

Evaluating Ankle Injuries—Don't Let It Trip You Up!

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Abstract: Ankle injuries are a common occurrence in camp settings given the uneven terrain, the wide range of activities undertaken, and the footwear commonly worn. Camp nurses are frequently faced with the decision of whether or not to send an injured camper or staff member for an x-ray. Thorough evaluation includes gathering information about the accident and then performing a careful assessment. Providing for camper comfort and reviewing other information about the camper, the situation, and what influences the pain threshold are important components of the assessment.

Key Words: ankle injuries, physical assessment, pain assessment, camp nursing

It can be frustrating to determine whether an ankle injury needs additional medical evaluation and treatment. When x-rays are negative, we wonder if we might have evaluated better and saved the time and expense. On the other hand, when we initially assess and opt not to get an x-ray, only to learn later that there is indeed a fracture, we spend a good amount of time reviewing what we could have done better and how we could improve in the future.

Recently in a conversation with some veteran camp nurses, we agreed that if we could be granted one superpower, it would be to have x-ray vision! Occasionally, like in the next scenario, we may even feel like we do.

Common Scenarios at Camp

As the camp nurse, you are called to the baseball diamond because a camper was injured sliding into second base. On your arrival you see that the camper is writhing in pain and you can tell from a distance that the ankle has an obvious deformity. You know immediately that this is not a question of whether advanced medical care is indicated but instead a question of how the camper will be transported. Fortunately, injuries this severe don't happen very often.

These next scenarios occur much more frequently. You are busy in the Health Center when:

- You are called to the field where campers have been playing Capture the Flag. You find a camper sitting on the grass complaining of ankle pain.
- A camper turns his ankle on the trail going from the cabin to an activity. Another camper comes to the Health Center to get you to help.
- A camper jumps from a rock in the grove and is carried to the Health Center.

Just about now is when it would be terrific for that x-ray vision to activate! But, functioning without it, there are some steps to take in considering the injury.

Initial Response

The initial assessment of a closed ankle injury includes determining that the camper has no obvious deformities, no circulatory compromise and no other injuries. The nurse would then probably proceed with making the camper comfortable and treating with RICE (rest, ice, compression, and elevation) while continuing the assessment.

Ask Questions

The mechanism of injury can tell you a lot so it is important to take the time and get the full story. Ask, "How did this happen?"

- Were they running?
- Did they slip?

- Did they jump and then fall?
- Did they twist their ankle on uneven terrain?
- What type of footwear were they wearing?
- Did their body land on their foot when they fell?
- Did anyone else land on their foot/leg?
- Was there any torque during the incident, especially if others landed on the camper?

Severity of the injury is increased the faster the camper was traveling, the farther the fall, the worse the terrain and the increased weight and/or torque on the leg.

Ask, "Did you hear any unusual noises with the fall?"

- Any snaps or pops during incident?

A pop or snap reported by the injured party or those present is significant.

Ask, "What happened immediately after?"

- Did the camper bear weight on the leg?
- Any numbness or tingling?
- Have the camper rate and describe the initial pain.

The inability to bear weight and the more severe the pain indicates increased severity. Once the RICE regimen has been instituted, have the camper rate and describe their pain.

Ask, "Can you tell me about your pain?"

- Is the pain constant or reactionary?
- If the pain is reactionary only, what causes the pain?

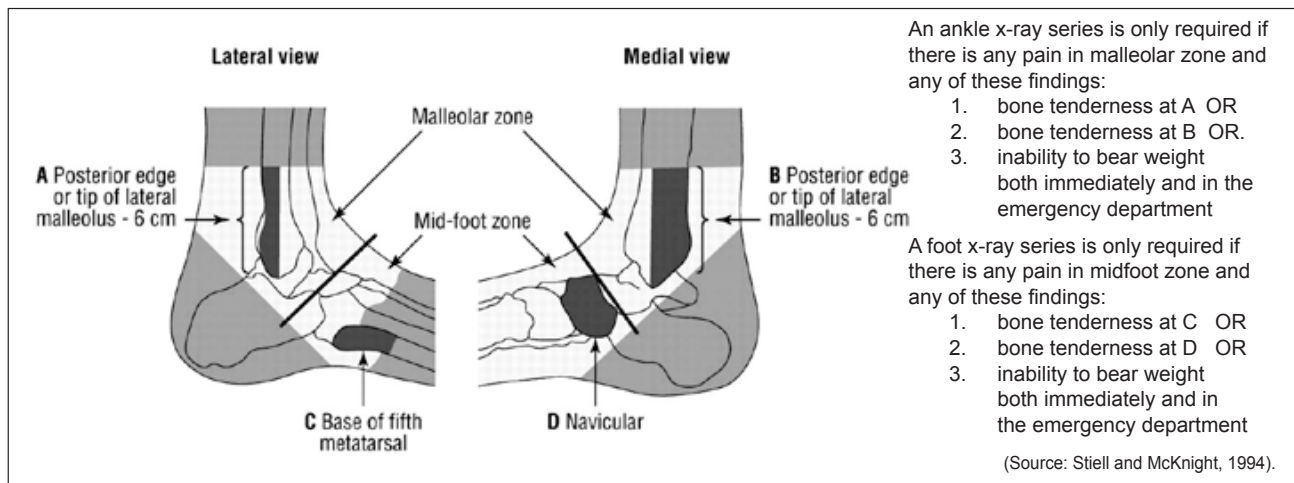
Constant pain could indicate a worse injury.

Physical Assessment

Take the time needed to perform a careful physical assessment of the injured ankle. Remember too that time is on your side in making a decision. You can use RICE and consider pain medication administration while continuing to assess the situation. The following aspects should be considered in assessment:

- Any bruising, swelling, numbness? Is the foot warm? Can they wiggle toes?
- Compare the foot to the uninjured side. Sometimes unusual bumps are just that and appear on both.
- Palpate, attempting to differentiate between bone and tissue injuries. Palpate the medial and lateral malleoli for point tenderness and a 6-cm zone indicated as A) and B) on Figure 1.
- Continue by examining the foot as well. Squeeze the navicular bone and cuboid together and then the 1st and 5th metatarsals.
- Have the camper attempt to bear weight on the affected foot.

Figure 1. Ottawa Foot and Ankle Rules for Ankle Injury X-ray Decision-making.



The Ottawa Ankle/Foot Rules (Figure 1) may assist in your decision of whether or not an x-ray is indicated. Research on individuals three years old and over has shown that using these criteria can reduce the need for x-ray. These are the “technical” procedures that can help you make the decision “to x-ray or not to x-ray”, but I have learned over the years that there are other components to consider as well.

Additional Camper Considerations

When initially injured, campers can be scared, agitated, and/or nervous. These reactions can skew an assessment. That is why it is beneficial to calm the camper and let them catch their breath and realize they are in no imminent danger.

If reactions to pain seem uncharacteristically exaggerated, continue to monitor and use your RICE procedures. Observing closely the reactions to an assessment when the camper is otherwise occupied can also give you a clue to extent of injury. Pain thresholds vary. If this is a camper that you are familiar with (AKA frequent flier), waiting a period of time can also provide additional information. If it is a camper you are not familiar with, talking to the leader could prove to be useful to learn the demeanor of this camper.

Be aware if the injured camper has behavioral disabilities. You will need to change your assessment and how you question this camper to get as accurate a picture as possible. The camper needs to understand what you are asking them in order to answer appropriately. Disabilities can also change pain thresholds.

It may also be a good idea to speak to the parents for helpful information. They will be able to tell you whether their child cries at the drop of the hat or are usually stoic when injured.

The pain threshold in a homesick camper may be decreased. The child who isn't having a good time and is already campaigning to go home may find their injury much more severe. They may even look at this injury as “a ticket out of Dodge” If the conversation frequently returns to “If I can't do anything, I might as well go home” it is probably time to be having the “how is camp going otherwise?” discussion.

Blood also may decrease the pain threshold. If the camper has an abrasion as well, they tend to be more fearful and react more strongly to the injury.

If there have been recent similar injuries in a cabin or a group, particularly in younger age groups, don't rule out that this injury is the result of a “contagion.” Attention seekers could be looking for just that.

If the injury is the result of a tussle with other campers and the injured camper is identified as one of the instigators, they may fear what “trouble they might be in” and focus on injury to postpone the implications of their undesirable actions.

Finally, listen to those who have had a history of ankle injuries. Older campers and leaders especially can tell you if the present situation is similar to or different from previous sprains/fractures.

In Summary

Each injury and each camper is unique and it is important to assess each injury individually in the context of the camper, the setting, and the event. Hopefully these guidelines will be helpful to and make you feel more often that you truly do have that longed for x-ray vision.

Resources

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Doris Nerderman's has spent many years at YMCA Camp Belknap, Wolfeboro, NH chasing after boys with ankle injuries. She is a past ACN Board member and a member of the CompassPoint Editorial Board. When not at camp she is a member of the faculty of JVS Practical Nursing Program, Troy, Ohio. She presently is teaching pediatrics and Med-Surg. She also is on staff in the ER at Joint Township District Memorial Hospital in St. Marys, Ohio.