

DEFINITION

- Injury to a bone, muscle, joint, or ligament of the ankle.
- An injury to the skin of the ankle area may be present, such as a bruise (contusion), cut (laceration), scrape (abrasion), or scratch.

PAIN SEVERITY is defined as:

- **None (0):** No pain.
- **Mild (1-3):** Doesn't interfere with normal activities.
- **Moderate (4-7):** Interferes with normal activities (e.g., work or school), awakens from sleep, or limping.
- **Severe (8-10):** Excruciating pain, unable to do any normal activities, unable to walk.

INITIAL ASSESSMENT QUESTIONS

1. MECHANISM: "How did the injury happen?" (e.g., twisting injury, direct blow)
2. ONSET: "When did the injury happen?" (e.g., minutes or hours ago)
3. LOCATION: "Where is the injury located?"
4. APPEARANCE OF INJURY: "What does the injury look like?"
5. WEIGHT-BEARING: "Can you put weight on that foot?" "Can you walk (four steps or more)?"
6. SIZE: For cuts, bruises, or swelling, ask: "How large is it?" (e.g., inches or centimeters; entire joint)
7. PAIN: "Is there any pain?" If Yes, ask: "How bad is the pain?" "What does it keep you from doing?" (Scale 0-10; or none, mild, moderate, severe)
 - NONE (0): No pain.
 - MILD (1-3): Doesn't interfere with normal activities.
 - MODERATE (4-7): Interferes with normal activities (e.g., work or school), awakens from sleep, limping.
 - SEVERE (8-10): Excruciating pain, unable to do any normal activities, unable to walk.
8. TETANUS: For any breaks in the skin, ask: "When was your last tetanus booster?"
9. OTHER SYMPTOMS: "Do you have any other symptoms?"
10. PREGNANCY: "Is there any chance you are pregnant?" "When was your last menstrual period?"

TRIAGE ASSESSMENT QUESTIONS

Call EMS 911 Now

Major bleeding (e.g., actively bleeding or spurting) and can't be stopped

FIRST AID: Apply direct pressure to the entire wound with a clean cloth.

Amputation or bone sticking through the skin

FIRST AID: Apply direct pressure to the entire wound with a clean cloth.

Looks like a dislocated joint (very crooked or deformed)

Reason: If dislocated, adult will be unable to walk at all. Possible vascular compromise. Needs reduction.

Serious injury with multiple fractures (broken bones)

Sounds like a life-threatening emergency to the triager

See More Appropriate Protocol

Ankle pain from overuse (e.g., sports, running, physical work)

[Go to Protocol: Ankle Pain \(Adult\)](#)

Ankle pain not from an injury

[Go to Protocol: Ankle Pain \(Adult\)](#)

Foot injury is main concern

[Go to Protocol: Foot Injury \(Adult\)](#)

Wound looks infected (e.g., spreading redness, pus)

[Go to Protocol: Wound Infection Suspected \(Adult\)](#)

Caused by an animal bite or claw wound

[Go to Protocol: Animal Bite \(Adult\)](#)

Caused by a human bite

[Go to Protocol: Human Bite \(Adult\)](#)

Cast problems or questions

[Go to Protocol: Cast Symptoms and Questions \(Adult\)](#)

Splint or elastic bandage problems or questions

[Go to Protocol: Splint Symptoms and Questions \(Adult\)](#)

Go to ED Now

Bullet wound, stabbed by knife, or other serious penetrating wound

FIRST AID: If penetrating object still in place, don't remove it. Reason: Removal could increase bleeding.

Can't stand (bear weight) or walk

R/O: Achilles tendon rupture, fracture

Go to ED/UCC Now (or to Office Now per Practice Policy)

Cut (laceration) is gaping (split) OR length is > 1/2 inch (12 mm)

Reason: Cut (laceration) may need laceration repair (e.g., sutures, staples, skin glue). Notes: A small cut does not need sutures (or repair with skin glue or staples) if the skin edges are closed (not gaping open). A typical scratch does not need sutures. Triager may wish to refer in for evaluation if unsure.

Bleeding and won't stop after 10 minutes of direct pressure (using correct technique)

Reason: May need laceration repair (e.g., sutures).

Dirt in the wound and not removed with 15 minutes of scrubbing

Reason: Needs irrigation and/or additional wound care.

New numbness (loss of sensation) of foot or toe(s)

R/O: nerve injury. Note: The purpose of this triage question is to identify true nerve damage. Symptoms of throbbing or mild tingling can occur after an ankle or foot injury and are not specific for nerve damage.

Sounds like a serious injury to the triager

R/O: fracture, dislocation

See in Office Today

Severe pain (e.g., excruciating)

R/O: fracture, severe sprain

A "snap" or "pop" was felt (or heard) at the time of injury

R/O: Achilles tendon rupture. Note: With an Achilles tendon rupture there is weakness or inability to extend the foot (e.g., can't stand on tiptoes).

Large swelling or bruise (> 2 inches or 5 cm)

R/O: minor fracture, muscle hematoma

No prior tetanus shots (or is not fully vaccinated) and any wound (e.g., cut, scrape)

Note: A full tetanus vaccination series consists of 3 shots. Nearly all adults born in North America have received a full 3-tetanus shot series in childhood.

HIV positive or severe immunodeficiency (severely weak immune system) and DIRTY cut or scrape

Reason: May need Tetanus Immune Globulin (TIG). Referral to the emergency department may likely be required as doctors' offices usually do not stock TIG.

See in Office Today or Tomorrow

Moderate pain (e.g., interferes with normal activities, limping) and high-risk adult (e.g., age > 60 years, osteoporosis, chronic steroid use)

Reason: There is greater risk of fracture in patients with osteoporosis (bone thinning).

Suspicious history for the injury

R/O: domestic violence, elder or vulnerable adult abuse. Note: Triager should consider risk of immediate danger, injury severity, and time needed for caller to safely arrange for medical visit. In some cases, a more urgent disposition is warranted.

Last tetanus shot > 5 years ago and DIRTY cut or scrape

Reason: May need a tetanus booster shot (vaccine).

Last tetanus shot > 10 years ago and CLEAN cut or scrape (e.g., object AND skin were clean)

Reason: May need a tetanus booster shot (vaccine).

Patient wants to be seen

See in Office Within 3 Days

Moderate pain (e.g., interferes with normal activities, limping) lasts > 3 days

R/O: contusion, sprain, minor fracture

Ankle pain has not improved after 3 days

R/O: sprain, fracture

Ankle still painful or swollen after 2 weeks

Home Care

Minor injury or pain from direct blow

Reason: Probably a minor contusion (bruise).

Minor injury or pain from twisting or over-stretching

Reason: Probably a minor sprain.

Small cut (scratch) or abrasion (scrape) is also present

Reason: Minor superficial cut or abrasion.

Home Care Advice

Treatment of a Minor Bruise

1. **Reassurance and Education - Direct Blow (Contusion, Bruise):**
 - A direct blow to your ankle can cause a contusion. Contusion is the medical term for bruise.
 - Symptoms are mild pain, swelling, and/or bruising.
 - *Here is some care advice that should help.*
2. **Treatment of Mild Contusions (Such as Direct Blow to Ankle):**
 - Use R.I.C.E. (rest, ice, compression, and elevation) for the first 24 to 48 hours.
 - **Rest:** After 24 hours of rest, allow any activity that doesn't cause pain.
 - **Ice:** Put a cold pack or an ice bag (wrapped in a moist towel) on the area for 20 minutes. Repeat in 1 hour, then every 4 hours while awake. Continue this for the first 48 hours (2 days) after an injury.
 - **Compression:** Wrap the ankle and foot with a snug, elastic bandage for 48 hours. Numbness, tingling, or increased pain means the bandage is too tight.
 - **Elevation:** Keep the injured ankle elevated and at rest for 24 hours.
3. **Use a Cold Pack for Pain, Swelling, or Bruising:**
 - Put a cold pack or an ice bag (wrapped in a moist towel) on the area for 20 minutes.
 - Repeat in 1 hour, then every 4 hours while awake.
 - Continue this for the first 48 hours (2 days) after an injury.
 - This will help decrease pain, swelling, and bruising.
 - *Caution:* Avoid frostbite.
4. **Use Heat on Area After 48 Hours:**
 - If pain, swelling, or bruising lasts more than 48 hours (2 days), then use heat on the area.
 - Use a heat pack, heating pad, or warm wet washcloth.
 - Do this for 10 minutes three times a day.
 - This will help increase blood flow and improve healing.
 - *Caution:* Avoid burn. Do not sleep on a heating pad.
5. **Expected Course:**
 - A bruise can continue to look worse for the first 24 hours after the injury. As the bruised skin heals it may turn green and yellow. It can take up to 2 weeks to completely go away.
 - Pain and swelling usually peak on day 2 or 3.
 - Swelling is usually gone by 7 days.
 - Pain may take 2 weeks to go away.
6. **Call Back If:**
 - Severe pain lasts over 2 hours after pain medicine and ice pack
 - Pain not improved after 3 days
 - Pain or swelling lasts over 2 weeks
 - Swelling or bruise becomes over 2 inches (5 cm)
 - You become worse

Treatment of a Minor Sprain or Strain

1. **Reassurance and Education - Bending or Twisting Injury (Strain, Sprain):**
 - Strain and sprain are the medical terms used to describe over-stretching of the muscles and ligaments of the ankle or foot. A twisting or bending injury can cause a strain or sprain.

- The main symptom is pain that is worse with movement and walking. Swelling can occur. Rarely there may be slight bruising.
- *Here is some care advice that should help.*

2. **Treatment of Mild Sprains (Such as Mild Sprained Ankle):**

- Use R.I.C.E. (rest, ice, compression, and elevation) for the first 24 to 48 hours.
- **Rest:** After 24 hours of rest, allow any activity that doesn't cause pain.
- **Ice:** Put a cold pack or an ice bag (wrapped in a moist towel) on the area for 20 minutes. Repeat in 1 hour, then every 4 hours while awake. Continue this for the first 48 hours (2 days) after an injury.
- **Compression:** Wrap the ankle with a snug, elastic bandage for 48 hours. Numbness, tingling, or increased pain means the bandage is too tight.
- **Elevation:** Keep the injured ankle elevated and at rest for 24 hours.

3. **Use a Cold Pack for Pain, Swelling, or Bruising:**

- Put a cold pack or an ice bag (wrapped in a moist towel) on the area for 20 minutes.
- Repeat in 1 hour, then every 4 hours while awake.
- Continue this for the first 48 hours (2 days) after an injury.
- This will help decrease pain, swelling, and bruising.
- *Caution:* Avoid frostbite.

4. **Use Heat on Area After 48 Hours:**

- If pain, swelling, or bruising lasts more than 48 hours (2 days), then use heat on the area.
- Use a heat pack, heating pad, or warm wet washcloth.
- Do this for 10 minutes three times a day.
- This will help increase blood flow and improve healing.
- *Caution:* Avoid burn. Do not sleep on a heating pad.

5. **Expected Course:**

- Pain and swelling usually peak on day 2 or 3.
- Swelling is usually gone by 7 days.
- Pain may take 2 weeks to completely resolve.

6. **Call Back If:**

- Severe pain lasts over 2 hours after pain medicine and ice pack
- Pain not improved after 3 days
- Pain or swelling lasts over 2 weeks
- Swelling or bruise becomes over 2 inches (5 cm)
- You become worse

Treatment of a Small Cut or Scrape

1. **Reassurance and Education - Small Cut or Scratch:**

- It sounds like a small cut or scratch that you can treat yourself.
- A small cut does not need sutures (or repair with skin glue or staples) if the skin edges are closed (not gaping open).
- A shallow scratch does not need sutures.
- However, it is important to keep the wound clean and watch for infection.
- *Here is some care advice that should help.*

2. **Cleaning a Cut or Scrape:**

- Wash the wound with soap and water.
- For any dirt, scrub gently with a washcloth.
- *Bleeding:* Put direct pressure on the wound for 10 minutes to stop any bleeding. Place a clean cloth or gauze pad over the wound. Press down firmly with your fingers over the bleeding area.

3. **Antibiotic Ointment for a Cut or Scrape:**
 - Put a small amount of antibiotic ointment on the wound once a day for 3 days.
 - You can get this over-the-counter (OTC) at a drugstore.
 - Use Bacitracin ointment (OTC in U.S.) or Polysporin ointment (OTC in Canada) or one that you already have.
 - *Read the package instructions on all medicines that you use.*
4. **Dressing a Cut or Scrape:**
 - Cover the wound with a dressing for 3 days.
 - Change the dressing daily or if it gets dirty.
 - Use a sterile gauze held in place with paper tape or an adhesive bandage (such as a Band-Aid).
5. **Liquid Skin Bandage:**
 - You can use a liquid skin bandage **instead** of using an antibiotic ointment with an adhesive bandage (such as Band-Aid, Curad) or a dressing.
 - **Benefits:** Liquid skin bandage has several benefits when compared to an adhesive bandage (such as Band-Aid) or a dressing. You only need to put a liquid bandage on minor cuts and scrapes one time. Liquid bandage helps stop minor bleeding. It seals the wound and it may promote faster healing and lower infection rates. However, it also costs more.
 - **How to Use It:** First clean and dry the wound. You put on the liquid as spray or with a swab. It dries in less than a minute and usually lasts a week. You can get it wet. Don't use antibiotic ointment with a liquid skin bandage.
 - **Examples:** Liquid skin bandage is available over-the-counter. Examples include New Skin, Curad Spray Bandage, and 3M No Sting Liquid Bandage Spray.
6. **Call Back If:**
 - Dirt still in the wound after scrubbing
 - Looks infected (pus, redness)
 - Doesn't heal within 10 days
 - You become worse

Over-The-Counter Pain Medicines

1. **Pain Medicines:**
 - For pain relief, you can take either acetaminophen, ibuprofen, or naproxen.
 - They are over-the-counter (OTC) pain drugs. You can buy them at the drugstore.
 - **Acetaminophen - Regular Strength Tylenol:** Take 650 mg (two 325 mg pills) by mouth every 4 to 6 hours as needed. Each Regular Strength Tylenol pill has 325 mg of acetaminophen. The most you should take is 10 pills a day (3,250 mg total). *Note:* In Canada, the maximum is 12 pills a day (3,900 mg total).
 - **Acetaminophen - Extra Strength Tylenol:** Take 1,000 mg (two 500 mg pills) every 6 to 8 hours as needed. Each Extra Strength Tylenol pill has 500 mg of acetaminophen. The most you should take is 6 pills a day (3,000 mg total). *Note:* In Canada, the maximum is 8 pills a day (4,000 mg total).
 - **Ibuprofen (such as Motrin, Advil):** Take 400 mg (two 200 mg pills) by mouth every 6 hours. The most you should take is 6 pills a day (1,200 mg total).
 - **Naproxen (such as Aleve):** Take 220 mg (one 220 mg pill) by mouth every 8 to 12 hours as needed. You may take 440 mg (two 220 mg pills) for your first dose. The most you should take is 3 pills a day (660 mg total). *Note:* In Canada, the maximum is 2 pills a day (one every 12 hours; 440 mg total).
 - Use the lowest amount of medicine that makes your pain better.
2. **Pain Medicines - Extra Notes and Warnings:**
 - Follow these dosing instructions unless your doctor (or NP/PA) has told you to take a different dose.
 - Acetaminophen is thought to be safer than ibuprofen or naproxen in people over 65 years old.

Acetaminophen is in many OTC and prescription medicines. It might be in more than one medicine that you are taking. You need to be careful and not take an overdose. An acetaminophen overdose can hurt the liver.

- McNeil, the company that makes Tylenol, has different maximum dosage instructions for Tylenol in Canada than in the United States. Bayer, the company that makes Aleve, has different dosage maximum instructions for Aleve in Canada and the United States.
- Some people with muscle and joint pain benefit from using OTC topical pain medicines (such as the topical NSAID diclofenac). Do NOT also take NSAIDs by mouth while using a topical NSAID.
- **Caution:** Do not take acetaminophen if you have liver disease.
- **Caution:** Do not take ibuprofen or naproxen if you have stomach problems, kidney disease, are pregnant, or have been told by your doctor to avoid this type of anti-inflammatory drug. Do not take ibuprofen or naproxen for more than 7 days without consulting your doctor. If you take blood thinners, ibuprofen and naproxen can increase the risk of bleeding.
- *Before taking any medicine, read all the instructions on the package.*

3. **Call Back If:**

- You have more questions
- You become worse

FIRST AID

FIRST AID Advice for Bleeding: Apply **direct pressure** to the entire wound with a clean cloth.

FIRST AID Advice for Severe Bleeding:

- Place 2 or 3 sterile dressings (or a clean towel or washcloth) over the wound immediately.
- Apply **direct pressure** to the wound, using your entire hand.
- If bleeding continues, apply pressure more forcefully or move the pressure to a slightly different spot.
- Act quickly because ongoing blood loss can cause shock.

For life-threatening extremity bleeding, a **tourniquet** may be used. It should be tightened until the bleeding stops.

FIRST AID Advice for Penetrating Object:

- If penetrating object still in place, don't remove it.
- *Reason:* Removal could increase bleeding.

FIRST AID Advice for Shock: Lie down with feet elevated.

FIRST AID Advice for a Sprain or Twisting Injury of Ankle:

- Apply a cold pack or an ice bag (wrapped in a moist towel) to the area for 20 minutes.
- Wrap area with an elastic bandage.

FIRST AID Advice for Suspected Ankle Fracture (Broken Bone) or Dislocation (Out of Joint):

- Do not remove the shoe.
- Immobilize the ankle and foot by wrapping them with a soft splint (e.g., a pillow, a rolled-up blanket, a towel).
- Use tape to keep this splint in place.

Transport of an Amputated Body Part:

- Briefly rinse amputated part with water (to remove any dirt).
- Place amputated part in plastic bag (to protect and keep clean).
- Place plastic bag containing part in a container of ice water (to keep cool and preserve tissue).

BACKGROUND INFORMATION

Key Points

- All serious or major wounds are triaged and referred in for immediate wound care.
- Any cut that is split open or gaping probably needs sutures (or staples or skin glue).
- Consider the need for a tetanus shot or booster for an open wound.

Types

- *Achilles tendon rupture*: There is pain in the Achilles tendon (area above heel and behind ankle). There is weakness or inability to extend the foot (e.g., can't stand on tiptoes).
- *Contusion*: A direct blow or crushing injury results in bruising of the skin, muscle, and sometimes the underlying bone.
- Cut, abrasion
- Dislocation (bone out of joint)
- Fracture (broken bone)
- Puncture wound
- *Sprain*: Overstretching or tearing of a ligament
- *Strain*: Overstretching or tearing of a muscle (e.g., pulled muscle)

What Cuts Need to Be Sutured?

- Any cut that is split open or gaping probably needs sutures (or staples or skin glue).
- Cuts longer than 1/2 inch (1 cm) usually need sutures.
- Any open wound that may need sutures should be evaluated by a doctor (or NP/PA) regardless of the time that has passed since the initial injury.

Tetanus Booster - When Does an Adult Need a Tetanus Shot?

All **serious or major wounds** are triaged and referred for immediate wound care. This includes crush injuries, amputations, avulsions, gaping cuts, larger burns, or any other wound that needs debridement or irrigation. For these wounds, if a tetanus booster is needed, it will be given with medical care on the **day of the injury**.

When is a tetanus shot needed for other wounds?

- **Clean Cuts and Scrapes - Tetanus Booster Needed Every 10 Years**: Patients with **clean minor** wounds AND who have previously had 3 or more tetanus shots (full series) need a booster every 10 years. Examples of minor wounds include a superficial abrasion, a small cut from a clean knife blade, or a glass cut sustained while washing dishes. All wounds need wound care and cleaning right away. A tetanus booster (Td or Tdap) should be given within 72 hours (3 days).
- **Dirty Wounds - Tetanus Booster Needed Every 5 Years**: Patients with **dirty** wounds need a booster every 5 years. Examples of dirty wounds include any cut contaminated with soil, feces, saliva and more serious wounds from deep punctures, crushing, and burns. All wounds need to be cleaned right away. A tetanus booster (Td or Tdap) should be given as soon as possible, preferably at the time of wound care, and definitely within 72 hours (3 days).

What if a person has had no prior tetanus shots or is not fully vaccinated?

- If a person has never gotten a tetanus shot, they should get the **first tetanus shot today or within 24 hours**. Then they will need to get the full tetanus series.
- If a person is not fully vaccinated (3 shots), they should get a **tetanus shot today or within 24 hours**.
- The full tetanus shot series is a shot now, a shot in 4 to 8 weeks, and a shot in 6 to 12 months. Three shots in total.
- If the wound is dirty, the person may also need tetanus immune globulin (TIG) at the same time they get the tetanus booster.

Expert Reviewer

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