

Emergency Treatment for Canine Poisoning

By Paul S. McNamara, DVM, DACVS

All law-enforcement canines are at risk for poisoning. Although narcotics detection canines are considered most likely to be exposed to poisons on the job, patrol and tracking canines also are at risk from their working environments.

Poisons enter the body through a variety of pathways: ingestion, inhalation, injection (deep contact), or directly (superficial contact). That creates a vast potential for your canine partner to come into contact with something that can harm him or her. As with any other serious medical condition, immediate assessment by your agency's veterinarian is vital. However, your partner will need your help between the time the incident occurs and his or her arrival at the vet's office. Many, if not most, poisonings can be successfully treated if they are addressed quickly and appropriately. The following is a brief overview of how to handle canine poisoning prior to seeking veterinary care.

Accidental versus Malicious Exposure

Two broad categories of poisoning exist: accidental and malicious. In the case of accidental poisoning, a canine detects something novel in the environment and investigates it, resulting in contact, ingestion, or inhalation exposure. For example, during area searches — especially in wooded terrain — canines can come into contact with dead animals or harmful substances on the ground. In building searches, around cabinets or in basements, canines can be exposed to rat or mouse poisons, snail bait, detergents, and so on. Given their curious nature, canines often sample a new item by sniffing, tasting, or rolling in it and thus may become poisoned.

Remember that in accidental poisoning, the canine is the driving force in the interaction; therefore, the handler plays an important role in preventing exposure. Closely monitor the canine's working environment and try to maintain visual contact at all times. If officer safety allows, conduct a safety sweep of the area prior to deploying the canine.

Unfortunately, malicious poisoning is becoming more prevalent. Perpetrators may target a single canine (for revenge) or may proactively use poison to remove canines from an environment to allow illegal activity to occur. For

example, a terrorist could poison mass-transit detector canines to create a hole in the surveillance matrix and allow the deployment of weapons of mass destruction.

Malicious exposure includes spraying a noxious substance through police car window grates or into a canine carrier, feeding a canine tainted foods, or actively throwing solvents or other toxins onto a canine during a meth-lab or other raid. Malicious poisoning is potentially much more dangerous than accidental exposure because the perpetrator's intent to harm the canine is difficult if not impossible to avoid and the toxins are chosen to maximize damage.

Don't Wait to Treat

Treatments and antidotes are available for most commonly encountered toxins. Please remember, however, that most treatments and antidotes work much better if they are initiated at the very earliest stages of poisoning — before the onset of clinical symptoms. Treatments designed to break down chemicals before they cause harm or to compete with toxins to slow absorption are very time dependent and may not work after a relatively short period of time. Therefore, it's important to initiate therapy (speak with or visit your

veterinarian) if there is any chance that your partner has come into contact with a poisonous substance. Although some people may feel that doing that is an over-reaction, in many cases a quick reaction time means the difference between life and death.

It's vitally important to collect a sample of the suspected toxin if that can be done in a safe manner. A sample allows your vet to definitively identify the product and tailor the therapy to the specific toxic agents encountered.

Inhalation

Inhalation exposure occurs when the toxin is in aerosol or gas form and the canine breathes it in. Remember that, in most cases, you and your partner share the same air; therefore, if your partner is at risk for inhalation poisoning, you are too. Examples of possible inhalation exposure include when a canine searches for people during or after an urban disaster (smoke and fumes) and when a canine is used in



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drug detection or on patrol to search a methamphetamine laboratory or crack cookhouse (chemical fumes).

The best initial form of therapy for inhalation exposure is to terminate exposure by removing the canine from the environment containing the toxin. Breathing fresh air will dilute the toxins in the lungs. If possible, provide oxygen in the form of an O2 face mask if the canine shows any signs of respiratory difficulty.

Contact Exposure

Contact (superficial) exposure occurs when a substance comes in contact with a canine's hair and skin. Generally, a dog's dense coat is an excellent barrier to contact poisonings, slowing and thus decreasing the rate of absorption by or damage to the underlying skin. As a result, it's important to remember that you, the handler, are at greater risk than your partner when dealing with contact poisons. Therefore, you should take great care to protect yourself by using gloves, glasses, or even a HAZMAT suit.

In cases of contact poisoning, the primary initial goal is to reduce continued exposure. The best way to accomplish that is to bathe the dog. Although some protocols exist for specific contact poisons, the best general treatment is to use a large amount of water and a gentle detergent or shampoo to remove the contact agent. A great rule of thumb — "the solution to pollution is dilution" — means that you cannot over-rinse a suspected toxin. (An exception to that rule is substances, such as agricultural lime, that react explosively or become caustic when mixed with water.)

Take special care to protect and clean the canine's eyes, mouth, nose, and other sensitive sites. If possible, be aware of potential environmental and local hazards when decontaminating the canine; that is, use a decontamination tub, try to prevent the pollution of local water sources, and maintain a security perimeter to prevent spreading the poison to other people and animals.

Ingestion

Ingestion exposure occurs when an animal eats something poisonous. It takes approximately two hours after ingestion for a substance to leave the stomach and enter the intestinal tract. Because the intestines are the body's primary absorption center, your goal is to prevent the toxin from reaching them. To accomplish that, treat ingested toxins as follows.

Prevent continued exposure by getting the animal away from the toxin and removing or washing away any residual toxin in or around the mouth. In most cases, if the poisonous substance was ingested within the past two hours, you should induce vomiting. However, do not induce vomiting if the suspected toxin is an acid, alkali, or petroleum product. Also, never induce vomiting in a canine that is unconscious or having

seizures. Various emetics can be used to induce vomiting: ipecac, hydrogen peroxide, and apomorphine are the three most commonly used substances; however, their specific indications are beyond the scope of this article. Although table salt used to be recommended, it has variable success and can cause serious side effects even if used appropriately. Therefore, most veterinarians no longer recommend it.

Because the stomach lining has many folds and creases, vomiting may not eliminate all of the toxin. Give the canine activated charcoal by mouth to coat the lining of the stomach and intestines and slow the absorption of any remaining toxin. Because ingestion toxicity is a real concern for all types of law-enforcement canines, both an emetic and activated charcoal are "must haves" in every canine first-aid kit.

Deep Contact

The least common form of toxicity comes from deep contact or injection, in which a hypodermic needle or dart mechanism is used to penetrate the canine's skin and instill the toxin in the tissues. Injection penetrates an important layer of the animal's defense — the hair and skin — and results in a more rapid, diffuse absorption into the body, so the canine may show signs of poisoning in a short period of time. Emergency therapy for injected toxins includes the removal of the injecting device to decrease further absorption and supportive care. As always, make every effort to identify the injected product to assist the vet in providing therapy.

Poisoning is a very real threat in law-enforcement canines' day-to-day working environments. Rapid therapy aimed at reducing continued exposure and prompt attention by a qualified veterinarian are essential in maximizing the potential for recovery.

Dr. McNamara is a member of the American College of Veterinary Surgeons, American Veterinary Medical Association, United States Police Canine Association, North American Police Work Dog Association, American Canine Sports Medicine Association and IABTI.



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