



# Rabies

## Basics

### OVERVIEW

- A severe, invariably fatal, viral inflammation of the gray matter of the brain (known as “polioencephalitis”) of warm-blooded animals, including humans; “gray matter” is the nerve tissue of the brain that contains the nerve cell bodies

### SIGNALMENT/DESCRIPTION OF PET

#### Species

- All warm-blooded mammals, including dogs, cats, and people
- United States—five strains of rabies virus are found in the skunk, raccoon, coyote, fox, and insectivorous bat populations; all five strains can be transmitted to dogs and cats

#### Mean Age and Range

- None, but adult animals that come in contact with wildlife are at most risk

### SIGNS/OBSERVED CHANGES IN THE PET

- Quite variable; atypical presentation is the rule rather than the exception
- Three progressive stages of disease—(1) prodromal stage—early signs of disease; signs may include change in behavior, apprehension, nervousness, seeking solitude; (2) furious stage—signs may include irritability, excitability, avoidance of light (known as “photophobia”), and viciousness (biting, attacking); and (3) paralytic stage—also known as the “dumb form” of rabies; signs may include paralysis of various parts of the body (determined by location of original site of exposure to the rabies virus, such as a bite wound), change in voice (known as “dysphonia”), excessive salivation/drooling, and choking sounds; final signs include coma and death
- 90% of cats with rabies have the furious form of disease
- Change in attitude—pet seeks solitude; apprehension, nervousness, anxiety; unusual shyness or aggressiveness
- Erratic behavior—biting or snapping; licking or chewing at site of wound; biting at cage; wandering and roaming; excitability; irritability; viciousness
- Disorientation
- Muscular incoordination; seizures; inability to move voluntarily (known as “paralysis”)
- Change in tone of bark
- Excess salivation or frothing
- Paralysis of the lower jaw (mandible) and voice box or larynx; dropped jaw
- Inability to swallow
- Fever
- Dilated pupils—unresponsive to light; unequal size of the pupils (known as “anisocoria”)

### CAUSES



- Rabies virus

## **RISK FACTORS**

- Exposure to wildlife, especially skunks, raccoons, bats, and foxes
- Lack of adequate vaccination against rabies
- Bite or scratch wounds from unvaccinated dogs, cats, or wildlife
- Exposure to aerosols in bat caves
- Pets that do not have the ability to develop a normal immune response (known as an “immunocompromised pet”)—use of modified live virus rabies vaccine

## **Treatment**

### **HEALTH CARE**

- Strictly inpatient for pet suspected of being exposed to rabies or having rabies
- Administer nursing care with extreme caution
- No treatment for rabies
- Once the diagnosis is certain, euthanasia is indicated

### **ACTIVITY**

- Confine to secured quarantine area with clearly posted signs indicating suspected rabies
- Runs or cages should be locked; only designated people should have access
- Feed and water without opening the cage or run door (in other words, pass food and water bowls into the cage or run through specialized access points designed for such use)

### **DIET**

- Soft, moist food; most affected pets will not eat

### **SURGERY**

- Generally none
- Skin biopsy—may help establish diagnosis before death of the pet; diagnosis must be confirmed by identification of rabies virus infection from central nervous system tissue

## **Follow-Up Care**

### **PATIENT MONITORING**

- All suspected rabies patients should be isolated securely and monitored for any development of mood change, attitude change, or clinical signs that might suggest the diagnosis
- An apparently healthy dog or cat that bites or scratches a person should be monitored for a period of 10 days or according to local or state regulations; if no signs of illness occur in the pet within 10 days, the person has had no exposure to the virus; dogs and cats do not shed the virus for more than 3 days before development of clinical disease
- An unvaccinated dog or cat that is bitten or exposed to a known rabid animal must be quarantined for up to 6 months or according to local or state regulations

### **PREVENTIONS AND AVOIDANCE**

- Vaccines (dogs and cats)—vaccinate according to standard recommendations and state and local requirements; all dogs and cats with any potential exposure to wildlife or other dogs and cats; vaccinate after 12 weeks of age; then 12 months later; then every 3 years using a vaccine approved for 3 years' duration; use only inactivated virus or recombinant vector vaccines for cats
- Rabies-free countries—entering dogs and cats are quarantined for long periods, usually 6 months
- Disinfection—any contaminated area, cage/run, food dish, water bowl or instruments must be disinfected thoroughly; use a 1:32 dilution (4 ounces per gallon) of household bleach to inactivate the virus quickly

### **POSSIBLE COMPLICATIONS**

- Paralysis
- Attitude or behavior changes

- Death
- Exposure of rabies virus to other animals or people

## **EXPECTED COURSE AND PROGNOSIS**

- Prognosis—grave; almost invariably fatal
- Dogs and cats with clinical infection usually succumb within 1–10 days of onset of clinical signs; often within 3–4 days

## **Key Points**

- Rabies is a serious, usually fatal infection for the pet; rabies can be spread from animals to people (known as having “zoonotic potential”)
- Tell your veterinarian about any possible human exposure (such as contact with the pet or other suspected rabid animal or a bite or scratch)
- Any person possibly exposed to rabies should see a physician immediately
- Local public health officials must be notified

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