*Action Guide 5a:* Contamination of Animals

(Service Animals, Public Service, Pets)

**FACTORS TO CONSIDER**

There are aspects, both animal and human, that share similar properties for decontamination and treatment. This makes animal decontamination procedures similar, and therefore familiar, to first responders. Many current human decontamination stations are easily adapted for animals.

Other aspects are dissimilar, including anatomical differences and behavior. It is important to become familiar with the special considerations for animals in order to effectively decontaminate without doing further harm to them as well as the humans involved.

**DECONTAMINATION BASIC REMOVAL INFORMATION**

**1. Consult reference book if possible**

* *Material Safety Data Sheet* (MSDS).
* *Emergency Response Guidebook* (ERG) U.S. Department of Transportation.

**2. Powders (any dust, debris, known or unknown)**

* Initially wipe off with a moist towel to decrease the amount to be washed.
* Brushing is not recommended as this will aerosolize the contaminant and possibly further inhalation exposure.

**3. Thick Caked On Contamination**

* Break down with mechanics’ hand wash products, mineral oil (especially good for petroleum-based contaminant), or scraped off with a putty knife.
* Scissors with caution (lacerate canine); clippers will not work for long.

**4. Absorbents for liquid decontamination**

* Flour, baking soda, diatomaceous earth, Fuller's earth, synthetics.
* Careful as these have their own inhalation hazards.

**5. Physical removal of the contaminant**:

* High volume, low pressure water augmented by soap is the recommendation.
* Rinse-wash-rinse cycle as much and as many times as deemed needed.
* Lukewarm water and dish soap (Dawn, Palmolive) are common; can dilute with water to decrease suds; military known to use lower-suds Prell.

**CAUTION**: **some contaminants become reactive when exposed to water**.

* Soap’s high pH neutralizes many chemicals, dissolves some petroleum agents.
* Go from head to tail, shoulder to forelegs, back to belly, hips to back legs.

**6. Eyes, Ears, Nose and Mouth**

* Small bottles OTC eye rinse (saline, ionized water) ideal to gently flush eyes.
* If too difficult to manage (uncooperative, protective gear inhibits capability) then remove as much contaminant around eyes with non-alcohol based towelettes; further eye issues handled at medical or veterinary station.
* Do not apply petroleum-based or other eye ointments which may absorb contaminant and worsen corneal damage.
* Avoid getting soap into eyes, nose, and mouth. Although neutral shampoos may be safer for the cornea and mucous membranes, they are not as effective as the higher pH shampoos in neutralizing many chemical agents.
* Soaps are not as harmful in ears, however animals will shake vigorously if water gets inside their ears; we are trying to delay the inevitable shake until the end.

**7. Special Considerations**

* Alternate decontamination agents for ***chemicals that worsen if exposed to water*** include applying baking soda or flour to form a caked-on product, then brushed or comb out or physically remove by wiping, brushing or combing off.
* Special care and attention should be directed to adequately decontaminate ***the foot*;** deep-crevassed pad edges can trap particles. Use a soft-bristled brush.
* ***Eye flushing*** with 0.9% saline, purified water, or tepid tap water for 15 minutes is important for blistering (mustard, Lewisite), blood and metabolic agents (arsine, cyanide).
* Bathing the animal with ***0.5% hypochlorite*** (bleach) followed by soap and water is recommended for blistering agents (vesicants). Dilute bleach is included in some decontamination protocols after soap and water for other hazardous materials, especially flood water deployments.
* Dermal exposure to ***phenols*** requires all personnel wear gloves, gowns, and masks then blot the fur and skin with paper towels before washing.
* ***Never use hydrocarbon-based solvents*** to clean an animal! They cause their own painful damage by defatting the skin as well as increasing dermal absorption of other contaminants like polychlorinated biphenyls (PCBs).
* Do not allow pet to drink ***contaminated run-off***. Basket muzzles will not prevent this, regular muzzles do not allow for decontamination of the face. Consider elevation of the wash/rinse site or providing for drainage of run-off.
* Important to ***clean the area around the nose and mouth*** to decrease what licking will bring into the mouth, leading to ingestion exposure of contaminants. Oral exposure and subsequent ingestion increase absorption and worsen medical problems.
* If after ***radiation exposure*** decontamination there is still contamination, clip the hair of the area still hot, re- decontamination, and recheck.
* Be cognizant of the ***weather conditions.*** Consider shelters in post- decontamination care of set-up: fans and shade if warm/humid to avoid hyperthermia; dryer or heated protective environment to avoid hypothermia in cold climates.
* Post decontamination ***veterinary check*** should always be included in the protocol, after decontamination; pre- decontamination medical treatment must be performed by a properly protected responder.

**GOING THROUGH THE DECON LINE**

**1. Assessment – Emergency (Life-Threatening) or Non-Emergency**

* If emergent but the contaminant is itself not life threatening, gross emergency decontamination is performed and medical attention given.
* If emergent and removal of the contaminant is itself part of the treatment, technical emergency decontamination is performed and further medical treatment given.
* In a non-emergent situation, gross and/or technical decontamination is performed based on the contaminant involved.
* ***Note: the owner should accompany the animal through decontamination if possible***.
* If the owner is unable to take animal through, an experienced dog handler may do so.
* If a animal cannot be safely taken through without the owner, confine animal in a kennel to contain contamination.

**2. Preparation**

* Remove all equipment and gear from the animal and place in Hazmat container until cleansed (bleach solution), deemed safe, or disposed.
* Muzzle use considered to prevent licking, drinking wash water, or bite prevention; cage muzzles allow for panting, can still drink through them; may be better tolerated.
* Maintain control so as not to spread contaminants to clean areas by maintaining a decontamination corridor via physical barriers.

**3. Rinse – Wash**

* Initial gross decontamination water removal of bulk of contaminant, or other methods as described for water-reactive substances, powders, and very thick contaminants.
* Cleanse head with towelettes as described (around eyes, inner ears, nose, mouth).
* Option to rinse eyes with eye rinse (saline, purified water) but in reality this is often difficult with all the PPE the humans wear.
* Wash and rinse, repeat as needed, from top of back to tail and down body and legs.
* Special attention to paw pads and don’t neglect under the tail.

**4. Drying**

* After the inevitable shake-off of water, allow air drying with attention to the weather conditions (shelter if cold/windy).
* Option to dry with towels or an air dryer.
* Canine now should be next to or within the designated ‘cold zone’ .

**5. Antimicrobial Station Option**

Spray on solution or walk canine through a diluted bath if biological contamination suspected. Options have varied spectrum of activity, advantages and disadvantages.

* ***Hypochlorite*** (bleach) 0.5% (household bleach diluted 1:10); rinse off once done (ranges of 15-60 min); 100-500 ppm may be used on equipment
* ***Biguanide*** (chlorhexidine) 0.05-4%
* ***Quaternary ammonium*** 400 ppm, 0.1-2%
* ***Iodophore*** (povidone-iodine) 100ppm
* ***Peroxygen*** 20 g/L or 1%
* ***Alcohol*** (ethyl, isopropyl) 70%
* ***Chlorine dioxide?*** (oxidizer, ICA Tri Nova)

**6. Monitor, Treat, Return to Owner**

* Monitor for contamination with attention to eyes, ears, nose, throat, paws, under tail.
* Repeat decontamination if necessary, otherwise new collar/leash, continue to medical (veterinary) for a physical examination.
* Complete medical/veterinary evaluation and treatment as needed
* Return to owner.

**7. Pet may need to be placed in a holding area until such time owner/family or organization can retrieve the animal.**