



THE KENNEL CLUB

Making a difference for dogs

BAER Test Health Programme

What is the BAER test?

The BAER (Brainstem Auditory Evoked Response) test is used to evaluate the hearing of a dog by detecting the electrical activity of the brain in response to an auditory stimulus (usually clicks), which is recorded and displayed on a computer screen. The test is a reliable method for determining whether a dog is deaf and for measuring the extent of its hearing loss. However, the test does not measure the full range of canine hearing, only hearing in the normal human range (some dogs will test as 'deaf' but can still hear very high pitched noises).

If you are having your dog or litter BAER tested, please take the [BAER test report form](#) with you to the testing centre.

What do BAER test results mean?

Affected – **Bilateral**: the individual is completely deaf in **both** ears

Affected – **Unilateral**: the individual is completely deaf in **one** ear and able to hear normally in the other

Unaffected: the individual has **normal** hearing in both ears

What is the cause of deafness in dogs?

Congenital deafness (deafness at birth) is usually inherited and linked to defective genes. The inheritability of hearing loss is not completely understood but is believed to be a polygenic condition (a trait influenced by more than one gene), probably with breed-specific additional risk factors.

Congenital deafness is recognised as a problem in many dog breeds that carry the **extreme piebald gene**, demonstrated by a predominantly **white coat**. Such breeds include Dalmatians, English Setters, white Boxers and white English Bull Terriers. It has been suggested that this could be due to some abnormality in the migration of pigment cells or their interaction with other structures in the inner ear during embryo development. Unpigmented skin in the inner ear causes the nerve endings to degenerate and die in the first few weeks of a puppy's life.

Deafness has also been reported to be associated with the gene that causes the **merle coat colour** (mottled patches of color in a solid or piebald coat, blue or odd-colored eyes, and also possible effects of skin pigment). Examples of breeds with the merle coat are Border Collie, Australian Shepherd, Dappled Dachshund or Old English Sheepdog. Absence of pigment in one or both irises resulting in **blue eye** colouration may also be present in merle dogs. Blue iris colour is caused by a lack of pigment in the iris, and it is thought that this may reflect a lack of pigment cells in the inner ear, linked to deafness.

When should your dog be BAER tested?

The best age to test a litter is around **5^{1/2} to 6^{1/2} weeks** of age (ear canals don't open until puppies are about 2 weeks old). The test can be carried out at any age after this, including on adult dogs; however, many breeders wish to know the hearing status of their pups before they go to their new homes. Also, at this age, puppies have an active period followed by a period of sleep, which is the perfect time to carry out the test.

Requirements for publishing results

- All participating dogs will need to be KC registered and microchipped (prior to screening)
- The microchip of individual dogs will be scanned prior to screening to verify that the correct dog is being screened
- Owners are encouraged to submit copies of the certificates themselves, directly to the Kennel Club, if the testing centre does not automatically do so

Why should owners and breeders BAER test their dogs?

- Bilaterally deaf dogs can prove difficult to manage (e.g. training)
- Once owners find out the hearing status of their dog, they can develop appropriate communication and training techniques (e.g. exaggerated body language and sign signals)
- Deaf dogs are often put down due to decreased awareness of dangers (e.g. vehicles and animal predators) and possibly aggressiveness (easily startled) – if owners know the hearing status of their dog, they can take necessary precautions to prevent this
- Prevent the breeding of dogs that have a high probability of producing potentially deaf puppies – having dogs BAER tested is currently the best option for reduction of risk but does not completely ensure the hearing of resulting puppies
- Deaf puppies and dogs are more difficult to sell and adopt
- Data generated from these tests would improve our understanding of the degree of inheritance and the familial relationships contributing to this disorder

Where can you get your dog BAER tested?

BAER test centres and contacts:

- **Small Animal Centre, Animal Health Trust**
Lanwades Park
Newmarket
Suffolk, CB8 7UU
Contact: Ms Julia Freeman. Tel: 01638 552 700
- **Animal Medical Centre**
511 Willbraham Road
Chorlton-cum-Hardy
Manchester, M21 0UB
Contact: Mr Pip Boydell. Tel: 0161 881 3329
- **Hearing Assessment Clinic (Mobile), Seadown Veterinary Hospital**
1 Frost Lane
Hythe
Hants
Contact: K Morris MRCVS Tel: 02380 842237
- **Church Farm Veterinary Clinic**
Neston Road
Willaston, South Wirral
Liverpool, CH64 2TL
Contact: Mr G Skerritt. Tel: 0151 327 1885
- **Small Animal Hospital, Faculty of Veterinary Medicine University of Glasgow**
Bearsden Road
Glasgow, G61 1QH
Contact: Mrs Gillian Calvo (VN) Tel: 0141 330 5848

Please note that not all of the testing centres listed above send copies of the results directly to the Kennel Club. The testing centres that do send the results directly to the Kennel Club are written in green.