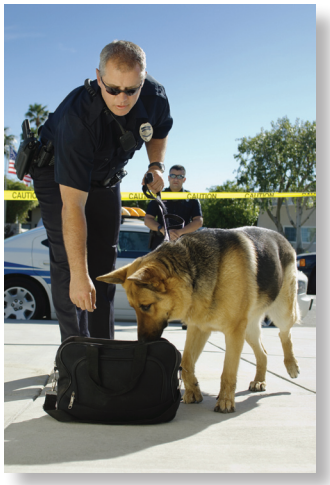
We all realize the close bond law enforcement officers have with their canine partners. Occasionally, your partner may encounter exposed opioid drugs and be in need of medical attention.



The Missouri Veterinary Medical Association's Animal Welfare Committee wants to help you in advance for treating a case of suspected canine overdose. Please keep this brochure as a reference for overdose symptoms and administration of naloxone (Narcan®). Keep in mind, you should immediately follow up with a visit to a veterinarian.

What is Naloxone (Narcan®)?

Naloxone is a medication that reverses opioids, which include heroin, morphine, fentanyl (50 times more potent than heroin), and carfentanil (10,000 times more potent than heroin).

If an opioid overdose occurs, canine handlers should quickly administer the antidote, Narcan®. Taking this action on the scene will potentially stabilize the working dog, allowing for transport to the treating veterinarian for evaluation and continued care.

In the case of a suspected canine overdose, immediately administer Narcan® and contact your treating veterinarian.

When would you need to administer Narcan® to your K9 partner?

Please keep in mind that clinical signs of an opioid overdose in a canine are highly variable and related to amount and type of opioid. The most common clinical signs of opioid overdose include:

- drowsiness
- difficulty standing
- failure to respond to commands
- a blank stare, and
- weakness, progressing to unconsciousness
- inability to breathe and ultimately death.

Most canines start to show clinical signs within 15 minutes of exposure. If you suspect that a canine has been exposed to an overdose of opioids, it is suggested that the patient be given the reversal drug, Narcan®, as soon as possible and be then taken to a veterinarian IMMEDIATELY.

What is the naloxone (Narcan®) dosage in dogs?

The naloxone dose in dogs is quite variable. The dosage used in the University of Pennsylvania's PennVet studies was 4.0 mg per dog for both intramuscular and intranasal routes[1]. This dose effectively reversed the opioid (fentanyl) in the dogs. The Penn Vet dogs were average sized working K9s (~55 to 88 lbs). The majority of first responders carry the 4.0 mg Narcan® atomizer, although some still carry 2.0 mg dosages. Either of these dosages fall within the safe range for an average working dog, so in most cases the first responder can give what they have in their kit. If your working dog was exposed to higher amounts of opioids, then it's very likely you'll need to administer repeated Narcan® treatments.

Preparation for administering (Narcan®).

It's important to remember that the canine with which you are working may have been trained to bite with extreme force! A canine experiencing an opioid overdose will not behave appropriately.

Therefore, you should always protect yourself by placing a basket muzzle on the dog immediately after administering the intranasal Narcan® *or before administering the intramuscular injection.*

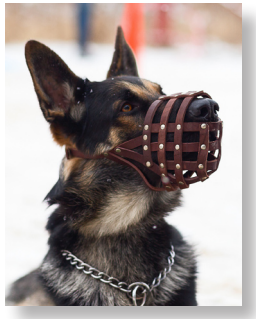
The basket muzzle allows the dog to pant, which is an essential cooling mechanism for dogs. If the dog has collapsed, the muzzle should be placed on the canine immediately after the Narcan® has been administered. *Remove the muzzle if the dog begins to vomit. Wear protective gear (gloves and mask) to avoid exposure.*

How to give an intranasal dose in a dog.

Intranasal administration is done without the muzzle in place, so it is essential to take into account the dog's demeanor (e.g., it may be safer to place a basket muzzle and give an intramuscular injection).

- When giving Narcan® via the intranasal route, a basket muzzle should be placed immediately after the naloxone is administered.

Response to Narcan® is unpredictable and the canine may wake up flailing and biting.



- Hold the snout closed with one hand and place the tip of the atomizer or device inside one nostril.
- Compress the syringe/device to deliver the Narcan®.
- Immediately place a basket muzzle on the dog after Narcan® is administered!
- Narcan® is a short acting medication and it is very likely that you will need to administer multiple doses.

Transport to your local veterinary facility immediately.

- During transport, have an emergency dose of Narcan® available if clinical signs reappear.
- After administering Narcan®, if clinical signs have resolved—monitor for 30 minutes.
- Adverse effects of Narcan® are rare but might include excitability, vomiting, and tachycardia; however, there have been no reported notable changes in behavior, heart rate, or respiratory rate following Narcan® administration by either route.

Post-Narcan® administration if clinical signs have not resolved.

Patient is not breathing:

- Apply a tight fitting facemask attached to ambubag or intubate and ventilate (6 breaths/minute).
- Repeat Narcan® doses every 2 minutes until patient is breathing on its own for at least 5 minutes.

(continued on next panel)

Patient is breathing:

• Is patient conscious? If conscious—monitor for 30 minutes.

• If not conscious—repeat Narcan® dose.

• If not showing clinical signs of overdose—monitor for 30 minutes.

Have emergency dose of Narcan® available if clinical signs develop.

Conclusion

It is not known for certain that naloxone will successfully reverse every suspected case of opioid overdose. It can also be difficult to clinically differentiate an opioid overdose from other types of illicit drug exposures that will not respond to naloxone.

As in any emergency, please contact your treating veterinarian for follow up treament. It is very important to have a current relationship with a veterinarian to insure the Narcan® is on hand.

*[1]A Randomized Cross-Over Trial Comparing the Effect of Intramuscular Versus Intranasal Naloxone Reversal of Intravenous Fentanyl on Odor Detection in Working Dogs - Jennifer L. Essler 1, *, Paige G. Smith 1, Danielle Berger 1, Elizabeth Gregorio 1, M. Ross Pennington 2, Amanda McGuire 2, Kenneth G. Furton 3and Cynthia M. Otto 1,4*

Thank you for all you do on the front lines!

QUICK ADMINISTRATION GUIDE

Intranasal Route

- Hold snout closed with one hand.
- Place tip of Narcan® device inside one nostril.
- Compress the device to deliver the Narcan®.
- Immediately place the basket muzzle on the dog.
- Contact your emergency veterinarian.
- Have a second emergency dose ready if symptoms reappear.

(See inside of this brochure for more details.)

Emergency Veterinarian:

Name: _____

Clinic Phone: _____

Emergency Phone: _____

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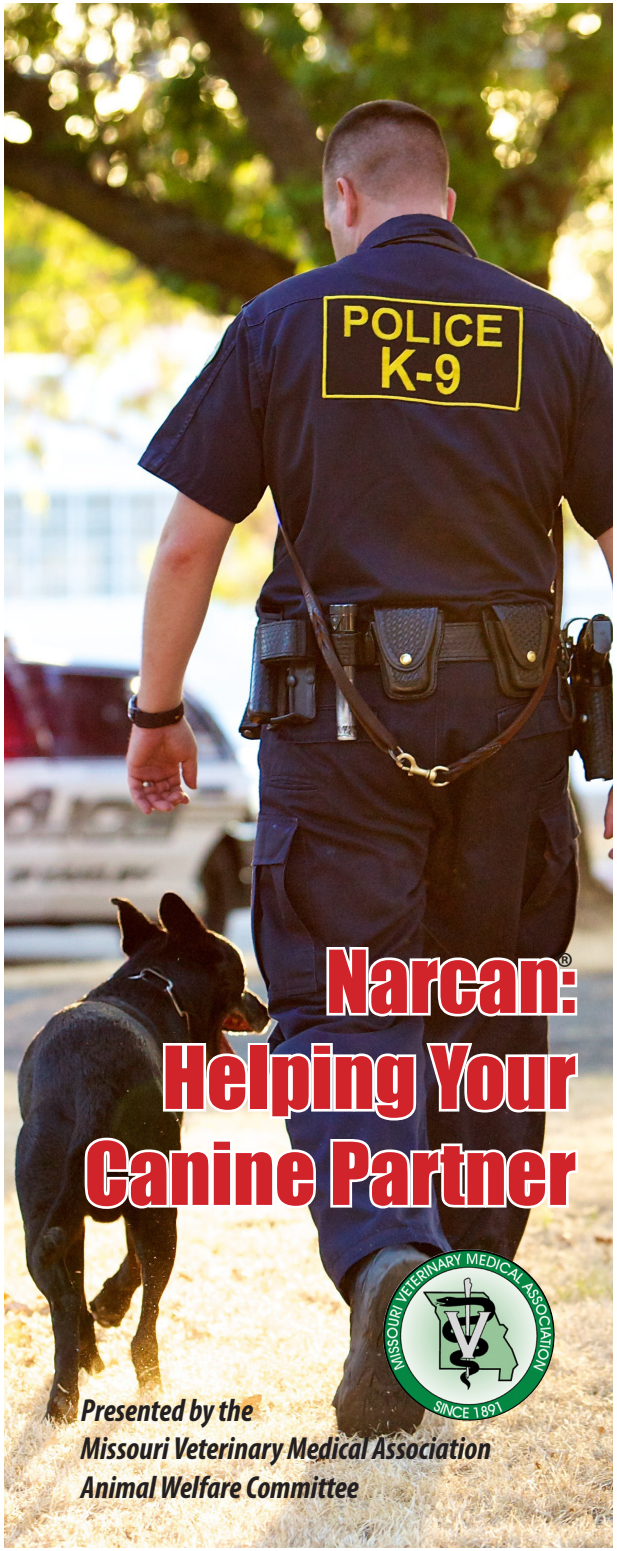

Narcan®: Helping Your Canine Partner

Presented by the Missouri Veterinary Medical Association Animal Welfare Committee