 cm
50S8=	L/R	-M	32.0 – 34.0 cm
50S8=	L/R	-L	34.5 – 36.5 cm
50S8=	L/R	-XL	37.0 – 39.0 cm





Please contact us if you have any further questions  
or would like to have more information.

Subject to technical changes.

**Otto Bock®**

**QUALITY FOR LIFE**

**Otto Bock HealthCare GmbH**

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