Capsicum Oleoresin (Bear Spray/Pepper Spray), Management in the Emergency Department

Site Applicability

St. Paul's Hospital (SPH) Emergency Department, as part of a non-disaster response.

Practice Level

RN, RPN

Need to Know

Capsicum Oleoresin (CO) solutions, such as bear spray and pepper spray, are highly irritating agents that can be extremely distressing for individuals who have been exposed to it. Chemical decontamination must occur outside in the open air and consists of removal of contaminated clothing and thorough washing of the skin and hair **before** the patient is brought into the clean area of the emergency department or other parts of the hospital. Patients who are not decontaminated first may inadvertently expose other patients and staff members to the agent.

Initial decontamination and emergency care **may occur prior to registration and full triage** of the patient. In the event of multiple patients presenting after exposure to a CO solution, mass casualty and disaster protocols may need to be implemented.

Equipment and Supplies

- PPE supplies, including:
  - Gowns or coveralls
  - Gloves
  - Protective eyewear (such as goggles or full face splash shield)
  - Bouffant
  - R95 face mask
- Non-irritating soap or baby shampoo
- Access to copious amounts of water (e.g. shower, hose)

Protocol

Assessment

Patients who self-present to the emergency department with a complaint of gross contamination with CO or similar irritating agent should be re-directed for decontamination first. The most common symptoms, both acute and delayed, include:

- Coughing
- Dizziness
- Eye irritation
- Skin irritation
- Respiratory irritation
- Gastrointestinal irritation

Intervention

Any patient who presents to the emergency department with a CO-related complaint should be re-directed immediately to a designated decontamination zone. At SPH, this is the "Outdoor Resuscitation Zone" (ORZ) in the ambulance bay. The patient should remove as much clothing as possible and be sprayed with copious amounts of water while in the ORZ. Once the irritant has been removed as much as possible, the patient should be escorted to a patient shower for further decontamination.

If the outside air temperature is cold, patients should be decontaminated directly in a patient shower but must remove all clothing first prior to showering in order to avoid the spread of particulates from the clothes. A clean patient gown should be offered to the patient.

A designated *decontamination nurse* ("decon nurse") should be called to assist with decontamination. When possible, security should be notified to help manage any associated behavioural concerns and to maintain a perimeter of safety to prevent accidental exposure to other staff members or patients. All staff involved in decontamination of the patient must don appropriate PPE. In particular, an R95 face mask should be worn as it provides protection against the CO particulates; N95 masks and procedure/surgical masks do not provide this protection.

Steps for Decontamination

1. Instruct the patient to use soft soap/baby shampoo to remove the contaminant from skin surfaces, avoiding vigorous rubbing that may open any wounds or harm the skin.
2. Remove all clothing in the designated decontamination zone. Place all clothing in a fluid-impermeable bag (e.g. large biohazard bag) and seal. If rinsing off the patient in the ORZ, pants and underwear may be kept on for the patient's privacy.
3. Rinse off patient with copious amounts of water. Water should be cool or tepid, but be cautious of causing accidental hypothermia.

4. If required, transport the patient into the patient shower of the emergency department (if not already there) to allow patient to remove pants and underwear for further decontamination.
5. Dry off patient and provide warm blanket and dry clothes or a patient gown to wear.
6. Transport patient to the triage area for full registration and triage.
7. Request the designated decontamination zone and patient shower cleaned by housekeeping, advising them of the potential irritant in the area and to don an R95 mask.

Body-Part Specific Decontamination

Further decontamination of specific body parts may be required after registration and triage.

Eyes: flush the affected eye(s) with either copious amounts of tepid water using an eye wash station or with isotonic saline using a Morgan lens. Contact lenses are removed by the patient where applicable.

Mouth: rinse out the mouth with copious amounts of water. Do not induce vomiting. Although rare, if patient has ingested large quantities of the irritant, call BC poison control for assistance at 604-682-5050 or 1-800-567-8911.

Competing Emergency Priorities

In the event that a patient presents with an airway, breathing, or circulation emergency that must be dealt with first (e.g. impending airway closure, massive hemorrhage), interventions to stabilize the patient takes priority with the following considerations:

- Patient should be placed in a room with negative air flow.
- All staff members present in the room must wear appropriate PPE as described previously.
- Whenever possible, normal saline may be used to manually rinse the irritant off the patient. Minimize the spread of potentially contaminated solution by using soaker pads and towels underneath the patient.
    - Clothing is removed or cut and placed in a fluid-impermeable bag.
    - Irrigate the eyes first, followed by the entire head, and then the torso.
- If it is not feasible to irrigate with normal saline, disposable wet wipes may be used. After use, dispose of wet wipes in a garbage bag and inform housekeeping that the bag may be potentially contaminated.
- When the patient is moved, the treatment room is considered contaminated and must be cleaned by housekeeping before another patient uses the room.

Triage Documentation

The triage nurse will document as the patient's chief complaint that the patient was decontaminated and the patient's condition post-decontamination. The CTAS score of the patient will be determined by the triage nurse. If there is eye or respiratory involvement, patient should be triaged at minimum as CTAS level 2.

Patient and Family Education

- Inform patient that effects of irritating agent may persist after initial decontamination.
- Inform patient, their family members and visitors about risk of exposure to contaminated clothing.

References

1. Hazardous Substance Working Group. (2014). British Columbia guidelines for the decontamination of one to five patients in health facilities.

2. Providence Crosstown Clinic. (2020). Capsicum oleoresin [Bear Spray/Pepper Spray]: Exposure control protocol to minimize occupational exposure to hazardous materials.

3. Vancouver Island Health Authority. (2012). Patient hazardous decontamination program.

Appendix A: Decontamination Poster for the Emergency Department

ST. PAUL'S HOSPITAL
PROVIDENCE HEALTH CARE

Pepper Spray Decon

Assess ABC's

Rapidly observe for any airway, respiratory, shock emergencies or life-threatening injuries...

STEP 01

Patient stable?
MOVE OUTSIDE to ORZ

PPE

Don R95 Respirator
Gown or Coveralls
Face Shield
Gloves
Bouffant

STEP 02

STEP 03

Remove Clothes

Remove as much contaminated clothing as possible OUTSIDE. Provide blanket or clean gown.

STEP 04

Rinse

Irrigate the patient with copious amounts of water. Use Ambulance hose or Acute 1 Shower

Transfer

Once patient is decontaminated, transfer to appropriate care space and complete registration, triage, and assessment.

STEP 05

Persons/Groups Consulted:

Nurse Educator, Emergency Department SPH

Nurse Educator, Emergency Department MSJ

Infection Prevention and Control

Occupational Health and Safety

Authors:

Nurse Educator, Emergency Department SPH

Clinical Nurse Leaders, Emergency Department SPH

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