

Case Study: Bear Spray in the Face

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Case Study

Bear Spray in the Face



You're almost at the end of a 3-day backpacking trip in the Wind River Mountain Range of Wyoming with two of your friends. You only have a couple miles left to get back to the car when the group decides to stop for a snack and hydration break. While removing his backpack, one of your friends, Taylor, suddenly starts screaming. It becomes apparent that, while removing his pack, Taylor's bear spray canister became entangled with his hip belt buckle. The safety mechanism was disengaged, resulting in an inadvertent discharge of the bear spray into his face. You're the only WFR in the group.

WHAT'S NEXT?

The Setting

You are almost done with a 3-day backpacking trip in the Wind River Mountain Range of Wyoming with two of your friends. You only have a couple miles left to get back to the car, and you're already dreaming of the cheeseburger and milkshake you're going to have once back in town.

Prior to leaving, you made sure to pack the essential safety equipment for you and your friends. You repacked your first aid kit so nothing is missing, made sure you had all the necessary navigation tools to travel, and purchased new bear sprays since yours were

expired. As the most experienced member of the group and the only WFR, you feel responsible for everyone’s safety and well-being.

About a mile from the trailhead, the group decides to stop for a snack and hydration break. While removing his backpack, one of your friends, Taylor, suddenly starts screaming. Initially unsure of what’s going on, it becomes apparent that while removing his pack, Taylor’s bear spray canister became entangled with his hip belt buckle. The safety mechanism was disengaged, resulting in an inadvertent discharge of the bear spray into his face. Following a brief moment of initial surprise, you quickly spring into action.

SOAP Report

Subjective: The patient is a 28-year-old male whose chief complaint is,“I got bear spray in my face.” The exposure occurred accidentally during pack removal. The patient is alert and oriented to person, place, time and event.

Objective

Patient Exam: The patient is relocated away from the bear spray site and is also positioned upwind to prevent any further aerosol contact. The physical exam reveals notable facial redness and swelling. No other injuries are found. Circulation, sensation, and motion (CSM) are intact in all extremities.

Vital Signs

TIME	1425
LOR	A+Ox4
HR	96, strong, regular
RR	18, regular, easy
SCTM	pink, warm, dry
B.P.	radial pulse present
Pupils	Red, irritated, difficult to assess, but PERRL
T°	Not taken

History

Symptoms:	Localized burning, pain and irritation to the patient's face where exposed to bear spray.
Allergies:	No known allergies.
Medications:	400mg of Ibuprofen taken this morning for sore knees. The patient denies any other medications.
Pertinent Hx:	None.
Last in/out:	The patient had oatmeal and peanut butter for breakfast, 1 cup of coffee, and ~2 liters of water. He has also been eating snacks throughout the day. Urination and defecation have been normal for the patient.
Events:	The patient accidentally discharged his bear spray while removing his backpack.

What is your Assessment and Plan? *Think about this before moving to the next page.*

Assessment

- Eye and face exposure to bear spray.
- Ongoing discomfort, pain, redness, and swelling

Plan

- Immediately remove the patient from the contaminated area and ensure upwind position.
- Remove the patient's contact lenses.
- Initiate copious irrigation of the face using cool, clean water
- Avoid rubbing affected skin or eyes to prevent further irritation.
- Continue to monitor for any signs of systemic involvement or airway issues.

Anticipated Problems:

- Possible allergic reaction to the bear spray.

- Temporary vision issues and discomfort impacting his ability to walk to the car.

Comments

- Accidental discharge of bear spray is a known risk during backcountry travel. Bear spray contains capsaicin, the compounds responsible for the heat in peppers. This substance binds to mucous membranes and skin, causing an intense burning sensation.
- To remove the bear spray, it is recommended to flush with copious amounts of cool water. Warm or hot water will cause the pores to open up, increasing the severity of the reaction. While highly painful, symptoms are generally self-limiting and resolve within several hours. Seek further care if symptoms continue to linger or there are signs of an allergic reaction
- Prevention strategies include proper training and storage, ensuring safety mechanisms are engaged, and careful handling when taking packs on and off.

What Happened?

- After about 45 minutes of continuous irrigation, Taylor reported some symptom relief, with a decreased burning sensation. He can now squint his eyes open.
- You continue to irrigate and after another 20 minutes, Taylor thinks he can stand up and possibly start moving again. You help him put on his pack (which you have also dabbed and flushed with water and dish soap to try to remove any bear spray) and start slowly moving towards the trailhead. You keep monitoring Taylor as you resume hiking. You are grateful that your route has you following a large creek, so if symptoms resume, you have quick access to cool water.
- While it was only one mile back to the car, it felt like a long one. Back at the car, you breathe a sigh of relief. That was not how you thought the day would go, and you are grateful you knew what to do.



WRITTEN BY

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