

K9 Medical Treatment Guidelines for handlers

Assessment Guidelines: The K9 handler should possess information including vital signs specific to their K9 partner

- 1) Vital signs in the K9 are specific to breed and the specific K9.
- 2) Vital Signs
 - a. Pulse: Checked at the femoral artery, inside thigh in inguinal crease
 - i. Normal
 1. Rate at rest: 60-80bpm,
 2. Rate post exertion: no more than 130 bpm
 3. During exertion may be 130-180 depending on amount of activity and environmental conditions
 - ii. Abnormal
 1. <8 /min or >40 /min
 2. Short Shallow respiration
 3. Snorting, grunting, wheezing, stridor
 4. Stretching neck/head to breathe
 - b. Respirations
 1. Normal: 10-40 breaths per minute
 - ii. Abnormal
 1. <8 /min or >40 /min
 2. Short Shallow respiration
 3. Snorting, grunting, wheezing, stridor
 4. Stretching neck/head to breathe
 - c. Mucosal Membrane: checked at gums above tooth line.
 - i. Normal
 1. Moist
 2. Color consistent with norms for the patient
 - a. Pink
 - ii. Abnormal
 1. Tacky or Dry
 2. Color
 - a. Brick Red
 - i. Infection, Co2 Poisoning, shock, sepsis, hyperthermia
 - b. Blue: Cyanosis
 - c. White: Shock, blood loss
 - d. Yellow: Jaundice
 - i. Hemolytic anemia
 - ii. liver disease/gallbladder disease
 - e. Grey:
 - i. Shock, Blood loss, GDV & cardiac disease
 - d. Capillary Refill (push on gums, blanching should resolve):
 - i. Normal: < 2 seconds
 - ii. Abnormal: > 2 seconds
 - e. Temperature: Rectal
 - i. At rest: 100-102.5 F
 - ii. Post activity: 103-105 F
 1. Should return to normal after 10-20mins

- f. Eyes
 - i. Normal
 - 1. Pupils equal in size and responsive to light
 - 2. Color based off of patient's normal
 - ii. Abnormal
 - 1. Nystagmus: shacking of eyes side to side, up and down or rotary
 - a. Neurological issue / toxins
 - 2. Non-reactive
 - a. Neurological issue / toxins / head trauma
 - 3. Slow Papillary response (slow to constrict with light shined in them)
 - a. Neurological issue / toxins / head trauma
 - 4. Dilated or Pinpoint pupils
 - a. Toxins / head trauma
- g. Urine
 - i. Color
 - 1. Normal: Based on patient's normal
 - a. Clear in color or light yellow
 - b. No odor
 - 2. Abnormal
 - a. Dark yellow - dehydration
 - b. Red / brown red
 - c. Odor
 - ii. Frequency
 - 1. Normal: Based on patient's normal (Three to four per day)
 - 2. Abnormal
 - a. Decreased – Dehydration +/-
 - i. Secondary to illness
 - ii. Toxin
 - b. Increased
 - i. Toxin
 - ii. Kidney disease / damage
 - iii. Dehydration
 - c. Leaking/dribbling urine - while walking, standing, laying
 - i. Marijuana ingestion vs other
 - h. Feces: Normals are based on individual normals
 - 1. Abnormal: soft stool or diarrhea (liquid or any variation)

Equipment/medical procedures:

- 1) Animal Poison Control: ASPCA: 1-888-426-4435
- 2) Elizabethan Collar (E-collar)
 - a. Proper size for K9 (30inches)
 - b. Used as barrier to prevent further injury to patient
 - c. Used for barrier in the event a muzzle is not available or appropriate
- 3) Muzzle
 - a. Manufactured

- i. Cage/Basket
 - 1. Preferred for patients in any distress
 - 2. Oxygen tubing can be placed proximally to snout for oxygen administration
 - 3. Should not be used in heat related injuries
- b. Improvised
 - i. Kurrlex/gauze wrap loosely wrapped around snout then tied around back of head
 - 1. Monitor for signs of respiratory compromise
 - 2. Should only be performed for short periods of time
 - 3. Should not be used in heat related injuries
- c. Caution:
 - i. A sick and injured patient may not recognize you. The patient may bite on instinct even if unresponsive.
 - ii. If patient is in severe respiratory distress, do not use cloth muzzle or muzzle prevents panting.
 - iii. E-Collar/cone may be used in place of a muzzle

Pre-hydration / subcutaneous (SQ) fluids (camel backing)

- 1) This is a HANDLER Procedure: Time frame: 1-2 hrs. prior to activity
- 2) **Site:** Between Shoulder blades/ any area with excess subcutaneous skin along back
- 3) **Amount:** Weight in pounds and add a zero
 - a. Most working dogs: 750-1000 ml

Dehydration

- 1) Mild to moderate
 - a. Signs and symptoms
 - i. Reduced elasticity (Pinch the skin between the shoulder blades. It should snap back immediately.
 - ii. Tacky gums (finger sticks to it slightly)
 - iii. Decreased capillary refill: May not be present
 - b. Treatment
 - i. If able to swallow and vomiting not present
 - ii. Allow patient to drink freely
- 2) Severe
 - a. Signs and symptoms
 - i. Tented skin (when pinched the skin doesn't return back to place)
 - ii. dry gums
 - iii. increased capillary refill >2sec: May not be present
 - iv. Weak to Bounding pulse
 - v. Lethargy, abnormal gait, weakness
 - vi. Sunken eyes
 - b. Treatment
 - i. Veterinarian care is paramount.
 - ii. Transport should not be delayed
 - iii. SQ fluids are NOT sufficient. Need IV asap – Medic/Veterinary care

Heat Related Injury

1) Heat Exhaustion / Prostration

- a. May be complicated with dehydration
- b. Signs and Symptoms: Vary with intensity and duration of body temperature elevation and how quickly active cooling initiated. Can vary from below to above normal.
 - i. Rectal Temp: >103F
 - ii. RR: Fast and shallow panting
 - iii. HR: increased 140-160 bpm: May be strong and bounding or weak & thready
 - iv. Mucus Membranes: normal to brick red with capillary refill < 1 sec
 - v. Activity: Dog seeking cool place. May stop activity abruptly
 - vi. Vomiting may or may not be present
 - vii. Mental status: Lethargy, weakness, abnormal gait, fatigue, muscle tremors
 - viii. Stool: Diarrhea may be present
 - ix. Urine: Dark with strong odor

2) Heat Stroke

- a. Signs and Symptoms Vary with intensity and duration of body temperature elevation and how quickly active cooling initiated. Can vary
 - i. Dehydration
 - ii. Rectal Temperature: 106-108+ F: May be below on initial evaluation
 - iii. RR: Rapid shallow panting
 - iv. HR: 140-200bpm with weak pulses sometimes
 - v. Mucosal Membranes: pale and dry (Late stage)
 - vi. Activity: laying, unable to stand
 - vii. Mental status: Dull mentation, Lethargy, weakness, abnormal gait, seizure, muscle tremors, coma
 - viii. Stool: Diarrhea, often presentation
 - ix. Urine: if any, Dark with strong odor

3) Treatment of Heat Related Injuries

- a. Active & Passive Cooling
 - i. Move to cool place
 - ii. Begin active cooling to 103 degrees
 - iii. Continued rectal temperature to monitoring to avoid hypothermia
- b. Wet down with water
 - i. Fan afterward
 - ii. DO NOT PLACE PATIENT in kennel
- c. Alcohol on pads of feet
- d. Ice packs to groin and arm pits: Transport should not be delayed

Trauma Management

- 1) Assessment
 - a. Control Life Threats as Found
 - b. Limping and increased stretching during or after activity
 - c. Howling / Vocalizing
 - i. May be sign of pain
 - ii. If not present does not negate pain
 - d. Hiding injury is common
- 2) Sprains and Strains
 - a. Signs and Symptoms
 - i. Increased resting even during activity
 - ii. Limping, holding limb up
 1. May be intermittent
 - iii. Hesitation before jumping or stepping
 - iv. No signs of injury
 - b. Treatment: Rest & follow up with veterinarian
- 3) Fractured Bones
 - a. Signs and Symptoms
 - i. Deformities: May not be present pending extent
 - ii. Limping, holding limb up
 - iii. Abnormal gait
 - iv. Hesitation before jump or stepping
 - v. No signs of injury: Pending extent
 - b. Treatment: Should be done by medical professional if possible
 - i. pain management
 - ii. Splinting in position found
 1. Some fractures may not require splinting
 2. **DO NOT** make any attempt to realign bones
- 4) Hemorrhage Control
 - a. Treatment
 - i. Direct pressure with dressing: Add layers as need, dressing should not be removed
 - ii. Hemostatic agents
 - iii. Tourniquets: Last resort; No evidence exists of effectiveness
- 5) Shock
 - a. Early
 - i. Signs and Symptoms
 1. Normal to mildly elevated rectal temperature (100 - 106° F)
 2. Pulse: 150-200 bpm weak and thready pulse
 3. Respirations \geq 25rpm
 4. Capillary Refill: \geq 2 seconds
 5. Mucosal Membranes
 - a. Color: Normal, brick red, pale
 - b. Tacky gums

6. HEENT: drooling, tacky lips and gums
 7. Mental Status: Generally weak, but appropriate
- b. Advanced
- i. Signs and Symptoms (as above including)
 1. Mental status: Lethargic, weakness, unable to move, nonresponsive
 2. Eyes normal - dilated
 3. Capillary Refill: > 3-4 seconds
 4. Mucosal Membrane: gray to pale, dry gums and lips
 5. HEENT: extremely thickened saliva or none at all
 6. Temperature: often < 100°F
- c. General Treatment
- i. Hemorrhage Control
 - ii. Airway management
 - iii. Circulation / Fluid Therapy
 - iv. Hypothermia: Reduce heat loss and provide heat support as needed

Poisoning and Overdose: Signs and Symptoms -varies based on substance consumed

Substance Specific Poisoning and Overdose

1) Marijuana

- a. Signs and Symptoms
 - i. HR: Slow or fast
 - ii. Often Heart rate, respiratory rate are normal
 - iii. Temperature: May be normal or low
 - iv. Mental Status: Lethargic, easily startled, sound and light sensitivity, tremors, seizures,
 - v. Disorientation, weakness, +/- in coordination, ataxia, +/- uncommon CNS stimulation/vocalization and or hyperactivity
 - vi. Stool: diarrhea if ingested with food product possible
 - vii. Urine: Leaking urine/dribbling urine – Common with ingestion
 - viii. Eyes: Glassy eyed appearance, dilated pupils
 - ix. Gastric intestinal: Increased salivation and vomiting are common with ingestion
- b. Treatment: If stable, breathing well – time +/- medical intervention needed; Keep calm and quiet. Do not attempt to work them

2) Opioids

- a. Signs and Symptoms: Variable heart rate, low blood pressure, low temperature
 - i. Respiratory: Can have profoundly decreased respirations
 - ii. Mental Status:
 1. Aggressive behavior in early stages
 2. Lethargy in later stages
 3. Ataxia
 4. Seizures
 5. Coma / unconsciousness

- iii. HEENT:
 1. Panting
 2. Dilated pupils
 3. Increased salivation
 4. Vomiting

- b. Treatment: Veterinary Care needed
 - i. Supportive Care: Fluid therapy, airway management, reversal agent, passive warming for hypothermia and medications as needed for seizures.

3) Cocaine

- a. Signs and Symptoms: Elevated heart rate, slow respirations or respiratory failure, +/- high blood pressure, High temperature
 - i. Mental Status:
 1. Lethargy, hyperactivity Aggressive behavior, erratic behavior
 2. Twitching/tremors
 3. Hyperaesthesia (extensive physical sensitivity, especially with external stimulation)
 4. Seizures
 5. Death
 - ii. HEENT:
 1. Dilated pupils
 2. Vomiting
 3. Drooling
- b. Treatment
 - i. Supportive care
 1. Fluid administration
 2. Induce Vomiting only if mentally appropriate, not already vomiting and only if Ingestion within 15-20 min AND after 10 min of no clinical signs
 - a. RISK - USE CAUTION
 - i. GI Ulceration
 - ii. Aspiration
 - b. Peroxide (risk of GI ulceration/aspiration)
 - i. 1-2ml/KG max dose 45ml= 1ml/pound
 - ii. May administer a max of 3 doses q10min
 - c. Apomorphine (if available from referring VMD)
 - i. Oral: 6 mg tablets: ¼ to ½ tab in the conjunctival sac
 1. induces vomiting usually in 5-10 minutes
 2. Flush out eye well after vomiting
 - ii. Seizure management
 1. Transport ASAP - 24hr care needed

4) Amphetamines / Ecstasy: Onset of action 30 minutes to 2 hours

- a. Signs and Symptoms: rapid heart rate and possible

- i. Heart rate: elevated with arrhythmias possible
- ii. Respiratory Rate: variable can lead to respiratory failure
- iii. BP: high blood pressure
- iv. MM: Variable – hypersalivation possible
- v. Capillary refill time: Variable
- vi. Temperature: Hyperthermia
- vii. Mental Status:
 - 1. Hyperactivity, erratic behavior
 - 2. Vocalizations
 - 3. Tremors
 - 4. Seizures
- viii. HEENT: Dilated pupils
- b. Treatment: supportive care, airway management, passive cooling, heart rate control, prevention of serotonin syndrome, seizure control
- c. URGENT TRANSPORT

Allergic Reactions:

- 1) Signs and Symptoms
 - a) Hives
 - b) Swollen face/muzzle, around the eyes
 - c) Redness to the eyes, skin
 - d) Hyper- excitability
 - e) Significant itchiness
 - f) Wheezing
 - g) Respiratory distress
- 2) Treatment
 - a) Diphenhydramine: Weight in pounds orally (if 75# give 75 mg) or round up.
 - b) If no improvement in 30 - 40 min or worsening at any time – Transport/medic asap

Gastric Dilatation Volvulus: GDV/Bloat

- 1) Hallmark Clinical signs:
 - a) Sudden onset of abdominal distention
 - b) Distress, anxiety and pain
 - (1) Panting, guarding the belly, anguished facial expression
 - (2) Prayer position
 - (3) Pacing, restlessness
 - c) Multiple attempts at vomiting that are frequently unproductive (non-productive retching)
 - d) Not all show all the signs – WHEN IN DOUBT SEEK MEDICAL ATTENTION ASAP!!!!
- 2) What you can do in the field
 - a) Early recognition is critical
 - b) Seek medical attention asap
 - c) Do not give anything orally

- d) Trocarization (decompression of the stomach) – if officers are properly trained to do so
- 3) TRANSPORT /GET MEDICAL ATTENTION ASAP!!!!

Note: if your dogs are not prophylactically already tacked – meaning the stomach has been sutured to the body wall to prevent this life threatening condition – Veterinarians recommend that it be done!