HEREDITARY DISEASE COMMITTEE

WORLD SMALL ANIMAL VETERINARY ASSOCIATION
CHAIR HDC
Dr Jerold Bell

MEMBERS

Dr Helle Friis Proschowsky
Dr Åke Hedhammar
Dr Becky Murphy
Dr Leslie Lyons
Dr Monique Megens
Dr Cathryn Mellersh
Dr Claire Wade

The HDC is generously supported by:

PURINA Institute
Advancing Science for Pet Health
Overview of activities in 2021

2021 WSAVA Virtual Congress
- Drs. Megens and Hedhammar: BOAS: A challenge requiring cooperation between veterinarians, breeders and authorities
- Dr. Friis Prosadowsky: Intervertebral disc disease in chondrodystrophic breeds – background, genetics and screening programs
- Dr. Mellersh: Genetics of progressive retinal atrophy; more complex than meets the eye?
- Dr. Bell: Degenerative Myelopathy – diagnosis and inheritance. How I treat genetic disease before onset

BOAS Video Project
The HDC continues to work with WSAVA Administration and The Purina Institute to produce an informational video on brachycephalic obstructive airway syndrome. The video is designed to inform veterinarians, owners, breeders, the public, and governmental agencies with factual information on the impact of BOAS, the magnitude of the problem, and practical and proven methods of breeding selection to improve the health of affected breeds. Drs. Hedhammar, Megens and Bell are actively working on this project with input from the other committee members. The AWWC is also providing input on the project.

Degenerative Myelopathy
Dr. Bell has been researching issues of diagnosis and breeding control of canine degenerative myelopathy for several years. A poorly predictive genetic test for DM (sod1 variant) is the most frequent mutation found in all purebred and mixed-breed dogs. Degenerative myelopathy is a rarely encountered spinal cord disease that is a breed issue in only a handful of breeds.

The widespread availability of the genetic test, along with the high “carrier” and “at risk” frequencies has created; 1) An owner population that incorrectly believes their dog will become paralyzed and die from DM, 2) A veterinary practitioner population that is being led astray in diagnostic pursuit due to inappropriately interpreted genetic test results, and 3) Attempts to purge the gene variant from breed gene pools by parent breed clubs where the clinical disease does not exist. In many populous breeds this represents 66% or more of their gene pool and whose loss would seriously impair the health, viability and genetic diversity of the breeds.

Commercial Genetic Testing
All members of the HDC are concerned about the level of commercial genetic testing in dogs and cats where results are delivered without adequate explanation of what the test can and cannot inform the veterinarian and owner about the pet. There is a need for proper genetic counseling by genetic test providers and veterinary practitioners.

Drs. Lyons and Bell will be attending the PAGXXIX (Plant and Animal Genomics) meeting in January (at no cost to WSAVA/HDC) to continue to engage researchers and genetic testing companies on their roles in improving the genetic health of companion animals. The majority of the committee will be attending the International Conference on Canine and Feline Genetics and Genomics in May and will likely hold a face-to-face committee meeting there.
International Partnership for Dogs
The HDC has also been working closely with the International Partnership for Dogs (IPFD) on issues concerning hereditary diseases, genetic testing, and genetic counselling. IPFD continues to support the veterinary profession with regular articles in the WSAVA Bulletin, as well as the development of Breed Relevancy Ratings for genetic testing on their website, and other efforts to improve the genetic health of dogs.

Feline Genetic Health
With the loss of Dr. Little from the committee, a call for a veterinarian with a feline genetic health background did not produce a viable candidate to replace her. Drs. Lyons and Bell continue to pursue avenues for increased recognition and engagement of genetic testing and genetic health in cats.

Engagement with specialty groups
Drs. Hedhammar and Bell will attend the 2022 meetings of ECVIM and ACVIM respectively to increase engagement of the specialty colleges with the HDC and their recognition and addressing the hereditary nature of clinical disease.

Standardized Nomenclature
There has been no movement this past year on the industry initiative for international standardization of breed names and varieties, and the broader picture of standardized nomenclature to improve data mining and epidemiological studies in veterinary medicine. This has impacts on; practice management programs, clinical laboratories, genetic testing centers, academia, research laboratories, food companies, pharma companies, the insurance industry, and one health.

Canine and Feline Hereditary Disease (DNA) Testing Laboratories Database
The future of the PennGen/WSAVA database is being evaluated. The Canine portion of the database has been supplanted by the more extensive IPFD database. No similar feline database exists. Dr. Bell will consult with Dr. Giger regarding future support for this effort.

Plans and priorities for 2022
- BOAS Video
- Degenerative Myelopathy Statement
- Engagement with specialty groups
- Address issues with commercial genetic testing
- HDC tract at 2022 Congress