

## Human Rabies Cases in the United States Attributed to Bat Rabies Variants

<http://www.dshs.state.tx.us/idcu/disease/rabies/information/bats/> (updated 6/4/2015)

YEAR <sup>1</sup>	AGE	SEX	LOCATION	EXPOSURE LOCATION	VARIANT	INCUBATION PERIOD / PEP <sup>2</sup> (if any)	EXPOSURE HISTORY
2014	52	M	Missouri	Missouri	<i>Ps</i> <sup>5</sup>	1 month	found bats in home about a month prior to symptom onset; had also seen bats in warehouse (work); no known bat bite or other known contact with a bat
2012	34	M	California	California	<i>Tb</i> <sup>4</sup>	~3 months	acquaintance reported that patient touched bat and behaved as if bat had bitten him, but did not seek medical assistance; patient traveled through six countries while potentially infectious (died in Zurich, Switzerland)
2011	63	M	Massachusetts	Massachusetts	<i>Myotis</i> sp. <sup>3</sup>	1 month	likely bitten by bat in home
2011	46	F	South Carolina	South Carolina	<i>Tb</i> <sup>4</sup>	~2-3 months	likely bitten by a bat that entered her home - colony roosting in attic, history of bats in living area of house; no reported contact or bite
2010	70	M	Wisconsin	Wisconsin	<i>Ps</i> <sup>5</sup>	unknown	spouse stated patient had been selling firewood and bats had been present in the woodpile; no bat bite reported
2010	19	M	Louisiana	Michoacan, Mexico	<i>Dr</i> (vampire bat)	15 days	bitten by a vampire bat on his heel in Mexico but did not seek medical care; first reported death from a vampire bat rabies virus variant in the United States
2009	55	M	Michigan	Michigan	<i>Ln/Ps</i> <sup>5</sup>	several weeks	bitten by a bat several weeks before his death
2009	43	M	Indiana	Indiana	<i>Ps</i>	<2.5 months?	no specific source of rabies virus exposure identified; patient had mentioned to friends that he had seen a bat close to his residence late July 2009
2009	17	F	Texas	Texas	<i>Bat</i> (unknown)	2 months / HRIG <sup>6</sup> & rabies vaccine on day 9 of hospitalization	bats in TX cave flew towards her hitting her face and arms – fought off bats with hands; there were no apparent bite or scratch marks; patient had atypical disease presentation, never required intensive care and recovered with supportive care and delayed PEP; patient was tested for multiple conditions before rabies was considered (all tests negative); rabies antibodies detected in serum and CSF; no rabies antigen detected in skin or saliva
2008	55	M	Missouri	Missouri	<i>Ln/Ps</i>	1 month	bitten on left ear by bat – did not seek treatment
2008	16	M	California	Oaxaca, Mexico	<i>Tb</i> (related)	approximately 3 months	patient was bitten by a dog while tending sheep in Mexico - bitten by a fox in same month; undocumented immigrant; 1st case of human rabies imported into US that has not been associated with a canine rabies variant
2007	46	M	Minnesota	Minnesota	unknown	1 month	handled bat with bare hands – felt needle prick sensation before releasing bat (there was no blood or obvious wound so he assumed he had not been bitten)
2006	10	F	Indiana	Indiana	<i>Ln/Ps</i>	possibly 3-4 months / no PEP – treatment with <sup>7</sup> Milwaukee protocol	child stated that bat had scratched or bitten her; mother recalled girl waking her at night ~3 months prior to illness because a bird or bat had flown into her bedroom window and bitten her – a small mark was on her arm so her mother washed it (finding no animal upon inspection, she assumed it was a nightmare)

2006	16	M	Texas	Texas	<i>Tb</i>	several weeks / no PEP – treatment with Milwaukee protocol	bat flew in bedroom window and brushed victim on face; bat was captured and released
2005	10	M	Mississippi	Mississippi	assumed bat (based upon rabies virus specific IgG titer; CSF RT-PCR negative)	unknown	bats commonly seen outside home; dead bats discovered inside home and attached garage; child removed live bat from bedroom and released outdoors in spring of 2005
2004	15	F	Wisconsin	Wisconsin	assumed bat (typing not possible - no viral antigen detected; RT-PCR negative)	1 month / no PEP – treatment included a drug-induced coma, ventilator support, antiexcitatory and antiviral drugs (Milwaukee protocol)	bitten by bat on left index finger after picking up bat during a church service; she released the bat outside; the wound was cleaned with hydrogen peroxide - no further medical treatment administered; first documented recovery from clinical rabies by a patient who had not received pre- or post-exposure PEP
2004	18	M	Texas	NA	<i>Tb</i>	27 days(from transplant to symptoms)	kidney transplant recipient
2004	55	F	Texas	NA	<i>Tb</i>	unknown	arterial transplant recipient
2004	50	F	Texas	NA	<i>Tb</i>	25 days (from transplant to symptoms)	kidney transplant recipient
2004	53	M	Oklahoma	NA	<i>Tb</i>	21 days (from transplant to symptoms)	liver transplant recipient
2004	20	M	Arkansas	Arkansas	<i>Tb</i>	unknown	bitten by a bat on shoulder; discussed bite with friends but did not seek treatment
2003	66	M	California	California	<i>Ln/Ps</i>	approximately 5 weeks / HRIG, 2 doses rabies vaccine, ribavirin, interferon-alpha	patient bitten by bat on right index finger while in bed; removed bat from home and it flew away; washed wound; admitted to hospital ER 5 weeks later at which time he received PEP
2002	20	M	Iowa	Iowa or Illinois	<i>Ln/Ps</i>	unknown	no history of bat contact; lived in house with a peaked attic (possibly inhabited by bats)
2002	13	M	Tennessee	Tennessee	<i>Ln/Ps</i>	approximately 1 ½ months	family reported patient had taken home a sick bat he found on the ground
2002	28	M	California	California	<i>Tb</i>	unknown	numerous bats in home environment (bat colony in attic); killed a bat in house 8 days prior to symptom onset but denied direct contact - unrecognized bite at another time is most likely source of infection
2000	69	M	Wisconsin	Wisconsin	<i>Ln/Ps</i>	unknown	patient had removed bats from his house with his bare hands several times a year; a week before admission, patient asked a friend if rabies could be acquired from an insect bite
2000	47	M	Minnesota	Minnesota	<i>Ln/Ps</i>	2 months	patient had been awakened by a bat on his right hand; he killed the bat and was bitten in the process; did not seek medical care
2000	26	M	Georgia	Georgia	<i>Tb</i>	approx. 1-3 months	patient rented a room in an old house; bats from the attic had been entering his living quarters and landed on him when he slept
2000	49	M	California	California	<i>Tb</i>	2-3 months	a bat had flown into his house and he removed it

1998	29	M	Virginia	Virginia	<i>Ln/Ps</i>	unknown	no known exposure to bat (worked outside while in prison); patient too ill to provide information regarding possible exposure history
1997	32	M	New Jersey	New Jersey	<i>Ln/Ps</i>	unknown	no known bite; bats found in living room on two separate occasions; had captured bats by hand
1997	71	M	Texas	Texas	<i>Ln/Ps</i>	2 months	awoke with bat on shoulder (motel); removed and disposed of bat; wife did not find bite marks
1997	65	M	Montana	Montana	<i>Ln/Ps</i>	4 months	wife reported that bat had entered home through bedroom window; patient forced bat out with a broom; no direct contact known
1997	64	M	Washington	unknown	<i>Ej<sup>s</sup></i>	3 months	bitten by unknown animal/insect while working in garden
1996	49	M	Montana	unknown	<i>Ln/Ps</i>	unknown	bats seen outside home/work but had no known physical contact with bats
1996	42	F	Kentucky	unknown	<i>Ln/Ps</i>	unknown	chimney open to outside; bats had opportunity to enter house but patient denied history of animal bite
1995	74	M	California	unknown	<i>Ln/Ps</i>	unknown	no exposure identified; reclusive rancher; history of catching bats
1995	28	M	California	California	<i>Tb</i>	unknown	report of bat contact in workplace; family member believe a bat had landed on patient's chest and had been brushed off - no specific details known
1995	13	F	Connecticut	Connecticut	<i>Ln/Ps</i>	1 month	siblings reported flying animal in room where child was sleeping
1995	4	F	Washington	Washington	<i>Myotis sp.</i>	1 month	found rabid bat in bedroom where child was sleeping
1994	24	F	Alabama	Alabama	<i>Tb</i>	unknown	disposed of dead/dying bats from chimney or attic
1994	42	F	Tennessee	unknown	<i>Ln/Ps</i>	unknown	reported no exposure to rabies but had numerous bats in residence; had 26 unvaccinated pets
1994	41	M	W. Virginia	W. Virginia	<i>Ln/Ps</i>	4 months?	handled mouth of bat described as possible red bat (likely was a reddish colored tricolored bat); woodsman
1994	44	M	California	unknown	<i>Ln/Ps</i>	9 months?	cared for sick cat
1993	82	M	Texas	Tx or AR?	<i>Ln/Ps</i>	unknown	no known animal bite (tended sick cow)
1993	11	F	New York	New York	<i>Ln/Ps</i>	unknown	captive bat in cage in house
1991	27	F	Georgia	GA or TN?	<i>Ln/Ps</i>	unknown	no known animal exposure; patient not questioned or too ill to provide information
1991	29	M	Arkansas	Arkansas	<i>Ln/Ps</i>	3-4 weeks?	caught and killed abnormally behaving bat during month preceding onset of symptoms
1990	22	M	Texas	Texas	<i>Tb</i>	47 days	bitten on finger while handling bat

1984	12	M	Pennsylvania	unknown	<i>Myotis</i> sp.	unknown	bitten by kitten, but only six days before onset (could not have been source); unclear if patient was coherent during questioning
1983	5	F	Michigan	Michigan	<i>Ln/Ps</i>	5 months	told parents bat bit her during night; no sign of bat or bite
1979	45	M	Kentucky	unknown	<i>Ln/Ps</i>	unknown	no known animal bite (hunter & farmer)
1979	24	M	Oklahoma	unknown	<i>Ln/Ps</i>	unknown	no known animal bite (spelunker & woodcutter)
1978	37	F	Idaho	unknown	<i>Ln/Ps</i>	30 days	corneal transplant (donor died of rabies)
1978	39	M	Oregon	unknown	* <i>Ln/Ps</i>	unknown	cornea donor (*above transplant recipient had <i>Ln/Ps</i> variant); no known exposure (lumberman and trapper)
1976	55	F	Maryland	Maryland	<i>Ln/Ps</i>	25 days / HRIG, 21 DEV <sup>9</sup>	superficial bite on finger by big brown bat
1973	26	M	Kentucky	Kentucky	<i>Ln/Ps</i>	22 days / HRIG?	bitten by bat on ear while asleep
1971	64	M	New Jersey	New Jersey	unknown	59 days / DEV	bitten on lip by bat
1970	6	M	Ohio	Ohio	unknown	20 days / 14 DEV	bitten on thumb by big brown bat while asleep (victim survived)
1962	11	M	Idaho	Idaho	unknown	41 days	unknown
1959	53	M	California	Frio Cave, TX	unknown	30 days?	did not recall any bite, but had blood on face after one cave trip
1959	44	M	Wisconsin	Wisconsin	unknown	22 days	bitten on ear by a bat while asleep
1958	53	F	California	California	unknown	57 days / PEP	bitten on finger by a silver-haired bat
1956	41	M	Texas	Frio Cave, TX	unknown	unknown	could have exposed open sores with contaminated gloves (entomologist at TDH - rabies investigator; had handled thousands of bats)
1951	43	F	Texas	Texas	unknown	16 days	1st reported case - bitten on arm by sick bat

<sup>1</sup>year patient became ill

<sup>2</sup>post-exposure rabies prophylaxis

<sup>3</sup>*Myotis* sp. - bat rabies variant common to *Myotis* sp.

<sup>4</sup>*Tb* - bat rabies variant common to Brazilian free-tailed bats (*Tadarida brasiliensis*)

<sup>5</sup>*Ln/Ps, Ps* - bat rabies variant commonly present in silver-haired or tricolored bats (*Lasionycteris noctivagans* / *Perimyotis subflavus*)

<sup>6</sup>human rabies immune globulin

<sup>7</sup>N Engl J Med 2005;352:2508-14.

<sup>8</sup>*Ef* - bat rabies variant common to big brown bats (*Eptesicus fuscus*)

<sup>9</sup>duck-embryo vaccine

This information was compiled by Zoonosis Control from the following sources:

Rabies in Bats (Brass, 1994)

Centers for Disease Control (CDC) Morbidity and Mortality Weekly Report (MMWR)

Personal communication with Jean Smith, formerly with CDC

Personal communication with Jesse Blanton, CDC

Personal communication with Barbara French, formerly with Bat Conservation International (BCI).