



Shih Tzu Update

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Early Treatment for Corneal Ulcers Helps to Save Vision

Shieh Tzu breeder Nancy Stern had noticed that her 3-year-old champion show dog, "Ledger," was having problems keeping his eyes open and seemed bothered by sunlight or bright light. Large, round eyes and a pushed-in face are among the prominent features of this lively toy breed.

Stern, who lives in Dunnellon, Fla., took Ledger to see an ophthalmologist at the University of Florida Small Animal Hospital in Gainesville. The diagnosis was corneal ulcers caused by distichiasis, a condition in which an additional row of eyelashes, or cilia, develop along the edge of the eyelids. Though the eyelashes don't always turn inward, in Ledger's case they did, irritating the cornea every time he blinked. The little dog had an advanced case with pustules that had formed beneath the eyelids.

Surgery was performed to remove the extra eyelashes and pustules. Recovery took about three weeks and involved application of an antibiotic ointment three times a day and a serum from Ledger's own blood. "The serum definitely helped to heal the ulceration in the eye," Stern says.

About three weeks after surgery, Ledger experienced a setback. Some of the eyelashes caused by distichiasis were missed in surgery and were irritating the cornea. Once they were removed, he began to recover completely.

Stern cautions owners of Shih Tzu to seek veterinary treatment immediately if you notice signs of eye problems. "The sooner you get your dog to the veterinarian, the better," she says. "Over-the-counter antibiotic ointments are often not strong enough for an eye problem to heal properly."

Corneal ulceration, also known as ulcerative keratitis, occurs in all breeds of dog, but brachycephalic breeds with pushed-in faces, such as Shih Tzu, Bulldog, French Bulldog, Lhasa Apso, Pekingese, and Pug, are more commonly affected. Age doesn't seem to play a role in development of corneal ulcers, although most cases occur in young to middle-aged dogs.

"By the time Shih Tzu are old, if

they have not had corneal disease, it is because their eyes are healthy," says Diane Hendrix, D.V.M., DACVO, assistant professor of ophthalmology at the University of Tennessee College of Veterinary Medicine. "Therefore, they have not had the conditions that predispose them to injury as much as younger dogs that develop severe ulcers earlier."

Recognizing Signs of a Corneal Ulcer

The Shih Tzu, like other brachycephalic breeds, is less sensitive to corneal discomfort and thus less likely to show signs of pain. Owners should pay careful attention for these signs of a corneal ulcer:

- Blinking;
- Squinting;
- Rubbing the eye;
- Eye discharge that continues for more than one or two days; and
- Bloodshot appearance to the eye.

The Shih Tzu is susceptible to developing corneal ulcers because their eyes are exophthalmic, or protrude due to their large, round shape.

"If untreated, the ulcers can lead to blindness," says Hendrix, who has studied canine corneal ulcers since 1997. Most recently, she investigated the bacteria that cause ulcers and the concentration of antibiotics used to treat ulcers in the tear film.

Higher Incidence of Ulceration

The cornea is the transparent layer in the front of the eye that covers the iris, pupil and anterior chamber. When a dog develops a corneal ulcer, it first affects the epithelium, or the protective outer layer of the cornea. The epithelium prevents water and infectious agents from entering the cornea and holds the tear film in place.

Simple ulcers heal quickly with the epithelium repairing the damage, but complications can develop if the ulcer makes its way through to the

stroma and becomes infected with bacteria. The stroma is the thickest part of the cornea, and behind it is a thin membrane encasing a single-cell layer known as the endothelium. Enzymes produced by certain bacteria can dissolve the stroma and eventually cause the eye to rupture.

Shih Tzu and other breeds commonly affected with corneal ulcers not only have a higher incidence of ulceration, they also are more likely to have ulcers that become infected. This is partly due to the anatomy of their eyes, the prominent frontal globes, which leaves the cornea more exposed to injury, Hendrix explains.

Corneal ulcers usually result from trauma to the eye. In the case of Stern's dog, Ledger, he experienced irritation and eventually pustules formed from the rubbing of the abnormal growth of eyelashes, caused by distichiasis, on the cornea. Ulcers also can be related to decreased tear production, eyelid abnormalities or nerve damage.

Tears play an important role in eye health by lubricating the cornea and by helping to fight infection through antibodies contained in tears. Dogs with severe corneal ulcers often experience keratoconjunctivitis sicca, or "dry eye," which predisposes them to corneal ulcers.

Signs of an ulcer include blinking, squinting or rubbing the eye. Most of the nerves in the cornea are on the surface, so as the ulcer goes deeper into the eye, the pain may lessen though the condition is worsening. Brachycephalic breeds are less likely to show signs of pain than other breeds because their corneal sensitivity tends to be decreased, Hendrix notes.

"This is perhaps the reason that owners miss a very early ulceration of the cornea in these breeds," she says. "These dogs are less likely to blink and show other signs of discomfort."

To help prevent eye problems, Hendrix encourages breeders and owners of Shih Tzu and other susceptible breeds to frequently examine eyes for signs of problems. The cornea should look shiny and smooth. Ocular discharge that continues for more than

Corneal Ulcers

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one or two days could indicate a sign of dry eye. A veterinarian can perform a tear test to determine whether a dog has developed dry eye.

Treatment of dry eye involves application of cyclosporine, a local immunosuppressant that is applied topically. A dog may require artificial tears and cyclosporine for the rest of his life to prevent an ulcer from recurring; artificial tears also may be used to prevent the unaffected eye from developing an ulcer.

Ulcers that are diagnosed before they become serious are treated with topical antibiotics, such as eye drops, that are administered several times a day. Other medications may be used to reduce pain and supplement tear production.

Determining Type of Bacteria

If a veterinarian suspects a dog may have an infected ulcer, he or she is likely to order a cytology examination, which looks for bacteria under a microscope, or culture analysis, which is used to grow bacteria to determine the type of bacteria present. This helps the veterinarian prescribe the best antibiotic treatment. A severe ulcer, one that is deep or perforated, meaning there is a hole in the cornea, may require surgery. A surgical procedure called conjunctival graft is often needed to repair the cornea. The surgery usually costs around \$1,000.

An untreated severe ulcer can lead

to perforation of the cornea and iris prolapse, or a hole in the cornea with iris tissue protruding from it. Ultimately, a dog may lose his vision and become blind in the affected eye.

Another outcome of severe ulcers is corneal scarring, which is a white spot on the cornea that can alter vision depending on its size and location. The earlier a dog is treated for a corneal ulcer, the less scarring that is likely to occur.

In her research of bacterial keratitis in dogs, Hendrix hopes to learn the most effective therapy to treat corneal ulcers. The Shih Tzu makes up 20 percent of dogs being studied, with Pekingese representing 26 percent.

"I am hoping to learn whether we need to change the therapy that we currently use to treat bacterial keratitis," she says. "If there is a more effective way to treat ulcers, we hope to learn what it is."

A recently completed study examined the effectiveness of a topical antibiotic, ciprofloxacin, in treating bacteria contained in the tear film of normal, healthy dogs. "When we treat corneal ulcers in dogs, we want the level of antibiotic to reach and maintain a level that will inhibit growth or kill bacteria," she says.

"This study looked at how long ciprofloxacin stays at the level needed to kill bacteria that potentially might infect the cornea. We learned that ciprofloxacin levels remain high in tears after topical administration, which may mean that it does not need to be given as frequently as other antibiotics. Of course, the study was done

in normal dogs, so dogs with ulcers may have increased tearing, meaning their levels may not be as high."

In preventing corneal ulcers in dogs, early and aggressive treatment is the best chance for saving the eye. Among the factors that impact prevention are early diagnosis and treatment of dry eye. "If dry eye is treated early with a medication such as cyclosporine and tear production can be increased, then often ulcers will not form," Hendrix says.

Careful breeding also is important. "Though corneal ulcers are not directly hereditary, certain conformation traits can predispose a dog," says Hendrix. "Dogs that have excessive protrusion of the eyes are going to be more prone to corneal ulcers. A breeder probably should not breed a bloodline in which every generation develops dry eye or corneal ulcers. Many Shih Tzu do not have eye problems. These are the lines that should be bred."

The good news is that corneal ulcers can be effectively managed if owners look for signs so treatment can begin early. A dog showing signs of eye disease should be taken to the veterinarian promptly before the condition becomes more serious. ■

Purina appreciates the support of the American Shih Tzu Club and particularly Carlene Synder, chairwoman of the Health Education and Research Committee, in helping to identify topics for the *Purina Pro Club Shih Tzu Update* newsletter.

Lyme Disease Is Becoming More Prevalent

Lyme disease, like other tick-borne diseases, is spreading. The best defense is to check dogs after they've been outside. Some veterinarians recommend testing for the most common tick-borne diseases as part of annual veterinary exams.

Researchers are identifying more disease organisms and tick species that carry them. "Many ticks carry more than one disease within them,"

says Richard Goldstein, D.V.M., DACVIM, associate professor of small animal medicine at Cornell University College of Veterinary Medicine. "Most common in the Northeast is Lyme disease."

Possibly the most common tick-borne illness in the nation, Lyme disease afflicts dogs and humans. Caused by the spirochete *Borrelia burgdorferi*, Lyme is carried by the hard-shell deer tick (*Ixodes scapularis*).

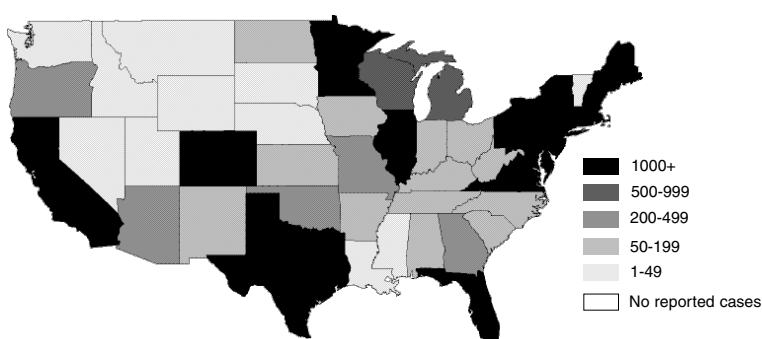
An infected tick presumably does not transmit the disease until about 36 to 48 hours after attachment, so prompt removal can help prevent illness. A Lyme vaccine also is available for dogs. Lyme is often mistaken for other illnesses. Clinical signs in dogs include sudden or intermittent lameness, hot or swollen joints, fever and lack of appetite, but Goldstein says only 10 percent to 20 percent of infected dogs show signs.

"The most common clinical manifestation is actually no sign," Goldstein says. "Most dogs don't get the human-type rash possibly because the initial skin lesion may not be noticed due to the color of the skin and hair coat so it's hard to know when they're sick or even when they're bitten. It typically takes two to five months for a dog to clinically show signs."

Treatment with penicillin or tetracycline-related antibiotics usually cures the signs, but signs can recur because often the organisms are not totally eliminated by the treatment. Lyme disease left untreated can cause polyarthritis as well as heart, neurological or kidney damage. ■

Where Lyme Disease Is Found

The following map highlights the number of detected canine Lyme disease cases found in the United States. Because many dogs go untested for tick-borne diseases, the actual number of infected dogs is likely many times higher than what is depicted on the map.



Used with permission from dogsandtick.com.

Purina's Ernie Planck Retires

The face of Purina can be seen at dog shows all across the country in the regal portraits of dogs decorating the show booth, on colorful banners, and in framed photographs of the top-winning *Purina*-fed dogs on the Wall of Champions.

All are blue-ribbon accomplishments of Purina Director of Conformation Ernie Planck. During the past 14 years, 16 years altogether at Purina, Ernie has provided the vision that has helped to shape Purina's relationship with dog breeders and enthusiasts.

Candy Caciolo, Purina Director of Marketing for *Pro Plan* and the Breeder-Enthusiast Group, says, "Ernie has been at the forefront of turning the Purina Breeder-Enthusiast Group into a 'Best in Class' program. His perception of the intricacies involved in breeding top-quality dogs and understanding of the sport have been invaluable. As a result, the majority of the top show dogs are fed *Purina* brand foods."

Among his credits is the creation of the Top 100 show dog advertisement showing the dogs fed *Purina* that runs in many dog fancy publications. "Purina's high-quality nutrition and extensive product portfolio are unparalleled," Ernie says. "*Purina*

products consistently deliver in even the most nutritionally demanding circumstances."

Now, Ernie is retiring, although he is quick to point out he will continue working as a consultant for the Breeder-Enthusiast Group. Ann Viklund, Midwest Area Manager for the past nine years, will succeed Ernie, and Ann Balotti, Field Promotions Representative, will become the Midwest Area Manager.

During his career at Purina, Ernie was elected a member of the Morris & Essex Kennel Club and the board of directors of the Kennel Club of Philadelphia. At dog shows, he is the genteel white-haired man with the beard and mustache who accompanies kennel club officers into the show ring to present the Best in Show trophy and Purina prizes. When exhibitors visit the Purina hospitality area, Ernie often is the first person to greet them.

Reflecting on his job at Purina, Ernie says, "I truly love dogs and cats, and because of that passion, I believe I have had the best job



A Standard Poodle enthusiast, Ernie Planck, far right, counts among his career highlights at Purina helping to present the Best in Show trophy to CH Ale Kai Mikimoto on Fifth, handled by renowned Poodle breeder Wendel Sammet, at the inaugural National Dog Show in 2002. NBC televised the program on Thanksgiving Day.

and performed some of the most important work within Purina with a dedicated team of people who are equally impassioned."

As for retirement, Ernie is looking forward to "spending time with my wife and best friend, Susan, and a new Standard Poodle puppy that we are planning to acquire. I also hope to play more golf and fish more."

Congratulations, Ernie! ■

Pro Club Offers Online Message Boards

Dog enthusiasts may network with other breeders, owners and handlers via online Message Boards at www.purinaproclub.com. Through the *Purina Pro Club* Web site, members may share ideas or send questions to other members.

Accessible through the member part of the Web site,

Message Boards are divided into forums that address nutrition, genetics, training, sporting, show and general topics. Visitors who post their comments benefit from feedback and knowledge from the entire Pro Club community of breeders, handlers and enthusiasts. ■

Purina-Sponsored Dog Shows July to September 2007		
Event	Date	Location
Waukesha Kennel Club Dog Show	July 27 to 29	Waukesha, WI
Foothills Dog Show Cluster	July 27 to 29	Greenville, SC
Mountain Valley Cluster	Aug. 1 to 5	Salem, VA
Richmond Dog Fanciers Association Cluster	Aug. 4 to 5	Dixon, CA
Capital City Cluster	Aug. 16 to 19	Topeka, KS
Olympic Kennel Club Dog Show	Aug. 18 to 19	Enumclaw, WA
Cherokee Rose No. 2 Cluster	Aug. 24 to 26	Atlanta, GA
Bluegrass Classic	Aug. 30 to Sept. 3	Lexington, KY
Sir Francis Drake Kennel Club Dog Show	Sept. 15 to 16	San Rafael, CA
Golden Retriever National Specialty	Sept. 15 to 22	Seattle, WA
Anatolian Shepherd Dog National Specialty	Sept. 21	Purina Farms Event Center, Gray Summit, MO
Georgia Classic	Sept. 20 to 23	Atlanta, GA
Gateway Fall Cluster	Sept. 20 to 23	Purina Farms Event Center, Gray Summit, MO
Santa Ana Kennel Club Dog Show	Sept. 22 to 23	Cypress, CA
Wine Country Cluster	Sept. 27 to 30	Romulus, NY
Doberman Pinscher Regional Specialty	Sept. 28 to 30	Fitchburg, MA

Purina Pro Plan Biscuits Feature New Packaging

Coming soon, Purina® Pro Plan® brand dog snack Biscuits will have a new look and improved package. The redesigned package front features beautiful artistic photographs of dogs that complement the recently redesigned Pro Plan brand dog food packages.

Pro Plan Biscuits are now available in three sizes: Small, Medium and Large. No formulation changes have been made, and all of the biscuits contain real meat for high-quality nutrition and wholesome grains for an easily digestible source of carbohydrates. In addition, the biscuits help to improve dental health by reducing tartar and plaque buildup. The highly palatable dog snack is oven-baked for exceptional taste.

The Pro Plan Small Biscuits, which feature a Cavalier King Charles

Spaniel on the package front, are made with real lamb and formulated for puppies and small breed dogs

weighing less than 20 pounds.

Pro Plan Medium Biscuits are made with real chicken or real beef and formulated for medium-sized

adult dogs. The real chicken package features a Beagle, and the real beef package has a Golden Retriever.

Besides having the nutritional benefits of the other formulas, Pro Plan Large Biscuits,

which are made for large-breed adult dogs weighing over 50 pounds, contain natural sources of glucosamine at guaranteed levels for joint health and mobility. A Weimaraner is featured on the package front.



Pro Plan Biscuits provide 100 percent complete and balanced nutrition for adult dogs and are designed to complement a dog's regular maintenance food. To help maintain a dog's proper weight, owners should reduce the amount of food offered proportionately to the amount of snacks fed.

The new Pro Plan Biscuits should be available on shelves starting in September. Along with the new package look, owners will notice that the package is made with a stronger, more durable material and has an easy-open design to help lock in freshness.

Purina Pro Plan dog food and Pro Plan Biscuits are available in pet specialty stores, such as PetSmart and PETCO, at Farm & Fleet, and from veterinarians. For information, visit www.proplan.com, or call (800) PRO-PLAN, or (800) 776-7526, from 9 a.m. to 4 p.m. CST Monday through Friday. ■

Purina-Sponsored Sporting Events July to September 2007

Event	Date	Location
Professional Kennel Club (PKC) Breeders Showcase	July 26 to 28	Aurora, KY
Colonial Retriever Hunt Test	Aug. 4 to 5	Woodstock, CT
Yankee Golden Retriever Club Hunt Test	Aug. 18 to 19	West Thompson, CT
Prairie All-Age Championship	Aug. 24 to 30	Mortlach, SK, Canada
United Kennel Club (UKC) Autumn Oaks	Aug. 31 to Sept. 2	Richmond, IN
Southern New England Woodcock Championship	Sept. 1 to 4	Providence, RI
National Shoot to Retrieve Association (NSTRA) Purina Endurance Championship	Sept. 6 to 8	Kennewick, WA
UKC Texas State Championship	Sept. 7 to 8	Fairfield, TX
Chicken All-Age Championship	Sept. 17 to 21	Solon Springs, WI
National German Shorthaired Pointing Association (NGSPA) Ohio Championship	Sept. 21 to 25	Bloomington, OH
UKC World Championship	Sept. 20 to 22	Angola, IN
Northeast Grouse Championship	Sept. 28 to 30	Calais, ME

PURINA Pro Club Shib Tzu Update



**Your Quarterly
Purina Points Summary**
Account Activity through June 30, 2007

Point balance may not reflect
current account activity

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