Pug Dog Welfare Rescue Association Hemivertebrae Screening – Procedure Notes

These procedure notes are intended to explain the PDWRA Hemivertebrae Screening and to provide helpful instruction to those using the Screening. They are due to be effective from 1 January 2013. They may in future be replaced or modified by further communication.

Introduction
Hemivertebrae (HV) is a thought to be an inherited condition, but environmental factors may influence the development of the condition. Screening results do not therefore absolutely reflect the potential for transmission of HV of an individual animal but should be regarded only as an indicator of risk of the condition.

1. The Screening Process
The main purposes of screening is the examination of radiographs of the spine for hemivertebrae and the issue of a report in respect of that examination. The examination is conducted by the evaluation of a radiograph for any anatomical and pathological changes indicative of HV and a report is created. Many clinically sound dogs may show signs of HV in their radiographs 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.

2. Arranging for Radiography and Submission to the Scheme
The owner should approach XXXX veterinary surgeon and request that the dog be radiographed for this screening scheme. The following procedure should be observed:
(a) the minimum age of a dog for submission under the Scheme is 1 year. There is no upper age limit;
(b) the dog must be permanently identified by either microchip or tattoo;
(c) suitable arrangements must be made with the veterinary surgeon for the dog’s spine to be radiographed;
(d) 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;
(e) prior to radiography of the dog’s spine, 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.

3. Procedure for Radiography of the Spine
A lateral and Ventrodorsal/dorsolateral radiograph of the thoracolumbar spine segments is required for scoring. The veterinary surgeon should radiograph the dog’s spine as indicated below.

3.1 Protection of Personnel
The Guidance Notes for the Safe Use of Ionising Radiations in Veterinary Practice (1999) 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 (i.e. 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 in latero-lateral and ventro-dorsal view of the spine form T1 to L7 centred on T8-L1
(b) in order to have a diagnostic radiographic study the dogs should be anesthetised or sedated

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) BOTH
   (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).
For dogs not registered with the KC, identification as used by the veterinary practice or by the breed club may be used.
AND
(ii) Microchip or Tattoo number
(b) the date of radiography
(c) left and/or right marker(s).

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.

3.5 Digital Films
Digital images may be submitted as DICOM files, one dog per disc. For legal reasons the KC registration number, microchip/tattoo number and date of radiography must be made part of the RAW image by:
1. Using radio-opaque tape at the time of exposure, or
2. Annotating the image using software to burn the information into the image.
Images may also be printed from the original DICOM file and submitted as dry laser images or highest quality photographs. The image must include at the time of radiography a known millimetre scale and have a size variation of no more than 10%. Further guidance will be available at www.bva.co.uk/chs to address specific issues as they arise.

4. Reporting
The procedure for reporting under the scheme is as follows:
(a) the veterinary surgeon sends the radiograph 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 number or tattoo number once verified by ticking the box;

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 e.g. the Kennel Club registered name, number, breed, sex and date of birth.

Microchip labels may not be used on the certificate – the number must be written on.
(b) The veterinary surgeon assesses the radiograph to determine presence/absence, and if presence, a description of the severity of the condition.
(c) A report is produced describing the presence, severity, and treatment recommendations, if applicable.

5. Results
The results of the radiograph are normally reported to the submitting veterinary surgeon within 1 month of the correct submission. The arrangements are as follows:
(a) the radiograph, the completed original certificate 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
(b) relevant details may be sent to a geneticist for statistical analysis as arranged by PDWRA.

6.1 Requests for Results
(a) Pending results:
An owner must contact the submitting veterinary surgeon, for results issued under the Scheme;
(b) Past results:
A copy of a certificate may be issued only to the person(s) identified on the HV certificate as the owner(s) of the dog at the time of scoring. Such requests should be made in writing and a fee will be charged (see Schedule 1).