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PURINA Pro Club

Great Dane Update

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A Look at Cancer in Great Danes

Andrea Demmons and her Great Dane, McEmn's Lakotah Sunka Zi, CDX, CGC, affectionately known as "Kotah," were completing training for a Utility Dog (UD) title when she noticed that Kotah's gait seemed off.

By the following morning, Demmons noticed "an ever so slight swelling" on Kotah's front leg. "My husband and I thought that he may have banged it,

Cancer Concerns in Great Danes

Between 2001 and 2003, the Great Dane Club of America (GDCA) conducted its first comprehensive health survey. A total of 519 households responded, with 1,565 Great Danes included in the final report. Cancer rated second, behind bloat, as the top health issue experienced by owners in their own dogs. Cancer rated third, behind bloat and cardiomyopathy/

growing more quickly than they should, when they do not die appropriately, or when they do not respect the boundaries between organs. Many times these growths are benign. But when the cells take on additional genetic changes, they may become more aggressive and spread to other parts of the body. This process of cancer spread, referred to as metastasis, is the most common cause of death from cancer."

Scientists study cancer across species' lines including dogs and humans in a science known as comparative oncology. "Osteosarcoma, for example, generally develops in the long bones of the body," Khanna says. "Large-breed dogs, because of their rapid bone growth, are more at risk than smaller breeds. Studying osteosarcoma in Great Danes and other large breeds may provide answers that will help not only dogs but also teenagers who are at risk for bone cancer."

Questions to Ask Your Veterinarian

Chand Khanna, D.V.M., Ph.D., DACVIM, of the National Cancer Institute and researchers across the country are working to provide even better treatment options in the future for dogs with cancer. Below are suggestions of questions that families can ask their veterinarian to be sure they understand all the options available to make the right decision for their family and their Dane.

- The most important question may be "What is a reasonable goal?" says Khanna. "For many types of cancer, a good outcome would be a year. But make sure that you are on the same page with the veterinarian."
- What are my options? Is there more than one treatment available for this particular type of cancer?"
- How much will therapy cost?
- How will pain be managed?
- Will my dog's nutritional needs change?
- What are the side effects? "Cancer in many cases can now be managed like a chronic disease," Khanna says. "I reassure my clients that concerns for side effects should not be the primary basis for selecting a certain specific therapy. Side effects are largely predictable and controllable. All variables must be considered in the decision of what therapy is best for you and your dog."

so we took him to the veterinarian to check it out," she recalls. The veterinarian agreed that Kotah had probably hit his leg, but did not see a reason for concern.

Just two days later, the limp was more pronounced, and Kotah had developed a hard lump on his front leg. Another trip to the veterinarian resulted in an X-ray. "I could tell that our vet was alarmed by how large the lump had grown in just two days," Demmons says. "As soon as he put the image to the lights, I saw the look on his face. He knew what it was. All I knew was that it was bad." The X-ray revealed a starburst pattern, the classic sign of osteosarcoma or bone cancer. At the time of diagnosis, Kotah was only 4 years old.

heart problems, among the most common health problems in the breed as a whole.

When asked about causes of death, owners reported cancer or tumors most often; and bone cancer ranked as the fifth leading cause. More deaths were attributed to bone cancer in female Danes (7 percent) than in males (5 percent).

Understanding Cancer

Chand Khanna, D.V.M., Ph.D., DACVIM, head of the Comparative Oncology Program at the Center for Cancer Research at the National Cancer Institute, says, "Normal cells are the building blocks of the organs in our bodies and in dogs' bodies. Everything in our bodies is made up of small cells. Cancer occurs when these cells start

Management Options

After the initial shock of learning that Kotah had bone cancer, Demmons and her husband consulted with their veterinarian to discuss treatment options. The choices presented to them were:

Amputation and chemotherapy. Standing 38 inches at the withers, Kotah was not the best candidate to do well after amputation, especially since the cancerous growth was on a front leg. Demmons' veterinarian explained that with this option, 50 to 60 percent of dogs live one year and 20 percent live two years. Khanna notes that the athleticism of Great Danes generally allows for fore limb amputations with good outcomes, but back leg amputations are considered easier for the patient.

Radiation therapy. The goal of radiation is to control the tumor and relieve pain. Demmons considered the drawbacks: scheduled weekly treatments would require she and Kotah to be away from home; the treatment would likely be stressful; and the radiation could result in a stress fracture. For some inoperable cancers, however, radiation may be the only

Cancer in Great Danes

continued from page 1

choice available.

Limb-sparing surgery with chemotherapy. Limb-sparing surgery is the newest option for treatment of osteosarcoma. It involves removing the bone at the site of the tumor, as well as a small amount of bone on either side of the affected area. Bone grafts from either the dog or a bone bank or metal implants are used to fill in where the cancerous bone is removed.

Limb-sparing surgery is an option for extending a dog's life; however, it is not an option for dogs in which the tumor has invaded 50 percent or more of the bone. Limb-sparing with chemotherapy may increase a dog's life for up to one year.

Euthanasia. Without treatment, in four to six weeks the pain from bone cancer may be so severe that euthanasia may be the only option.

Canine Cancer Sources

Andrea Demmons found strength and information by participating in online support groups for owners of dogs with cancer when her Great Dane "Kotah" suffered from osteosarcoma.

Some cancer resource web sites are:

- Veterinary Cancer Society, www.vetcancersociety.org.
- Perseus Foundation, www.perseusfoundation.org.
- National Cancer Institute, Center for Cancer Research, <http://ccr.nci.nih.gov/resources/cop/>.

Because of his relatively young age and the fact that aside from the limp Kotah continued to act normally, Demmons and her husband elected to go with the limb-sparing surgery. They learned the procedure might cost \$3,000 and upward; chemotherapy might cost around \$3,100; and the medication and antibiotics might cost an additional \$3,000 to \$3,500. Kotah's X-rays were sent to the surgeon their veterinarian recommended so metal implants could be made.

Treating Cancer in Danes

The GDCA health survey also asked owners about the types of treatment used to address cancer in their dogs. Though most dogs were euthanized without treatment, dogs with osteosarcoma were treated with chemotherapy, surgery and radiation. In contrast, Danes with breast cancer and fibrosarcoma were treated exclusively with surgery, while most Danes with lymphosarcoma were treated with chemotherapy, followed by surgery.

Osteosarcoma generally manifests in dogs between the ages of 2 and 8 years of age. The tumors usually develop in the long bones of the limbs; however, they may also occur in bones of

the spinal column or skull. As the cancer progresses, the tumors may metastasize to the lungs, making treatment more difficult.

Kotah exhibited the most commonly seen symptom: lameness followed by swelling at the tumor site. Although less common, a sudden fracture at the tumor site may also be the first indication. As the cancer progresses, other symptoms, such as weight loss or difficulty breathing can occur. It is not unusual for the cancer to be well advanced before symptoms are evident. Despite no evidence of cancer based on review of X-rays of the lungs, almost all dogs have microscopic spread of disease at the time of their diagnosis.

Cancer Treatment Advances

"Ten years ago, cancer treatment for dogs was very different than what is available today," Khanna says. "Treatments are better now because we are able to treat the essence of the cancer, not just cells that grow quickly. We have taken what works on the human side and used it on dogs. And we are now leading the cancer treatment field by providing dogs with drugs that are yet to be available for people."

To help continue future progress, breeders need to be mindful of the type of cancer affecting their dogs. "Every cancer is a genetic disease," Khanna says. "This means that the cause of cancer is for the most part a result of damage or changes in genes. It is also true that for many cancers, a portion of the genetic risk is hereditary. Genes passed from one generation to another play a role in determining risk, but do not often cause a cancer. In some families, there may be strong hereditary risks; however, most cancers have more subtle hereditary associations."

"Every cancer has some hereditary component in how it develops," Khanna says. "That is why it is important for a breeder to know the specific type of cancer that has appeared in his or her dogs. It is not helpful just to know that a dog died of cancer. If the breeder knows the type of cancer and whether it appears more frequently than others, he or she can make better breeding decisions."

Kotah's Surgery

In October 2003, Kotah underwent a six-hour surgery to remove the cancerous portion of bone in his front leg and replace it with the metal implant. The next day Demmons nervously picked him up. "Out he comes hopping on three legs with a bright blue bandage from his shoulder to his foot," she recalls.

The next 48 hours presented challenges as Kotah reacted to the morphine he was given for pain. After just a few more days, Demmons was "amazed" to see Kotah was putting his foot down for balance. Within eight weeks the leg was bearing full weight. "By 10 and 12 weeks, he was scaring me to death pouncing on it,

playing and running like his old self," Demmons says. "If you didn't see the scar, you wouldn't know he had had surgery for bone cancer."

Chemotherapy started 11 days after surgery when the stitches had been removed and the skin mostly healed. Overall, Kotah handled the chemotherapy well with only one "off day," Demmons says. By the end of November, just two months after the initial diagnosis, Demmons felt that she "had my boy back."

"After completing chemotherapy at the beginning of March, we did chest X-rays, and his lungs were still clear," she says. Shortly afterward, Kotah began to limp again and Andrea took him back to the surgeon. "We discovered he had been a little too rambunctious," she says. "Some of the screws had worked loose, and the vet needed to go back in and resecure the screws in his foot."

After another successful surgery, Kotah was once again doing well. But just two weeks later, Demmons' husband went to let him out and realized something was seriously wrong. "He seemed confused and couldn't move forward, only backward," she recalls. "He would look at the ground as if he was standing on the edge of a cliff, and you couldn't budge him."

More X-rays showed only a bit of arthritis. Kotah's pain medicine was increased, and once again, he appeared to be doing well. Just a week later, he was once again unable to walk forward. Another round of X-rays revealed no answer. "There was no improvement this time," Demmons says. "I knew something wasn't right, that the cancer was winning. By the end of the week, he gave me a look that says, 'Mom, I'm ready. I hurt.'"

Demmons loaded Kotah in her van for the last trip to the veterinarian. "In my arms, he died softly, pain free," she says. In Kotah's case, the cancer had not come back to his lungs, but to his brain and spine. "He had seven wonderful months," Demmons observed. Demmons has frequently been asked if she would do it again. "Kotah was my heart dog," she says. "He was very young, and we had the resources. I was so sure that he would beat the odds. I think for a young dog, I would pull out all the stops. For an older dog, I'd have to revisit what was best for that dog."

Looking to the Future

Khanna offers hope to Great Dane owners whose dogs will face osteosarcoma and other types of cancer in the future. "As our understanding of cancer grows, significant advancements will be made in treatments," he says. When faced with the diagnosis of cancer, Khanna encourages Great Dane owners to seek out the advice of a veterinary oncologist and learn about clinical trials not only to find help for their dogs but also to support work being done to discover new treatments. ■

Redemption Program Adds *Pro Plan* Performance Bar & *Pro Plan* Canned Entrées

Purina Pro Club has recently added two new rewards to the redemption program: coupons for free *Pro Plan* Performance Bars or *Pro Plan* brand dog food Canned Entrées.

Neither the Performance Bar or Canned Entrées are included in the current *Pro Club* Rewards Brochure or Weight Circle Claim Form; however, they may be ordered on the *Pro Club* web site at www.purinaproclub.com. *Pro Club* members may also place orders via telephone at 1-877-PRO-CLUB (1-877-776-2582) or by mailing a request to *Purina Pro Club* at 1400 South Highway Drive, Fenton, MO 63026.

Here's how it works. At the 5,000-point level, members may receive two coupons for free *Pro Plan* Performance Bars (listed as Item 80151). Each coupon is good for one free carton

of 12 2-ounce bars, up to a \$25 value. Developed by Purina nutrition scientists, the *Pro Plan* Performance Bar is a nutritional supplement for hardworking dogs. It helps dogs achieve peak performance during intense exercise by promoting endurance and reducing recovery time.

When fed during exercise, the Performance Bar helps to sustain performance.

When given immediately after exercise, it helps replete a critical energy source in muscle, the stored form of carbohydrates known as glycogen. *Pro Plan*

Performance Bar is available at pet specialty stores like PetCo and Tractor Supply, from veterinarians and through several sporting dog web sites.

Also at the 5,000-point level,



members may receive two coupons for free *Pro Plan* Canned Entrées (listed as Item 80150). Each coupon is good for one free case of 12 22-ounce cans; or a free case of 24 5.5-ounce cans; or for two free cases of 12 13-ounce cans, up to a \$25 value. *Pro Plan* Canned Entrées come in a range of formulations for puppies, adult dogs, senior dogs and dogs with special nutritional needs, and are available in pet specialty stores, from veterinarians and feed dealers. ■



Redeeming Weight Circles for Purina Points

As a member of *Purina Pro Club*, you earn Purina Points when you submit weight circles from participating brands of *Purina* dog food. Purina Points may be redeemed for items from the *Pro Club* Rewards Brochure or rebates for future purchases of *Purina* brand dog food.

The table below shows how many Purina Points you earn per pound of *Purina* brand dog food. Purina Points may be redeemed at any time as long as you have accrued 5,000 points, the minimum redemption value. To review or redeem Purina Points, you may visit the *Pro Club* web site at www.purinaproclub.com or call 1-877-PRO-CLUB (1-877-776-2582) between 7 a.m. and 5 p.m. CT Monday through Friday.

Here are tips from *Pro Club* on submitting weight circles:

- Be sure to fill out a Weight Circle

Claim Form to send along when you submit weight circles; this helps to speed up the processing of your weight circles. Weight Circle Claim Forms may be downloaded online by visiting the *Pro Club* web site (listed above) or may be ordered by calling *Pro Club* (listed above). Keep in mind that *Pro Club* automatically sends you a Weight Circle Claim Form every time you submit Weight Circles so you will have a form for your next submission.

- *Pro Club* recommends that you send your weight circles by certified first class mail or some other traceable delivery method to ensure delivery in the event *Pro Club* does not receive your weight circles.



- Remember that *Pro Club* honors weight circle proofs of purchase, not UPC codes. Thus, *Pro Club* will not credit UPC codes.

A sample of a weight circle can be found at left. Keep in mind that the minimum weight circle submission is 250 pounds. Remember, too, if you wish to receive rebate checks for *Purina* brand dog food, you need to specify the request on the Weight Circle Claim Form. Since you may also choose redemption items from the *Pro Club* Rewards brochure, rebate checks are not automatically issued when weight circles are sent in.

Here are tips from *Pro Club* on ordering rebate checks:

- Only order the amount of rebate checks that you currently need. Any additional points you have earned will be banked in your account. Purina rebate checks have a one-year expiration and cannot be reissued if you allow them to expire.
- Lost, damaged or stolen Purina rebate checks will not be reissued.
- You should protect your rebate checks, veterinary checks, gift certificates and gift cards like cash. Purina is not responsible for replacement in the event of loss, theft or destruction after issuance. Checks, certificates and cards will not be reissued. ■

Purina Points Earned Per Pound of *Purina* Brand Dog Food

Brand	Purina Points
Purina Pro Plan® Performance Formula	12 points per pound
Purina Veterinary Diets®	12 points per pound
Purina Pro Plan®, Purina ONE®	11 points per pound
Purina® Dog Chow®, Purina® Puppy Chow®, Purina® Hi Pro®, Purina® Fit & Trim®	8 points per pound
Other Participating Purina® Brands*	8 points per pound

* Excludes Dealers Pride®, Field Master®, Alpo® Gravvy®, Mainstay®, Beneful®, and any brand of canned dog food.

Puppy Pedigree Form Now on *Pro Club* Web Site

Have you visited the *Pro Club* web site (www.purinaproclub.com) lately?

The popular Puppy Pedigree Forms contained in the Puppy Starter Kits can now be downloaded online. You may also complete the pedigree information on a particular puppy and then print out the form for new puppy owners.

Featured on the public home page are new photos of dogs — and cats. The enhanced *Pro Club* Cat Program appears alongside the *Pro Club* Dog Program, but once you log in using your membership number, password and ZIP code, you are taken directly to the dog program. If you also are a member of the cat program, you may click on the link to that program as well.

A revamped, simple, clean layout makes it easier for you to find the important links you're after. Whether you want to order Puppy Starter Kits, rebate checks, Weight Circle Claim forms, Refer-a-Breeder cards or Reward

Brochures, the links are very clear. A new feature is the Breeder Resources page, where you'll find the Puppy Pedigree Form, along with a checklist of puppy supplies for new owners and articles on raising puppies — all which may be printed out for new puppy owners.

Don't forget you may also check the balance of your Purina Points and

your order history online. Archived issues of *Today's Breeder* and the *Purina Pro Club* Update newsletters are available, and you may take part in online message boards that allow you to share your experiences, comments, questions and ideas with the entire *Pro Club* community of breeders, handlers, enthusiasts. ■

New *Pro Plan* Puppy Promotes Vision & Brain Development



Purina *Pro Plan* brand Puppy Formulas have been reformulated to contain docosahexaenoic acid (DHA), a long-chain omega-3 polyunsaturated fatty acid for vision and brain development.

Found in mother's milk in dogs, cats and humans, DHA is an important building block in early development. *Pro Plan* Puppy Formulas include: Chicken & Rice, Lamb & Rice, Small Breed and Large Breed. The new formulations containing DHA will be available in mid-January in pet specialty stores, from veterinarians and feed dealers. ■

Membership Survey Sent with New Cards

If your *Pro Club* membership card is expiring, you'll soon get a new one in the mail — along with a *Pro Club* membership survey if you have not already completed the survey. *Pro Club* wants to learn which brands of Purina dog food you feed and which parts of the program you find most helpful.

Do you save and submit weight circles or order Puppy Starter Kits? Do you read *Today's Breeder* and the quarterly *Purina Pro Club Update* newsletters? Do you frequent the *Pro Club* web site or refer other breeders and owners to *Pro Club*?

Pro Club also wants to know how

you communicate with us. Do you mail us information? Or do you send e-mails, visit the web site, telephone us, or wait to talk in person with a Purina representative at a dog show or sporting event?

The survey must be returned in February. Members receive bonus points for completing the survey, which will help us in our continued effort to enhance *Pro Club* for dog breeders and enthusiasts. ■

Pro Club Cards May Be Used for Dual Memberships

Members of *Purina Pro Club* who participate in both the dog and cat programs may use their membership card for both programs. Separate cards are not provided for those with dual memberships. ■

Questions About Your *Pro Club* Account?

If you need to contact us with questions about your *Purina Pro Club* account, be sure to have your *Pro Club* member number handy. This makes it easier for us to identify you and provide faster member service. You may contact us by telephone at 1-877-PRO-CLUB (1-877-776-2582) between 7 a.m. and 5 p.m. CT Monday through Friday or you may visit the *Pro Club* web site at www.purinaproclub.com. ■

PURINA Pro Club Great Dane Update

Your Quarterly
Purina Points Summary
Account Activity through December 31, 2004

