



Can brachycephalic breeds ever become sound enough in respect of their respiratory function?

Created: 03/09/2014

By Göran Bodegård MD, PhD, member of the Swedish Kennel Club central board and chairman of the Nordic Kennel Union (NKU) BSIS committee.

THE SWEDISH Kennel Club, as has been reported previously in DOG WORLD, runs an ambitious programme called BSI (breed-specific instructions regarding exaggerations in pedigree dogs).

This programme has been integrated into show routines since 2009 – and this year all the other Scandinavian kennel clubs have together worked out the latest edition and this idea for protecting pedigree dogs will be applied throughout Scandinavia.

The idea is to make judges aware of the areas of risk in the high profile breeds (39 at present in the Nordic Kennel Union BSI). The instructions are recommendations and not rules and the project does not create a manual for linking the observed flaws to a specific grade or a disqualification.

The judges report their observations and these are the basis for the statistical processing of the findings. We are at present processing all the reports from 2009.

The statistics from 2009-2012 have shown some interesting results.

One of the most essential motivations for the BSI initiative is to focus on the problems of the brachycephalic breeds in general and their respiratory problems in particular. In order to create a consensus regarding these problems and a common way for judges to assess the clinical signs we have created a DVD with the basic instructions. The latest edition of the BSI contains an appendix which summarises the information:

All dogs should be able to breathe effortlessly, also when moving.

Three levels of breathing distress should be taken into consideration in quality grading and competition assessment with regards to the dogs' ability to breathe normally in the show ring and when moving.

1 Non-significant/temporary signs of affected breathing but without causing any difficulty to the dog should be noted but not necessarily affect the quality grading. This should however be considered at the competition assessment.

2 Milder affect on the ability to breath or milder respiratory problems, as well as anatomical conditions, that potentially affect the ability to breathe should influence the quality grading (pinched nostrils, too short nose, overly small head and/or very short proportions, underdeveloped ribcage and so on).

3 Obvious signs of respiratory problems should make the judge consider disqualification.

Those signs of breathing distress when the dog is standing still and without any 'provoking external factors' (such as hot temperature, exciting stimuli etc) demonstrates laboured respiration such as

- mouth breathing with obvious retraction of the mouth angle and/or very protruding tongue
- loud breathing sounds; aspiratory and/or expiratory
- retractions in the forechest area and/or behind the ribcage, synchronised with the respiration
- nodding movements of the head and neck synchronised with the respiration.

The assessment of breathing should always include evaluation of possible respiratory distress symptoms during and after evaluation of movement which should be of breed-adequate speed and duration.

General signs of exhaustion as well as difficulties with and prolonged recovery after action are very serious findings and serious signs of lack of respiratory capacity.

The crucial question is of course whether we can claim that the BSI ambitions have any influence on the soundness of show dogs and particularly regarding such serious matters as breathing problems in brachycephalic dogs.

The first statistical results (from 2012) show that during 2009 80 per cent, 2010 82 per cent and 2011 84 per cent of judges' reports confirmed that the listed breeds had been appropriately selected for inclusion in the BSI programme. This increase in agreement for inclusion was even more significant for the brachycephalic and chondrodystrophic breeds.

There has been a statistically significant drop in the number of dogs in which judges have observed flaws in the areas of risk for the breeds and this has been particularly evident for brachycephalic and chondrodystrophic breeds. Thus it is evident that breeders and exhibitors do not enter dogs who can be penalised for lacking soundness.

The first intention – to increase awareness of the BSI concept with judges – has been successfully achieved. Raising show judges' awareness of the health and soundness risks related to type exaggerations in show dogs has been achieved.

The positive outcome of these quickly established routines has thus created, in theory, a good possibility of influencing the breeding of sounder and healthier purebred dogs.

Time is still certainly too short to notice or to evaluate any definite improvements regarding health and soundness in the 39 individual high profile breeds listed in the BSI. That will take a certain number of generations to observe and prove. And of course the main question is whether it is possible to breed brachycephalic breeds with the combination of excellent breed type and excellent health and soundness (particularly breathing soundness).

There is no genetic principle which is an obstacle to this! In many breeds the aim of getting flat-faced dogs has been achieved by selection for a shortened skull and muzzle. This head type – the brachycephalic head – is not to be considered as a normal variation but is the result of a human intention to consolidate desired physical characteristics which are expressions of a genetic mutation.

Even with selective breeding for this trait, dogs are produced with a spectrum of characteristics, including individuals having practically no nose at all. Strongly connected to the flat face characteristics is the development of malformations in the airways including pinched nostrils, elongated and thickened palate, hypertrophic and/or collapsing walls of the trachea and bronchi which cause obstructions for the flow of air. The degree of breathing impairment varies. The brachycephalic breeds also manifest a seriously disturbed thermoregulation capacity.

It is important to understand that the genetics behind the brachycephalic syndrome are complex and the basic gene alteration in brachycephalic breeds probably operates together with several other modifying genes. This is the likely explanation for the great variability of the malformations in different parts of the air passages seen across the various brachycephalic breeds and individuals.

It therefore may, theoretically, be possible to retain desired external, breed-typical characteristics (the flat face) without complete expression of the internal airway malformations of the syndrome. However, the knowledge about the genetics determining the variations (exterior and interior) is still not complete.

It is certainly of great value to describe the areas of risk in the brachycephalic breeds as they can be observed and assessed in the population of dogs (the show dogs) which represent the best type dogs.

The BSI project with its structure and reports will give a good chance of reporting about the situation and its changes over time. The fact that exhibitors are inclined not to enter affected dogs is a sign of a consensus about the problems – but no guarantee that breeders are avoiding using affected dogs. But since it is mostly the highly

awarded dogs that are used for breeding nowadays there is a great chance that the affected dogs are being eliminated.

No scientific studies are at present being undertaken to sort out this question but clinical and anecdotal experiences point towards a favourable development – but there are certainly some difficulties which will not be overcome unless the most pronounced exaggerations are avoided, and breeders in general aim at a more middle value than the risky type related to monstrous exaggerations.

The outcome of the statistical processing of all the Swedish reports from 2009-2013 will be reported this autumn.

- See more at: <http://www.dogworld.co.uk/product.php/121278#sthash.hxCh70ws.dpuf>