

Pedigree dog breeding in the UK: a major welfare concern?

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the executive summary of an independent scientific report
commissioned by the RSPCA

1. Purpose and scope of the report

This is a summary of an independent report, which was commissioned by the RSPCA in order to help inform all those committed to protecting and improving the welfare of pedigree dogs.

It addresses the impact on pedigree dog welfare of traditional selective breeding practices. Specifically, it focuses on welfare issues associated with exaggerated anatomical features and inherited disease. Whilst conclusions are centred on the specific situation in the UK, the report reviews what is well recognised as an international problem.

As an independent report, its contents are the findings, views and conclusions of its authors and contributors, who are recognised experts in the fields of animal welfare science, genetics, epidemiology and veterinary science. It contains a review of the scientific literature and proposes, in brief, possible ways forward to improve the welfare of pedigree dogs.

The RSPCA is firmly committed to helping protect the welfare of dogs and recognises that solving the welfare problems associated with exaggerated anatomical features and inherited disease presents a very complex challenge. It hopes that this report will be seen as a constructive contribution to the current debate into the welfare of pedigree dogs and that it will help stimulate and focus essential wider discussion amongst all relevant stakeholders in order to identify and implement practical, evidence-based, effective solutions.

The full report contains 193 references and can be downloaded from the RSPCA website at: www.rspca.org.uk/pedigreedogs.

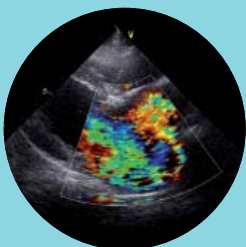
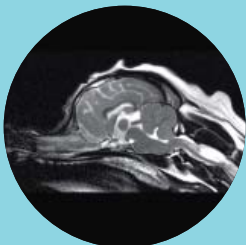
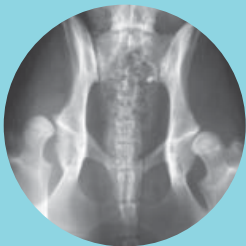
2. The problem and its cause

Many pedigree dogs remain healthy for much of their lives, yet there can be no doubt that numerous dogs of many different breeds experience compromised welfare due to the effects of selective breeding practices.

Pedigree dogs appearing in shows are required to conform to written breed standards (or specifications) owned by the Kennel Club and derived in consultation with breed societies. As a result, in many breeds, specific physical attributes have been selected for preferentially, with a corresponding lack of attention to health, temperament, welfare and functionality. These trends created in the minority show dog population also directly affect these breeds in the pet-dog population.

Some breeds have anatomical features which can result in disability, behavioural problems or pain, and thereby unnecessary suffering (section 3), and many breeds have high rates of diseases with hereditary causes (section 4).

Amongst many examples given in this report, and others not reported here, there are breeds which are regularly bred with heads too large to birth naturally, whose faces are so flat that they will not be able to breath or exercise normally or which carry great risks of early heart disease or cancer.



3. Welfare Issue 1 – Exaggerated anatomical features that reduce quality of life

Breeding to accentuate specific physical traits is unlikely to be problematic when performed in moderation. However, when emphasised to extreme, the direct effect of selection for exaggerated anatomy can severely compromise a dog's welfare (section 3 of full report). In some cases, physical features have been exaggerated to such an extent that they restrict a dog's natural behaviour, or even cause pain and suffering, and thereby severely limit the dog's quality of life. Society has become "desensitised to [these] welfare issues" (Arman 2007).

The UK Kennel Club has recently acknowledged the presence and danger of breeding for extreme morphology. They have a documented health and welfare strategy described in their annual report (The Kennel Club 2008), and numerous new (and welcome) initiatives intended to combat the problem. However, a strong case can be made that there are many breeds whose current anatomies raise serious welfare concerns. Whilst physical attributes continue to dominate the breed standards, with less mention of health, welfare or temperament, this is likely to continue. This situation needs to be addressed as a matter of continued urgency.

4. Welfare Issue 2 – Increased prevalence of inherited disorders

A breed is by definition a genetically-restricted subset of the gene pool of a species, so breed-related diseases are often genetically driven. Selective breeding for appearance has reduced genetic diversity, thereby indirectly resulting in elevated prevalence of specific diseases within particular breeds (section 4 of full report). Coupled with insufficient selection towards improving health, temperament and welfare, this has led to certain breeds becoming especially susceptible to a whole suite of disorders, many of which are acutely painful or chronically debilitating.

Most breeds began from a relatively small number of individuals, which were mated together to accentuate traits perceived as desirable. In an attempt to preserve and improve these traits, pedigree dog registration rules normally ban out-crossing (breeding with another breed). Hence dog breeds each represent a closed gene pool. This has resulted in dog breed populations in which the amount of genetic diversity is rather low and more genetic material continues to be lost with each generation (Calboli et al 2008).

In most or all dog breeds, any two individuals in the breed are related to some degree at the genetic level, and there is an increased chance of inherited disorders being manifest in their offspring when compared with unrelated animals. In fact, parts of the genome (genetic material of the animal) have such low genetic diversity that they display complete uniformity within the breed. Therefore it is difficult to eliminate problems or diseases stemming from these regions of the genome, without breeding to members of another breed.

Today these problems continue. Many breeders now understand the need to avoid inbreeding of very close relatives, but often do not look far enough for common ancestry. Unfortunately, some breeders still do inbreed or select breeding partners only from a sub-

population of the entire breed as they strive for specific features as laid down in the breed standards. Additionally, the over-use of very popular champion sires means that any genetic diseases which they carry can very rapidly become widely distributed in the breed. These practices exasperate the problem of elevated disease incidence within specific breeds, and there are currently no regulations or legislation specifically aimed at controlling these practices in the UK.

5. How serious is the problem?

Limited record keeping, lack of transparency in the breeding and showing world, and the absence of sufficient research, mean that the full extent of the problem is difficult to assess. Collection of disease prevalence data is currently unsystematic, and relatively few specific case studies of individual breeds or particular disorders have been conducted in the UK.

However, problems associated with pedigree dog breeding have been identified as a serious welfare concern (CAWC 2006) because:

- they affect large numbers of dogs; there are approximately five million pure bred dogs in the UK, representing 75% of the overall dog population (PFMA: 2008),
- they perpetuate from generation to generation,
- animals' quality of life can be severely reduced,
- the effects can be long lasting, even in some cases for the entirety of an animal's life,
- dogs of specific breeds are born with a high likelihood that they will not be granted at least one of the five freedoms, a generally accepted way of assessing animal welfare (FAWC 1992). Dogs may suffer discomfort and be prevented from behaving normally without likely injury, and/or have a high likelihood of developing a disease that can lead to pain, fear and distress.

Most dog breeding is a hobby conducted by "dog lovers", rather than truly utilitarian. Much of the suffering which some pedigree dogs endure could be avoidable with revised breeding practices. Human control of breeding has contributed to the problem. For these reasons, society has a strong moral obligation to solve this problem.

6. What has already been done and how successful has it been?

The Kennel Club and many veterinary scientists have been very aware of these heritable disease problems, and so have tried to develop programmes to assist breeders in identifying dogs at risk, and to reduce the incidence of inherited diseases. Clinically based surveillance schemes for joint and eye health have more recently been supplemented with DNA based testing for particular mutant genes (section four of full report).

For the past thirty years, the significant impact of hip and elbow dysplasia on a large proportion of the dog population has driven efforts towards countering these problems. But review of evidence from the current dedicated BVA/Kennel Club scheme, suggests that progress has been slow. The scheme cannot provide representative data for many breeds because the proportion of dogs screened is very small and participants are self selecting. The true prevalence of hip dysplasia in the bulk of the UK dog population,

¹ Note: as the report was going to press, the UK Kennel Club announced that it will not register puppies that are born from any mother/son, father/daughter or brother/sister mating, taking place on or after 1st March 2009.

and whether there is any progress in reducing it, remains unknown.

DNA based tests have been developed for more than 50 inherited diseases. DNA based testing has many strengths and great potential for genetically simple disorders. However, the system is presently open to abuse by dishonest owners (substituting samples from one dog for another), and has limited reach into more complex diseases. The development of additional genetic markers holds great potential value, but significant time delays and costs mean that it cannot be viewed as the sole solution to current problems in pedigree dog breeding.

The UK dog breeding and showing industry is essentially self-regulating, with the Kennel Club effectively having a near monopoly on registering pedigree dogs. Breed standards have traditionally been developed between the Kennel Club and individual breed clubs/societies. These societies vary in the initiatives they have taken to try to preserve and improve the health and welfare of their breed, and some are certainly diligent. However, many breed societies still show reluctance to acknowledge or publicly admit the common problems within their breed. A more consistent approach in which individual breed societies do not operate autonomously is needed.

Recommended screening programmes are in place for many breeds, but these are nearly all non-compulsory and inevitably incomplete, as tests are only available for a portion of the inherited diseases identified. In 2004, The Kennel Club introduced an accreditation system for breeders which lists "required" and "recommended" tests for specific breeds. Although popular, this scheme is voluntary and inconsistencies in the tests advised need to be addressed to allow it to achieve its full potential.

7. Possible ways forward

The situation is complex, with many stakeholders and numerous plausible courses of action. Each breed has its own array of problems and so there is no single solution. From research findings, past reports and discussions with prominent experts in the field, the authors compiled a list of 36 distinct actions which have all been posed as possible routes forward. Then based on a survey of twenty experts in the fields of dog welfare, genetics, veterinary science, and practising veterinarians, the authors derived fourteen actions believed to hold the greatest potential value for improving pedigree dog welfare. These are listed below and discussed further in section 5 of the full report².

1. **Systematic collection of morbidity (disease) and mortality (cause of death) data from all dogs.**
2. **Revision of registration rules to prevent the registration of the offspring of any mating between first-degree and second-degree relatives (e.g. parent and offspring, two siblings, grandparent and offspring or half siblings).**
3. **Open stud books to allow more frequent introduction of new genetic material into established breeds.**
4. **Setting up systems to monitor the effectiveness of any interventions and changes in breeding strategies.**
5. **Conducting a full ethical review of the health and welfare of current breeds. This could inform decisions, such as to enforce**

rapid out-crossing or (as suggested by some), in extreme cases even to phase out specific breeds.

6. **Development of detailed management plans for each breed.**
7. **Refinement of diagnostic tests and DNA markers for inherited disorders.**
8. **Increase genetic diversity by encouraging importation and inter-country matings, especially in numerically-small breeds.**
9. **Make registration of pedigree dogs conditional upon both parents undergoing compulsory screening tests for prioritised disorders.**
10. **Introduction of Codes of Practice that encourage breeders to consider health, temperament and welfare.**
11. **Training and accreditation of judges to prioritise health, welfare and behaviour in the show ring.**
12. **Creating and fostering in the public, the image of a happy and desirable dog as one that experiences high welfare.**
13. **Formulation of an independent panel of experts from multiple disciplines to facilitate dialogue and drive positive action by all stakeholders.**
14. **Development of schemes for calculating Estimated Breeding Values (EBVs) for disorders influenced by genetic factors. The EBV of an animal for any trait predicts the average performance of its offspring for that trait.**

8. In conclusion

To date, breeding practices and efforts by breed societies and kennel clubs have been ineffective at protecting the welfare of many breeds of domestic dog. Therefore, to safeguard the future of pedigree dogs, changes in breeding practice are urgently required, and for some breeds more drastic measures will be needed. All members of society, and in particular all those who benefit from pedigree dogs, have a moral and ethical obligation to ensure that every action is taken to attempt to rectify the problem and to increase the health and welfare of future generations of pedigree dogs.

To maximise progress at improving the welfare of pedigree dogs, it is vital to engage all stakeholder groups and to consider both the direct as well as the indirect effects of breeding practices. Change will most quickly come about through a concerted approach in which actions are coordinated and complementary. However, the most important element is to ensure that all stakeholder groups buy into the process and fully support the action(s) they need to take. This is the challenge that lies ahead.

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² These actions are summarised here but the full text as presented to the respondents can be found in the full report. There are a further 17 recommendations described in the report which may also prove valuable.

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The following experts gave their time and expertise to help direct the recommendations in this report:³

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The full report can be downloaded at:
www.rspca.org.uk/pedigreedogs

³ Respondents only contributed to the average ratings presented and hence individuals do not necessarily endorse the views expressed in this report