DEFINING SUITABLE BREEDING STOCK – BVA HEALTH SCREENING SCHEMES

"Canine Hip Dysplasia"

by

Mike Guilliard MA VetMB CertSAO MRCVS

The BVA/KC hip dysplasia scheme has now been in operation for over 25 years and has recently had some critical appraisal in both the veterinary and dog press with the advent of hands-free distraction radiography and PennHIP in the UK. Although the scheme has its inadequacies it is equally important to look at its achievements and its role in the future control of canine hip dysplasia (CHD).

The scheme has undoubtedly raised awareness of CHD amongst dog breeders and has reduced the incidence of pups developing severe problems at an early age. The Kennel Club will argue that rolling breed mean scores are reducing annually and therefore the scheme is working. The accuracy of this statement has to be questioned due to the bias of non-submissions as there is no compulsion to send in the radiographs for evaluation.

As CHD is a polygenic developmental condition, identifying the carriers of the genes is done by using an expression of the genes or phenotype. The phenotype used by the BVA/KC is a quantitative evaluation of the degrees of subluxation and development of secondary bone deposits and remodelling seen on a hip-extended radiographic view. The strength of this phenotype is that high scores for either parameter accurately predict the presence of the CHD genes. However the converse is not true as the radiographic positioning tightens up the hips reducing the degree of subluxation.

All of the international CHD schemes basically attempt to predict the likelihood of an individual developing hip osteoarthritis (OA). The hip laxity from CHD results in degenerative articular cartilage changes that can lead to the development of OA, but it is only the OA changes that are easily detectable.

The BVA/KC scheme quantifies the degree of OA, but as the condition can be rapidly progressive, the score can not be meaningful as it will increase with age. The actual presence of OA must surely be a good predictor of a CHD gene carrier.

The reporting of the results of the BVA/KC is probably meaningless to most breeders with the only advice given is to breed from dogs well below the breed mean and this is not even on the certificate. The response from the BVA chief scrutineer is that it is the owner's veterinary surgeon who should give advice on the meaning of the results! With the greatest respect to my professional colleagues I suspect that many of us will not feel sufficiently knowledgeable in the disciplines of genetics and orthopaedics to give good advice and this direction should come from the BVA on the certificate.

With the current debates on health and breeding within the Kennel Club it is surely a good time for the BVA to be proactive in improving their CHD scheme. The inherent problems associated with false negatives should be recognised and the strength of the scheme, the accurate identification of poor hips, acted on.

Perhaps the most important parameter is the presence of OA in a young dog. This needs to be documented on the certificate as either it being present or not, and not lost in the mumbo jumbo of the scoring system.

Undoubtedly the BVA/KC scheme is here to stay and it falls upon the BVA to make it work as well as possible. In the light of the Bateson report the BVA may have to define suitable breeding stock! Hopefully the PennHIP scheme will also be adopted in the UK and recognised as an alternative by the Kennel Club.

A comprehensive list of references can be found at:
http://research.vet.upenn.edu/pennhip/ScienceandResearch/ScientificReports/tabid/3330/Default.aspx

Mike Guilliard

Nantwich Veterinary Hospital
Crewe Road
Nantwich CW5 5SF