



## Wilderness First Aid Scenario

# ORTHOPEDIC INJURIES

**Victim 1 – Youth With Possible Sprain in Left Ankle**

**Victim 2 – Youth With Possible Fracture in Right Hip, Minor Head Injury, Superficial Cuts and Scrapes**

### SUMMARY

A Venturing crew from St. Louis is hiking at Rocky Mountain National Park. The 10 participants—two adult leaders and eight youth, aged 14–17—are in good physical shape and have taken many practice hikes. It is about 4 p.m., and they are hiking single-file through a mountainous area when the trail edge gives way and two youth in the middle of the line slide down the steep embankment of gravel and rock. They both land about 25 yards down the side of the mountain.

### SCENARIO DETAIL

They are hiking through a very narrow trail in a steep gorge with gravel and a rock face on one side. The other side of the trail is very steep and difficult to climb. A tiny stream is at the bottom of the gorge. It was raining earlier and stopped, but weather forecasters are predicting an early evening thunderstorm. The crew is on the eighth day of a 10-day trek, and most of them are very tired. Some of their first-aid supplies have been used, mostly for minor cuts and scrapes. In addition to the two who just fell, one youth member received a minor knee injury earlier in the week and has been using the elastic bandage wraps. The crew picked up food two days ago near the last ranger station; they estimate the next ranger station is about 3 miles away. Each crew member has at least one full water bottle.

The collapsed part of the trail is unstable, so it won't be easy to reach the victims. Four participants are ahead of them on the trail, with the crew president at the front of the group. Four others are behind the victims, with the two adult leaders and the Venturer with the knee injury at the back. Both adults and two of the youth, including one of the victims, have WFA training. The crew president has a history of severe asthma, which has so far been under control on this trek. Nightfall is expected at 7:30 p.m.

### STUDENT RESPONSE

**1. Scene safety:**

Ensure that the scene safety assessment is completed. This is very important due to the unstable trail and location. Check for the use of personal protective equipment before giving care.

**2. Primary assessment:**

Victim 1, age 14, is at the bottom of the slide. She is standing and able to call up to the other crew members and respond to their questions. She is limping significantly and complains of pain only in her left ankle. Victim 2, age 16, is lying on his back and moaning with pain. He is responding appropriately to questions from Victim 1 and complains of pain only in his right hip, which is flexed.

**3. Secondary assessment:**

Victim 1 does the primary and secondary assessments on Victim 2 as the others lack access to the bottom of the slide. Eventually, four crew members are able to go downhill and treat both victims. (They will need advanced wilderness EMS to assist them in getting the victims uphill and out of the area.) A physical exam for Victim 1 finds a possible sprained ankle but no additional injuries. She is able to bear weight with only minor discomfort. Information she gives the crew indicates she has no previous significant medical history, medications, or allergies. They wrap her ankle with an elastic bandage and treat her superficial abrasions. (Note to instructor: Depending on the number of student responders, treatment for Victim 1 may be delayed until Victim 2 has received initial treatment.)



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### **Victim 2**

#### a. Physical exam:

Hips and Limbs (DOTS)—

**D** (deformities, depressions, indentations, discoloration)—Right hip flexed, and victim is unable to move it

**O** (open injuries, penetrating wounds, cuts, scrapes)—Superficial skin abrasions on all limbs

**T** (tenderness)—Right hip is tender

**S** (swelling)—No obvious swelling

Head—Tender left occiput (back of head) with minor swelling, no open wound

Neck—No tenderness, able to move easily

Shoulders—No open wounds, no deformity, some pain on movement

Chest—Breathing, no deformity, tender everywhere

Abdomen—Soft

Pelvis—Stable, difficult to examine as right hip is flexed due to pain

Genitals—Dressed in hiking gear, no complaints from the victim, no further assessment needed

Legs—No deformities, multiple superficial abrasions, no loss of feeling, victim can move toes when asked

Arms—No deformities, multiple superficial abrasions, no loss of feeling, victim can move fingers and hands when asked

Back—No deformities, multiple superficial abrasions, no localized tenderness

#### b. Vital signs (first check):

A&Ox4 with complaints of pain as above

Heart rate 100

Respirations 20

Superficial abrasions to head and all extremities as above

Skin warm to the touch

#### c. **SAMPLE:**

**S** – As above

**A** – No known allergies

**M** – None

**P** – None

**L** – Lunch, victim has been hydrating from backpack, voided one hour ago

**E** – Hiking

Vital signs (second check approximately 15 minutes after first, and then as often as required):

A&Ox4 with clear and concise speech

Heart rate 100

Respirations 20

Skin warm to the touch

Vital signs (third check):

Heart rate 85

Skin becoming cooler to the touch with complaints from the victim of feeling cold

### **POST-SCENARIO DEBRIEF**

- Scene safety: How was scene safety addressed?

***The slope was wet, steep, and rocky, and the trail was unstable. Did the crew consider the possibility of more rock slides to come? This is a critical concern and must not be overlooked by the students. This situation requires a technical EMS rescue up the slope and carrying Victim 2 to an open area such as a meadow for helicopter evacuation. Discuss the amount of time it would take for EMS rescuers to reach the crew and transport them to a potential helicopter landing site. How can the crew prepare for this? Do they need to ration food and water? Victim 1 will need assistance up the slope and help getting to the ranger station 3 miles away.***



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- How did the crew access help? How did they determine who would go for help?  
***Discuss cell phones and satellite phones and the issues that may occur with them. Discuss sending a group to get help and how to choose who will go.***
- Review who went down the slope to care for victims.  
***Who had WFA or medical training? Did any of the adults assist with the treatment or did they stay with the other youth members?***
- Did the crew have adequate first-aid supplies?  
***Appropriate treatment would include keeping both victims warm and their injuries immobilized. In particular, heat loss and shock will be issues due to the type of injuries and the remoteness of the location.***
- How did they handle the injury to the back of the head on Victim 2?  
***It was only a small bruise and should have been treated as a minor injury after the secondary assessment. If needed, discuss the assessment outcomes for minor vs. serious head injuries.***
- Did they need to prepare for the possibility of a thunderstorm? What about flooding in the gorge?  
***Some type of a shelter should be erected to protect Victim 2. Flash flooding is a concern, and the victim should be moved properly to a safe area. Discuss how this move should be handled.***  
***Treat Victim 1 for sprain. (This could be done after stabilizing the more critical victim if the group of student responders is small.)***  
***Check to be sure disposable nonlatex medical gloves are used when giving care.***