

SUBMISSION on Behalf of

British Dalmatian Club

North of England Dalmatian Club

Dalmatian Club of Scotland

Northern Ireland Dalmatian Club

Addition of Imported Dalmatian/Pointer Backcrosses to the Kennel Club Registration System

SUMMARY:

- **The prevalence of urate stone disease in the UK Dalmatian population is about 2%.**
- **This small number of occurrences of the condition are easily managed by diet, and medication if necessary. No deaths have been attributed to the condition.**
- **The dogs to be imported are CARRIERS of the mutant gene. They are NOT CLEAR.**
- **Their impact on the incidence of urate stone disease in the UK Dalmatian population can be expected to be extremely small, indeed probably insignificant.**
- **US Dalmatians exhibit a prevalence for bilateral congenital sensoneural deafness of 8%, (for which there is no possible treatment), compared with 5.3% for the UK population**
- **It is irresponsible and inappropriate to address a manageable disease of low incidence, by introducing backcross dogs with an unmanageable condition (bilateral deafness) of much higher prevalence.**

The public perception of health issues in the Dalmatian breed undoubtedly focuses upon congenital sensoneural deafness. This is demonstrated by the fact that the recently issued APGAW report makes specific reference to the problem in relation to Dalmatians¹. Bilateral deafness is not a condition which can be managed and, whilst it is recognised as an emotive issue, the outcome is inevitable.

The USA Dalmatian population displays an incidence for bilateral deafness **50% higher** than that for the UK population. In what is recognised as the most extensive study ever of deafness (5333 Dalmatians), Strain² reported an overall incidence of bilateral deafness of **8.0%** in the US population. One factor contributing to this higher incidence is understood to be the ready incorporation into the US breeding programme of dogs lacking iris pigment, i.e. having one or two blue eyes. These figures can be contrasted to those from the detailed study conducted in the UK by Wood and Lakhani³, which indicated a level of **5.3%**. Experiences

¹ 'A Healthier Future for Pedigree Dogs'. The report of the APGAW enquiry into the health and welfare issues surrounding the breeding of pedigree dogs. November 2009. Page 19, paragraph 2.3.7

² George M Strain. The Veterinary Journal 167 (2004) 23-32

³ Wood JL and Lakhani KH. Preventive Veterinary Medicine 36(1) 1998 39-50

of UK Club Members over the intervening years indicates that this incidence has reduced significantly further, reflecting the selective breeding only from bilaterally-hearing stock, which is now a requirement of the rules and/or codes of ethics of the Dalmatian Breed Clubs

The incidence of urate stone disease in UK Dalmatians is low. The most indicative study taken of the health of UK Dalmatians is that contained within the KC/BSAVA Health Survey, conducted in 2004. This survey must be taken as a reliable representation of the health of the various breeds reported, as all Kennel Club Breed Health Plans are based upon it. For Dalmatians, diseases of the urologic system are recorded as accounting for 10.7% of the total reported diseases (*N.B. not an incidence rate of 10.7%*), with ‘cystouroliths (urate)’ being recorded as the second most common condition within the sub-group. Whilst it might be unreliable to ‘guesstimate’ what actual level of incidence applies to urate stone disease, it is fortunate that Dr Vicki Adams, the Veterinary Epidemiologist responsible for analysing the Health Survey returns and compiling the reports, has provided a detailed breakdown and commentary of the actual data, which is reproduced here in full:-

urologic condition	Number of Occurrences	% of Total Diseases Reported	Prevalence*
incontinence unspecified	8	25.0	1.8
incontinence after spay or OHE	6	18.8	1.3
bladder infection or cystitis	5	15.6	1.1
bladder stones urate or uric acid or ammonium acid urate	5	15.6	1.1
haematuria or blood in urine	2	6.3	0.4
kidney stones or uroliths unspecified	2	6.3	0.4
bladder stones or cystouroliths unspecified	1	3.1	0.2
ectopic ureters	1	3.1	0.2
incontinence and urethral sphincter incompetence	1	3.1	0.2
urethral obstruction	1	3.1	0.2
Total	32	100.0	7.1
* out of 452 live dogs with health information reported			

“The best case scenario would be to report on only the dogs affected specifically by ‘bladder stones urate or uric acid or ammonium acid urate’:

Where 15.6 % of the urologic conditions reported were due to this and this would give a prevalence of 1.1% for the condition among the 452 live dogs for which health information was provided. This may underestimate the problem.

A ‘middle of the road’ estimate might include the dogs affected specifically by ‘bladder stones urate or uric acid or ammonium acid urate’, ‘kidney stones or uroliths unspecified’ and ‘bladder stones or cystouroliths unspecified’:

Where 25% of the urologic conditions reported were due to this and this would give a prevalence of 1.8% for the condition among the 452 live dogs for which health information was provided.

The worst case scenario would be to report all of the dogs affected specifically by 'bladder stones urate or uric acid or ammonium acid urate', 'kidney stones or uroliths unspecified' and 'bladder stones or cystouroliths unspecified', 'bladder infection or cystitis', 'haematuria or blood in urine' and 'urethral obstruction':

Where 50% of the urologic conditions reported were due to this and this would give a prevalence of 3.5% for the condition among the 452 live dogs for which health information was provided. This may overestimate the problem."

Thus, the level of incidence is somewhere between the extremes of 1.1% and 3.5%, with a reasoned estimate of 1.8%. This correlates well with similar health surveys conducted in respect of Norway and the Netherlands, which recorded an incidence of 2.2%, and a professionally-conducted survey in the USA with a recorded incidence of 3%.

It is important to recognise that, whilst all purebred Dalmatians are assumed to excrete higher levels of uric acid than the levels found in the urine of most other breeds (the assumption, although unproven at this time, is not disputed), not all Dalmatians present with urate stone disease. Indeed only a small minority does so, as indicated by the aforementioned figures. This observation is universally recognised, but unfortunately not understood at this time. There are believed to be several contributory environmental, husbandry factors which might play a part, but they are not believed to collectively represent the actual reason that only a minority present with the disease. Research continues in the United States to try to resolve this puzzling situation, and represents one of the main reasons why the American Kennel Club has (many years ago) suspended registration of backcross dogs after registering two such dogs, until the cause of urate stone formation was better understood, and there was evidence of a net health benefit from the inclusion of backcrosses into the gene pool. The lack of understanding of the factors which cause an individual dog to present with the disease is compounded by the fact that several cases have been reported of other breeds presenting with urate stone disease, even though they excrete 'normal' levels of uric acid.

Even in the case of the unfortunate minority of Dalmatians which present with the disease, it can be controlled and managed quite easily, with either or both of diet (note that, recently, a major canine food manufacturer has introduced a breed-specific preventative diet for the Dalmatian, readily available through normal retail outlets) or medication with allopurinol if necessary (principally indicated where Dalmatians are presenting with symptoms of urate stone disease). Allopurinol appears to have no side effects from long term usage. The contention in the national press that there were 'hundreds of Dalmatians suffering a painful death' due to urate stone disease is pure fantasy. The Health Survey did not record a single case attributable to the condition.

What might be the effect of inclusion of the proposed imported dogs into the UK gene pool?

It must be recognised that the backcross dogs are CARRIERS of the mutant gene, and NOT CLEAR of that mutation.

Hence their mating with indigenous purebred Dalmatians will produce, statistically, equal numbers of **carriers** and **affected** offspring. It is not in dispute by any group that it would take several decades to build up a sufficient, genetically diverse, pool of **carriers**, before **carrier-to-carrier** matings could be contemplated, even assuming a reasonable take-up of the concept, which is believed unlikely on the basis of views expressed at the Members' meeting in October. Even in the case of such **carrier-to-carrier** matings, the statistical outcome would be only 25% **clear**, 50% **carriers**, and 25% **affected**. It is likely to take well in excess of a century to achieve any significant number of **clear** dogs. This projection is certainly not unreasonable, and it is a fact that the mutant gene will never be eradicated. Indeed, Dr Jeff Sampson has said 'It (*any UK LUA project*) is likely to die out anyway within 10 years due to lack of uptake'. It should be noted that in the 36 years of the US LUA project, only 3 **clear** dogs have been produced. It is not understood why sight of these three specimens is restricted to those involved with the project in the US, and no photographs are publicly available.

The fundamental conclusion from the above analysis is that any positive effect which might be achieved on the incidence of urate stone disease within the UK Dalmatian population is likely to be extremely small, and in all probability so small as to be negligible in terms of the prevalence of the disease.

In contrast, it risks introducing dogs from a population where the incidence of bilateral deafness, (bearing in mind its inevitable consequence), is significantly higher than in the indigenous population.

In summary, it is the contention that it is inappropriate and irresponsible to address a manageable disease (urate stone disease) of low incidence, by introducing backcross dogs originating from a population with an unmanageable condition (bilateral deafness) of 50% higher prevalence than in the UK population, and some 4 times the prevalence of urate stone disease in the UK. Such an action cannot be deemed to be in the interests of the health and welfare of the UK Dalmatian. In fact, it is clearly potentially damaging to health, and in respect of an established health issue with which the public is very much aware. It is likely that the public and press would look negatively upon such an action.

The UK Dalmatian Clubs are not opposed to the importation of the two backcrosses, nor any controlled project to breed them with purebred UK Dalmatians. They do believe, however, that it is inappropriate to include them in the Dalmatian register at the present time, and not until evidence of any net health benefit can be, and is, demonstrated. The UK Dalmatian Clubs believe that the stance of the American Kennel Club, supported by the Dalmatian Club of America, is an appropriate one, namely to await scientific evidence as to the causes of Dalmatians presenting with urate stone disease (as opposed to displaying hyperuricosuria).