



onehealthinitiative.com

## Hand Hygiene: So Basic, but so Important

Studies show that hand hygiene (HH) is the single most important measure against nosocomial infection in human medicine; however, the compliance rate of good HH practices in human hospitals is low. The current prospective questionnaire study evaluated the HH practices of veterinary technicians (VT) and veterinary support staff (VSS) in 4 small animal specialty hospitals and 14 small animal general practice hospitals. Respondents ( $n = 182$ ) completed an 11-point questionnaire that investigated their HH habits. Results showed that well under 50% of respondents (41.7%) washed their hands between every patient. Most (85.6%) believed they should be washing their hands more frequently. Hand soap was the most commonly used hand-washing agent (84.6%), and the most common reason for not washing hands more fre-

quently was lack of time (72.5%). Just over half (52.7%) reported being educated by veterinarians about the importance of good HH. The authors concluded that poor HH practices are as common among VTs and VSS as veterinarians and human health workers. Veterinarians should take more initiative in educating staff about proper HH and the risk for nosocomial infection. One limitation of this study was that the questionnaire relied on truthful reporting from respondents; accuracy could not be verified. Further studies of the types of bacteria cultured from the hands of veterinarians, VTs, and VSS are warranted.

### ■ Commentary

Results of this study showed that many VSS members are unaware of the risks

involved with poor HH, highlighting the need to educate staff on the importance of washing hands. Many staff members admitted feeling that they should wash their hands more often, but did not feel that they had the time to do so, implying that HH is not always prioritized. The combination of educating hospital staff, providing appropriate alcohol-based soap for effective hygiene, and making HH a high priority in established hospital protocols should help reduce rates of nosocomial infection in veterinary hospitals.—*Jennifer Ginn, DVM, DACVIM (Internal Medicine)*

### ■ ■ Source

Hand hygiene practices of veterinary support staff in small animal private practice. Nakamura RK, Tompkins E, Braasch EL, et al. *J SMALL ANIM PRACT* 53:155-160, 2012.



onehealthinitiative.com

## Human IV Immunoglobulin for Canine Neuropathy

Acute canine polyradiculoneuritis (ACP), often termed *coonhound paralysis*, is an acquired peripheral neuropathy characterized by rapid development of a nonambulatory, lower motor neuron tetraparesis/tetraplegia. With physical rehabilitation and supportive care, dogs often recover within 3–5 weeks, but prolonged courses (up to 3 months), incomplete recovery, and lack of improvement have been seen. Randomized trials of humans with Guillain-Barré syndrome, the human counterpart of ACP, have shown that IV immunoglobulin (IVIg) speeds recovery. Based on this success, a pilot study was conducted describing the clinical course of ACP in dogs ( $n = 16$ ) following treatment with IVIg and comparing this retrospectively with ACP dogs receiving only supportive care ( $n = 14$ ).

Dogs treated with IVIg ambulated without assistance after a median of 27.5 days (range, 15–127 days) from onset of signs; in the control group, the median was 75.5 days (range, 5–220 days). Before treatment, all 16 IVIg-treated dogs had been nonambulatory for 1–45 days (median, 6.5 days), and no improvement in motor function had been noted. After treatment, 62.5% of the dogs rapidly regained ability to walk; subtle improvements in motor function were observed in the remaining treated dogs. Although not statistically significant, there was a clear trend toward faster recovery in treated dogs. However, it cannot be definitively ascertained whether the course of the IVIg-treated dogs would have been the natural course of their disease if untreated.

### ■ Commentary

This study was clinically relevant for a potential adjunctive treatment option for acute canine polyradiculoneuritis. IVIg is currently employed in human medicine for Guillain-Barré syndrome. Until now our only treatment for acute canine polyradiculoneuritis has been supportive care. It is crucial to search for a treatment that may help recovery from this disease, as many affected dogs are euthanized because of severity of signs and extensive nonambulatory period.—*Stephanie Engel, DVM*

### ■ ■ Source

Clinical course of acute canine polyradiculoneuritis following treatment with human IV immunoglobulin. Hirschvogel K, Jurina K, Steinberg TA, et al. *JAAHA* 48:299-309, 2012.

MORE ►

## Using Fondaparinux in Cats

Fondaparinux, a novel antithrombotic drug used in humans, is a highly specific inhibitor of factor Xa; it does not affect factor IIa (thrombin) or platelet function. This study evaluated practical doses and administration frequencies of fondaparinux for thromboprophylaxis (TP) and thrombosis treatment (TT) protocols in cats. Dosage protocols for TP and TT were selected based on pharmacokinetic parameters in humans. Two protocols were developed and evaluated: for TP, fondaparinux was administered at 0.06 mg/kg SC q12h for 7 days; for TT, fondaparinux at 0.20 mg/kg SC q12h for 7 days. Both parts used the same healthy cats, with at least 1 week between parts. Results indicated that median peak plasma antifactor Xa activities for both the TP and TT protocols were higher in cats than the upper limit of the human therapeutic range. Median plasma antifactor Xa activity remained within the human therapeutic range throughout the 12-hour treatment for the TP protocol. Significant changes in thromboelastographic parameters were noted at peak for the TT protocol, suggesting a hypocoagulable state. No significant changes in platelet aggregation were noted for either protocol. Whether the degree of antifactor Xa activity achieved with fondaparinux would be effective for clinical antithrombotic treatment in cats could not be determined, but results provided preliminary data necessary to perform dose-determination and efficacy studies.



### ■ Commentary

Thromboembolic events are an uncommon but severe complication in cats with cardiomyopathy. Many anticoagulant and antiplatelet regimens have been recommended, but an ideal antithrombotic drug has yet to be identified. Fondaparinux is considered an ideal antithrombotic agent in humans because it has no effect on thrombin or platelet function with very high bioavailability, allowing for q24h administration. This study found cats likely need at least q12h administration to maintain antifactor Xa levels within the human therapeutic range. These study results cannot be directly applied to cats with heart disease, as cats in this study were free of cardiac disease. In addition, the target therapeutic level of antifactor Xa levels for cats with heart disease is currently unknown. Moreover, the cost of q12h administration would be expensive even at the low dose used in this study. Although results are encouraging and there exists a great need to identify an effective thromboprophylaxis in cats with heart disease, further studies are necessary before this drug will find its way into the routine.—*Amara Estrada, DVM, DACVIM (Cardiology)*

### ■ Source

Dose determination of fondaparinux in healthy cats. Fiakpui NN, Hogan DF, Whittem T, et al. *AM J VET RES* 73:556-561, 2012.

## Socioeconomic Correlation to Lepto?



This study investigated the association of housing, population, agriculture, and proximity to public spaces with incidence of canine leptospirosis in Kansas and Nebraska, using a retrospective case-controlled method. The sample population consisted of 94 dogs testing positive for leptospirosis and 185 negative controls. Diagnosis was based on a positive PCR test for leptospires in urine, positive urine culture for leptospires, a single serum titer of  $\geq 12,800$ , or a 4-fold rise in serum titers over 2–4 weeks. Absence of infection was based on negative urine PCR and serum titers  $< 400$ . Multivariable logistic regression analysis was performed across all variables. Results showed a positive association between leptospirosis and areas with household income below the poverty line in 1999, households lacking complete plumbing facilities, and proximity within 2500 m to university and/or college campuses or public parks and/or forest areas. Vaccination status of dogs was not clear but may have been a factor, given the higher risk for impoverished owners failing to vaccinate their dogs. Public parks and college and/or university campuses provide ample open spaces where increased dog-to-dog contact could occur; contaminated flooding and runoff near parking lots and landscaped areas may be problematic. Dogs in these neighborhood conditions should be vaccinated for leptospirosis.

### ■ Commentary

This study provided a good reminder that dogs in urban areas are at risk for leptospirosis necessitating vaccination for dogs in urban areas. The leptospirosis vaccination status of the dogs in this study was unknown. The dogs may be at increased risk for exposure to leptospirosis because of substandard housing conditions, or the increased risk found in such areas may be a result of failure to vaccinate. The role of poverty status or physical conditions as risk factors or markers for lack of vaccination could not be determined from this study.—*Laura Tonkin, DVM*

### ■ Source

Neighborhood-level socioeconomic and urban land use factors of canine leptospirosis: 94 cases (2002-2009). Raghavan RK, Brenner KM, Higgins JJ, et al. *PREV VET MED* 106:324-331, 2012.