

Sports Shorts

Guidelines for Pediatricians

This information is available on the Ohio Chapter, American Academy of Pediatrics' Web site at www.ohioaap.org

Ankle Sprains

INTRODUCTION

An ankle sprain or ankle ligament injury is a medical condition in which one or more of the ligaments of the ankle are stretched, torn, or partially torn.

MECHANISM OF INJURY

- 85% of ankle injuries are due to inversion forces to the lateral aspect of the ankle.
- Twisted forces may cause high sprains or a syndesmosis sprain (connection between the tibia and fibula).

ANATOMY

- The anterior talofibular ligament (ATFL) is the first or only ligament to be injured in the majority of ankle sprains.
- Other lateral ligaments: Calcaneofibular ligament (CFL), posterior talofibular ligament (PTFL).
- Medial Ligament: Deltoid ligament.
- Syndesmosis ligament.

HISTORY

- Determine mechanism of injury: How force was applied to foot and position of foot at time of injury.
- Ask about past ankle injuries.
- Understand requirements of athlete's sport to guide treatment program.

EXAMINATION

- Inspection: swelling, ecchymosis, deformity.
- Palpation: Examine uninjured ankle first
 1. Location of pain at sites:
 - Fibular shaft
 - Distal fibular physis
 - Anterior talofibular ligament
 - Calcaneofibular ligament
 - Posterior talofibular ligament
 - Tibial physis
 - Deltoid ligament
 - Syndesmosis ligament
 2. Determine functional limitations: Ability to stand, walk, run, jump, pivot, balance
 - Special tests
 1. Anterior drawer test (ATFL laxity).

2. Talor tilt test (CFL laxity).
3. Modified Romberg test (proprioception deficit).

• Radiographs

1. Standard views: AP, lateral, and mortise views to determine if a fracture (especially an avulsion fracture) is present.
2. 15-20% of ankle sprains may have a fracture.

INITIAL FIRST AID (RICE)

- Rest ankle by not walking on it - crutches.
- Ice to keep swelling down – 20 to 30 minutes three to four times a day.
- Compression dressings – ACE wrap to reduce swelling.
- Elevate ankle above heart for 48 hours.

REHABILITATION PROGRAM AND RETURN TO PLAY

- Prescribe treatment or refer to sports-minded physical therapist for rehabilitation program.
- **Phase I:** Rest, protection, early weightbearing.
- **Phase II:** Strengthening, flexibility, aerobics.
- **Phase III:** Restore sport specific skills.
- **Return to play:** When full ROM, ability to hop and balance (proprioception restored) on affected ankle.
- **Recovery time:** 2-6 weeks depending on severity of injury.
- **Follow-up:** 1-2 weeks after injury.

PREVENTION OF ANKLE INJURIES

- Proper treatment and full rehabilitation of previous ankle sprains will help to prevent recurrent ankle sprains.
- External support is effective for chronic ankle instability.

Author: Leonard Janchar, MD, FAAP

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Guidelines for Parents, Athletes

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Ankle Sprains

WHAT IS AN ANKLE SPRAIN?

An ankle sprain is a common injury in which ligaments that connect the ankle bones are stretched or torn.

- 25,000 ankle sprains occur every day.
- 15% of all sports-related injuries are ankle sprains.
- Also called twisted ankle, rolled ankle, or ankle ligament injury
- Many ankle sprains result from previous ankle sprains.
- 85% of ankle sprains are lateral ankle sprains.
- High ankle sprains involve the connection between the tibia and fibula.

WHAT TO DO WHEN AN ATHLETE HAS AN ANKLE SPRAIN?

- Occurs when foot is turned or rolled beyond motions that are considered normal for the ankle.
- Pain, swelling, inability to walk or run may occur.
- RICE (Rest, Ice, Compression, Elevation) for injured area and seek evaluation.
- Do not apply heat.

WHAT WILL MY DOCTOR DO TO DIAGNOSE AND TREAT MY ANKLE SPRAIN?

- Determine position of foot at the time of injury and how injury occurred.
- Determine location of pain.
- Evaluate functional limitations (inability to stand, walk, run, jump, pivot, balance).
- Understand requirements of athlete's sport to guide treatment program.
- Examine ankle.
- Order X-rays if needed.
- Prescribe treatment or refer to sports-minded physical therapist for rehabilitation program.
- Refer if fracture present for further evaluation and treatment.

TREATMENT AND RETURN TO PLAY

• Phase I:

1. Rest and protection (wraps, braces, casts, crutches).
2. Control inflammation (ice and anti-inflammatory drugs, ibuprofen and naproxen sodium).
3. Early weight bearing.
4. Beginning exercises such as writing alphabet with toes.

• Phase II:

1. After swelling reduced, start strengthening and range of motion exercises.
2. Start aerobic activities as tolerated – walking, then jogging.

• Phase III:

1. Restore balance, agility and sport-specific skills.
2. Make transition back to sport.

• Return to play when athlete has:

1. Run with full range of motion.
2. Hop on affected ankle without pain.
3. Show balance while performing single leg-stance on affected ankle.

- Recovery time frame is two to six weeks depending on severity of injury.

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