

RESEARCH PRIORITIES IDENTIFIED BY AKC PARENT CLUBS*

Dog Owners and Breeders Symposium

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The American Kennel Club founded the AKC Canine Health Foundation in 1995. Since that time the Foundation has become the largest non-profit financial supporter of exclusively canine health research. The mission of the Foundation is to develop significant resources for basic and applied health programs with emphasis on canine genetics to improve the quality of life for dogs and their owners.

In order to respond to the needs of purebred dogs and their owners and breeders, the Foundation conducted an AKC Parent Club Health Survey in 1999. The objectives of the survey were to identify the highest research priority diseases, health tests being used and recommendations for testing before breeding. A questionnaire was sent to the health and genetic committees within each of 140 Breed Clubs. After one telephone call, 97 of the Clubs responded. Some of the responses were based on previous independent surveys conducted within a club. Other responses were based on the information available to members of the club's health and genetics committees.

The most frequently Breed Club identified research priority diseases were: hip dysplasia, epilepsy, cancer, allergies, hypothyroidism, bloat, progressive retinal atrophy, autoimmune disease, heart disease and cataracts. Their high frequency was given as a major reason for all of these diseases being selected as priority diseases, but frequency was not the reason given most often. For hip dysplasia, disability was the most frequent reason given. For epilepsy, allergies, thyroid, PRA and cataracts, inheritance was the most frequent reason. For cancer, bloat, autoimmune disease and heart disease, fatality was the most frequent reason. Diseases that the Breed Clubs thought were increasing in frequency included autoimmune disease, hypothyroidism, eye diseases (other than PRA, cataracts and glaucoma) and kidney disease.

Fifty percent of the Clubs encouraged health testing and 23 percent listed specific tests. The most frequently recommended tests to be performed before breeding were the Orthopedic Foundation for Animals (OFA) radiographic scoring for hip dysplasia (20 percent), PennHip examination for joint laxity (8 percent) and the Canine Eye Registration Foundation (CERF) examination (7 percent). Other recommended tests included *Brucella canis* serology, the Brainstem Auditory Evoked Response (BEAR) test, cardiac examination, PRA genetic test,

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kidney examination, patellar luxation examination, elbow examination, thyroid examination, Fanconi syndrome examination, hemolytic anemia examination and fecal examination.

For the purpose of comparing the Breed club priority disease responses with the most frequent diagnoses among dog breeds receiving veterinary services, the Veterinary Medical Database maintained at Purdue University was utilized. This Database was established in 1964 and has received data from 23 veterinary college teaching hospitals in the United States and Canada. This database was examined for the 20 most frequent diagnoses for each breed. An odds ratio analysis was used to estimate the relative risk of a particular disease in a specific breed as compared to the risk of that disease in all other dog breeds combined. It is interesting that the estimated relative risk for a particular disease did not always reflect the frequency of the disease in that breed. For example, a disease such as portal-systemic shunt may be far from the most frequent disease in a breed, yet it may have an amazingly high risk relative to that of the combined group of other breeds, because of the infrequency of this diagnosis in most breeds. This relationship is well illustrated by portal-systemic shunt in Yorkshire Terriers. Other disease risk examples will be provided for dog breeds of various sizes.

The selection of researchers to receive grants from the Foundation is based on the outcome of a hierarchical review process. First, high priority diseases and high-risk breeds are listed in the Foundation's Request for Pre-proposals (RFP) distributed to scientists that may be interested in applying. Scientists may also submit pre-proposals that do not appear on this list. The Pre-proposal responses are reviewed by the Foundation's Grants Committee members who examine them for scientific promise and likelihood of controlling or preventing major disease problems. The principal investigators of the successful Pre-proposals are then contacted and invited to submit a Full Application using a standard format. The submitted Full Applications are then distributed for review by three scientific peers. The peer-reviews and recommendations are then examined by the Foundation Directors and the final distribution of grant funds is made.

Five annual grant cycles have been completed. Two hundred twenty Pre-proposals (four cycles only) have been received. One hundred sixty one Full Applications (5 cycles) were received and peer-reviewed. As of June 1, 2000, there were 56 active grants and one pending grant. Nineteen research projects have been completed. Examples of new findings and new genetic tests will be provided.

In addition to research, the Foundation provides financial support for educational programs such as the Florida Dog Owners and Breeders Symposium at the Florida State University, Veterinary School, Gainesville, Florida. Other Foundation supported educational program topics have been: Canine genetics, immunological diseases and reproductive health. The monograph entitled *Future Dog: Breeding for Genetic Soundness* by Patricia J. Wilkie, University of Minnesota, was also supported by the Foundation. The website www.akcchf.org is available for persons wishing more information about the Foundation and is sponsored research programs.