

HEAD TRAUMA

About Head Trauma

Pets commonly suffer various degrees of head trauma after being hit by a car or suffering other traumatic injury such as a high fall, getting kicked, or being struck by a bat etc. Trauma to the head can cause skull fractures, crushed sinuses, jaw fractures, bleeding within the brain (hematoma formation), brain contusions (bruising), seizures, concussions, and worst of all herniation of the brain due to high pressures within the skull. The degree of head trauma is assessed by examining reflexes involving the cranial nerves (nerves supplying the sensory organs and facial muscles), pupils, and mental alertness. Many veterinarians find treating head trauma frustrating for it is hard to predict how the pet will do and often veterinarians have to take a “wait and see” type of approach when treating for head trauma. Some pets recover rapidly with supportive care, while others can take several days to weeks to fully recover. Occasionally patients signs decline rapidly and the animal dies suddenly. Each animal is different and both doctors and owners must be patient.

Symptoms

- Unequal pupil size- constricts with light (good prognosis)
- Fixed pinpoint size pupils (guarded prognosis)
- Fixed dilated pupils (grave prognosis)
- Constant repetitive rapid eye movement (nystagmus)- up and down or side to side
- Bleeding from nostril(s) (epistaxis)
- Mental dullness / unaware
- Labored / frantic breathing
- Seizures
- Coma
- Sudden death- usually with brain herniation

Diagnosis

- **Physical exam and neurologic assessment of the cranial nerves.** The patient is assessed several times a day to look for either an improvement or decline in neurologic function. Veterinarians try to identify a **trend** over several days to help owners decide whether to continue treatment or euthanize the patient. Head trauma often takes several days to weeks, sometimes even months to resolve. Some pets never recover fully, however, most times dogs adapt easily to the neurologic impairment.
- **Radiographs** can be taken to look for skull, sinus, and jaw fractures. The majority of dogs however have primarily brain injury which does not show up on films.
- **MRI and CAT scan-** advanced imaging techniques to assess the brain. These can show blood clots, bruises, brain bleeding, depressed skull fractures, and a number of other trauma related lesions.
- Additional diagnostics such as blood work, chest and abdominal, and skeletal

radiographs, blood gasses, etc are used to assess / identify injury to the rest of the body.

Treatment- Supportive Care

Treatment is based on supportive care and stabilizing the patient who commonly presents with other bodily injuries. Head trauma is treated with a variety of drugs including steroids, mannitol (a drug used to decrease brain inflammation and swelling), supplemental oxygen., antibiotics (if bleeding from the nose is present, and other anti-inflammatory medications. Injury to other body systems is addressed as well as shock. Treatment should be continued for at least 48 hours unless the animal shows signs of severe trauma or declining clinical status that carries a grave prognosis for survival (ie coma, fixed dilated pupils).

Prognosis

Depends entirely of the form and extent of the head trauma. Animals in a coma, or who present with repetitive seizures or breathing difficulty carry a grave prognosis as well as pets with fixed dilated pupils. Patients with fixed non-responsive pin point size pupils or fixed pupils of two different sizes carry a guarded prognosis. Treatment should be attempted for all animals with unequal size pupils that respond to light by constricting. These patients carry a good prognosis for recovery with proper treatment along with sinus injuries and jaw fractures. As long as the animal is not in pain or compromised by severe injuries to the rest of the body, one should always try medical therapy for at least 48 hours. Many pets respond dramatically.