

RABIES Fact Sheet

Agent: Rabies virus, a bullet-shaped rhabdovirus

Brief Description: Rabies is an acute viral encephalomyelitis that almost always progresses to death. Initial symptoms are characterized by headache, fever and malaise and sensory changes at the site of a previous animal bite.

Reservoir: In the United States, rabies reservoirs include foxes, raccoons, skunks, coyotes, and insectivorous bats. The virus is maintained primarily in intraspecies cycles in these reservoirs with occasional spillover infections in domestic animals (dogs, cats, etc.). Other mammals (such as rabbits and rodents) are susceptible but rarely develop infection.

Mode of Transmission: Rabies is a zoonosis that is transmitted by the bite of a rabid animal, via saliva rich in virus. Less commonly, virus may be introduced into existing cuts or wounds on skin. Rarely, transmission may occur via direct nervous tissue or salivary contamination of mucous membranes. Person to person transmission has rarely been documented via corneal transplants.

Incubation period: The incubation period for rabies is usually 1 to 3 months, but can range between several days to several years. Factors affecting the incubation period include the strain of virus, severity of the wound, richness of the nerve supply in the area of the bite, and distance of the bite from the brain.

Laboratory Criteria for Diagnosis (HUMANS)

- Detection by direct fluorescent antibody of viral antigens in a clinical specimen (preferably the brain or nerves surrounding hair follicles in the nape of the neck), or
- Isolation (in cell culture or in a laboratory animal) of rabies virus from saliva, cerebrospinal fluid (CSF) or central nervous system tissue, or
- Identification of a rabies-neutralizing antibody titer 5 (complete neutralization) in the serum or CSF of an unvaccinated person, or

- Nested reverse transcription PCR methods to detect rabies virus RNA in saliva.

Laboratory Criteria for Diagnosis (ANIMALS)

- A positive direct fluorescent antibody test (performed on brain tissue).

Comment: Laboratory confirmation by all of the above methods is strongly recommended.

Diagnostic Testing:

A. Immunity after vaccine: Private laboratories test blood or serum samples for immunity. See Georgia Rabies Control Manual, p.36, for more information.

B. Human Rabies Diagnosis:

1. Specimen: Brain tissue, cerebrospinal fluid, nuchal biopsy.
2. Lab Test Performed: Rapid Fluorescent Focus Inhibition Test (RFFIT)
3. Lab Performing Test: Specimens must be submitted to the Georgia Public Health Laboratory. GPHL will forward specimens to CDC for testing.

C. Rabies Identification

1. Specimen: animal head or brain; whole bats
2. Outfit: Rabies
3. Lab form: 3062
4. Lab Test Performed: DFA test
5. Lab performing test: Georgia Public Health Virology Laboratory

Case Classification:

- **Confirmed:** a clinically compatible illness that is laboratory confirmed.

Period of Communicability: Rabies virus is present in the saliva and is potentially transmitted during the clinical period and perhaps several days before illness onset.

Treatment: Intensive supportive medical care is the only treatment.

Post-exposure prophylaxis (PEP): PEP consists of local wound treatment, passive antibody administration, and a series of five vaccinations. The need for PEP should be based on risk assessment of the following areas: TYPE OF EXPOSURE, ANIMAL BEHAVIOR, ANIMAL SPECIES, and LABORATORY TEST RESULTS. Please see the Georgia Rabies Control Manual for more information.

Reporting: Report all suspect human and animal rabies cases **IMMEDIATELY** by phone to the local health department, District Health Office, or the Epidemiology Branch at 404-657-2588. If calling after regular business hours, it is very important to report cases to the Epidemiology Branch answering service (770-578-4104). After verbal report has been made, please transmit the case information electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>, or complete and mail a GA Notifiable Disease Report Form (#3095).

Reported Cases of Animal and Human Rabies in Georgia, 1993-2000

Year	Animal Cases	Human Cases
1993	471	0
1994	367	0
1995	294	0
1996	303	0
1997	323	0
1998	310	0
1999	247	0
2000	357	1

References:

1. CDC. Compendium of Animal Rabies Control, 1999 National Association of State Public Health Veterinarians, Inc. *MMWR* 1999; 48(RR-3): 1-9
2. CDC. Human Rabies Prevention - United States, 1999 Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1999; 48(RR-1): 1-21.
3. CDC. Update: Raccoon Rabies Epizootic — United States and Canada, 1999. *MMWR* 2000; 49(02): 31-5.
4. Chin J, ed. RABIES. In: Control of Communicable Diseases Manual. 17th ed. Washington, DC: American Public Health Association, 2000: 411-419.

Links:

- CDC Rabies – <http://www.cdc.gov/ncidod/dvrd/rabies/Introduction/intro.htm>
- WHO Rabies – <http://www.who.int/health-topics/rabies.htm>
- Georgia Poison Center – <http://www.georgiapoisoncenter.org/>
- Georgia Rabies Control Manual – <http://health.state.ga.us/epi/manuals/rabies/index.shtml>