DR MARK MARITZ
ORTHOPAEDIC SURGEON

Syndesmosis Injury

A Patient Information Guide — High Ankle Sprain & Syndesmosis Stabilization

What Is the Syndesmosis?

The syndesmosis is a specialised joint that holds the two bones of your lower leg — the tibia (shin bone) and the fibula — firmly together just above the ankle. Unlike the ankle joint itself, the syndesmosis is not a simple hinge; it is a complex of tough ligaments whose job is to keep the ankle mortise (the socket that grips your foot) perfectly shaped during every step.

The deltoid ligament on the inside of the ankle works closely with the syndesmosis. When both are injured, the ankle can become genuinely unstable — the tibia and fibula spread apart, and the ankle no longer holds the foot securely.

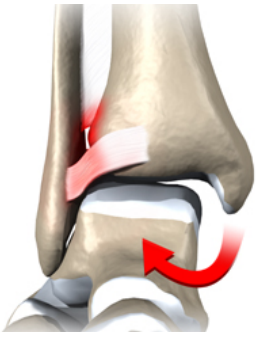
> Key point: A syndesmosis injury is very different from a common ankle sprain. The common ankle sprain involves the ligaments on the outer side of the ankle, and most people recover within a few weeks. A syndesmosis injury — sometimes called a high ankle sprain — affects the joint between the tibia and fibula, sits higher up, takes considerably longer to heal, and can have serious long-term consequences if missed or undertreated.

How Does It Happen?

A syndesmosis injury typically happens when the foot is forced outward (everted) and twisted externally relative to the leg.

This injury is especially common in:

- Contact and field sports — rugby, football, hockey
- Sports played on artificial turf or with studded boots (the foot does not slip when stressed)
- Any high-speed rotational or pivoting mechanism



Eversion ankle positions injury the syndesmosis

Syndesmosis injuries account for 1–18% of all ankle sprains, but they are responsible for a disproportionate share of significant downtime. On average, athletes miss around 6 months of sport, and in high-level rugby the injury ends the season in two out of three cases.

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Why Is It Often Missed?

Syndesmosis injuries are notoriously difficult to diagnose — especially the more subtle Grade I and Grade II injuries. The ankle may not look dramatically swollen or bruised, the X-ray may appear normal, and the pain is felt higher up than with a typical ankle sprain. Many patients are reassured that "it's just a sprain" and sent home, only to return months later with persistent pain, stiffness, or an ankle that never quite feels right.

> ⚠ **A missed or undertreated syndesmosis injury can lead to chronic ankle pain, premature arthritis, abnormal bone formation between the tibia and fibula (heterotopic ossification), and permanent loss of function. Early, accurate diagnosis is essential.**

Dr Maritz performs a careful clinical examination of every ankle injury to identify any possibility of syndesmosis involvement. Early recognition changes the treatment plan entirely.

What Are the Symptoms?

The hallmark of a syndesmosis injury is pain that sits higher than a typical ankle sprain — above and in front of the ankle joint, in the gap between the tibia and fibula. You may notice:

- Pain and tenderness directly over the front of the ankle, above the joint line
- Pain that is worse with external rotation of the foot (twisting outward)
- Difficulty or pain with a single-leg calf raise
- Swelling that appears slowly and may be less dramatic than a lateral ankle sprain
- A feeling of instability or that the ankle "gives way"
- Pain with weight-bearing that is out of proportion to the visible injury

In more severe injuries where the fibula has also fractured (a Maisonneuve fracture pattern), there may be pain extending up the outer aspect of the lower leg or even around the knee.

How Is It Diagnosed?

Diagnosis relies on a combination of clinical examination and imaging. Clinical examination remains the most accurate tool — no single scan can replace careful hands-on assessment.

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Clinical Examination and imaging

Dr Maritz uses several targeted tests to identify a syndesmosis injury. The accuracy of these tests diminishes the longer one waits after the initial injury. Again, highlighting the need for early diagnosis.

Additional imaging tests such as xrays, ultrasound or MRI are required depending on the clinical scenario.

Treatment

Syndesmosis injuries are classified into three grades based on stability. The grade determines whether surgery is needed.

Factors Involved in decision Making

Grade of Injury

Subtle grade 1 injuries can be treated conservatively

Sporting requirements of the Patient

Professional athletes require early return to play

Chronicity of injury

Chronic injuries have a poorer outcome, especially once arthritis sets in

Associated Injuries

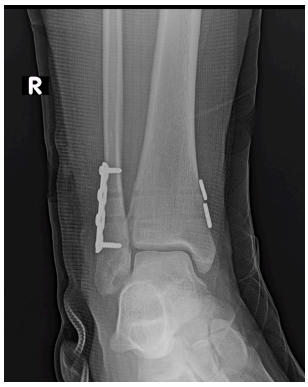
Ankle fractures with associated syndesmosis instability require urgent attention

Injuries Requiring Surgery

Controversy surrounds the ideal stabilization with unstable syndesmosis injuries. Dr maritz's preference is:

- Arthroscopic assessment of the joint to exclude cartilage damage
- Tightrope stabilization with internal brace reinforcement of the AiTFL

This evidenced based approach allows for a stable repair, enhancing a more earlier return to function.



Tightrope stabilization over a mini plate

It is important not to rush return to sport. Even with a stable injury, the syndesmosis complex requires adequate time to fully heal — returning too soon risks re-injury or progression to instability.

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Surgery: What to Expect

Syndesmosis surgery is performed under general anaesthetic, usually as a day. Dr Maritz uses a less invasive approach wherever possible.

Technology has improved syndesmosis surgery outcomes

Traditional techniques used screws to stabilize the syndesmosis. This resulted in significant problems

The Tightrope device is a strong flexible cord, which allows the tiny physiological movement between the bones to continue while still maintaining the correct relationship between them. The implant does not need to be routinely removed, and patients generally return to full function more quickly.

Recovery

Recovery from syndesmosis surgery is a structured, phased process. Patience and commitment to rehabilitation are what determine the final outcome — not the surgery alone.

Recovery at a Glance

Immediately after surgery — Week 2

- A Moonboot will be applied directly after surgery
- Use a waterproof shower cast cover when bathing or showering
- Keep the leg elevated as much as possible to control swelling
- Some bleeding through the bandage is normal
- Use a knee scooter or crutches to keep weight off the foot

Week 2 appointment

- Wounds are cleaned and assessed. Sutures are dissolvable and do not removing
- The moonboot is refitted, which is worn for the next 4–5 weeks
- Partial weight-bearing in the moonboot begins at 2/3 weeks —use crutches to offload the foot as needed
- Specific movement exercises are provided to avoid stiffness in the ankle setting in.

Week 6 appointment

- Healing is assessed clinically.

- Weaning out of the moonboot begins, with a graduated increase in activity
- Formal physiotherapy begins to restore strength, range of motion, and normal gait
- Some swelling and discomfort at this stage is completely normal — it settles as the foot begins to move more

Longer-term milestones

- Normal shoes, as swelling allows
- Running and impact sport: from 4–6 months, guided by physiotherapy clearance
- Full resolution of swelling: expect 3 - 4 months in some patients

Longer-term milestones

- Return to sport criteria is guided by the attending physiotherapist and biokineticist

⚠ Do not attempt to accelerate your return to sport beyond what your rehabilitation programme allows. Returning too early with an incompletely healed syndesmosis risks re-injury, chronic instability, and early arthritis — all of which carry far longer recovery times than waiting those extra few weeks.

Risks and Possible Complications

Syndesmosis surgery is generally safe and well-tolerated. As with all surgery, there are risks to be aware of:

- Wound infection — rare; treated with antibiotics or, very occasionally, wound washout
- Deep vein thrombosis (DVT) — blood clot risk is reduced with blood-thinning medication and movement during your non-weight-bearing period
- Nerve irritation — small nerves around the incision site may cause temporary numbness or tingling; this usually resolves
- Implant discomfort — the Tightrope button can occasionally be felt under the skin on the outer fibula; very rarely it needs removal
- Mal-reduction — if the fibula is not perfectly positioned during surgery, the ankle may remain subtly incongruent; Dr Maritz uses intraoperative imaging to minimise this risk
- Stiffness — some loss of ankle motion is common but usually improves with physiotherapy; persistent stiffness affecting daily life is uncommon
- Re-injury or re-rupture — uncommon when rehabilitation is completed fully before return to sport

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Supporting Your Recovery

The following measures will help optimise your healing and get you back to full activity as quickly as possible:

- Do not smoke. Smoking impairs both tendon healing and wound repair, and significantly increases the risk of complications.
- Take Vitamin D if prescribed — these support overall musculoskeletal health and tissue recovery.
- Maintain a nutritious, protein-rich diet to provide the building blocks for tendon collagen repair.
- Take prescribed pain medication regularly, particularly during the first week.
- Elevate the leg during the first two weeks to control swelling.
- Commit fully to your physiotherapy programme — the surgical procedure creates the conditions for healing, but rehabilitation is what restores strength, flexibility, and function.
- Move your toes regularly inside the moonboot to maintain circulation.

> ⚠ **Important: When to Contact Us**
>
> If you have any concerns following your surgery — about pain levels, the wound, excessive swelling, or anything else — please contact Dr Maritz's rooms directly. Early communication allows us to address any concern promptly and keeps your recovery on track.