



German Orthopaedic Hospital Matters

Dear Valued Patient

This newsletter is aimed to inform you of the latest medical and state-of-art procedures, to discuss patient safety and to share information. In this issue, we will discuss Customized Joint Replacement.

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Dr. Christian Reintjes



Sprained Ankle

Ankle sprains are common injuries that occur among people of all ages. They range from mild to severe; depending on how much damage there is to the ligaments. Ligaments are strong, fibrous tissues that connect bones to other bones. The ligaments in the ankle help to keep the bones in proper position and stabilize the joint.

Most sprained ankles occur in the lateral ligaments on the outside of the ankle. Sprains can range from tiny tears in the fibers that make up the ligament to complete tears through the tissue. If there is a complete tear of the ligaments, the ankle may become unstable after the initial injury phase passes. Over time, this instability can result in damage to the bones and cartilage of the ankle joint. Without proper treatment and rehabilitation, a more severe sprain can weaken your ankle—making it more likely that you will injure it again. Repeated ankle sprains can lead to long-term problems, including chronic ankle pain, arthritis, and ongoing instability.

Cause

Your foot can twist unexpectedly during many different activities, such as:

- Walking or exercising on an uneven surface
- Falling down
- Participating in sports that require cutting actions or rolling and twisting of the foot—such as trail running, basketball, tennis or football
- During sports activities, someone else may step on your foot while you are running, causing your foot to twist or roll to the side.

Symptoms

A sprained ankle is painful. Other symptoms may include:

- Swelling
- Bruising
- Tenderness to touch
- Instability of the ankle

Physical Examination

Your doctor will diagnose your ankle sprain by performing a careful and thorough examination of your foot and ankle. This physical exam may be painful, but with the examination your doctor may be able to tell the severity of your ankle sprain just based on the findings. The examination includes:

- **Palpate**
Your doctor will gently press around the ankle to determine which ligaments are injured.
- **Range of motion**
He or she may also move your ankle in different directions; however, a stiff, swollen ankle usually will not move much.
- **Stability:**
The doctor will check the stability of the ankle joint manually by performing different stability tests and compare the results with the non injured side.

Imaging Tests

Based on the clinical findings the doctor will decided about further imaging to be conducted, e.g. x-ray, MRI (magnetic resonance imaging) scan or ultrasound.

Grades of Ankle Sprains

After the examination, your doctor will determine the grade of your sprain to develop your appropriate treatment plan. Sprains are graded from grade 1 (mild) to grade 3 (severe) based on how much damage has occurred to the ligaments.

Treatment

More or less all ankle sprains can be treated without surgery. Even a complete ligament tear can heal without surgical repair if it is immobilized appropriately.

A three-phase program guides treatment for all ankle sprains—from mild to severe:

- **Phase 1** includes resting, protecting the

ankle and reducing the swelling.

- **Phase 2** includes restoring range of motion, strength and flexibility.

- **Phase 3** includes maintenance exercises and the gradual return to activities that do not require turning or twisting the ankle. This will be followed later by being able to do activities

that require sharp, sudden turns (cutting activities)—such as tennis, basketball, or football. This three-phase treatment program may take just 2 weeks to complete for minor sprains, or up to 6 to 12 weeks for more severe injuries.

For milder sprains, your doctor may recommend simple home treatment.

First aid

The RICE protocol.

Follow the RICE protocol as soon as possible after your injury.

Rest your ankle by not walking on it.

Ice should be immediately applied to keep the swelling down (for 20 - 30 minutes 3- 4 times daily)
 Note: Do not apply ice directly to your skin!

Compression dressings, bandages or wraps immobilize and support your injured ankle.

Elevate your ankle above the level of your heart as often as possible during the first 48 hours.

For the pain and swelling medication like non-steroidal-anti-inflammatory-drugs (NSAIDs) such as Ibuprofen or Diclofenac can help control.



Nonsurgical Treatment

Some sprains will need treatment in addition to the RICE protocol and medications.

Crutches

Usually there is swelling and pain which makes it necessary to use crutches initially for few days

Immobilization

During the early phase of healing, it is key to support your ankle and protect it from sudden movements. For a Grade 2 sprain, a removable plastic device such as a cast-boot or air stirrup-type brace can provide support. Grade

3 sprains may require a short leg cast or cast-brace for 2 to 3 weeks. Your doctor may encourage you to put some weight on your ankle while it is protected. This can help with healing.

Physical therapy

Rehabilitation exercises are used to prevent stiffness, increase ankle strength and prevent chronic ankle problems. Your doctor or physiotherapist will provide you with exercises that are appropriate according to your damage.

Surgical Treatment

Surgical treatment for ankle sprains is rare. Surgery is reserved for injuries that fail to respond to nonsurgical treatment and for patients who experience persistent ankle instability after months of rehabilitation and nonsurgical treatment.

Surgical options may include:

Arthroscopy

During arthroscopy, your doctor uses a small camera, called an arthroscope, to look inside your ankle joint. Miniature instruments are used to remove any loose fragments of bone or cartilage or parts of the ligament that may be caught in the joint.

Reconstruction

Your doctor may be able to repair the torn ligament with stitches or sutures. In some cases, he or she will reconstruct the damaged

ligament by replacing it with a tissue graft obtained from other ligaments and/or tendons found in the foot, around the ankle or the knee.

Postoperative treatment

Immobilization

There is typically a period of immobilization following reconstructive ankle surgery. Your doctor may apply a cast or protective boot to protect the repaired or reconstructed ligament. Make sure to follow your doctor's instructions about how long

to wear the protective device; if you remove it too soon, a simple misstep can re-tear the fixed ligament.

Rehabilitation

Rehabilitation after surgery involves time and attention to restore strength and range of motion so you can return to pre-injury function. The length of time you can expect to spend recovering depends upon the extent of injury and the amount of surgery that was done. Rehabilitation may take from weeks to months.

Outcomes

Outcomes for ankle sprains are generally quite good, even with conservative treatment. With proper treatment, most patients are able to resume their day-to-day activities after a period of time.

Most important, successful outcomes are dependent upon patient dedication and commitment to their rehabilitation exercises. Incomplete rehabilitation is the most common cause of chronic ankle instability after a sprain. If a patient stops doing the strengthening exercises, the injured ligament(s) will weaken and put the patient at risk for continued ankle sprains.

Prevention

The best way to prevent ankle sprains is to maintain good muscle strength, balance and flexibility. The following precautions will help prevent sprains:

- Warm up thoroughly before exercise and physical activity
- Pay careful attention when walking, running, or walking on an uneven surface
- Wear shoes that are made for your activity
- Slow down or stop activities when you feel pain or fatigue

