

BVA policy position on extreme conformation

Introduction

Extremes of conformation in animals can be defined as when an animal's body shape, structure or appearance has the potential to result in negative impacts on their health and welfare (see crossspecies examples at Appendix 1). Breeding decisions across companion and production animals should be taken with the aim of conferring healthy or healthier conformational traits, being mindful of the potential health and welfare impact of selection for specific or desirable structural features.

Society as a whole, including the veterinary professions, owners and keepers, breeders, registering bodies, breed clubs and societies, academics, animal charities and those with a commercial interest in the use of animals and their images, have a social and moral responsibility to work together towards:

- ensuring healthier future generations of animals that currently experience extreme conformation
- reducing the negative health and welfare impacts of extreme conformation.
- increasing awareness of the health and welfare issues associated with extreme conformation across different species.
- encouraging research in order to better understand and address the prevalence of, and trends in, conformation-related ill-health.
- encouraging research in order to better understand and address the prevalence of the welfare impacts resulting from extreme conformation.
- the development of objective, robust measures to contribute to the assessment of problematic conformation.

BVA does however recognise that it may be necessary to select animals with specific conformational traits for scientific purposes in line with the [Animals \(Scientific Procedures\) Act 1986](#).

The role of the veterinary profession

The veterinary professions are required by the [RCVS Professional Code of Conduct](#) to ensure the health and welfare of animals committed to their care. As part of the profession's responsibility to safeguard animal health and welfare, BVA supports exploring evidence-based approaches to tackle conformation-related health and welfare issues in all species.

For animals affected by extreme conformation, a veterinary surgeon's role in improving their health and welfare may involve performing surgical procedures to correct conformational disorders and monitoring health records and reports (eg. abattoir reports) to identify the negative health and welfare impacts resulting from extreme conformation.

BVA encourages all veterinary surgeons to participate in reporting schemes where these exist. In the case of dogs, BVA recommends that veterinary surgeons report the correction of any defect which alters the natural conformation of a Kennel Club registered dog, or any caesarean operation carried out on Kennel Club registered dogs, to the Kennel Club. For production animals, this may include reporting caesarean sections to the Artificial Insemination service or monitoring abattoir and FSA reports to identify the health and welfare impacts resulting from extreme conformation and using this to inform advise to keepers on responsible breeding decisions.

Such reporting and monitoring processes help to encourage responsible breeding from animals who do not display evidence of hereditary problems, have healthy conformation and can undertake natural birthing processes, avoiding the normalisation of caesareans and the perpetuation of certain extremes of conformation.

We would also encourage veterinary surgeons to make breeders aware of current animal welfare legislation when undertaking breeding decisions^{1 2 3} and the responsibility of breeders under [The Animal Welfare \(Licensing of Activities Involving Animals\) \(England\) Regulations 2018](#)⁴ not to breed from any dog if it can be reasonably expected on the basis of its genotype, phenotype or state of health that breeding from it could have a detrimental effect on its health or welfare or the health and welfare of its off-spring.

We recognise that this position only covers extreme structural conformation in animals and that many animals also suffer from heritable disorders and diseases. With this in mind, we would strongly encourage that where available all breeders should use recognised health schemes to screen animals for inherited disease (eg. the BVA/Kennel Club Canine Health Schemes), and, where health schemes are not available, consult with a veterinary surgeon to enable informed decisions as to whether certain animals can be responsibly bred.

Supporting and harnessing the influence of the veterinary profession

As set out in its animal welfare strategy Vets speaking up for animal welfare, BVA believes that as credible and trusted leaders in animal health and welfare, the veterinary professions should take action collaboratively to influence the reduction of unhealthy animals with extreme conformation and improve health and wellbeing outcomes for current generations of these animals through consistent messaging.

Where there is concern for a population-based rise in ill-health amongst a certain breed-type with extreme conformation, BVA recognises the need for professional veterinary associations to support their respective memberships to take action to improve the health and welfare of these animals by:

- developing resources and guidance
- producing targeted communications and consistent messaging
- providing CPD and engaging with key stakeholders to promote collaborative working across the relevant sector

Recommendations

Below BVA sets out 10 key recommendations for stakeholders across animal health and welfare, including the veterinary professions, registering bodies, breeders, owners and keepers and marketers and advertisers to ensure healthier future generations of animals. Our specific recommendations are:

Recommendation 1: BVA encourages all veterinary surgeons to participate in reporting schemes regarding surgery to correct health and welfare problems relating to conformation where these exist.

Recommendation 2: BVA encourages veterinary surgeons to advise keepers not to breed from companion or production animals that have required a caesarean section due to birthing difficulties that are a result of extreme conformation.

1 [The Animal Welfare Act 2006](#)

2 [Animal Health and Welfare \(Scotland\) Act 2006](#)

3 [Welfare of Animals Act \(Northern Ireland\) 2011](#)

4 [The Animal Welfare \(Licensing of Activities Involving Animals\) \(England\) Regulations 2018](#)

Recommendation 3: In companion animals, neutering should be encouraged as a means of preventing the perpetuation of extremes of conformation.

Recommendation 4: Animals showing extremes of conformation that negatively affect their health and welfare should not be used for breeding.

Recommendation 5: Breed Standards for animals with extreme conformation should be reviewed according to evidence and be clear in their definitions of healthy conformations. This could be achieved using diagrams, quantitative ratios and conformational limits⁵⁶⁷⁸ and developed in consultation with expert veterinary input. Show judges across sectors and species areas eg. dog shows, agricultural shows etc. have a role in ensuring that only animals that demonstrate healthy conformation are placed, encouraging improvements to breed health and incentivising the selection of healthy parents as part of the breeding process.

Recommendation 6: BVA would welcome the development of breed-specific objective assessment measurements, ratios or indices to contribute to the assessment of problematic extreme conformations leading to negative health and welfare impacts.

Recommendation 7: Breeders and keepers should carefully consider the health and welfare problems associated with the extreme conformation of certain breed-types across companion and production animals. Breeders should comply with current animal welfare legislation when undertaking breeding decisions and consult with a veterinary surgeon to enable informed decisions as to whether certain animals can be responsibly bred to confer healthy conformational traits.

Recommendation 8: Prospective owners and keepers should carefully consider the health and welfare problems associated with certain breed-types and speak to their veterinary surgeon to obtain advice before purchasing animals.

Recommendation 9: The use of images or videos of animals with extreme conformation in advertising and marketing materials should be avoided so as to encourage responsible ownership and avoid the normalisation of poor health amongst these animals. We would encourage veterinary practices, marketers and designers to consult the BVA Good practice guidance for the responsible use of pet animals in advertising before commissioning and using animals in marketing materials or consult with their local vet.

Recommendation 10: Research should be carried out to better understand the social influences that drive breed demand in order to develop targeted educational strategies that will influence purchasing behaviours and breeding/production drivers.

Appendix 1 – Cross-species examples of extreme conformation

Below are some examples of how extreme conformation can negatively affect the health and welfare of different species (this list is not exhaustive):

Companion animal

Brachycephalic (flat-faced) cats eg. Persian - As a consequence of selective breeding for their appearance, a substantial proportion of cats with brachycephalic conformation are predisposed to suffer from a range of health problems associated with their extreme conformation. These problems include: Anatomical defects of the upper airway causing breathing difficulties often associated with overheating, sleep apnoea and regurgitation; dental problems and periodontal disease and skin

5 Liu NC, Troconis EL, Kalmar L, Price DJ, Wright HE, Adams VJ, Sargan DR, Ladlow JF. Conformational risk factors of brachycephalic obstructive airway syndrome (BOAS) in pugs, French bulldogs, and bulldogs. PLoS One. 2017 Aug 1;12(8):e0181928.

6 Liu NC, Oechtering GU, Adams VJ, Kalmar L, Sargan DR, Ladlow JF. (2017) Outcomes and prognostic factors of surgical treatments for brachycephalic obstructive airway syndrome in 3 breeds. Vet Surg. 2017 Feb;46(2):271-280

7 Liu NC, Sargan DR, Adams VJ, Ladlow JF. (2015) Characterisation of Brachycephalic Obstructive Airway Syndrome in French Bulldogs Using Whole-Body Barometric Plethysmography. PLoS One. Jun 16;10(6):e0130741.

8 Bateson, P. 2010. Independent inquiry into dog breeding. Cambridge: University of Cambridge.

conditions.^{9 10}

Scottish Fold Cats -The genetic mutation that causes the characteristic ear cartilage fold in Scottish Fold Cats also causes severe cartilage and bone abnormalities, often resulting in severe arthritis and painful degenerative joint disease.¹¹

Brachycephalic (flat-faced) dogs eg. Pug, Bulldog, French bulldog - As a consequence of selective breeding for their appearance and to cater for their high demand, a substantial proportion of dogs with brachycephalic conformation are predisposed to suffer from a range of health problems associated with their extreme conformation. These problems include: Anatomical defects of the upper airway causing breathing difficulties often associated with overheating, sleep apnoea and regurgitation (eg. Brachycephalic Obstructive Airway Syndrome (BOAS))^{12 13 14}; eye disease^{15 16 17 18}; inability to mate or give birth naturally (requiring Caesarean section)¹⁹.

'Long and low' dogs eg. Dachshund, Basset Hound – Selection for the 'long and low' morphology of these breeds has resulted in a disproportionate dwarfism which predisposes these dogs to intervertebral disc extrusion (IVDE). IVDE can result in spinal compression and injury which can seriously compromise quality of life through pain and sensory and motor function compromise.^{20 21 22 23 24 25}

Ornamental fish Bubble-eye goldfish - Bubble-eye goldfish are selected for their dramatically protruding, fluid-filled sacs beneath each eye. These can compromise behaviour and vision, as well

9 Schlueter C, Budras KD, Ludewig E, et al. Brachycephalic feline noses. CT and anatomical study of the relationship between head conformation and the nasolacrimal drainage system. *J Feline Med Surg* 2009; 11: 891–900.

10 Featherstone HJ, Sansom J. Feline corneal sequestra: a review of 64 cases (80 eyes) from 1993 to 2000. *Vet Ophthalmol* 2004; 7: 213–27.

11 Malik R, Allan GS, Howlett CR, et al. Osteochondrodysplasia in Scottish Fold cats. *Aust Vet J* 1999; 77: 85–92.

12 Dupré and Heidenreich (2016) Brachycephalic syndrome. *Vet Clin Small Anim* 46 (2016) 691–707 Available at: [http://www.vetsmall.theclinics.com/article/S0195-5616\(16\)00008-5/abstract](http://www.vetsmall.theclinics.com/article/S0195-5616(16)00008-5/abstract)

13 Packer RMA, Hendricks A, Tivers MS, Burn CC (2015) Impact of Facial Conformation on Canine Health: Brachycephalic Obstructive Airway Syndrome. *PLoS ONE* 10(10): e0137496. Available at: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0137496>

14 O'Neill DG, Jackson C, Guy JH, Church DB, McGreevy PD, Thomson PC, Brodbelt DC: Epidemiological associations between brachycephaly and upper respiratory tract disorders in dogs attending veterinary practices in England. *Canine Genetics and Epidemiology* 2015, 2(1):10.

15 Maggs D, Miller P, Ofri R and Slatter D (2008) *Slatter's Fundamentals of Veterinary Ophthalmology*. 4th Ed. Elsevier Health Sciences: Edinburgh, UK

16 Bedford P and Jones G (2001) Abnormal appearance in R Pieffer and S Peterson Jones (Eds) *Small animal ophthalmology: a problem oriented approach*. 3rd Ed. Saunders: Philadelphia. pp 59

17 Mould J (1993) Conditions of the Orbit and Globe in S. Petersen-Jones and S. Crispin's *Manual of small animal ophthalmology*. BSAVA: Cheltenham p 45

18 O'Neill, D. G., Lee, M. M., Brodbelt, D. C., Church, D. B. & Sanchez, R. F. (2017) Corneal ulcerative disease in dogs under primary veterinary care in England: epidemiology and clinical management. *Canine Genetics and Epidemiology*, 4, 5

19 O'Neill, DG., O'Sullivan, AM., Manson, EA, Church, DB., Boag, AK., McGreevy, PD., Brodbelt, DC. (2017) Canine dystocia in 50 UK first-opinion emergency-care veterinary practices: prevalence and risk factors *Veterinary Record* 181, 88

20 Packer RMA, Hendricks A, Volk HA, Shihab NK, Burn CC (2013) How Long and Low Can You Go? Effect of Conformation on the Risk of Thoracolumbar Intervertebral Disc Extrusion in Domestic Dogs. *PLoS ONE* 8(7): e69650. doi:10.1371/journal.pone.0069650.

21 Bray JP, Burbidge HM (1998) The canine intervertebral disk - Part two: Degenerative changes - Nonchondrodystrophic versus chondrodystrophic disks. *J Am Anim Hosp Assoc* 34: 135–144.

22 Levine JM, Budke CM, Levine GJ, Kerwin SC, Hettlich BF, et al. (2008) Owner-perceived, weighted quality-of-life assessments in dogs with spinal cord injuries. *J Am Vet Med Assoc* 233: 931–935.

23 Freeman PM, Holmes M, Blamires H, Jeffery N, Granger N (2012) Impact on owners of home-based management of dogs with severe chronic spinal cord injury. 25th Symposium of the ESVN-ECVN. Ghent, Belgium.

24 Bauer M, Glickman N, Glickman L, Toombs J, Golden S, et al. (1992) Follow-up study of owner attitudes toward home care of paraplegic dogs. *J Am Vet Med Assoc* 200: 1809–1816

25 Bergknut N, Egenvall A, Hagman R, Gustås P, Hazewinkel HAW, et al. (2012) Incidence of intervertebral disk degeneration-related diseases and associated mortality rates in dogs. *J Am Vet Med Assoc* 240: 1300–1309.

as being at risk of injury, infection and associated pain.²⁶ Swim bladder disorder – In fish that have been bred for shortened and rotund bodies, their reduced body size also results in a shortened and more rounded swim bladder (the air-filled organ fish use to regulate buoyancy and balance their swim bladders). Consequently, these fish are more prone to suffering from swim bladder disorder causing fish to have balance and buoyancy problems.

English Lop - Due to selective breeding for their exaggerated ear size, the movement of English Lop rabbits is extremely restricted and they are at risk of ear trauma, infection, chronic pain and dental problems due to their more rounded head shape.²⁷

Brachycephalic (flat-faced) rabbits eg. the Netherland dwarf and the Lionhead breed - As a consequence of selective breeding for their appearance, a substantial proportion of rabbits with brachycephalic conformation are predisposed to suffer from a range of health problems associated with their extreme conformation. This can include ear infections, dental problems and periodontal disease and skin conditions.^{28 29 30}

'Silk back' inland bearded dragons - The 'silk back' mutation in inland bearded dragons results in animals that are selected for their lack of scales. This predisposes them to invariable dysecdysis (shedding of the skin) and potential for subsequent loss of digits or limbs due to avascular necrosis, as a result of a build-up in layers of skin.

Farm animal

Miniature horses eg. Miniature Shetlands and Falabellas - Due to their weight and size, miniature horses are more susceptible to certain medical conditions, such as hyperlipemia (excessive amounts of fat in the blood)^{31 32} hip^{33 34} and shoulder dysplasia^{35 36} tracheal collapse^{37 38} and eclampsia³⁹ that are not regularly identified in larger horse breeds.

26 Universities for Animal Welfare. Bubble-eye Goldfish. Available at: <https://www.ufaw.org.uk/fish/bubble-eye-goldfish-bubble-eye>

27 UFAW. Genetic Welfare Problems of Companion Animals: Rabbits – English Lop. Available at: <https://www.ufaw.org.uk/rabbits/english-lop-overlong-ears>

28 UFAW. Genetic Welfare Problems of Companion Animals: Rabbits – Netherland Dwarf. Available at: <https://www.ufaw.org.uk/rabbits/netherland-dwarf-dental-malocclusion>

29 Huang C, Mi M and Vogt D (1981) Mandibular prognathism in the rabbit: discrimination between single-locus and multifactorial models of inheritance. *Journal of Heredity* 72(4): 296-298

30 Lindsey JR and Fox RR (1994) Inherited Diseases and Variations in Manning PJ, Ringler DH and Newcomer CE (Eds) *The Biology of the Laboratory Rabbit*. 2nd Ed. Academic Press Limited, London, p 293-320

31 Moore, B.R., Abood, S.K and Hinchcliff, K.W, 1994. "Hyperlipemia in 9 Miniature Horses and Miniature Donkeys". *Journal of Veterinary Internal Medicine*, Vol8, No 5 (September-October), 1994: pp 376-381 Available at: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1939-1676.1994.tb03253.x>

32 Mogg, T.D., Palmer J.E., 1995. "Hyperlipidemia, hyperlipemia, and hepatic lipidosis in American miniature horses: 23 cases (1990-1994)". *J Am Vet Med Assoc*. 1995 Sep 1;207(5):604-7. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/7649775>

33 Garcia-Lopez JM, Boudrieau RJ, Provost PJ., 2001. Surgical repair of coxofemoral luxation in a horse. *J Am Vet Med Assoc*. 2001 Nov 1;219(9):1254-8, 1227. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/11697370>

34 Ludwig EK, Byron CR., 2017. Femoral head ostectomy and medial patellar ligament desmotomy to treat a pregnant miniature horse with coxofemoral joint luxation and upward fixation of the patella. *Can Vet J*. 2017 May;58(5):498-502. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/28487594>

35 Clegg PD, Dyson SJ, Summerhays GE, Schramme MC., 2001. Scapulohumeral osteoarthritis in 20 Shetland ponies, miniature horses and falabella ponies. *Vet Rec*. 2001 Feb 10;148(6):175-9. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/11258723>

36 Parth RA, Svalbe LS, Hazard GH, Church S., 2008. Suspected primary scapulohumeral osteoarthritis in two Miniature ponies. *Aust Vet J*. 2008 Apr;86(4):153-6. doi: 10.1111/j.1751-0813.2008.00260.x. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/18363990>

37 J Aleman M1, Nieto JE, Benak J, Johnson LR., 2008. Tracheal collapse in American Miniature Horses: 13 cases (1985-2007). *Am Vet Med Assoc*. Oct 15;233(8):1302-6. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/19180718>

38 Couëtill LL, Gallatin LL, Blevins W, Khadra I., 2004. Treatment of tracheal collapse with an intraluminal stent in a miniature horse. *J Am Vet Med Assoc*. 2004 Dec 1;225(11):1727-32, 1701-2. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/15626224>

39 University of California, 2012. "The Miniature Horse: More than just a smaller horse!" in Centre for Equine Health Horse Report Available at: http://www.vetmed.ucdavis.edu/ceh/local_resources/pdfs/pubs-Dec2012-sec.pdf

'Cartoon' Arabian-colts- Arabian horses are often selected for their 'dished' or concave facial conformation, however there has recently been an emerging breeding practice whereby extreme concave facial features of Arabians have been selected for, resulting in a flattened, cartoon-like nose which may negatively impact on the horse's ability to breathe and exercise normally.^{40 41}

Poultry

Tibial dyschondroplasia in broiler chickens – In some broiler chickens that have been bred for fast growth rates, the tibial cartilage does not mature enough to turn into bone, affecting the growth of bone and cartilage. Tibial dyschondroplasia has historically led to lameness in broilers, however significant welfare progress has been made over a number of years by genetics breeding companies that have used genetic improvements to reduce incidence of this condition. The BVPA and poultry industry in the UK continually strive for optimal bird welfare, whilst producing high quality and safe products for consumers. The industry selects breeds which suit the production systems to which they are reared and cared for, working closely with veterinarians, and in consultation with consumers, retailers and farm assurance schemes. Examples of where significant welfare progress has been made over a number of years by genetics breeding companies through genetic improvements are the reduction in the incidence of tibial dyschondroplasia in broilers (as above) and reduction in incidence of broiler ascites, which had historically led to lameness and cardiovascular disease respectively in broiler chickens.

Last updated November 2018.

40 Veterinary Record, 2017. Meet El Rey Magnum Veterinary Record 181, 390. Available at:

<https://veterinaryrecord.bmj.com/content/181/15/390>

41 Knapton, S, 2017. "Extreme horse breeding leaves animals looking like cartoons, warn vets" Available at:

<https://www.telegraph.co.uk/science/2017/10/13/extreme-horse-breeding-leaves-animals-looking-like-cartoons/>