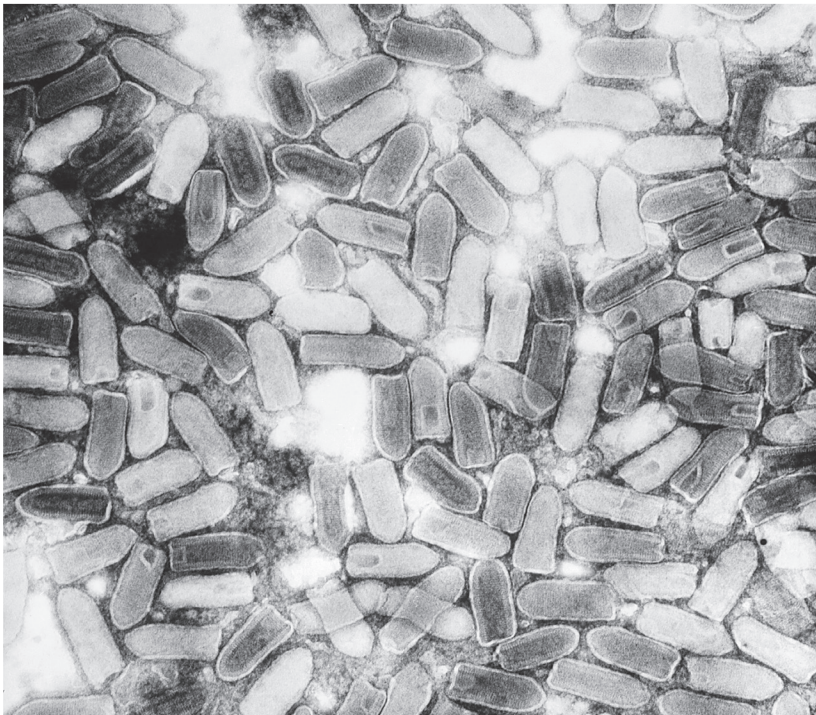




Department of  
**Health**

# Tennessee Rabies Primer



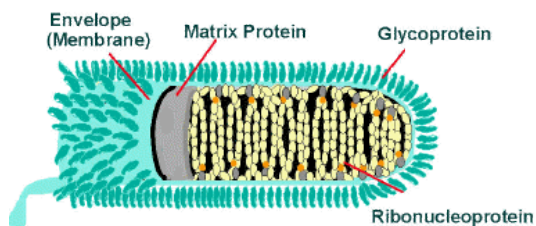
## Introduction

This primer is a supplement to the Tennessee Rabies Control Manual, available online: <https://www.tn.gov/health/cedep/zoonotic-diseases/rabies.html>. The purpose of this document is to provide rabies background information and supplemental appendices. For current guidance, refer to the Tennessee Rabies Control Manual, which it typically updated annually. The Tennessee Rabies Primer will be updated on an as-needed basis. This document was last updated in January 2021.

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## Rabies Virus and Infection

Rabies is a viral disease of mammals that is present in most countries of the world. All species of mammals, including humans, are susceptible to rabies virus infection, but only a few species are important as reservoirs for the virus. In the United States, distinct strains (variants) of rabies virus are maintained in populations of raccoons, skunks, foxes, and several species of bats.



Structure of the Rabies Virus

Virus is present in the saliva and central nervous system (CNS) of a rabid animal. Rabies virus is typically transmitted when a susceptible animal is exposed to the saliva of a rabid animal. The length of time between infection with rabies virus and onset of disease, or the incubation period, usually ranges from about 3 weeks to 3 months; however, incubation periods ranging from less than 10 days up to several years have been documented. During incubation, the virus travels from the exposure site (i.e. bite wound) to the CNS by means of the peripheral nerves. The virus replicates in the brain, causing encephalitis, and then travels to the salivary glands. At this point the animal is capable of transmitting the infection. It is important to note that the virus is not present in the salivary glands, and thus cannot be transmitted via a bite, until after it has reached the brain.

Although rabies traditionally has been reported to present clinically in either an encephalitic (“furious”) or paralytic (“dumb”) form, cases can exhibit clinical signs suggestive of both categories or can have an atypical presentation. Clinical signs vary depending on animal species, virus variant, and possibly the location and severity of the exposure. No definitive species-specific clinical signs of rabies are recognized.

Early signs of illness (the prodromal phase) are characteristic of a viral syndrome and often include lethargy, fever, and not eating. Within 1-2 days neurologic signs develop, typically including altered behavior, increased salivation, and difficulty swallowing. Jumpiness, tremors, unsteadiness, and weakness are also common during the neurologic phase. The disease progresses rapidly and is almost invariably fatal. Death usually occurs less than 1 week after illness onset; occasionally animals will die acutely from rabies with no recognized illness.

Rabies may be clinically indistinguishable from other causes of encephalitis. Viruses, bacteria, fungi, protozoa, poisons, and trauma can all cause CNS disease with similar presentations. Rabies can generally be ruled out if the animal’s condition does not deteriorate rapidly or if it improves at any point. A course of illness longer than 7 days in a domestic animal is not consistent with rabies.

Rabies can be diagnosed in animals only by examination of brain tissue. No reliable diagnostic test exists for live animals.

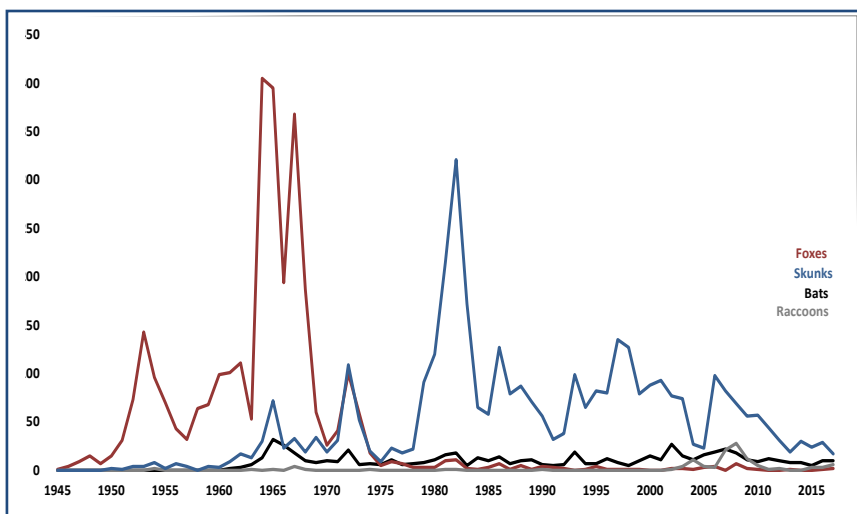
## Epidemiology

### Rabies in Animals

Since the early 1980s, the predominant rabies reservoir species in Tennessee has been the striped skunk. A large increase in skunk rabies cases was seen during 1980-1983. During 1984-2015, reports of rabies in wild animals averaged 83 (ranging from 28 to 148) per year in Tennessee, including an average of 67 skunks and 11 bats per year.

Other wild animals occasionally found to be rabid were foxes and raccoons. The raccoon variant of the rabies virus was first found in the eastern Tennessee raccoon population in 2003, with 4 cases reported that year. Reported cases increased to 28 in 2008, then decreased until no cases of raccoon-variant rabies were reported in 2013. During

Reported Rabies in Wild Animals in Tennessee, 1945-2017



late 2017–2018, there were multiple cases of raccoon-variant rabies in raccoons and skunks in southeastern Tennessee. A large-scale oral vaccination program administered by the United States Department of Agriculture (USDA) has been instrumental in preventing extensive spread of raccoon rabies west of the Appalachian Mountains and occurs annually.

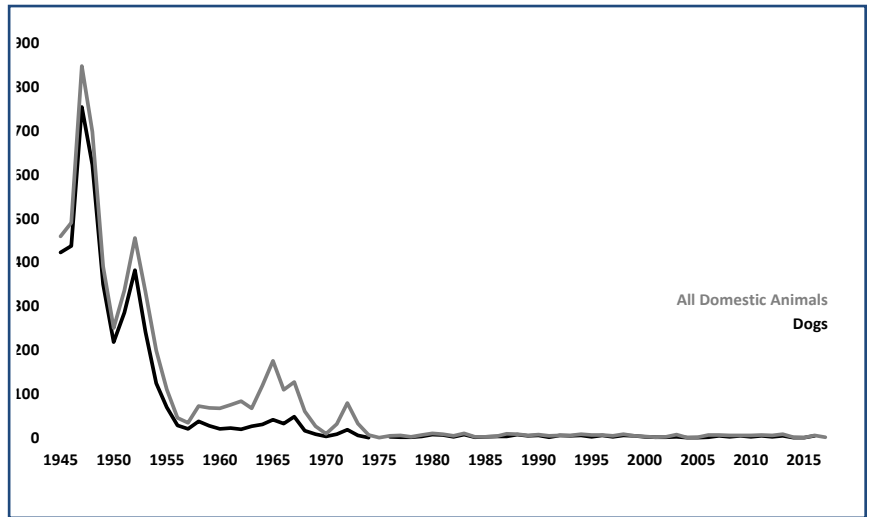
The canine rabies variant, which once circulated widely in domestic dogs, has been eliminated in the United States by pet vaccination and animal control activities. When canine variant rabies was prevalent, hundreds of cases of rabies occurred in dogs and other domestic animals each year in Tennessee. Canine variant rabies began to be controlled in the 1950s, and, since the mid-1970s, only a few cases of rabies occur in domestic animals each year.

Reports of rabies in domestic animals have averaged 6 per year in Tennessee since the mid-1970s, with the majority being dogs. Other domestic animals that are occasionally found to be rabid are cats, cattle, and horses.

These domestic animal cases are due to “spillover” infection with wild animal rabies viruses, primarily skunk variant. Non-reservoir wildlife species can also be affected by spillover of rabies from reservoir species, but this is exceedingly rare in Tennessee. From 1975 to 2016, only 3 cases of rabies were reported in non-reservoir wild animals: a weasel, an opossum, and a bobcat.

In areas where raccoon variant rabies is present, spillover infection of domestic animals and non-reservoir wild animal species is much more common than in Tennessee. This is likely due to the aggressive nature of raccoons, as well as their overlapping habitat with many other animals. In raccoon rabies-endemic areas (primarily the eastern seaboard states), rabies is much more common in domestic cats; it is also occasionally found in wild species as diverse as bobcats, groundhogs, and deer.

**Reported Rabies in Wild Animals in Tennessee, 1945-2017**



**Rabies in Humans**

Human rabies is very rare in the United States as a result of domestic animal vaccination, animal control activities, and effective biologics for post-exposure prophylaxis (PEP). Nationwide only 2-3 cases of rabies in humans are reported each year. Some of these cases involve immigrants or travelers who became infected abroad, usually with canine variant rabies. Domestically-acquired cases are almost exclusively caused by bat variants. The most recent human rabies case in Tennessee occurred in 2002 and was due to a bat exposure.

Cats	Cattle	Dogs	Horses	Pigs
4	1	24	10	1

Domestic Animals Reported Rabid in Tennessee, 2010-2017

Variant	Indigenous	Imported	Total
Bat	6	1	7
Canine	0	5	5
Raccoon	2*	0	2

Human Rabies Cases Reported in the United States, 2010-2017

\*1 case was transplant-acquired

## Prevention and Control

### Wild Animals

The vaccine is composed of a recombinant vaccinia virus with the gene for the rabies virus glycoprotein inserted into its genome. The glycoprotein stimulates production of neutralizing antibodies against the rabies virus. Because the whole rabies virus is not present, there is no way the vaccine can cause rabies.

Each year millions of vaccine baits are distributed in strategic zones along the western edge of the range of the raccoon rabies variant to prevent its spread. Parts of these bait zones are in northeastern and southeastern Tennessee. Studies have shown that the VRG vaccine is safe in more than 10 avian and 35 mammalian species. Although the vaccinia virus has been attenuated (weakened), it can very rarely cause vacciniosis in susceptible humans. Therefore, baits should be not be handled if found.

Questions about vaccine baits can be directed to the USDA (see [Appendix B: Frequently Asked Questions on page 4](#)).

**No injectable vaccines are licensed for use in wild animals;** however, wild animals kept in exhibits or zoos, or captive-bred wildlife permitted for private ownership may be vaccinated off-label by a licensed veterinarian.

**Wild animals (wild or captive-bred) that are vaccinated off-label will be treated as unvaccinated by public health in the event of a human or domestic animal exposure.**

Wild-caught mammals may be incubating rabies and should be quarantined for at least 6 months after capture, although there is no well-defined quarantine period for wild animals. A captive wild mammal that is exposed to a confirmed or suspected rabid animal should be euthanized immediately. Wild animals should not be translocated to other areas; rabies and numerous other diseases can be introduced into new populations, resulting in serious risks to domestic animal, wildlife, and human health.

## Appendix A: Definitions

**Confinement:** Restriction of an animal to a building, pen, or other escape-proof enclosure to monitor for clinical signs of rabies, typically for a 10-day observation period of a dog, cat, or ferret that has bitten a person or another domestic animal.

**Confirmed rabies case:** An animal which has tested positive by direct fluorescent antibody (dFA) test on brain tissue.

**CNS (central nervous system):** Brain and spinal cord.

**Currently vaccinated:** Rabies vaccine was administered at least 28 days prior and boosters were given according to vaccine label.

**Direct fluorescent antibody test (DFA):** The test used to detect rabies virus in the brain tissue of animals suspected of being rapid.

**Euthanasia:** Humane killing of an animal.

**Domestic animal:** Companion animals (e.g. dogs, cats, ferrets) and livestock (e.g. horses, cattle, sheep, goats, pigs).

**HRIG (Human rabies immune globulin):** Anti-rabies antibodies that have been concentrated from the plasma of persons who have been immunized against rabies, used to bind rabies virus at the site of inoculation (bite) to prevent virus from entering nerve cells.

**Incubation period:** The time from exposure to a disease (infection) until onset of clinical illness; typically between 3 weeks and 3 months for rabies but ranges from less than 10 days to more than a year.

**Infectious period:** The amount of time that an infected animal or person can transmit an infectious agent to another host.

**Off-label:** The use of a prescription drug or vaccine for a purpose or species other than that for which it is licensed.

**PEP (Rabies post-exposure prophylaxis):** Anti-rabies biologics given after an exposure to rabies to prevent infection.

- Person not previously vaccinated: HRIG + rabies vaccine on day 0, followed by vaccine on days 3, 7, and 14.
- Person previously vaccinated (with modern cell-culture vaccine): 2 doses of vaccine, given on days 0 and 3; no HRIG given.

**Pre-EP (Rabies pre-exposure prophylaxis):** Series of 3 doses of vaccine given to persons at higher than usual risk of rabies exposure, due to occupational, recreational, or travel-related risks.

**Provoked attack:** An incident in which an animal bites in defense of itself or its food, territory, or young; any situation in which a person is attempting to touch or handle a wild animal should be considered provoked.

**RFIT (Rapid Fluorescent Focus Inhibition Test):** Serologic test to measure antibody titer.

**Rabies exposure:** Any bite or other contact in which saliva or nervous tissue of a confirmed or suspected rabid animal enters an open wound or contacts mucous membranes (e.g. eyes, nose, mouth).

**Rabies reservoir:** Animal species that maintains circulation of a rabies virus variant within its population.

**Suspected rabid animal:** In the absence of a test result, any animal reasonably believed by public health officials to potentially be rabid based on species, clinical signs, and history.

**Unprovoked attack:** An incident in which an animal strikes for no apparent reason.

## **Appendix B: Frequently Asked Questions**

### **Why does my pet need the rabies vaccine?**

Domestic animals are at risk for exposure to rabies from wild animals. If a domestic animal becomes rabid, there is a high risk of humans being exposed to rabies. To protect public health, Tennessee law requires that dogs and cats more than 6 months of age be currently vaccinated against rabies. If an unvaccinated domestic animal is exposed to rabies, it must either be euthanized or strictly isolated, with no contact with humans or other animals, for 6 months from the time of the exposure.

### **Is my pet required to get the rabies vaccine every year or every 3 years?**

Tennessee law does not specify whether 1-year or 3-year rabies vaccines must be used, although local jurisdictions may have stricter laws. "Currently vaccinated" means that an animal's first vaccine was given at least 28 days previously and booster doses have been given according to the vaccine label. The revaccination date on a vaccine certificate should match the labeled duration of the vaccine used (i.e. if a 3-year vaccine is given, the revaccination date should not be recorded on the certificate as 1 year later, unless it was the animal's first vaccination).

### **Can a vaccinated animal ever get rabies?**

No vaccine is 100% effective, but rabies in vaccinated animals is extremely rare. One study found that only 2 out of 1,104 rabid dogs were currently vaccinated. If rabies is diagnosed in a currently vaccinated animal, it should be reported to the state health department so that a thorough investigation can be conducted.

### **What if my pet has a poor vaccine reaction? / Can I use rabies antibody titers as a substitute for current vaccination in my pet?**

Antibody titers are not accepted in lieu of rabies vaccination in Tennessee. Titers are only one marker of immunity and may not indicate complete protection. Other immunologic factors also play a role in preventing rabies, and as yet we have no way to measure those. If a pet owner and his or her veterinarian feel that vaccination is too risky for an animal due to a history of severe vaccine reactions or underlying illness, they may choose not to vaccinate the animal. However, if the pet is exposed to a rabid animal, it must then either be euthanized or strictly isolated for 6 months. If a healthy unvaccinated pet bites a person, there will only be a 10-day observation period required (the same as for vaccinated animals).

### **Is the rabies vaccine safe?**

Rabies vaccines are made from killed virus, and very stringent requirements in the manufacturing process ensure that no live virus makes it into a vaccine. There is also a recombinant vaccine for cats in which a protein gene from the rabies virus is incorporated into a different, harmless vector virus. That vaccine is technically a live virus, but it is not the rabies virus. In either case, there is no risk of a person or animal contracting rabies from the vaccine.

There are 2 brands of rabies vaccine for humans. Both are made from killed virus and have excellent efficacy and safety records. The most common side effects of the vaccine, among humans and animals alike, are minor pain and swelling at the injection site.

## **If canine rabies has been eliminated from the United States, can my dog still get rabies?**

Although the canine variant of the rabies virus has been eliminated from the United States, dogs can still be infected with rabies from wild animals like skunks. That is why it is important to vaccinate pets and keep them from roaming. The canine rabies variant is still present in much of the world, including Central and South America. The variant could become re-established if a large enough population of unvaccinated dogs is present.

## **What if a dog or cat bites me?**

If a person is bitten by a dog or cat, the animal should be observed for 10 days from the time of the bite. It does not matter whether the animal is vaccinated against rabies or not. If the biting animal is not available for observation, discuss the situation with public health officials from the local or state health department. Rabies is now very rare in dogs and cats due to the effectiveness of vaccination and animal control activities. The chance of any apparently normal, healthy dog or cat transmitting rabies is extremely low, and if a dog or cat remains healthy for 10 days after a bite it could not have transmitted rabies at the time of the bite. If the animal appears ill or abnormal at the time of the bite or during the subsequent 10 days, it should be evaluated by a veterinarian for signs of rabies.

## **What if a wild animal bites me?**

If a person is bitten by a wild carnivore (e.g. raccoon, skunk, fox) or a bat, the animal should be killed and tested for rabies, if possible. Be careful not to destroy the animal's head. Contact your local health department or animal control agency to arrange for testing. Discuss with public health officials at the local or state health department and your physician whether to begin rabies post-exposure prophylaxis immediately or await test results. In many cases rabies testing can be completed within 24 hours.

## **Can I get rabies in any way other than a bite?**

Rabies virus is only present in saliva and nervous tissue (brain and spinal cord) of a rabid animal. It is not present in blood, urine, or other animal products such as skunk spray or bat guano. It may be possible for rabies to be transmitted if saliva or brain tissue of a rabid animal comes in contact with mucous membranes (e.g. eyes, nose, mouth) or an open wound. A scratch from a rabid animal is not considered an exposure to rabies unless the resulting wound becomes contaminated with fresh saliva. There have been a few documented cases of apparent aerosol exposure resulting in rabies in humans; however, these occurred in a laboratory with concentrated virus and in a cave containing millions of bats. The rabies virus is fragile and does not survive outside the host, so there is no risk of being exposed indirectly (e.g. bat in swimming pool, raccoon eating from dog's food dish).

## **How long after an exposure can I wait to begin rabies post-exposure prophylaxis (PEP)?**

Rabies PEP should be started within a few days after a high-risk exposure (i.e. a bite from a known rabid animal), especially if the bite was to the face, head, or hands. In most animal bite cases, however, there is time to wait for capturing and observing or testing an animal. Rabies PEP is not a medical emergency, and proper wound care should take precedence. Rabies has a long and highly variable incubation period (the time period from initial infection to onset of disease), so PEP may still be effective weeks or even months after a bite.

## **Where can I go to get the rabies vaccine?**

Health departments in Tennessee do not stock rabies biologics for pre- or post-exposure prophylaxis, but the local health department can provide information on where you can go for care. Generally in Tennessee, only hospital emergency departments stock the products for post-exposure prophylaxis. After the initiation of PEP, you may be able to return for follow-up doses of vaccine at an outpatient clinic or ask your primary care provider to order vaccine. If you need pre-exposure vaccination, ask your primary care provider about ordering the vaccine or check with a travel clinic.



## **What should I do if I find a bat in my home?**

If you are reasonably certain that the bat has not come in contact with a person or pet, open the doors and windows and let the bat escape. If the bat bit someone or there was other uncontrolled contact (i.e. you cannot be certain that there was no contact with the bat's mouth), the bat should be safely captured and tested. See [Appendix C: What to Do if You Find a Bat in Your Home on page 8](#) for tips on safely capturing bats. People usually know when they have been bitten by a bat. However, bats have small teeth which may not leave obvious marks. Seek advice from your physician and the local or state health department if you awaken to find a bat in your bedroom or see a bat in the room with an unattended child.

## **Should I be concerned about rabies when I travel outside the United States?**

Canine rabies is still very common throughout much of the world, especially in Africa and Asia, and tens of thousands of people die from rabies each year in these regions. Before traveling, check the rabies status of your destination. While you are abroad, take care to avoid animals. If your planned activities will bring you into contact with animals in a rabies-endemic area, and modern biologics for post-exposure prophylaxis may not be available within a 3-day window, you should consider pre-exposure vaccination.

## **What should I do if my pet has fought with a wild animal?**

If your dog or cat has fought with a wild carnivore (e.g. raccoon, skunk, fox) or had direct contact with a bat and is:

- Vaccinated (whether vaccination is current or not): See your veterinarian for a rabies booster as well as treatment of any injuries. The pet should be observed at home for 45 days and examined by a veterinarian if it shows any signs of illness.
- Never vaccinated: If the wild carnivore tests positive for rabies or is unavailable for testing, the pet should be euthanized or strictly isolated for 6 months. Environmental health specialists from the local health department should be contacted for assistance and follow-up.

If your pet has fought with a wild animal other than a carnivore (e.g. groundhog, wild boar), discuss the situation with a public health official from the local or state health department. The species involved and the local rabies epidemiology will be considered in determining a course of action.

## **My dog picked up a vaccine bait for raccoons. What should I do?**

The vaccine does not contain rabies virus and will not harm domestic animals. You should not try to remove it from the dog's mouth; doing so may cause you to be bitten. If you come into contact with the pink liquid vaccine, wash the exposed area with soap and water and call the United States Department of Agriculture's Wildlife Services office at 1-800-4-USDA-WS (1-800-487-3297) for more information.

## **I found a stray dog that's wearing a rabies tag. Can I use it to find the dog's owner?**

Tags from 2016 and later can be looked up on the TDH website at <https://www.tn.gov/health/health-program-areas/eh/pet-rabies-tag-numbers.html> to determine which veterinarian issued the tag. For older tags, call the local health department with the number from the tag. If the tag was issued from that county, they can tell you which veterinary clinic it was issued to. The veterinary clinic's records should be able to determine which dog and owner the tag belongs to. If it was issued by a different county, call the Tennessee Department of Health office of Environmental Health (615-741-7206). They will be able to tell you what county issued the tag; you can then call the health department of that county to find out what veterinary clinic the tag was issued to.

## Appendix C: What to Do if You Find a Bat in Your Home

### If you are certain no person or pet has come in contact with the bat:

Confine the bat to a room by closing all doors and windows leading out of the room except those to the outside. The bat will probably leave soon. If the bat does not leave, follow the steps below to safely capture the bat.

### If there may have been contact between the bat and a person or pet:

You should have the bat captured and tested. Follow the steps below to safely capture the bat and save it for testing. Call animal control or your local health department to arrange for testing.

### How to Safely Capture a Bat

- Find a small container, like a box or a large can, and a piece of cardboard large enough to cover the opening in the container. Punch small air holes in the cardboard.
- Put on leather work gloves. When the bat lands, approach it slowly and place the container over it. Slide the cardboard under the container to trap the bat inside.
- If you are certain there has been no contact between the bat and a person or pet, carefully hold the cardboard over the container, take the bat outdoors, and release it (away from people and pets).
- If there is any question about contact between the bat and a person or pet, you should save the bat for testing. Tape the cardboard to the container, securing the bat inside, and contact your local health department or animal control agency to have the bat tested for rabies.

### How to Keep Bats Out of Your Home

Some bats live in buildings, and there is no reason to evict them if there is little chance for contact with people. However, bats must not be allowed into your home. It is best to contact a wildlife agency or professional wildlife removal service for assistance with “bat-proofing” your home. If you choose to do the bat-proofing yourself, here are some suggestions:

- Carefully examine your home for openings that might allow bats to enter. Caulk any openings larger than a quarter-inch by a half-inch. Use window screens, chimney caps, and draft-guards beneath attic doors; fill electrical and plumbing holes with stainless steel wool or caulking; and ensure that all doors to the outside close tightly.
- Prevent bats from roosting in attics or buildings by covering outside entry points. Observe where the bats exit at dusk and keep them from coming back by loosely hanging clear plastic sheeting or bird netting over these areas. Bats can crawl out and leave but cannot re-enter. When all the bats are gone, the openings can be permanently sealed.
- Avoid sealing entries during May through August. If there are young bats present when entries are covered, many of them will die or try to make their way into your living areas.
- Most bats leave in the fall or winter to hibernate, so these are the best times to bat-proof your home.

## Appendix D: Animal Control Agencies in Selected Metro Counties

Last updated in 2019

COUNTY	ADDRESS	PHONE
Anderson	Oak Ridge Animal Shelter 395 Belgrade Road Oak Ridge, TN 37830	(865) 425-3423
Blount	Blount County Animal Shelter 233 Currie Avenue Maryville, TN 37804	(865) 980-6244
Bradley	Cleveland Animal Shelter 360 Hill Street Southeast Cleveland, TN 37311	(423) 559-3333
Davidson	Metro Animal Care and Control 5125 Harding Place Nashville, TN 37211	(615) 862-7928
Greene	Greene County Animal Control 990 Hal Henard Road Greeneville, TN 37743	(423) 798-1777
Hamilton	McKamey Animal Center 4500 North Access Road Chattanooga, TN 37415  East Ridge Animal Services 1015 Yale Street East Ridge, TN 37412	(423) 305-6500  (423) 664-0271
Knox	Young-Williams Animal Center 3201 Division Street Knoxville, TN 37919	(865) 215-6599
Madison	Jackson-Madison County Rabies Control 146 Miller Avenue Jackson, TN 38305	(731) 668-4211
Maury	Maury County Animal Shelter 1233 Mapleash Avenue Columbia, TN 38401	(931) 375-1402
Montgomery	Animal Control and Adoption Services 616 North Spring Street Clarksville, TN 37040	(931) 648-5750
Putnam	Cookeville-Putnam County Animal Shelter 2650 Gainesboro Grade Cookeville, TN 38501	(931) 526-3647
Robertson	Robertson County Animal Control 2900 West County Farm Road Springfield, TN 37172  Springfield Animal Control 507 Industrial Drive Springfield, TN 37172	(615) 384-5611  (615) 384-9289
Rutherford	Pet Adoption and Welfare Services 285 John R Rice Boulevard Murfreesboro, TN 37129	(615) 898-7740

COUNTY	ADDRESS	PHONE
Shelby	Memphis Animal Services 2350 Appling City Cove Memphis, TN 38133	(901) 636-7297
	Bartlett Animal Shelter 5220 Shelter Run Lane Bartlett , TN 38135	(901) 385-6484
	Collierville Animal Services 603 E. South Street Collierville, TN 38017	(901) 457-2670
Sullivan	Sullivan County Animal Shelter 380 Massengill Road Blountville, TN 37617	(423) 279-2741
Sumner	Sumner County Sheriff's Division of Animal Control 1033 Union School Road Gallatin, TN 37066	(615) 452-2400
Tipton	Tipton County Animal Control 8621 Hwy 51 South Brighton, TN 38011	(901) 837-5919
Washington	Washington County-Johnson City Animal Shelter 3411 N.Roan Street Johnson City, TN 37601	(423) 926-8769
White	White County Animal Control Shelter 5600 Gum Springs Mountain Road Sparta, TN 38583	(931) 761-3647
Williamson	Williamson County Animal Control and Adoption Center 106 Claude Yates Drive Franklin, TN 37064	(615) 790-5590
Wilson	Wilson County Animal Control 378 Dump Road Lebanon, TN 37087	(615) 444-9775
	Mt. Juliet Animal Control 115 Industrial Drive Mount Juliet, TN 37122	(615) 773-5533
	Lebanon Animal Control 320 Tennessee Boulevard Lebanon, TN 37087	(615) 444-2323

## Appendix E: Supplemental Rabies Control Guidelines for Environmental Health Specialists

### Potential Rabies Exposure to a Human

#### Investigating Dog, Cat, or Ferret Exposures

Animal bites or other potential rabies exposures to humans are reported to the health department by many different agencies or individuals, including medical facilities, persons bitten, animal control officers, or animal owners. When animal bites or exposures are reported to the Department, a “Potential Rabies Exposure Report” and the “Potential Rabies Exposure to Human Investigation Log” are to be filled out as accurately and completely as possible.

#### Procedures

##### A. If the owner and location of the animal are known:

1. As soon as possible, but no later than 1 business day of receipt of the bite/exposure report, the Environmental Health Specialist (EHS) will make contact with both the person bitten and the owner of the animal. The EHS will inform the person bitten that as long as the animal is healthy throughout the confinement period, there was no threat of rabies at the time of the bite.
2. The EHS will contact the owner of the animal, explain the Rabies Control law requiring animal confinement, and will inform the owner to contact the local health department immediately if the animal dies or becomes sick, injured, or lost. The EHS will obtain complete history and documentation of rabies vaccination, if available. If the animal does not have current vaccination against rabies, the owner will be instructed to wait until the confinement period is over before having the animal vaccinated.
3. As soon as possible, but no later than 2 business days of receiving bite notification, the EHS will go to the location where the animal is confined to verify the animal is properly confined and appears healthy. Animals under confinement at vet offices and animal controls agencies can be verified by phone.
4. The EHS will return as needed to check on the animal to ensure it remains properly confined and appears healthy, or if notified of any potential problems, such as the animal being reported at large during the confinement period.
5. At the end of the 10-day confinement period, the EHS will again go to the location where the animal is confined to verify the animal appears healthy and release it from confinement. If the animal is not currently vaccinated, the EHS will inform the owner and state law requires all dogs and cats to be vaccinated against rabies and to provide the vaccination certificate/tag number to the EHS within 2 weeks.

6. As soon as possible, but no later than 2 business days of the release of the animal from confinement, the EHS will inform the person bitten, by phone or in writing, the animal appears healthy and there is no threat of rabies transmission from the bite. The EHS will document all communications made with the animal owner and victim on the "Potential Rabies Exposure Report" and the "Potential Rabies Exposure to Human Investigation Log". Both of these reports are to be maintained in the local health department for a period of 3 years.
  - a. If the animal is an occupant of the same household as the owner of the animal:  
The EHS will contact the person bitten/owner, and the same procedure as above shall be followed, with the exception that at the end of the confinement period the EHS may contact the owner by phone to confirm the animal is healthy instead of going to the location of the animal.
  - b. If the animal is confined at an animal shelter or veterinary clinic:  
The EHS may call to check on confinement and release the animal in lieu of going to the location. In all cases, the EHS must properly document on a supplemental or bite investigation form who they spoke to about the health of the animal and the confinement. The EHS must contact the owner and the person bitten as described above.
  - c. If the animal owner cannot or will not comply:  
The EHS is responsible to see the animal is confined. After an onsite visit, if in the EHS' judgment, the owner of the animal does not have an acceptable method of confinement, the owner has a choice to confine it at a shelter or veterinarian's office. If the owner refuses to confine the animal properly, we have the authority to have the animal picked up by animal control. If animal control is not available, the EHS should contact his/her supervisor. The EHS and supervisor shall return to the location of the owner and discuss the requirement for proper confinement of the animal. If the owner still refuses to confine the animal the supervisor will contact the Field Office Manager to contact law enforcement for assistance and/or obtain a warrant.
  - d. If the animal under confinement becomes sick or dies:  
If the animal becomes sick while under confinement, it is the owner's responsibility to immediately inform health department Environmental Health staff and to seek veterinary care for the animal. If the animal dies, it is the owner's responsibility to immediately inform the EHS and to have the head removed so it can be transported to the lab.  
**See D. Referral to Clinical Staff**
  - e. If the animal under confinement escapes and cannot be found:  
**See D. Referral to Clinical Staff**

## B. Person is bitten by an animal not available for confinement or testing:

1. If a stray that cannot be located:  
**See D. Referral to Clinical Staff**
2. If a stray animal that can be seen but not captured:  
EHS should inform the person bitten that as long as he/she can see the dog or cat periodically for 10 days, and it appears healthy, there is no threat of rabies. If the animal cannot be observed for 10 days, the bitten person should contact the EHS, who will contact the RO or CO as described under **D. Referral to Clinical Staff**.
3. If animal was killed:  
**See D. Referral to Clinical Staff** about possibility of laboratory testing.

## C. Animal Control

By April 1 of every calendar year, the manager of each regional Environmental Health office will ensure that all animal control agencies within his or her region are contacted to verify the following information and will report a summary to the central office.

- A list of all animal control agencies in the region.
- The name and contact information of the agency and the person in charge.
- A brief description of each agency's animal exposure investigation procedures. This will include any local ordinances that apply to rabies control and written procedures, whenever available.

Additionally, all animal control agencies will be provided with a copy of the Rabies Control Law and rules along with name(s) and contact information for the local EHS.

T.C.A. 68-8-105. Exempt programs.

1. Any county or municipality maintaining a program for the control of rabies shall be exempt from the operation of this chapter so long as such rabies program meets the minimum requirements of this chapter.
2. This chapter shall not apply to any county that now has or hereafter may enact private laws governing the control of rabies in that county, that meet the minimum requirements of this chapter.

T.C.A. 68-8-109. Observation period by confinement or quarantine -- Investigation.

- (b) The act of investigating the bite or rabies exposure and placing the animal under observation by confinement or quarantine shall be accomplished either by the department or by the animal control program, in either the county or municipality wherein either the animal owner or the person bitten resides, in consultation with the department.

## D. Referral to Clinical Staff

Situations that involve providing medical advice regarding possible exposures should be handled by health department clinical staff, the Regional/Metro Medical Director or CEDEP Epi Director or by the State Public Health Veterinarian / Central Office Rabies Staff at CEDEP Central Office [(615) 741-7247] and the patient's primary care provider. When referring a person with possible exposure to rabies to his or her primary care physician, the EHS should inform the patient that the doctor may contact the health department clinical staff (as above) with any questions about rabies. If the doctor contacts the EHS, the EHS can discuss rabies in general (e.g. any cases of rabies in the county), but should defer to the health department clinical staff for medical advice. The EHS should communicate details of the situation to clinical staff and work together on formulating advice for the patient.

Situations involving a positive specimen, or an exposure from a wild animal to a human, should be immediately referred to the Regional/Metro Medical Director or CEDEP Epi Director or the State Public Health Veterinarian / Central Office Rabies Staff at CEDEP Central Office [(615) 741-7247].

Situations that involve providing medical advice regarding possible exposures should be handled by health department clinical staff, the Regional/Metro Medical Director or CEDEP Epi Director and the State Public Health Veterinarian / Central Office Rabies Staff at CEDEP Central Office [(615) 741-7247].

## Procedures for Investigating Dog, Cat or Ferret Exposures

### Owner and location of animal are known

EHS contacts person bitten and owner of animal to explain 10-day confinement requirement\*

- If owner cannot comply with confinement requirements, animal may be confined at shelter or veterinary office
- If owner is non-compliant, EHS has animal picked up by animal control or contacts supervisor about obtaining a warrant
- Some jurisdiction may have additional rules regarding confinement



EHS goes to location where animal is confined within 2 business days of bite report and checks on animal as often as deemed necessary during confinement period



At end of confinement period, EHS again checks animal in person to verify its status and release it from confinement

- If bitten person is owner of animal or lives in same household with owner, or if animal is confined at a veterinary office or animal shelter, EHS may release animal by phone
- If animal is not currently vaccinated, EHS instructs owner to have it vaccinated within 2 weeks



EHS contacts person bitten within 2 business days by phone (or by letter if necessary) to inform him/her of status of animal



If animal becomes sick or dies during confinement, owner must inform EHS and seek veterinary care or have head removed for transport to lab



If animal escapes and cannot be found, refer to clinical staff

### Animal is not available for confinement

If animal cannot be located, refer to clinical staff

If animal has been killed, consult clinical staff regarding possibility for lab testing

If animal can be seen but not captured

- EHS informs person bitten to watch animal for 10 days after the time of the bite
- If person is unable to observe animal for 10 days, he/she is instructed to contact EHS

\*EHS may work with local Animal Control to carry out these response activities. All communications with animal owner, bitten person, and any others involved (shelter or veterinary staff) must be documented on the "Potential Rabies Exposure Report" and the "Potential Rabies Exposure to Human Investigation Log"