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ELECTROCUTION

What is it? Electrocution commonly occurs when an animal bites an electrical cord. However, it occasionally occurs when an animal is struck by lightning or comes in contact with electricity in other ways such as downed power lines.

What species are affected? Both dogs and cats can be electrocuted. The most common victims are puppies and kittens that become curious about cords and try to use them as playthings.

What are the clinical signs? Animals will show signs of pain, especially in the mouth and feet. Other signs include salivation, unwillingness to eat or swelling of the tongue and lips. Some pets will have systemic signs such as troubles breathing, collapse due to heart arrhythmias, or even sudden death. In some cases, muscle tremors and seizures are also possible.

How is it diagnosed? Many times electrocution is diagnosed by direct owner observation of the incident or later by finding chewed electrical cords. If the incident was not observed, then characteristic signs such as mouth burns, non-cardiogenic pulmonary edema (which causes problems with breathing and is diagnosed by taking chest radiographs), or damaged teeth are clues that an electrocution may have occurred.

How is it treated? Treatment for electrocution begins at the scene; if your pet is biting a cord, do not remove it from his mouth until the cord has been unplugged or the circuit breaker turned off. If your pet is in respiratory arrest, you may need to attempt CPR while en-route to an emergency hospital or your veterinarian.

At the hospital, initial therapy is aimed at treating pain, shock (low blood pressure), or troubles with breathing. In most cases of non-cardiogenic pulmonary edema caused by electrocution, oxygen is administered. Other therapy for pulmonary edema can include continuous infusions of diuretics and even a mechanical ventilator to assist breathing. Burns and other thermal injuries are treated with antibiotics and dressings to allow the damaged tissue to heal.

What is the aftercare? Most of the aftercare is geared toward treating wounds that arise from electrical damage and burns to the skin, lips and mouth. In some cases, the extent of the injury may not be known for days or weeks. Severe electrocutions can cause injury to teeth that may require extraction, death of portions of the bones in the jaw or feet, and death of parts of the tongue, lips, and skin of the feet or other tissue through which the current passed. All of these could require one or more surgeries to completely resolve these problems. In some cases, long term cataracts can develop which could require surgery to restore complete vision.

Antibiotics and analgesics are very common for long term care. Depending on the severity of non-cardiogenic pulmonary edema, recheck radiographs may be recommended. Most importantly, dogs and cats in general will not learn from this mistake so must be watched vigilantly to prevent repeat injuries.

What is the prognosis? Prognosis is highly variable. Immediate death is possible and severe cases can require very intensive care in the short term simply to keep them alive. Long term, some patients can require multiple surgeries to repair injuries, but if they have survived that long, then prognosis can be good.

Can it be prevented? Most cases of electrocution can be prevented. Keep electrical cords wrapped with zip ties or other materials that protect the cords. Be especially wary of your pets around Christmas trees or other holiday lights. Keeping animals inside during electrical storms or at times when power lines are down are easy ways to prevent electrocution.