PENETRATING FOREIGN OBJECT

**What is it?** Sometimes an animal will experience a trauma in which a stick or other similar object penetrates a body cavity or becomes lodged in the mouth or under the tongue. Other sources of impalement include decorative fences, arrows, and construction debris. If this occurs, it is an emergency and veterinary care should be sought as soon as possible.

**Who gets it?** Both dogs and cats can experience a penetrating foreign object. Dogs are the more likely candidate, as they tend to run outdoors and can impale themselves on a stick, tree branch, or other relatively sharp object or can have a stick in their mouths and impale it under their tongue and into their neck as they run. When a cat suffers from a penetrating foreign object, it is usually the result of a fall and they impale themselves on to the object.

**What are the clinical signs?** The first clinical sign of a penetrating foreign object is the object noted in the wound site or hemorrhage noted from the wound site if the object has been pulled out. If the object penetrated the chest cavity, respiratory distress or difficulty is the most common sign. If the object penetrated the abdomen, a large volume of hemorrhage may be noted with or without respiratory distress. Regardless of the location of the entry wound, animals will usually present in varying degrees of shock exhibiting weakness, pale gum color, and sometimes slightly dull mentation. Pain is always present in varying degrees of severity dependent upon the location of the wound and amount of damage the object caused both with the initial laceration as well as the subsequent crushing and bruising injuries to adjacent tissues.

**How is it diagnosed?** Diagnosis starts with obtaining a detailed patient history from the owner. Sometimes the owner witnesses the impalement, while other times animals return home with wounds that are suspected to have been caused by a penetrating foreign object. A complete physical exam will be done on the patient. Full vital signs including temperature, pulse rate, and respiratory rate will be obtained. The doctor will carefully listen to the patient’s heart and lungs for disruptions in normal heart rhythm and abnormal breath sounds. An electrocardiogram may be run on the patient to further evaluate the heart and blood pressure may be monitored to watch perfusion of blood to the tissues. A neurological examination of the patient will occur to check pupil size and responsiveness, and to look for tremors, head bobbing, and ability to balance, stand, walk or other neurological abnormalities. Radiographs will be taken to survey the extent of the injuries as well as scan for any remnants of the object that may still be in the patient’s body. Ultrasound may be used to screen for free air or gas in the abdomen, free fluid (blood or urine) in the abdomen, and screen for trauma to the organs. It is also very useful in assessing diaphragmatic hernias or body wall traumas. Laboratory analysis of the patient’s blood and urine will be recommended to look at their complete blood count, blood clotting ability, platelet levels, and electrolyte levels including sodium, potassium, and glucose. Liver values may be checked as shock and trauma can cause elevations in these enzymes.

**How is it treated?** Treatment begins at home. Place direct pressure on any bleeding wounds with a dishtowel or other small cloth and immediately transport your pet to the nearest veterinarian or emergency facility. If the object is still impaled in your pet, do NOT pull it out. Instead wrap a small towel around the base of the object next to the wound and put pressure on it.
Transport immediately to the nearest veterinary clinic or emergency facility. If the wound is under your pet's tongue, do not attempt to put pressure on it, merely transport your pet to your veterinarian or the nearest emergency facility. Shock will be addressed with appropriate fluid therapy and oxygen supplementation. Pain will be controlled with injectable pain medication. Blood pressure will be monitored and maintained with appropriate fluid therapy. If the wound is to the chest or abdominal cavity and resulted in a large amount of hemorrhage, blood or blood products may be administered to replace losses. Damage to the large blood vessels of the chest cavity can cause a hemothorax (free blood in the chest cavity). When the lungs and/or the space around the lungs fill with any type of fluid, it makes breathing very difficult. Alternatively pneumothorax (free air in the chest cavity) can occur if the object penetrated the chest cavity but missed the large blood vessels. If either of these is present, the veterinarian will evacuate the chest cavity by placing a needle into the chest and removing whatever blood or air there may be. With any kind of penetrating traumatic wound to the thorax or abdomen, it is always recommended to surgically explore the wound and repair any trauma that was caused. Injury can be caused by the initial passing of the object as well as crushing, shearing, and bruising injuries to adjacent tissues that may be worse than damage from the object itself. Tearing to the blood vessels or organs must be corrected. Without full surgical exploratory, these additional injuries cannot be adequately repaired. A large percentage of penetrating wounds to the abdomen result in septic peritonitis. Incidence of peritonitis can be reduced with surgical exploration of the wound, adequate flushing of the abdominal cavity, and appropriate antibiotic therapy. Oxygen therapy will be administered as needed to control the patient’s blood oxygen saturation levels, respiratory needs, and comfort.

What is the aftercare? Aftercare is dependent upon the number of wounds, location of the wounds, and amount of damage to surrounding tissue and organs caused by the passing of an object into the body. Antibiotic coverage will need to be continued at home as well as pain control. Administer all medications as directed by the prescribing veterinarian. Incisions will need to be monitored as they heal for redness, swelling, or discharge. An e-collar may need to be worn by your pet to keep them from chewing out their sutures or licking their incisions and causing infection.

What is the prognosis? Prognosis is dependent upon the number of wounds, location of the wounds, and the size of the object that inflicted the wounds. Wounds from larger foreign objects entering the body in the head or chest have a higher rate of mortality than smaller objects entering the body in a less lethal area. Wounds under the tongue often have a good prognosis. However, when dirty objects (such as sticks) are the cause of a penetrating wound, there is a possibility of long-term infection from material that cannot be removed from the body.

Can it be prevented? Many times it can be. Keep cats indoors to minimize risk of falling from a height and impaling themselves. Dogs kept from playing with sticks can be kept from impaling a stick under their tongue. Dogs kept on a leash can be kept from running into other objects (branches, protrusions, etc.) and kept from impaling themselves.