

**Table 1. MWD Heat Injury Protocol**<sup>1-18,24</sup>

MWD HEAT INJURY PROTOCOL		
PHASE	CLINICAL SIGNS	
MILD (Stress)	<u>Controlled</u> panting, excessive thirst, discomfort.	Dehydration typically results from heat injury → treat dehydration and monitor for shock
MODERATE (Exhaustion)	<u>Uncontrolled</u> panting, weakness, ataxia, anxiety, petechiae/ecchymoses.	
SEVERE (Stroke)	Moderate signs <u>plus</u> CNS signs, collapse, shock.	
TREATMENT OF MILD HEAT INJURY		
<div><div>1.</div><div>Cease work and remove MWD’s gear or vests.</div></div> <div><div>2.</div><div>Remove from source of heat. Move to shade or air-conditioned area. Use fans if available.</div></div> <div><div>3.</div><div>Offer cool water in small increments frequently.</div></div> <div><div>4.</div><div>Monitor temperature every 15-30 minutes to ensure mild injury doesn’t progress; perform serial physical exams.</div></div>		
TREATMENT OF MODERATE AND SEVERE HEAT INJURY		
<div><div>1.</div><div>Perform primary survey and assess airway, breathing and circulatory system.</div></div> <div><div>2.</div><div>Immediately initiate active cooling measures. Soak the dog’s hair and skin with tepid water – remove gear or vests. Use fans if available.</div></div> <div><div>3.</div><div>Continue active cooling measures until body temperature is reduced to 103 – 103.5°F.</div></div> <div><div>4.</div><div>Obtain vascular access and begin IV fluid therapy with an initial crystalloid bolus of 10-20 mL/kg.</div></div> <div><div>5.</div><div>Assess for shock. If present, follow the shock resuscitation protocol (Shock Management K9 CPG).</div></div> <div><div>6.</div><div>Give IV crystalloid fluids at 3-5 mL/kg/hour if not in shock.</div></div> <div><div>7.</div><div>Be prepared to support/correct rebound hypothermia (dog may be hypothermic on arrival or develop hypothermia during treatment).</div></div> <div><div>8.</div><div>Monitor for any development of additional complications that may require treatment such as CNS abnormalities, cardiac arrhythmias, bleeding disorders, or electrolyte abnormalities.</div></div>		
CEASE cooling efforts once the body temperature is 103 – 103.5°F to prevent rebound hypothermia. Actively warm the dog if the temperature is < 100°F.		
PROVIDE INTENSIVE MONITORING AND MANAGEMENT		
<div>Maintain <u>normotension</u> – target MAP of &gt;65 mmHg or systolic BP &gt;90 mmHg</div> <div>Maintain <u>ventilation</u> – target RR of 8 – 10 bpm and ETCO<sub>2</sub> of 35 – 45 mmHg</div> <div>Maintain <u>oxygenation</u> – target SpO<sub>2</sub> &gt;95% with supplemental oxygen</div>		
CONTROL SEIZURES		
Midazolam or Diazepam	<div>0.3 mg/kg – IV, IO, or intranasal PRN</div> <div><i>Midazolam can also be administered IM.</i></div> <div><i>Diazepam can also be administered per rectum.</i></div>	
MANAGE CEREBRAL EDEMA		
Mannitol OR Hypertonic saline	<div>0.5 – 1 grams/kg – IV over 20 minutes</div> <div>-----</div> <div>4 mL/kg IV bolus over 15 minutes</div>	
CONTROL PATHOLOGIC VENTRICULAR ARRHYTHMIAS		
Lidocaine 2 mg/kg IV bolus, then: 50 – 75 mcg/kg/min CRI	<div>Correct H’s and T’s first:</div> <div><div>-</div><div>Hypovolemia, hypoxia, hydrogen ion (acidosis), hypoglycemia, hyper/hypokalemia, hypothermia</div></div> <div><div>-</div><div>Tension pneumothorax, tamponade (cardiac), toxins, thrombosis</div></div>	
CONTROL HYPOGLYCEMIA	MANAGE ANCILLARY PROBLEMS	
<div><div>1.</div><div>Supplement IV fluids to 2.5 – 5% final dextrose concentration.</div></div> <div><div>2.</div><div>Monitor blood glucose every 4-6 hours.</div></div>	<div><div>1.</div><div>Antiemetics + gastrointestinal protectants.</div></div> <div><div>2.</div><div>Potassium supplementation.</div></div> <div><div>3.</div><div>Mobility</div></div>	