

THE ANKLE JOINT

At a glance

Owing to its anatomical structure, the ankle joint is a wobbly matter in the truest sense of the word – almost everyone has already experienced the painful twisting caused by a false step.

The following pages will describe this typical injury pattern and will also give you advice regarding initial care and rehabilitation. Our goal is to familiarize you with the important definitions associated with the ankle joint so you can use them as aids for a deeper conversation with your physician or as a way to learn the basics about this topic.

Contents

1. Introduction	Page 1
2. Anatomy and physiology	Page 1
3. Ligament injuries ("twisting")	Page 2
4. How do FUTURO ankle joint bandages work?	Page 3

1. Introduction

Injuries to the ankle joint occur mostly during sports activities, generally affecting the lateral ligaments or the outer ankle. While bone injuries may require surgery, ligament injuries are ideally suited for so-called early functional therapy. This means that the injured joint is immobilized or rested only for a very short time, if at all, and then re-mobilized as early as possible.



2. Anatomy and physiology

The ankle actually consists of two joints, the upper and the lower ankle joint. The lower one is the articulation located between the ankle bone or talus and the heel bone or calcaneus. It tends to play only a secondary role in ankle injuries.

The upper ankle joint connects the lower leg bone (shinbone or tibia) and the calf bone (fibula) with the ankle bone or talus. This joint is basically monaxial, meaning it articulates along a single axis; it is needed to raise and lower the foot.

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Looking at the ankle joint from behind, one sees that it has only a relatively narrow, almost point-like contact to the ankle bone. This characteristic also explains its tendency to twist.

3. Ligament injuries ("twisting")

1. Cause(s)

The inward twisting of the foot is in fact one of the most common ligament injuries – regardless whether it occurs in everyday life or sports. The injury consists of the more or less extensive tearing of the outer ligaments.

In an "inversion" sprain, the foot rotates inwards, the heel bone tilts, and the outer part of the ankle joint is under excessive strain. Most of the time, a so-called ligament sprain occurs – in other words, the ligaments underneath the outer ankle are also affected. In this case, they can either be slightly overstretched, partially torn or even fully torn. In another scenario, the outer ligament is able to resist the strain, but the outer ankle pays the price by breaking.

The area around the ankle quickly becomes swollen and moving the ankle joint is painful. Immediate first aid: elevate the injured leg and ice the joint

2. Clinical aspects/ Symptoms/Diagnosis

The way the accident occurred (twisting, spraining) already indicates the possible injury. The area above and below the outer ankle becomes swollen, reddened, and painful very quickly after the injury occurs. Attempts to walk cause severe pain, and moving the upper ankle joint is painful.

The clinical examination (which should only be performed by an experienced physician) may reveal that the upper ankle joint has become rather unstable. Immediate first aid consists of elevating the injured leg, icing the joint, and applying a light compression bandage.

If the swelling and symptoms have reached a critical stage, an X-ray should be taken. Only then will it be possible to know for certain whether "only" the ligaments have been affected or whether the outer ankle, for example, has been fractured as well.

3. Therapy essentials

If a bone fracture has occurred, surgery is often the only suitable way to restore the anatomical structure of the joint.

However if it is "only" a ligament injury, so-called early functional treatment is indicated in the overwhelming majority of cases. By this we mean the application of an immobilizing dressing (splint) for the early period, followed by the use of a protective elastic bandage that will allow the joint to move again. It is often beneficial for treatment to be supported by physical therapy – this helps the injured ligaments to heal properly and be capable of withstanding strain once again.

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If the treatment goal is not achieved, the joint remains unstable, sprains occur more often, and they can eventually damage the joint cartilage. This could be an indication for a surgical stabilization of the lateral ligaments.

4. How do FUTURO ankle joint bandages work?

Thanks to their ability to fit any part of the patient's anatomy and the elasticity of the material, FUTURO ankle joint bandages hug anatomical contours very well. They exert a slight compression on the affected painful areas of the joint and provide some heat.

Scientific studies have also demonstrated the biomechanical effect of the bandages: Fully unconscious reflexes support or improve the perception of the actual position and exertion status of the joint, thus stabilizing it very accurately by activating the corresponding muscles. Scientists call this unconscious reflex "the proprioceptive effect" of joint bandages. In the final analysis, the joint's fine motor movements are improved, and protected at the same time.

Do not apply FUTURO joint bandages to a newly injured joint before a physician has examined it. However, because of the way they act, FUTURO bandages are helpful not only for early functional therapy of capsular ligament injuries, but also for early return to activity and in some cases for long-term use.



Developed in collaboration with a panel of specialized physicians and medical therapists.

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