

Exercise Induced Collapse (EIC)

A lot of misunderstanding, myth and panic surrounds EIC. To cut through this we have been kindly advised by respected geneticists, kennel club health expertise, the University Professor who developed the test and the laboratory responsible for the tests. Now these consultations are complete we can offer proper advice to members.

WHAT IS EIC?

A dog described as 'affected' by EIC MAY experience a very specific set of collapse symptoms involving an apparent loss of power to its legs resulting in a temporary collapse when the dog is extremely excited or has stress through extensive exercise. [See video of symptoms here](#)

In simple terms EIC arises due to the failure of enough of a chemical to be released by the brain, linking the brain to the muscles in the back legs. It is nothing to do with muscles or muscle degeneration and so owners should not worry that their dog is no longer fit. Affected dogs can still be expected to live long and happy lives, and depending on the extent they are affected can lead relatively normal lives.

Not all genetically affected dogs (ie those that have been DNA tested and found to be carrying two copies of the defective gene) will ever experience these symptoms (especially dogs of a calmer nature) and in other breeds the problem usually occurs by the age of 3 if it's going to happen at all.

This condition is not perceived as a major issue for dogs which are affected. EIC symptoms are not painful or stressful for the dog, which recovers in a matter minutes. Obviously, more severe danger would be created for the dog if for example an owner failed to recognise the symptoms and did not allow the dog its recovery time.

THE TESTS

As you can see from the above, EIC is something which needs to be dealt with in a calm and composed manner. It is not a reason for panic or alarm, but is a fault we should aim to breed away from.

We strongly advise anyone planning to breed litters to test their dam or sire first and for breeders to only use dogs where the EIC status is known. (The WCSS stud dog page will show the EIC status of dogs offered for stud). It would, however, be obviously useful for our knowledge of the breed if as many members as possible choose to test dogs, regardless of breeding plans and to share your results with us so we can build a profile of how the breed is affected.

Tests for EIC are carried out by Laboklin. The test is by a simple cheek swab available from Laboklin who will have the test analysed in their German laboratory. Contact Laboklin direct for the swabs on 0161 282 3066 or see their website here: <http://www.laboklin.co.uk/>

There are 3 possible results from the EIC test.

- **CLEAR** – Self explanatory
- **CARRIER**- Carries one copy of the EIC mutation but will never show symptoms. However the faulty gene has a 50% chance of being passed to offspring.
- **AFFECTED**-Carries two copies of the EIC mutation and may have or develop symptoms of EIC under stressful conditions and at some point in life. However evidence gathered so far indicates that not all affected dogs will demonstrate the symptoms for a number of reasons - but affected dogs (even if not showing symptoms) will pass one copy of the faulty gene to their pups

Pups can be tested once weaned and our advice is to test pups before leaving and to ensure that clear pups are homed where their new owners are planning to breed rather than going to homes where they may be neutered.

EIC AND THE BREEDING PROGRAMME- COMMENTS FROM THE EXPERTS

WCSS has always placed great trust in its members involved in breeding. The Society attempts to keep its members fully informed by listening to key experts on their behalf – issuing properly researched information and then leaving the breeder to make their own decisions on that information.

- If a **carrier is bred to a carrier** the litter is statistically likely to consist of 25% clear, 25% affected and 50% carriers, so we would not advocate this combination
- If an **affected dog is bred to a carrier** we can expect 50% to be affected and 50% to be carriers – so again this combination is to be avoided
- **Affected dogs bred with other affected dogs** will, of course, produce a litter of affected dogs and should be avoided.
- Likewise **clear dogs bred to clear** dogs will produce 100% clear (hereditary clear). The ideal mating if possible
- **Affected dogs bred to clear dogs** will produce a litter of 100% carriers, so in certain circumstances such as where the affected dog has many other positive points this could be an option.
- **Carriers bred to clear dogs** will produce 50% clear and 50% carriers, so this also is an option.

The advice of the experts is initially surprising but logical when you think about it. Due to the relatively low importance of EIC against key areas such as hip dysplasia, eye problems and trainability we are advised to be cautious about 'throwing away' our 'good' genes in these areas.

Many thanks to Dr Tom Lewis and Dr Cathryn Mellersh who have agreed to continue to work with us through this complicated issue.

Tom Lewis (KC Consulting Geneticist), for example, advises us to breed GENTLY away from EIC, taking care not to lose important genes by suddenly eradicating important breeding stock purely because they are EIC affected or carriers.

Cathryn Mellersh (Head of Canine Genetics at the Animal Health Trust) has defined the nature of EIC for us (see 'What is EIC' above) and comments that we do not yet know how penetrant EIC will prove to be in Clumbers. We can't just assume that it will be to the same

degree as Labradors. In Labradors the condition is rife but the high degree of pet Labradors mean that the stress levels required to trigger symptoms are rarely encountered. Cathryn has strong confidence in the accuracy of the tests in identifying the gene but cautions that it will take some time and data to understand the link in Clumbers between the presence of the gene and any symptoms actually occurring.

Aimee Lewellyn (Health Information Manager, The Kennel Club) again advises that we breed slowly, steadily and carefully away from EIC but, within a controlled and monitored programme, suggests that otherwise good affected dogs can be used for future breeding – provided that breeding partners are tested clear so as not to produce more affected dogs. Some dogs testing as affected could still be important and it could be irresponsible to discard them.

James Mickelson (Doctor of Veterinary and Biomedical Studies University of Minnesota) originated the test for EIC says that although not all dogs testing affected are bound to collapse, there are several reasons why this could be the case but that non-collapsing affected dogs will still pass a copy of the mutated gene to their offspring, who if affected may show symptoms. He comments that the dogs which most commonly experience EIC episodes tend to have an excitable temperament and lots of drive. The indication is that excitement and stress, more so than exercise, could be the main driver.

ADVICE TO MEMBERS

Clearly we can only ask for the support and input from members, we don't attempt to dictate breeding programmes. Anyway, here are a few points

- 1. DON'T PANIC ABOUT EIC – It's not about to destroy your dog or the breed and we still need to keep as many different dogs as ever possible in our breeding programme.**
- 2. BUT DO TAKE IT SERIOUSLY – EIC is an area we need to consciously breed away from albeit slowly and steadily.**
- 3. SHARE YOUR TEST RESULTS – preferably with the KC on their database but at least with WCSS. We are maintaining an increasingly important database on our dogs and your information WILL help.**
- 4. BREEDERS – Please test your dogs before using them. We want to avoid creating any more 'affected ' dogs..... but don't condemn the good affected dogs, they can still be used as breeding partners for clear dogs. Think it through and use the WCSS contacts below if you want more information.**
- 5. TALK TO A WCSS contact if you need further help. Heidrun Humphries (01643 841155) and Jane Smith-Bodden (01629 534 555) have been appointed by the committee to liaise both with members and external bodies on EIC Health issues so... have a conversation!**

WORKING WITH THE CLUMBER SPANIEL CLUB

In September 2015 WCSS has had a very productive meeting with the Clumber Spaniel Club and both organisations are keen to work together to deal with EIC. It's important that we are able to exchange and combine information to get an overall view of the breed.

The spokespeople for the Clumber Club are Carol Page (Secretary), who co-ordinates breed health issues for the Club and Chris Page (Chairman). The two clubs are now better placed than ever to work together for the common good.