

## Canine Emergencies

Dogs can be victims of their environments and prey to their own curiosity. Fortunately, aggressive emergency therapies exist to manage many of their medical crises. Dr. Kenneth J. Drobatz, assistant professor of emergency medicine and director of VHUP's 24-hour Emergency Service, cited some of the common causes of canine emergencies, their mechanisms, treatments and prognoses.

Dogs brought to the Emergency Service are treated on a triage, or medical priority, basis: those with life-threatening conditions are treated before stable patients. Clinicians immediately treat distress in the four major physiological systems - the respiratory, cardiovascular, renal and central nervous system - which may mean deferring treatment of primary clinical signs.

"A dog could come in with a severed leg barely hanging by its skin. That's probably not its most life-threatening problem," said Dr. Drobatz. "The most life-threatening problem is probably the blood loss that has already occurred...If we can stabilize these patients, we can usually save them."

Mucous membranes are evaluated to assess blood oxygenation, and an intravenous (I.V.) catheter is inserted to allow immediate access to the dog's vascular system, should it become necessary to administer emergency drugs or measure blood levels.

A common canine emergency seen with some frequency in larger breeds is gastric dilation and associated volvulus (gastric/intestinal torsion). These patients usually present with abdominal pain and distension caused by gas accumulation. Other signs include retching, restlessness and rapid respiratory rate. Patients are given I.V. fluids, and then the stomach is decompressed, the volvulus is surgically corrected and any necrotic stomach wall is removed. Dr. Drobatz estimates the success rate for these procedures to be between 80-90 percent.

Not always so curable, but quite common - particularly in urban areas - are traumatic injuries. Gunshot wounds and injuries caused by automobiles are treated quite frequently at VHUP. Bite wounds, also seen often in dogs, may

offer a deceptive appearance: cutaneous punctures and lesions can downplay the severity of the muscle maceration and tissue necrosis underneath. These wounds must be drained and cleaned thoroughly to prevent abscess formation.

"Any trauma case, no matter how relatively benign it appears, needs to be treated with respect," said Dr. Drobatz. "We monitor the dog for at least 24 hours, the dynamic period. If something is going to happen, it usually happens during this time."

The Emergency Service frequently treats dogs for problems associated with toxin ingestion. Rodenticides with blood anticoagulants seem to be canine delicacies. Dogs that consume rodenticides - or rat poisons - usually present with acute hemorrhage, which may appear as swelling or bruising. Other clinical signs include anemia, tachycardia (increased heart rate) and respiratory distress.

Some of these patients may require intravenous fluid and blood products as well as thoracocentesis if pleural hemorrhage has occurred. Vitamin K therapy is also used as an antidote for the poison.

Hemolytic anemia manifests itself with similar signs. Dogs afflicted with this severe form of anemia, in which the immune system attacks the red blood

cells, may present with increased respiratory rate, bounding pulses, lethargy and icteric (jaundiced) membranes.

Hemolytic anemia may occur secondarily to medications, vaccines, red blood cell parasites, tick borne diseases, autoimmune diseases or ingestion toxins containing zinc such as galvanized metal objects, sun block and pennies minted in or after 1983. Therapy includes treatment of the underlying cause if found and drugs to suppress the immune system as well as blood transfusion if necessary.

Aspirin, when given in excess, can cause stomach ulcers in dogs. Clinical signs include tarry stool, vomiting and weakness. Patients may be treated with substances that coat the stomach and decrease acid production, as well as and supplements to replace protein depleted by bleeding, and blood transfusions if the anemia is severe.

There is a constellation of canine injuries and illness as treated on an emergency basis. Some, but not all, can be prevented. The Center of Veterinary Critical Care represents the joint commitment of several fields of expertise at VHUP, such as emergency medicine, intensive care and anesthesiology, to managing these emergencies. ■

J.C.

## Conference Room named in honor of Dr. Detweiler

The department of animal biology honored Dr. David K. Detweiler, professor emeritus of physiology, by naming the department's conference room on the first floor in the Rosenthal Building the David K. Detweiler Conference Room.



Dr. Joseph Spear, professor of physiology, and Dr. David Detweiler with a portrait of Dr. Detweiler that was placed in the David K. Detweiler Conference Room.