Increasingly, Veterinary professionals are increasingly encountering resistance from clients when it comes to vaccinations –even for rabies. There was a time when veterinary professional's recommendation was enough for most clients to comply without question. Then came an era where explanations were necessary. Today, in many cases, it feels as though veterinary professionals must act as defense attorneys armed with research and citations – only to find that even solid evidence often fails to sway clients' entrenched opinions.

Some clients believe veterinary professionals push vaccinations solely for profit. Others are convinced that pets are being over-vaccinated, leading to undocumented adverse events, including but not limited to, autism. Many hold both beliefs, often influenced by political rhetoric.

The American Animal Hospital Association's (AAHA) 2023 Canine Vaccination Guidelines now classify the leptospirosis vaccine as core – a decision that, while scientifically sound, could not have come at a more challenging time. Arguably, this change should have been made years ago, which might have eased some of today's resistance.

Further complicating the issue, a quick online search can lead clients to outdated concerns about adverse reactions to the lepto vaccine, particularly in small dogs. What they fail to realize is that these reports stem from vaccines developed over 30 years ago, not the safer, more refined versions available today. he manufacturer of the Leptospirosis vaccine pulled their product from the market many years ago amid the concerns of the adverse reactions. They reformulated, tested and re-released it.

In the past 7 years, Dog Trainer U.S. (DTUS) has been educating clients regarding the benefits of the Leptospirosis vaccine as well as tracking the hundreds of pets who board or do board and train programs with DTUS that have received the Leptospirosis vaccine. To date, we have had 2 reactions and quite frankly, we cannot be 100% certain that the reaction was not due to the Distemper parvo vaccine or something else. One of the dogs who had a reaction after a vaccine also had a reaction to a microchip implantation and has also had numerous other reactivities to various environmental things.

Leptospirosis is no longer just a rural disease affecting farm animals. Though exact numbers are difficult to determine due to the lack of centralized surveillance system like a CDC for pets, it is apparent that leptospirosis is increasingly prevalent in urban areas. One contributing factor is the rise in city rat populations. A study from Chicago demonstrates the correlation –likely even causation – between increased urban wildlife and the spread of lepto. Beyond rats, other carriers include coyotes, rabbits, opossums, raccoons, and mice, all thriving in urban environments.

Coyote populations are surging across the U.S., yet there is currently no surveillance for lepto in these animals.

In fact, while we have data on the number of diagnosed canine cases, we have no reliable estimates on how many dogs may carry and spread the bacteria without showing symptoms. The growing popularity of dog parks, daycare facilities, and playgroups only increases the risk of transmission.

Leptospirosis is spread through the urine of an infected animal. A dog can contract the infection simply by stepping in a contaminated puddle and then licking its paw. Swimming in infected water is another common transmission route. As awareness of the disease has increased, veterinary professionals are testing for it more frequently, which may partially account for the rise in reported cases.

If these facts don't persuade clients, there is another compelling reason to vaccinate: leptospirosis is zoonotic, meaning it can spread to humans. **Leptospirosis is the most common zoonotic illness worldwide.** While the U.S. does not face the same risks as developing nations, human cases still occur. A toddler crawling through an area where an infected dog has urinated, or an owner cleaning up an accident without proper hygiene could contract the disease. Even swallowing contaminated water while swimming in a lake or pond poses a risk.

Veterinary technicians/nurses play a crucial role in client education. So, the $50,000 or $10 million question is how to you convince clients so entrenched in their views about not vaccinating?

Veterinary technicians/nurses play a crucial role in client education, but the challenge remains: how do you convince clients whose minds are already made up? As someone who specializes in communication, I wish I had a foolproof strategy. Beyond presenting the facts—and they are indisputable—there is no guaranteed approach. Perhaps the only surefire way to avoid lepto altogether is to move to Greenland, where it has yet to be reported.

The American Animal Hospital Association (AAHA) 2022 Canine Vaccination Guidelines have now officially been updated to reflect a change in status of the **leptospirosis vaccine from non-core to core.** This is following consensus statements from the American College of Veterinary Internal Medicine (ACVIM) and the World Small Animal Veterinary Association (WSAVA), and the recommendation of AAHA's vaccine guidelines task force.

Ingrid Taylor, DVM, Director of Guidelines for AAHA, oversaw the expert task force that agreed the change was needed. "Any dog that goes outdoors, whether in an urban or a rural setting, can be exposed to leptospirosis," she explained. "Over the years that AAHA has been publishing guidelines, we have seen a substantial increase in the prevalence of this disease. Because this disease is zoonotic, it is important to protect both dogs and people by encouraging widespread vaccination."

Jessica Vogelsang, Chief Medical Officer for AAHA, added that mounting evidence not only highlights the increasing risk of exposure to dogs, but also the improved safety profile of vaccines for leptospirosis. “We now have a better understanding of the risks associated with vaccines to help assuage client concerns regarding this vaccine,” she said. “AAHA is committed to supporting the veterinary team in conversations with clients around vaccinations, and moving the Leptospira vaccine to a core vaccine is key to smoother conversations and greater compliance,” Vogelsang added. “Based on the current evidence and risk of disease, it was time to make this change.”

In October of 2023, the American College of Veterinary Internal Medicine (ACVIM) issued an updated consensus statement on leptospirosis in dogs, recommending that the leptospirosis vaccine **“should be administered annually to all dogs starting at 12 weeks of age, regardless of breed.” The consensus statement goes on to recommend that leptospirosis vaccination should be required for dogs to board or enter a daycare facility as well.**

The multidisciplinary panel appointed by the ACVIM to review the available body of knowledge cited improvements in the understanding of the disease, the widespread access to diagnostic tests and vaccines, and the continued prevalence of the infection in dogs of all sizes and breeds in both urban and rural areas as reasons why a revised consensus was needed.

The World Small Animal Veterinary Association (WSAVA) issued a more nuanced recommendation in their 2024 Vaccine Guidelines, designating the leptospirosis vaccine as “core for dogs in regions where canine leptospirosis is endemic, implicated serogroups are known, and suitable vaccines … are commercially available.” While this statement still leaves much room for practitioner discretion, it is inclusive of more dogs than would be included with a designation as a noncore vaccine.

How the thinking around leptospirosis has changed

“In the 70s, the thought was that the risk [for leptospirosis infection] was mainly for hunting dogs in wet areas,” said John Ellis, DVM, PhD, DACVP, DACVM, professor of microbiology at the University of Saskatchewan and a member of the AAHA Canine Vaccine Guidelines task force. “That has definitely changed over the years.”

He described how leptospirosis has been found in areas that are dry and high in elevation, such as Laramie, Wyoming, and **Phoenix, Arizo**na—the opposite of the tropical or semi-tropical environment typically associated with increased risk for leptospirosis. Some of this apparent geographical spread of leptospirosis may be the result of improved awareness and testing for the disease, but another likely factor is the increased development of land for human use. With the building of more housing communities, more racoons and other reservoir hosts for

leptospirosis have begun to inhabit new areas, raising the risk for disease spread. The idea that leptospirosis is limited by geography and climate is not the only one that requires revision.

George Moore, DVM, PhD, professor of epidemiology at Purdue University and another member of the AAHA Canine Vaccine Guidelines task force, commented on the stereotype of larger dogs and dogs who swim or hunt being at increased risk. Now, he says, we are seeing leptospirosis infections in smaller breed dogs without any farm or rural background. Why? Because these dogs were not vaccinated against the disease. Rather than it being the breed or lifestyle of the dog, Moore said, "the real risk factor [for leptospirosis infection] is whether or not the dog is vaccinated." This is why small breed dogs are overrepresented in cases of leptospirosis infections: they are less likely to have gotten the vaccine.

The leptospirosis vaccine's bad rap

There are likely multiple reasons why pet owners and some practitioners have been more hesitant to administer the leptospirosis vaccine routinely to all canine patients, and chief among them has been the concern for a higher risk of vaccine reactions in comparison to other vaccines. But that may not be such a concern any longer. Both Ellis and Moore noted that, due to improvements in the manufacturing processes used to produce the vaccines and additional studies quantifying the rates of vaccine reactions, the leptospirosis vaccine does not appear to be associated with an increased risk of vaccine reactions compared to other vaccines. Additionally, the belief that leptospirosis was solely a disease affecting large breed hunting dogs in wet, rural areas and dogs that swim in standing water has undoubtedly contributed to a lack urgency in the minds of many practitioners to vaccinate for the disease. When clients request to only administer the "necessary" vaccines, veterinary teams may not push very hard for the leptospirosis vaccine. Due in part to its previous designation as a noncore vaccine, it has not typically been required by boarding facilities, daycares, and other similar facilities either. Plus, a general trend of vaccine hesitancy among pet owners is also partly to blame. "More than 50% of dog owners don't think their dogs should be vaccinated at all," Ellis said, "even for rabies."

The COVID-19 pandemic didn't help matters, he added. Since the general public doesn't always have an accurate understanding of how vaccines work, there can be a tendency to lose faith in vaccines when some vaccinated individuals still contract the disease and show clinical signs. This distrust in vaccine efficacy against human diseases often translates over to feelings of skepticism toward vaccines for pets.

Using the leptospirosis vaccine

Moore stressed that leptospirosis is endemic in the United States. Since we know the serovars of the disease that are most likely to infect dogs in this country and we have good multivalent

vaccines that carry a very low risk of reactions, there is little argument in his mind against routine use of the vaccine. Besides, said Moore, “It’s a zoonotic disease.” For the health and safety of both humans and dogs, both he and Ellis recommend the routine administration of the leptospirosis vaccine in all dogs regardless of their size, breed, geographical location, or lifestyle.

Specifically, Moore recommends giving two doses of the vaccine to puppies starting at 12 weeks of age, which would typically align with the final two puppy vaccine visits. Regarding the practice of routinely “splitting” vaccines or giving the leptospirosis vaccine separately from other vaccines to reduce the risk of a reaction, Moore and Ellis believe that, most of the time, this is not necessary or helpful. One of the main concerns around separating vaccines out into multiple appointments is that the client may not return as directed and the patient will be incompletely vaccinated as a result. There are exceptions, though, and in patients where there is a history of vaccine reaction, it may make sense to give fewer vaccines at any one time.

With the continued movement of people and animals throughout the world, the leptospirosis risk for dogs will likely continue to increase. This is bad news, said Ellis. But, he added, the good news is that we have vaccines that are safe and effective when used appropriately.
Moore concurred. “It’s uncommon to see leptospirosis in a properly vaccinated dog.”