



PURINA Pro Club

Toy Group Update

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Researchers Seek Mutation Causing Syringomyelia

A noticeable tilting of the head by her 5-week-old Cavalier King Charles Spaniel puppy seemed odd to owner Betsey Lynch. Then at 10 months of age, "Trouble," as the puppy was named, began scratching the air near her neck when she became excited or tired or while wearing a collar.

Magnetic resonance imaging (MRI) showed that Trouble had a mild-to-moderate Chiari-like malformation and a small syringomyelia or syrinx. Chiari-like malformation is a condition in which the brain is too big for the skull and is crushed and pushed out of the foramen magnum, the funnel-like opening to the spinal canal. This obstructs the flow of cerebrospinal fluid in and out of the head. As a result, fluid accumulates within the spinal cord forming cavities called syringomyelia (SM).

Two years later, a follow-up MRI revealed the same skull malformation along with fluid in both middle ear cavities, but no syrinx formation. A computed tomography (CT) scan was performed, showing that both ears were completely filled with fluid. The fluid was removed surgically, and "the change in Trouble has been remarkable," says Lynch of Delaware, Ohio.

"Trouble hears extremely well and has shown none of the scratching or neck guarding that she had before the surgery," Lynch says. "We concluded that it was the PSOM (primary secretory otitis media) that caused her clinical signs and not her mild case of syringomyelia."

Though PSOM was the apparent cause of Trouble's neck scratching, SM often is the culprit. A disorder of the central nervous system, SM occurs most commonly in Cavaliers, although other toy breeds such as Yorkshire Terriers, Brussels Griffons and Chihuahuas develop signs as well.

Not always symptomatic, SM can be difficult to diagnose, and MRI is the only definitive diagnostic tool. Dogs usually are diagnosed between 6 months and 3 years of age, although dogs of any life stage can develop signs.

Less severely affected dogs may not show signs until their senior years.

The most common sign is pain or irritation near the neck region, which accounts for SM being called "neck scratcher's disease." Owners often report their dog's pain is worse at night,

CHIARI-LIKE MALFORMATION IS A CONDITION IN WHICH THE BRAIN IS TOO BIG FOR THE SKULL AND IS CRUSHED AND PUSHED OUT OF THE FUNNEL-LIKE OPENING TO THE SPINAL CANAL. THIS OBSTRUCTS THE FLOW OF CEREBROSPINAL FLUID CAUSING FLUID TO ACCUMULATE WITHIN THE SPINAL CORD FORMING CAVITIES CALLED SYRINGOMYELIA (SM).

when waking up, during extreme temperature changes, or during excitement or stress. Besides the neck, some affected dogs scratch at the shoulder, ear or chest. Dogs typically scratch one side of the body, sometimes never making

skin contact. Other signs are muscle weakness, lack of coordination, limping, facial nerve paralysis, seizures and hearing loss.

A diagnosis of syringomyelia often takes owners by surprise. Lee Pieterse of Sydney, Australia, recalls first noticing her 4-year-old Brussels Griffon, "Yogi," acting oddly during a dog show. "He briefly attempted to scratch at his neck as the judge walked up to examine him on the table," she recalls. "Both of us laughed as it was such an odd thing for him to do. Over the next few months Yogi would scratch at his neck from time to time when either excited or apprehensive."

A friend who breeds Cavaliers told Pieterse about SM. "When I heard about the signs, I immediately thought of Yogi," she says. "I booked an appointment with a veterinary neurologist to have Yogi examined. Sure enough, it was syringomyelia."

Syringomyelia affects each dog differently. Trauma or a tumor may cause SM, although in many small dogs the skull may simply be too small to hold the brain. The severity of syringomyelia relates to the width and asymmetry of the syrinx, the fluid-

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Educating Breeders About Syringomyelia

For information about syringomyelia in Cavalier King Charles Spaniels, owners and breeders have several options. They may visit www.sm.cavaliertalk.com, participate in an e-mail support group at <http://groups.yahoo.com/group/CKCS-SM-support/>, or call the Cavalier King Charles Spaniel Club USA at (603) 447-5218. The Web site contains a broad spectrum of information including breeding protocol, the latest research findings and a discussion forum.

Other breed clubs are developing breeding guidelines and educational programs as well. Brussels Griffon breeder Meg Prior is helping to educate others about syringomyelia in the breed by organizing a seminar that will be presented in January at the American Brussels Griffon Association National Specialty in Palm Springs, Calif.

Those who attend will receive curriculum credit for full membership in the national parent club. Educational articles on syringomyelia plus the seminar are part of an awareness program to encourage Brussels Griffon breeders to test dogs for syringomyelia before breeding. For more information, contact Mark Grigaluna, health committee chairman of the American Brussels Griffon Association, at mgrigalunas@nyc.rr.com, or you may contact Prior by e-mail at meg@megpriorconsulting.com or by calling (818) 888-0557.

Syringomyelia

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filled cavities that develop within the spinal cord as a result of the disruption in the flow of cerebrospinal fluid.

Seeking the Mutation

Syringomyelia is a genetic condition, although the mode of inheritance is unknown. Collaborative research between Clare Rusbridge, BVMS, DECVN, MRCVS, of the Stone Lion Veterinary Centre in London, and Guy Rouleau, M.D., Ph.D., of the Centre for the Study of Brain Diseases in Montreal, aims to locate the gene mutation. The goal is to provide better understanding about SM and to advance diagnosis and disease management.

The researchers have collected more than 1,000 DNA samples from affected dogs from the United States, Canada and the United Kingdom. Breeds represented include Cavaliers, Yorkshire Terriers, Brussels Griffons, Chihuahuas, Bull Terriers, and Boston Terriers.

The researchers have genealogy information representing 24 generations and more than 10,000 Cavaliers from the United States, Canada and the United Kingdom. Genotyping of 173 Cavaliers has recently been completed. "The initial results have revealed six potentially interesting genomic regions," Rusbridge says. "Since Chiari-like malformations are present in variable degrees in nearly all of the Cavaliers, we now are seeking samples from other affected breeds with malformations and syringomyelia to compare."

Currently, not enough is known about the progression of SM to determine the optimum age dogs should be screened. Also, dogs that do not show signs of the disorder could be affected or carriers. Meg

Prior, breeder-owner of Alvin Kennels in West Hills, Calif., was surprised to learn after an MRI that her 5-year-old Brussels Griffon, "Newton," tested positive for SM.

"I was assuming Newton would be clear of syringomyelia as he was free of clinical signs and he had tested clear for several other genetic problems," Prior says. "I had been planning to breed him to two very nice suitable bitches and decided to have him tested prior to these breedings. I had become suspicious of how many affected dogs were being confirmed with MRI testing."

MRI testing showed that Newton had a small syrinx of fluid — thus syringomyelia. "This doesn't mean he can never be bred, but it does mean that I must select a bitch carefully that meets the breeding guidelines for Newton's level of syringomyelia," Prior says.

Just because a dog is diagnosed with SM or Chiari-like malformation does not mean the dog cannot be bred, Rusbridge explains. "In fact, the incidence of syringomyelia is so high in Cavaliers that if only 'clear' dogs are used for breeding there is concern that other medical problems could develop."

The prevalence of SM in the breed was highlighted in a screening study conducted by Rusbridge in 2004 based on MRI testing. Out of 70 "normal" Cavaliers from U.S. and European lines, 49 dogs, or 70 percent, had syringomyelia.

The current breeding recommendation is to screen Cavalier King Charles Spaniels with a MRI test at 2¹/₂ years of age. "The age was selected so as to correlate with mitral valve disease (MVD) recommendations and because most dogs with symptomatic syringomyelia show signs before 3

years of age," Rusbridge says. "Dogs are graded on a scale from A to F, depending on their severity related to syringomyelia, Chiari-like malformation and MVD. Dogs graded 'A' are the best for breeding, while dogs graded 'F' should not be used."

For breeders, it is important to stay current on the latest syringomyelia research and to talk to other owners with affected dogs, encourages Karlin Lillington of Dublin, Ireland, the owner of a Cavalier with syringomyelia. She developed a Web site focused on Cavaliers with syringomyelia, www.sm.cavalierstalk.com, and an e-mail support group, <http://groups.yahoo.com/group/CKCS-SM-support/>.

"Keep in mind there are many variations in the progression and severity of syringomyelia," Lillington says. "Syringomyelia isn't a totally dire diagnosis and owners shouldn't automatically panic. My dog lives a completely normal life two years after being diagnosed. The important thing is for breeders to consider the implications for breeding and to be sure to MRI test puppies."

Managing Syringomyelia

Depending on the severity of the condition, syringomyelia can be managed medically or surgically. Pain relievers in the form of nonsteroidal anti-inflammatory drugs, opioids or neurogenic painkillers; medications that reduce cerebrospinal fluid production; and corticosteroids are used most often.

Dogs with mild SM can lead a normal life without the need for medication unless signs worsen. Some dogs stay active and participate in sports such as obedience and agility. In some cases, it helps to fit dogs with a harness instead of a collar, which may cause irritation to the neck.

Surgery is recommended when medications are unsuccessful at controlling pain or when neurologic deficits occur. Surgery involves enlarging the foramen magnum by removing a portion of the bone located at the back of the skull. Fortunately, surgery is usually successful in reducing a dog's pain, although many dogs may still scratch or show discomfort, often after several months or years. Surgery may need repeated when scar tissue develops.

"There is a great chance of a successful surgical outcome if the surgery is done early in the course of the disease before permanent damage occurs," Rusbridge says. "It is important to find a veterinarian, or in most cases a veterinary neurologist, who is familiar with syringomyelia in order to rule out any other medical conditions that may cause signs. Disc disease, allergies, ear infections, ear mites, fleas and primary secretory otitis media are examples." ■

Researchers Seek DNA Samples for Comparative Study

Researchers seeking the gene mutation that causes the neurological disorder syringomyelia are requesting samples from breeds other than Cavalier King Charles Spaniels for a comparative analysis. By studying other affected breeds, they hope to advance learning.

DNA samples from dogs with a normal magnetic resonance imaging (MRI) test showing no signs of syringomyelia or Chiari-like malformation as well as samples from dogs whose MRI testing show Chiari-like malformations and/or syringomyelia are needed.

For more information on providing a DNA sample, go to www.cavalier-talk.com or contact:

Isabelle Thibault
Centre for the Study of Brain Diseases
PO: 824 329
CHUM — Notre Dame Hospital
Simard Pavilion, Room Z-8911
2065 Alexandre de Séve St.
Montreal, QC
H2L 2W5 Canada
(514) 890-8000, ext. 24857
E-mail: isabelle.thibault@crchum.qc.ca

IKC Dog Show Helps Raise Funds for AKC Canine Health Foundation

Fundraising for canine health research takes top priority at this year's International Kennel Club (IKC) of Chicago Dog Show, where participants not only will vie for prominent wins, but also will contribute to fundraising efforts.

For the ninth consecutive year, Purina and the IKC each will contribute \$5 per full-priced entry in the Saturday, Feb. 24 IKC Dog Show for a total of \$10 per full-priced entry to the AKC Canine Health Foundation. The largest nonprofit organization in the world that funds exclusively canine research, the Canine Health Foundation has awarded more than 330 grants totaling more than \$15 million to veterinary schools and research institutions since its beginning in 1995.

Additionally, Purina will present the Canine Health Foundation a donation representing half of the funds raised by 160 national parent breed clubs participating in the 2006 Purina Parent Club Partnership (PPCP) Program. In 2005, the PPCP Program raised more than \$484,000, with half of the earnings going to the Canine Health

Foundation and the other half to parent clubs. The presentation will be made during the Purina Invitational Ball, which will be held on Saturday following the IKC Dog Show.

The IKC of Chicago Dog Show Cluster, which is sponsored by Purina, will be held Feb. 23 to 26 at McCormick Place North. The IKC benched all-breed dog shows will be held on Saturday and Sunday, with more than 10,000 entries and 100,000 people expected to attend. The Blackhawk Kennel Club Dog Show will take place on Friday and the Park Shore Kennel Club Dog Show on Monday.

More than 75 breed clubs plan to hold Specialties or supported entries during the weekend dog shows. Other events include agility, obedience and rally trials. Highlights include the Puppy Spectacular, which features puppies 6 to 12 months old competing for Best Puppy in Show, and the third annual Seme Auslander

Memorial Owner-Handler Best in Show Award, which will be presented following the Saturday and Sunday Best in Show judging.

One of only a handful of benched dog shows in the country, this year's IKC Dog Show will introduce a new "Chicago-style" non-benched format. Instead of using benches in the benched area, dog crates will be placed on the floor. Spectators will visit the benching area where dogs are groomed and prepared for the show ring as usual, and benching hours and rules will remain the same.

Entries for the 2007 IKC Dog Show close on Feb. 7. For more information about participating, please contact the show superintendent, Jack Onofrio Dog Shows, at (405) 427-8181 or visit www.onofrio.com. For information about the Canine Health Foundation, visit www.akcchf.org. To find out how you can participate in the PPCP Program, visit www.purinaproclub.com or call (877) 776-2582. ■



Detroit Kennel Club Dog Show Focuses on Education

With a mission to educate people about purebred dogs, this year's Detroit Kennel Club (DKC) Dog Show promises an array of demonstrations, breed seminars and other educational opportunities.

"The Detroit Kennel Club wants to focus on educating the public about the benefits of buying purebred dogs and the importance of caring for dogs properly," says Erik Bergishagen, president of the DKC. "Conformation is only one part of this dog show. We also want to help people find their ideal breed and show them activities they can enjoy with their dogs."

The DKC Dog Show will be held at the Cobo Convention Center March 3 and 4, two weekends earlier than usual to help attract the fancy who may be

attending the International Kennel Club of Chicago Dog Show the previous weekend. As a result of the schedule change, Bergishagen expects to draw 500 to 800 more entries than the usual 1,800 entries.

More than 60,000 people are expected to attend the DKC Dog Show. The show is one of a handful of benched all-breed dog shows in the United States, where attendees can visit the benching area to ask breeders, owners and handlers questions about individual breeds of dogs.

Among the demonstrations that will take place are retriever training, herding, and lure coursing. In addition, representatives from Leader Dogs of the Blind in Rochester, Mich., will show how assistance dogs help visually impaired people, and trainers from the Michigan Technical Rescue

Operations Team will show dogs performing search-and-rescue techniques.

Breed experts will lead "Meet the Breed" seminars discussing health issues, temperament and other aspects of owning the following breeds: Rhodesian Ridgeback, Schipperke, Basset Hound, Weimaraner, Australian Shepherd, Portuguese Water Dog, Cardigan Welsh Corgi, and Pomeranian. Experts also will present a "Guide to Buying a Purebred Puppy." Exhibitors may participate in a Canine Eye Registration Foundation (CERF) eye clinic scheduled for Sunday and a microchip clinic that will be held both days.

Entries for the 2007 DKC Dog Show close on Feb. 14. For more information about the Detroit Kennel Club Dog Show, please visit the DKC's Web site at www.detroitkennelclub.com. ■



Purina-Sponsored Dog Shows February to March 2007		
Event	Date	Location
New York City Metro & Progressive Dog Shows	Feb. 9 to 11	New York, NY
Piedmont (Labrador Retriever) Specialty	Feb. 10 to 11	Charlotte, NC
Rocky Mountain Cluster	Feb. 16 to 19	Denver, CO
International Kennel Club (IKC) of Chicago Dog Show	Feb. 23 to 26	Chicago, IL
Greater Atlanta Labrador Retriever Specialties	Feb. 24 to 25	Alpharetta, GA
Detroit Kennel Club Dog Show	March 3 to 4	Detroit, MI
Country Music Cluster	March 8 to 11	Franklin, TN
Seattle Kennel Club Dog Show	March 10 to 11	Seattle, WA
Connecticut Valley Working Group	March 17 to 18	Springfield, CT
Dachshund Club of America National Specialty	March 21 to 24	Sacramento, CA

Pro Plan Introduces Selects Canned Entrées & New Natural Salmon & Brown Rice Formula Plus Essential Vitamins and Minerals

Coming in March, *Purina Pro Plan* is introducing *Selects* brand natural dog food Canned Entrées and new *Selects* Natural Salmon & Brown Rice Formula — all made with added essential vitamins and minerals.

The new *Selects* Canned Entrées offer a wet dog food to complement the *Selects* dry dog food introduced in 2006. Three adult Canned Entrée formulas — *Selects* Natural Chicken & Brown Rice; *Selects* Natural Beef & Brown Rice; and *Selects* Natural Turkey & Barley — are available along with one puppy formula, *Selects* Natural Turkey & Barley Canned Entrée.

The Natural Turkey & Barley and Natural Chicken & Rice Canned Entrées are made with poultry as the No. 1 ingredient, and the Natural Beef & Brown Rice Canned Entrée is made with real beef. Importantly, none of the *Selects* Canned Entrées contain corn, wheat, animal by-products, or artificial colors or flavors. They are formulated with antioxidants, including those from carrots, tomatoes and blue-



berry pomace, which help to support a healthy immune system. Wholesome grains and potatoes provide an easily digestible source of carbohydrates.

The new *Selects* Natural Salmon & Brown Rice Formula is made with nutrients that help support a dog's immune and digestive systems and promote healthy skin and coat. With salmon as the No. 1 ingredient, *Selects* Natural Salmon & Brown Rice Formula contains a high-quality protein that helps support muscle mass for strength and energy. Wholesome grains, including brown rice and oat meal, provide natural carbohydrates for energy and are highly digestible, making the food ideal for dogs with sensitive stomachs.

Selects Natural Salmon & Brown Rice Formula is rich in omega fatty acids, such as linoleic acid, that promote healthy skin and coat. The omega-3 fatty acids DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid), combined with natural sources of glucosamine, help support healthy cartilage and joints. Antioxidants, including those from sun-dried tomatoes, blueberry pomace

and sweet potatoes help to support a healthy immune system.

Selects Natural Salmon & Brown Rice Formula adds to the *Selects* Natural Turkey & Barley Formula and *Selects* Lamb & Oat Meal Formula introduced in 2006. All *Pro Plan Selects* contain the easily absorbable chelated minerals zinc, copper and manganese. Chelated minerals are bonded to an amino acid, making them easy to digest and use by the body. Additionally, *Pro Plan Selects* products are made without animal by-products, ground corn, or artificial preservatives, colors or flavors.

Pro Plan Selects are available in formulas for puppies, adults, large breeds, and seniors. *Pro Plan Selects* and *Selects* Canned Entrées are available at PetSmart, PETCO, pet specialty stores, Farm & Fleet retailers, and veterinarians. For information, visit the www.proplan.com Web site or to talk to a pet nutrition consultant, call (800) PRO-PLAN, or (800) 776-7526, from 9 a.m. to 4 p.m. CST Monday through Friday. ■



Purina-Sponsored Sporting Events February to March 2007

Event	Date	Location
National Bird Hunters Association (NBHA) National Amateur	Feb. 7 to 12	Arab, AL
Professional Kennel Club (PKC) Winter Classic	Feb. 16 to 17	Louisville, MS
National Shoot to Retrieve Association (NSTRA) Quail Invitational	Feb. 22 to 24	Lake Wales, FL
Purina Outstanding Retriever Award	March 1 to 2	Thomasville, GA
NBHA National Open	March 7 to 12	Mayflower, AR
Brace Beagling Southern Federation	March 11 to 14	Rock Springs, GA
Boykin National Championship	March 29 to 31	Cheraw, SC

PURINA Pro Club Toy Group Update



Your Quarterly
Purina Points Summary
Account Activity through December 31, 2006

Point balance may not reflect
current account activity

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