

British Veterinary Association/Kennel Club Hip Dysplasia Scheme – Procedure Notes

These procedure notes are intended to explain the BVA/Kennel Club Hip Dysplasia Scheme and to provide helpful instruction to those using the Scheme. They are due to be effective from 1 January 2008 and replace all previous documents in relation to the scheme. They may in future be replaced or modified by further communication.

Introduction

Hip dysplasia (HD) is a genetically transmitted condition, but environmental factors may influence the final score achieved. The score does not therefore absolutely reflect the potential for transmission of HD of an individual animal but should be regarded only as an indicator of possible transmission of the condition. For the Scheme to be meaningful and successful it is important that a film from EVERY dog radiographed be submitted for scoring, whether or not the animal is required for breeding and whatever the state of the hips, in order to provide the widest possible information for use by a geneticist.

1. The Scheme

The main purposes of the scheme are the examination of radiographs of hips of dogs for hip dysplasia and the issue of a certificate in respect of that examination. The examination is conducted by the evaluation of a radiograph for any anatomical and pathological changes indicative of hip dysplasia and a score is recorded. This score, and its relation to the Breed Mean Score, is intended to assist dog breeders in their selection of breeding stock. Breeders wishing to reduce the risk of HD should select their breeding stock (both dogs and bitches) only from animals with hip scores WELL BELOW the Breed Mean Score. Many clinically sound dogs may have high HD scores and should not therefore be used for breeding. The scheme does not cover any other hereditary or clinical defects which may need to be considered when choosing suitable breeding stock. However, breeders wishing to have their dogs graded for elbow dysplasia as well as hip dysplasia may have the hips and elbows radiographed at the same time and the submissions sent together. In such cases these procedure notes will have to be read in conjunction with those of the BVA/Kennel Club Elbow Dysplasia (ED) Scheme (details available from BVA).

2. Arranging for Radiography and Submission to the Scheme

The owner should approach his or her veterinary surgeon and request that the dog be submitted for scoring under the Scheme. It is possible to arrange for more than one dog to be submitted on the same occasion. The following procedure should be observed:

- (a) the **minimum** age of a dog for submission under the Scheme is one year. There is no upper age limit;
- (b) suitable arrangements must be made with the veterinary surgeon for the dog's hips to be radiographed;
- (c) the following documents must be made available at the time of radiography —
 - (i) the Kennel Club (KC) Registration Certificate of the dog if it is registered with the KC,
 - (ii) any related transfer or change of name certificate;
- (d) prior to radiography of the dog's hips, the owner must complete and sign the first section of the certificate (the Owner's Declaration) verifying that the details given in that section relate to the dog being submitted, that the details are correct and granting permission for the results to be used in the ways specified. The certificates are provided by BVA.

NB Once a certificate of HD scoring has been issued for a dog, the dog may not be resubmitted for scoring under the Scheme.

3. Procedure for Radiography of the Hips

A ventro-dorsal radiograph of the pelvis is required for scoring. The veterinary surgeon should radiograph the dog's hips as indicated below.

3.1 Protection of Personnel

The Guidance Notes for the Protection of Persons Against Ionising Radiations Arising from Veterinary Use (1988) explain that **only in EXCEPTIONAL circumstances should dogs be manually restrained for radiography**. Since the radiography of dogs for the purposes of this Scheme would not constitute exceptional circumstances:

- (a) it is NECESSARY to employ general anaesthesia, narcosis or deep sedation to enable only mechanical (ie non-manual) restraint for the positioning of the animal;
- (b) collimation of the primary beam should be clearly visible on the radiograph.

3.2 Positioning

A standard position for radiography must be employed. Accordingly:

- (a) the dog should be placed on its back with the pelvis in the middle of the cassette and the x-ray beam centred on the midline between the hips (ie the centring point should be at the level of the cranial edge of the pubis);
- (b) in order to avoid rotation, the head and body should be supported in a straight line by a cradle or by blocks at the thorax. Tilting of any part of the dog's body is likely to cause axial rotation of the pelvis and asymmetry of the hips;
- (c) the hind legs should be FULLY extended and adducted so that the femora lie parallel to each other and parallel to the film;
- (d) the legs should be inwardly rotated so that the patellae lie centrally in the trochlear grooves;
- (e) suitable ties or tape should be used to achieve correct adduction and inward rotation; poor positioning which allows either lateral or longitudinal tilt of the pelvis may prevent accurate radiological assessment of the hips;
- (f) if the radiograph shows axial rotation of the pelvis, this may be corrected by raising the hip on the side on which the image of the obturator foramen is **smaller**.

NB Radiographs which are not correctly positioned will be returned to the submitting veterinary surgeon and an appropriately positioned radiograph requested.

3.3 Markers and Identification

The following information MUST be radiographed onto the film or digital image at the time of exposure or by light * marker onto the film before processing –

- (a) EITHER
 - (i) the Kennel Club Registration Number (from the top right hand corner of the KC Registration Certificate) for dogs registered with the KC (**no other form of identification for KC registered dogs is acceptable**),
AND
 - (ii) microchip or tattoo numberOR
 - (iii) an appropriate form of identification for dogs not registered with the KC (eg the dog's microchip/tattoo * number and/or identification as used by the veterinary practice or by the breed club);
- (b) the date of radiography;
- (c) left and/or right marker(s).

NB Radiographs which are not correctly identified will be returned to the submitting veterinary surgeon and an appropriately identified radiograph requested.

3.4 Image Quality

Correct exposure and processing (developing, fixing and washing) are essential to provide a radiograph of good diagnostic quality. Incorrect exposure and processing can seriously interfere with the visibility of detail and so affect the radiological assessment of the hips. Extraneous marks from screen contamination, splashes, scratches etc should be avoided. The radiograph should be checked immediately after processing (while the dog is still restrained) for correct positioning, exposure and film quality in case a further radiograph needs to be taken.

When radiographing a large or fat dog, it may be necessary to use a grid.

NB Radiographs which are not of acceptable diagnostic quality to the scrutineers will be returned to the submitting veterinary surgeon and a radiograph of appropriate quality requested.

3.5 Digital Films

Digital images must be submitted as dry laser images or printed on the highest quality photographic paper. The image should be printed from the original dicom file and the image size must not vary by more than 10%. A known millimetre scale must be radiographed onto the image at the time of exposure. Please note, at present images on disc are not accepted. *

4. Submission and Scoring

The procedure for submission and scoring under the scheme is as follows:

- (a) the veterinary surgeon sends the radiograph to BVA with the HD certificate, having signed the middle part (the Submitting Veterinary Surgeon's Certificate) to certify –
 - (i) the details regarding the submission of the radiograph,
 - (ii) the microchip or tattoo number (if applicable) once verified;

NB The veterinary surgeon should check that the breed, colour and sex of the dog correlate with those details in the Owner's Declaration and on the KC Registration Certificate. The veterinary surgeon should also check that the details on the KC Registration Certificate have been accurately and completely transposed by the owner onto the HD certificate eg the Kennel Club registered name, number, breed, sex and date of birth.

- (b) the current fee (see Schedule 1) must be included with the submission and cheques must be made payable to BVA. The BVA charge includes an element towards the Kennel Club costs (which is forwarded to the KC) and the scrutineers' fees, but does not cover the cost of radiography;
- (c) scrutineers, appointed by BVA, meet frequently to score the radiographs. Two scrutineers agree the score for each radiograph;
- (d) for each hip joint a score is derived by evaluation of nine separate features by employing a set of defined criteria. The final score is the SUM of the points awarded for each of the nine radiographic features of BOTH hip joints. The minimum score for each hip is 0 and the maximum is 53, which gives a total range of 0-106. The LOWER the score the less the degree of hip dysplasia evident;
- (e) the score is recorded in the Certificate of Scoring section at the bottom of the certificate which is signed by both scrutineers;
- (f) the radiograph which has been scored has the initials "BVA" embossed onto it **once**. Any other radiographs which have been submitted for the same dog (ie not scored) will be embossed **twice** with the BVA initials.

NB If there appear to be any inconsistencies or inaccuracies of completion or identification on the HD certificate, the submission will be returned to the veterinary surgeon with relevant comments.

4.1 Rejected Radiographs

If a radiograph is rejected by the scrutineers as unsuitable for scoring, it will be embossed twice with the initials "BVA" and returned to the submitting veterinary surgeon with any relevant comments; the fee will not be refunded and the certificate will not be completed. When a subsequent radiograph is submitted for that dog, it must be accompanied by a new certificate and a further fee (see Schedule 1).

5. Breed Mean Score

The Breed Mean Score is calculated from ALL the scores recorded for a given breed (both high and low) and gives a representation of the overall HD status for the dogs scored in that breed. At the time the radiograph and certificate are returned to the submitting veterinary surgeon, a copy of the current sheet giving the breed mean scores will be enclosed so that the veterinary surgeon may best advise his/her client regarding the dog's suitability for breeding.

6. Results

The results of scoring are normally sent to the submitting veterinary surgeon within three weeks from receipt by BVA of the correct submission. The arrangements are as follows:

- (a) the radiograph, the completed original certificate (which is green and is to be passed to the owner) and a photocopy of the certificate (to be kept by the veterinary surgeon) are returned to the veterinary surgeon along with a copy of the procedure notes and the breed mean score sheet;
- (b) the names of Kennel Club registered dogs scored under the scheme, together with the results of the HD score, will be sent to the Kennel Club for publication and inclusion on the relevant documents. Details and results of dogs not registered with the Kennel Club will not be sent to the KC;
- (c) relevant details may be sent to a geneticist for statistical analysis as arranged by BVA.

6.1 Requests for Results

- (a) Pending results:
- (i) **an owner must contact the submitting veterinary surgeon, NOT BVA, for results issued under the Scheme;**
 - (ii) a veterinary surgeon may contact BVA on a client's behalf for results of scoring but is asked to allow at least three weeks from the date of correct submission before doing so.
- (b) Past results:
- (i) requests for results which have previously been published should be directed to the Kennel Club;
 - (ii) any results which have not been published cannot be divulged by BVA and should be sought directly from the owner(s) of the dog;
 - (iii) a copy of a certificate may be issued by BVA only to the person(s) identified on the HD certificate as the owner(s) of the dog at the time of scoring. Such requests should be made to BVA in writing and a fee will be charged (see Schedule 1).

7. Appeals Procedure

An owner has a right to appeal with regard to the results of a HD score. The procedure shall be as follows:

- (a) any application for appeal against the result of a HD score must be lodged by the owner with BVA in writing **within 45 days** from the date of dispatch from BVA. **The same radiograph used for scoring** (ie the radiograph embossed once with the initials "BVA") must be resubmitted by the veterinary surgeon to BVA within a reasonable period of time. An appeal certificate (available to the submitting veterinary surgeon from BVA) must be completed in a similar way to the HD certificate and submitted with the radiograph together with the re-scoring fee (see Schedule 1). In the event of an appeal being lodged proof of posting will not constitute proof of receipt by BVA;
- (b) the radiograph will be re-scored by the Chief Scrutineer, whose decision is final, and the new score results will be relayed in the normal way (NB the first result may already have been submitted to the KC for publication before the second result is received). In any event, the final result will be sent to the Kennel Club for publication.

SCHEDULE 1

Charges as at 1 January 2008

The scale of fees as at 1 January 2008 is set out below (figures in brackets include VAT). These charges do not include the cost of radiography and may be changed from time to time. Any changes will be notified by further communication.

Number of dogs	BVA charge for scoring per dog
1-4 dogs	£30.13 (£35.40)
5 or more dogs for the same owner	£24.00 (£28.20)
Rescoring under the appeals procedure	£60.09 (£70.60)
Joint Hip & Elbow	£57.28 (£67.30)

**NB Radiographs which are judged by the scrutineers as unsuitable cannot be scored.
BVA will not refund submission fees for rejected radiographs**

Copy of HD certificate [can only be issued to the person(s) identified on the original certificate as the owner(s) of the dog at the time of scoring]	£17.62 (£20.70)
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In addition to cheques and postal orders, payment may also be made by credit/debit card.

SCHEDULE 2

BVA/KC Hip Dysplasia Scheme: Panel of Scrutineers as at 1 January 2008

The BVA appointed panel of scrutineers detailed below may be changed from time to time. Any changes will be notified by further communication.

Mr B M TURNER BVSc (Massey) DVR CertSAO MRCVS (Chief Scrutineer)
DR A ANDERSON BVetMed DSAS (Orth) MRCVS
Mrs E A BAINES MA VetMB DVR DipECVDI MRCVS
Mr D D CLARKE MA VetMB DVR CertSAC MRCVS
Mr D G CLAYTON JONES BVetMed DVR DSAO MRCVS
Dr J V DAVIES BVetMed DVR MRCVS DipECVS DipECVDI
Mrs R DENNIS MA VetMB DVR MRCVS DipECVDI
Mr S J FOSTER BVSc CertVOphthal MRCVS
Dr C GIBBS BVSc DVR MRCVS DipECVDI
Mr M E HERRTAGE MA BVSc DVSc DVR DVD DSAM MRCVS DipECVDI Dip ECVIM
Mr J E F HOULTON, MA VetMB DVR DSAO MRCVS DipECVS