

**NTCA Leptospirosis Vaccine Administration in Norwich Terriers
MEMBER SURVEY RESULTS, MAY 2017**

Results reported are based on 163 complete responses.

Summary

168 NTCA member responses are included in the summary. Members own an average of 4 Norwich Terriers (range 1-15). 68% of respondents are breeders, and 40% of members have been in the breed more than 20 years. Very few recommend the lepto vaccine and 65% discourage it. Members tend to favor breeder advice over the vet's advice regarding whether to give the lepto vaccine to a Norwich or not. 40% have ever given the vaccine. 14 (22%) reported an adverse reaction and symptoms varied. There were 9 cases of lepto infection reported in Norwich, and 8 recovered without lasting chronic affect (1 died). Members reported a number of known risk factors, however, only water (living near or dogs drinking from open water) appears to influence the decision to administer lepto vaccine.

Years in breed?

3-10 years	18%
11-20	42%
21-30	25%
31-60	15%

Number of other breeds owned? (based on 68 responses): average = 1.6

Do you recommend or discourage your puppy or dog buyers on vaccinating for lepto?

9 (8%)	recommend
69 (65%)	discourage
29 (27%)	neither recommend or discourage

Would you have the lepto vaccine administered based on the advice of your primary care veterinarian, if this advice differed from your opinion?

24 (22%)	yes
57 (53%)	no
26 (24%)	unsure

Do you have a clause in your contract for your puppy or dog buyers advising against lepto vaccine administration?

27 (39%)	yes
42 (61%)	no

Does your primary breeder recommend or discourage vaccinating for leptospirosis?

1 (2%)	recommend
19 (39%)	discourage
21 (43%)	neither recommend or discourage
8 (16%)	unsure, can't recall

Would you have the leptospirosis vaccine administered based on the advice of your primary care veterinarian, if this advice differed from that of your breeder?

8 (16%)	yes
24 (49%)	no
17 (35%)	unsure

Does your primary care veterinarian recommend or discourage vaccinating for leptospirosis?

45 (29%)	recommend
21 (13%)	discourage
72 (46%)	neither recommend or discourage
18 (12%)	unsure, can't recall

Does your primary care veterinarian evaluate each Norwich Terrier on a case-by-case basis?

103 (66%)	yes
53 (34%)	no

Did your Norwich Terrier ever have leptospirosis vaccine administered?

40%	yes
56%	no
4%	unsure

How often has the leptospirosis vaccine been administered?

(# members reporting each protocol)

11	For puppies, initial vaccine at 12 weeks, repeated 2-4 weeks
15	For older puppies (over 4 months) or adults receiving vaccine for 1st time, 2 doses 2-4 weeks apart
16	Annual revaccination for dogs at sustained risk of exposure, continued for entire life
15	Annual revaccination for dogs at sustained risk of exposure, but discontinued for adults 12 years & over
0	Vaccinated every 6-9 months because of continued high risk exposure
15	Annual booster not given after initial puppy/annual shot protocol
28	Other

Leptospirosis vaccine was given as:

29 (46%)	a stand-alone vaccine
24 (38%)	a combination vaccine containing leptospirosis vaccine
6 (10%)	both stand-alone and combination shots given at different times
4 (6%)	unsure, can't recall

Did you pre-treat with antihistamines?

11 (17%) yes
52 (83%) no

Did your dog have an adverse reaction from leptospirosis vaccine?

14 (22%) yes
48 (76%) no
1 (2%) unsure, can't recall

*There was no statistically significant correlation between pre-treating and adverse reaction.

If yes (adverse reaction), what symptoms were experienced?

(# members reporting each symptom)

5 panting
5 respiratory distress
5 shivering
5 weakness
4 lethargy
3 depression
2 diarrhea
2 fever
1 loss of appetite
1 muscle pain
1 stiffness
1 vomiting
1 blisters/hives
1 abdominal discomfort
1 dehydration

Who treated the symptoms?

4 managed at home, without vet
8 managed by regular veterinarian
2 emergency room

How many of your Norwich Terriers have been diagnosed with leptospirosis?

147 (95%) none
7 (4%) 1 dog
1 (1%) 2 dogs

9 cases of leptospirosis disease were reported in Norwich (2004-2016), and 8 recovered without lasting chronic illness (1 died). Main symptoms were fever, loss of appetite, lethargy, weakness and vomiting. Treatment included antibiotics and IV hydration, and in 2 instances ICU supportive care. No cases of leptospirosis in other breeds owned were reported.

Where do you live?

76 rural area
14 urban
67 suburban

RISK FACTORS FOR LEPTO

Climate

Live in area that has prolonged freezing temperatures in the winter?

76 (49%) yes
78 (51%) no

Live in area with warm climates and high annual rainfall?

57 (37%) yes
97 (63%) no

Farm animals and wildlife

Maintain or live near farm animals?

53 (35%) yes
100 (65%) no

(most common types reported were: horses/donkeys, cows/cattle, chickens; also ducks, sheep, goats, llamas, pigs/hogs, rabbits)

Live near nature reserve or protected area for wildlife?

56 (37%) yes
96 (63%) no

Do your dogs frequent places where wildlife live?

64 (42%) yes
88 (58%) no

Do you live in area frequented by wildlife?

108 (71%) yes
44 (29%) no

Most common types reported: deer, squirrel; also rabbits, moles, possum, chipmunks, fox, coyotes, raccoons, birds, beaver, opossums, otter, rats, mice, skunks, groundhogs, bear, ducks, snakes, wolf, and turkey.

Water

Live near open water or watershed?

49 (32%) yes
102 (68%) no

Dogs swim in open water?

15 (10%) yes
136 (90%) no

Dogs drink from open water?

21 (14%) yes
130 (86%) no

Shared Facilities

Go to dog parks, day care, overnight boarding, or similar facility?

19 (13%) yes
132 (87%) no

Does facility require proof of lepto vaccine?

2 (11%) yes
17 (89%) no

Does facility provide a community water source?

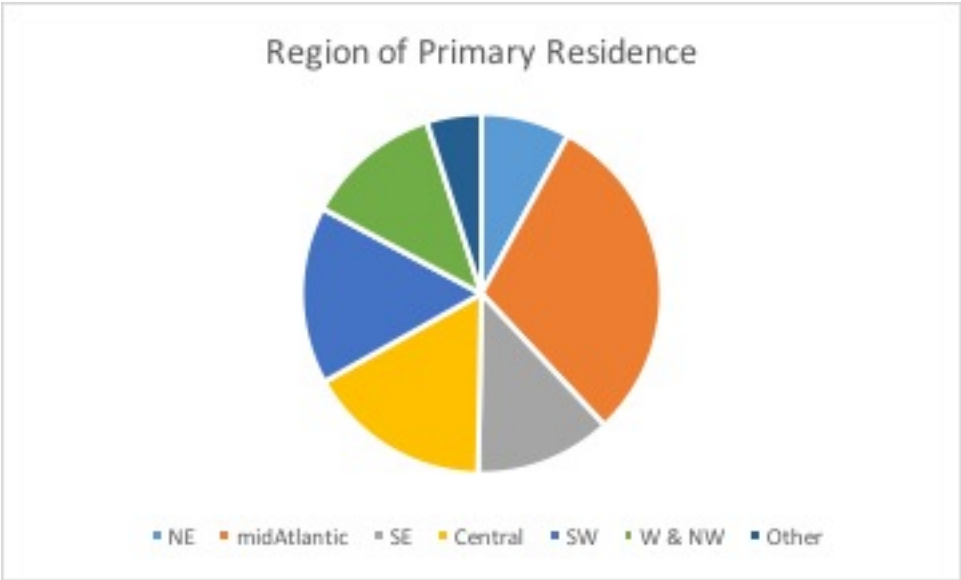
6 (32%) yes
13 (68%) no

Does your dog drink from community water?

5 (83%) yes
1 (17%) no

Administration of lepto vaccine

- No statistically significant differences in whether or not lepto vaccine given:
 - between breeders and non-breeders,
 - by rural vs urban vs suburban location,
 - by climate,
 - by exposure to farm animals, or
 - by exposure to wildlife.
- Members who live near open water or a watershed are more than twice as likely to vaccinate (Odds Ratio = 2.25, p-value = 0.02).
- Members whose dogs drink from open water are more than 3 times as likely to vaccinate (Odds Ratio = 3.87, p-value < 0.01).



- 13 Northeast (MA RI CT NH VT ME)
- 49 Mid-Atlantic (NY PA NJ DE MD DC VA WV)
- 20 Southeast (NC SC AL MS TN GA FL)
- 27 Central (OH IN IL KY MI WI MN MO IO ND SD MT NE KS)
- 26 Southwest (LA TX NM AZ CO OK AR)
- 20 West & Northwest & Alaska (CA OR WA AK)
- 8 Other (not in USA)
- 163 TOTAL RESPONDENTS

Statistics computed using STATA IC/13
 J Schubart 5-19-2017