

# Guide to the British Veterinary Association / Kennel Club Chiari malformation / Syringomyelia (CM/SM) Scheme

## 1. BASIC INFORMATION

### What is the BVA /KC CMSM scheme?

The scheme aims to reduce or eliminate the incidence of inherited CM and SM in dogs. The scheme will be open to all dogs and is particularly applicable to toy breeds and their crosses. It requires a magnetic resonance imaging (MRI) examination of the brain and upper neck.

The scheme is designed to work with the **Kennel Club's Mate Select programme** - a database that will enable both occasional and regular breeders to select the most appropriate proposed mating to maximise the chances of producing healthy puppies whilst having the optimum impact on the breed's genetic diversity. Details are available on <http://www.thekennelclub.org.uk> . In certain breeds results from the CMSM Scheme will be used to generate Estimated Breeding Values (EBVs) for SM. EBVs are a statistical estimate of the genetic risk for a given disease of individual dogs and a measure of the likelihood of their passing on the disease to their offspring. An EBV can be calculated for most dogs even if they have not undergone an MRI scan, as long as they are related to dogs which have been scanned. Puppies too young for MRI assessment can also be assigned an EBV based on the MRI results of their relatives.

### What age must my dog be?

The **minimum** age of a dog for submission to the CM/SM Scheme will be one calendar year. There will be no upper age limit. As SM is a progressive disease (i.e. dogs can get worse with age) scanning is best performed at five years of age or older as this will give more accurate EBV of the dog's offspring. However to gain more information of the breeding potential of that individual dog it is recommended that breeders consider scanning their dogs more than once, for example at three years and again later at five years of age.

### How will I arrange an MRI scan for my dog?

There are a number of veterinary centres which offer MRI scanning facilities and which follow the protocol recommended by the scheme to ensure an adequate quality of the images. The MR images required are DICOM images (Digital Imaging & Communication in Medicine, as used in hospitals). DICOM images are used for security reasons as it is not possible to divorce client details from images.

### Who reviews the MRI scans?

There is a panel of BVA-appointed neurologists and radiologists who will review the MRI scans. The MRI scans will be assessed by two scrutineers who will agree grading for the images. If necessary the Chief Scrutineer will make the final decision. The anticipated turnaround will be about four weeks. There will be an appeals procedure.

### Is a general anaesthetic required?

MRI scanning requires that the patient remain motionless (apart from breathing) for several minutes at a time, and therefore general anaesthesia, narcosis or deep sedation is required.



### What documentation and identification is required?

- **All dogs must be permanently identified (by microchip or tattoo)** before examination and certification. The identification will be verified by the performing vet prior to the examination and the identification number will be recorded both on the images and on the certificate issued.
- **You must have the relevant KC owner registration document/related transfer or change of name certificate** with you in order to present your dog for a MRI scan. It is possible to scan dogs that are not KC registered; an alternative appropriate form of identification must be provided (e.g. pet name, identification from your veterinary practice or breed club).
- **Owners must sign a declaration** certifying that the details are correct, and that the results may be published in the KC Breed Record Supplement and on the KC website for use with their Mate Select programme, and also used for research purposes.
- All of the above **information must be correct at the time of scanning as it is not** possible to changes the details on DICOM images retrospectively.

### What information must be included on the DICOM images?

The following information **MUST** be included on the DICOM images **at the time of scanning**:

(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**)

Or

(ii) an appropriate form of identification for dogs not registered with the KC (e.g. identification used by the owner's veterinary practice or the breed club);

(b) the dog's microchip or tattoo number, which **MUST** be confirmed by the veterinary surgeon submitting the MR images and verified on the relevant part of the CMSM certificate;

(c) the date of MRI.

**NB DICOM images which are not correctly identified will be returned to the submitting veterinary surgeon and appropriately identified DICOM images requested. As this information cannot be entered retrospectively onto DICOM images it is essential that it be done correctly at the time of scanning.**

### When do I hear results

The BVA aims to process and report the scans within 4 weeks of receiving the DICOM files. The results are mailed to the **Referral Practice** and then mailed to you by first class post (or can be collected directly if referral from Stone Lion). There is an option to request Special Delivery (at normal charge). It is not possible to provide an earlier, verbal results as this is inappropriate.