



Ethics versus aesthetics: Ethical challenges of human interactions with brachycephalic dogs

Dr Rowena Packer BSc (Hons) PhD PGCert (VetEd) FHEA
Senior Lecturer in Companion Animal Behaviour and Welfare Science
Royal Veterinary College, University of London

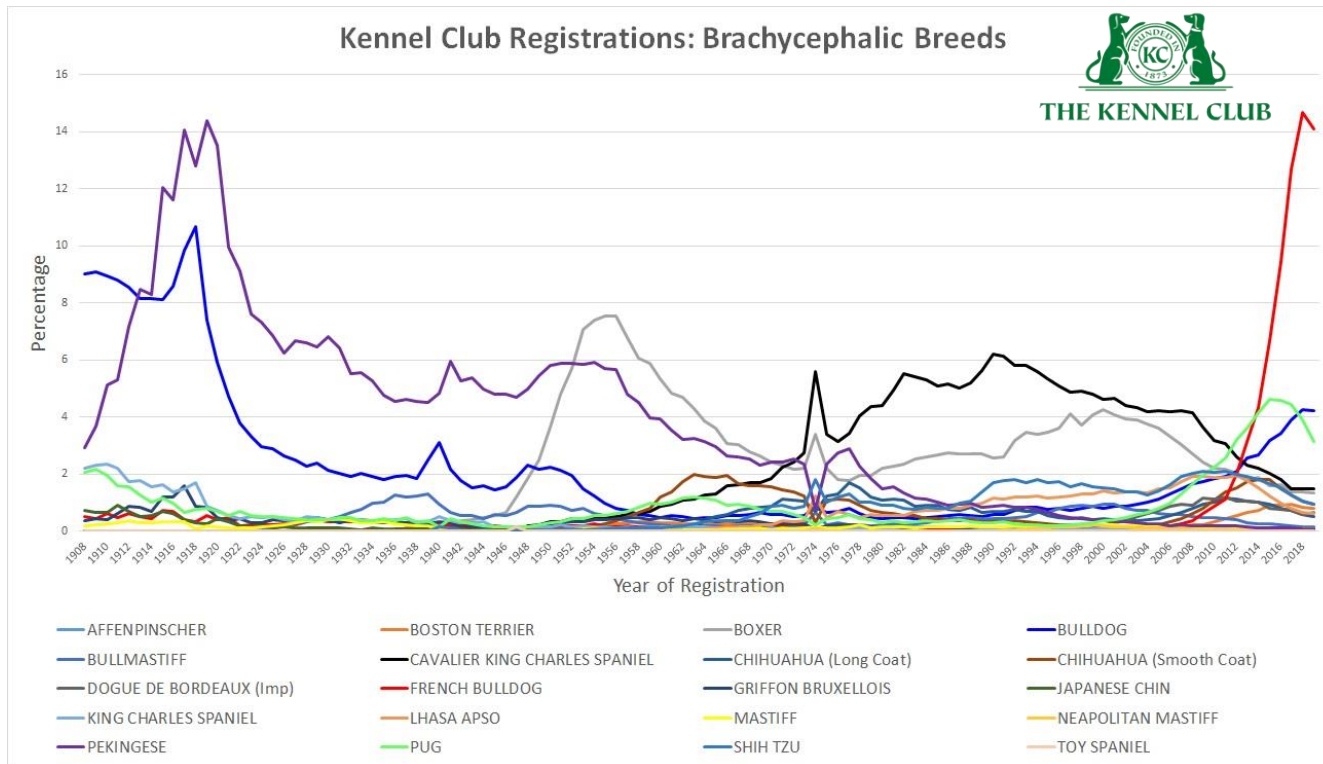


Talk overview

- Ethics of **breeding** brachycephalics
 - Strategies: Disorder screening, changing breed standards, outcrossing
- Ethics of **acquiring** brachycephalics
 - Acquisition motivations and sources: breeders, rescue organisations
- Ethics of **treating** brachycephalics
 - Procedures: Conformation-altering surgeries, caesarean sections

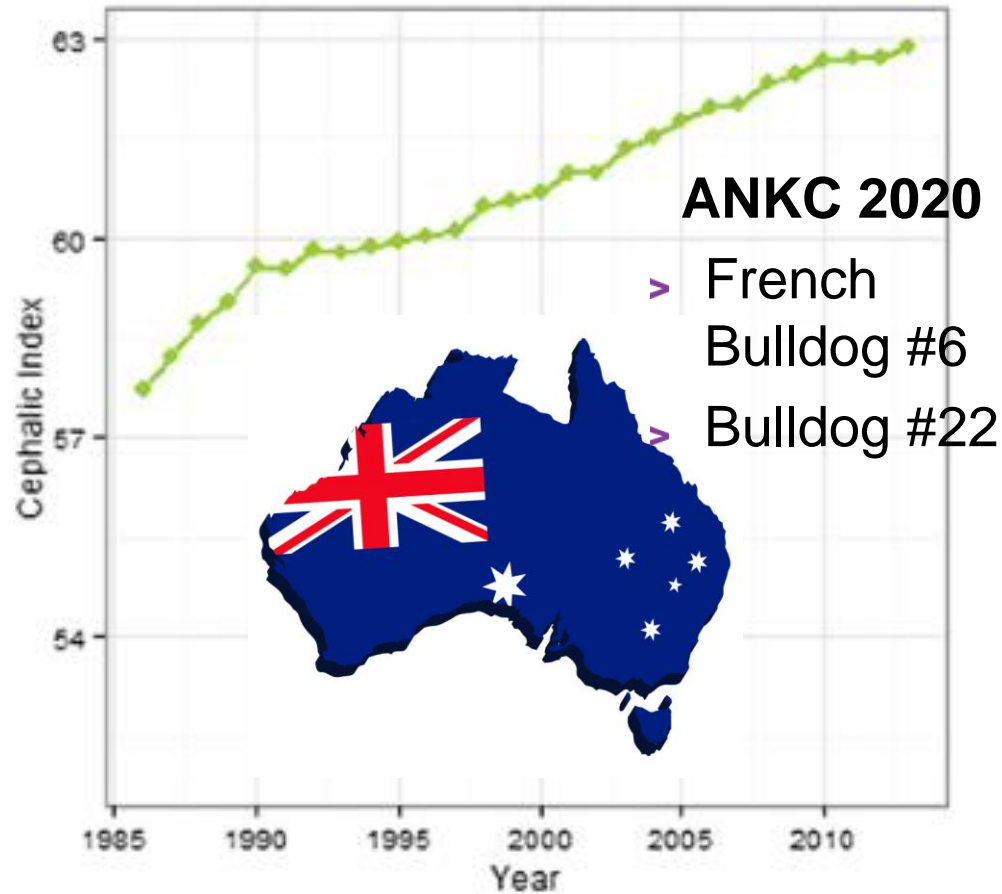
The brachy boom

- Public demand for brachycephalic (flat-faced) dogs has **dramatically increased** over the past decade



Almost **one fifth of dogs** that attend UK veterinary practices are brachycephalic (18.74%) vs. 46.48% mesocephalic, 7.84% dolichocephalic and 26.94% crossbred types (O'Neill et al, 2020)

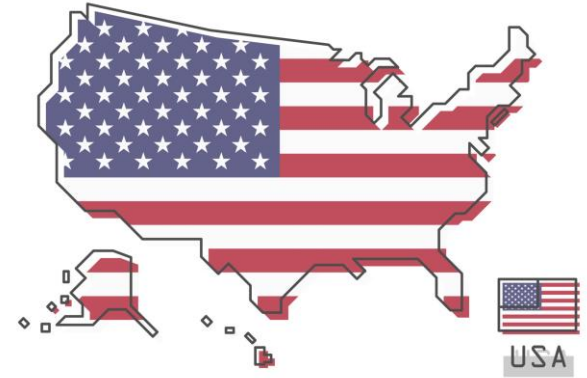
The brachy boom



Teng, K.T., McGreevy, P.D. et al. (2016) Trends in popularity of some morphological traits of purebred dogs in Australia. *Canine Genet Epidemiol* 3, 2

AKC 2021

- > French Bulldog #2
- > Bulldog #6



CKC 2021

- > French Bulldog #5

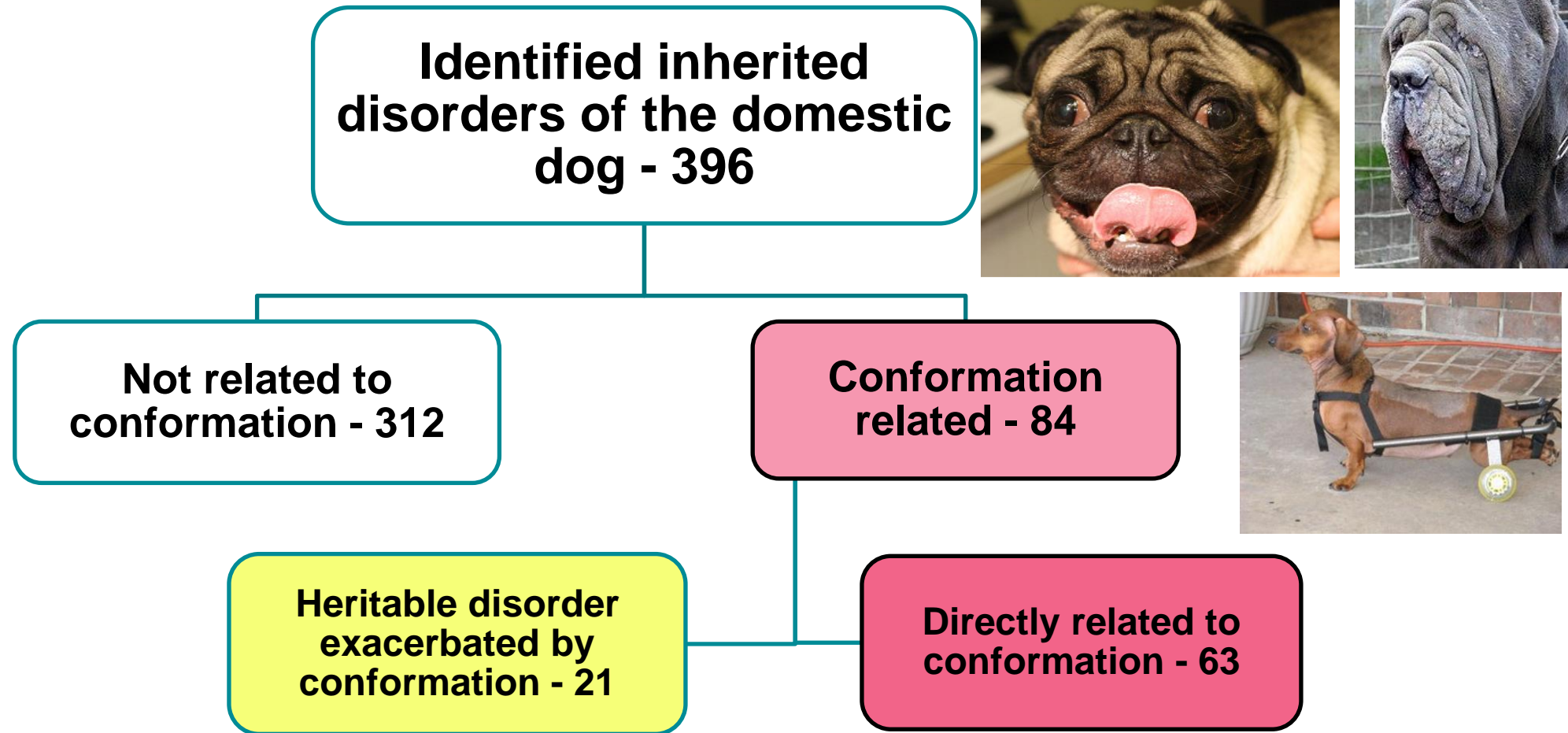


Société Centrale Canine 2021

- > French Bulldog #12



Conformation-related disease



Conformation-related inherited disorders in the dog

“Some traits are best regarded as ‘defects’, and are difficult to defend on welfare grounds”

(McGreevy and Nicholas, 1999)



“The RSPCA is extremely concerned about the very high levels of disability, deformity and disease in pedigree dogs”
(RSPCA, 2008)



Extreme conformation



“Extreme conformation in dogs describes a **physical appearance** that has been **so significantly altered by humankind** away from the ancestral natural canine appearance that affected dogs commonly suffer from poor health and welfare, with **negative impacts on their quality and quantity of life.**”

(ICEDogs, 2023)

Disease burden in brachycephalic dogs

Ectropion/entropion
Corneal ulcers
Corneal pigmentation
Cherry eye
Dry eye
Nasal fold trichiasis

Malocclusion

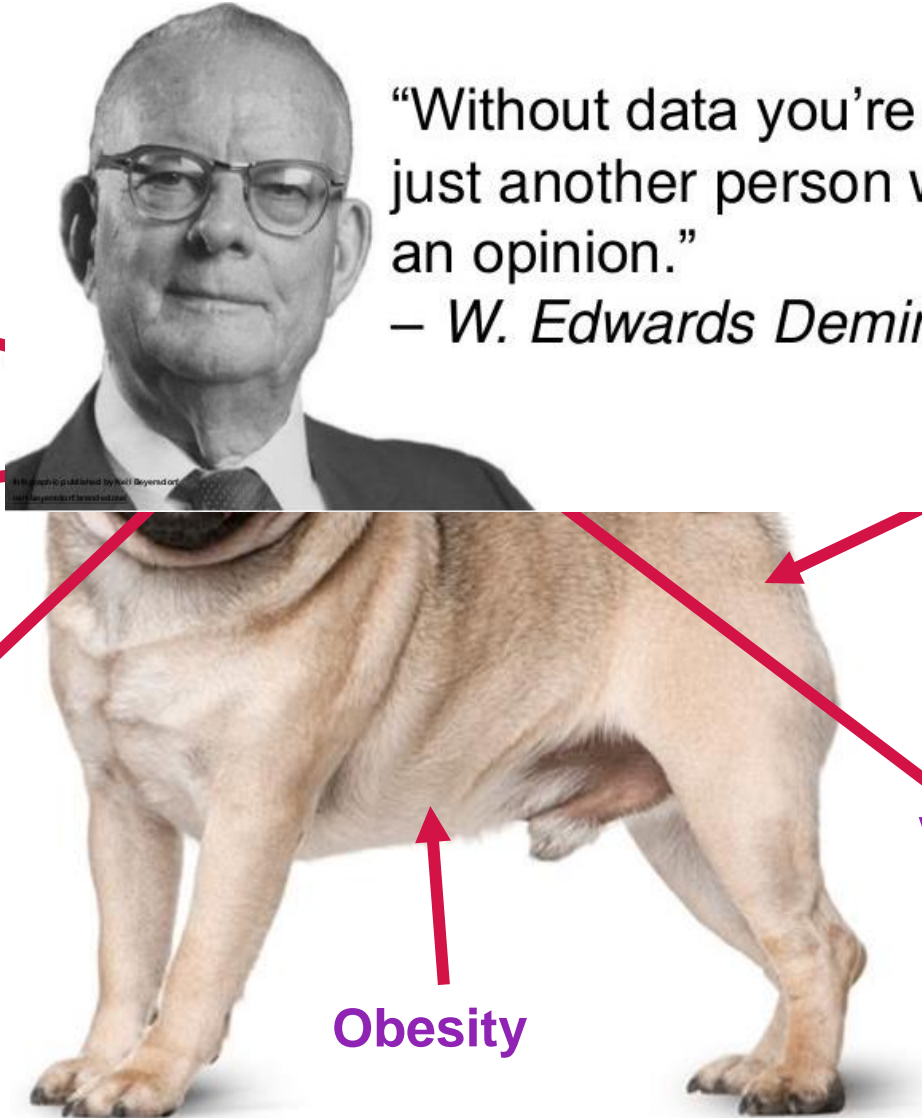
Brachycephalic Obstructive
Airway Syndrome
Tracheal Hypoplasia
Heat Related Illness

“Without data you’re just another person with an opinion.”
– *W. Edwards Deming*

Dystocia
(fetopelvic disproportion)

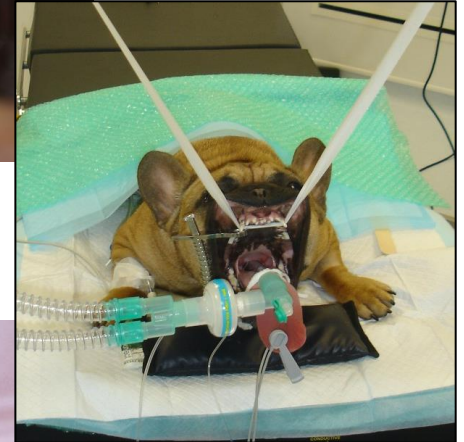
Vertebral malformations
IVDD

Obesity

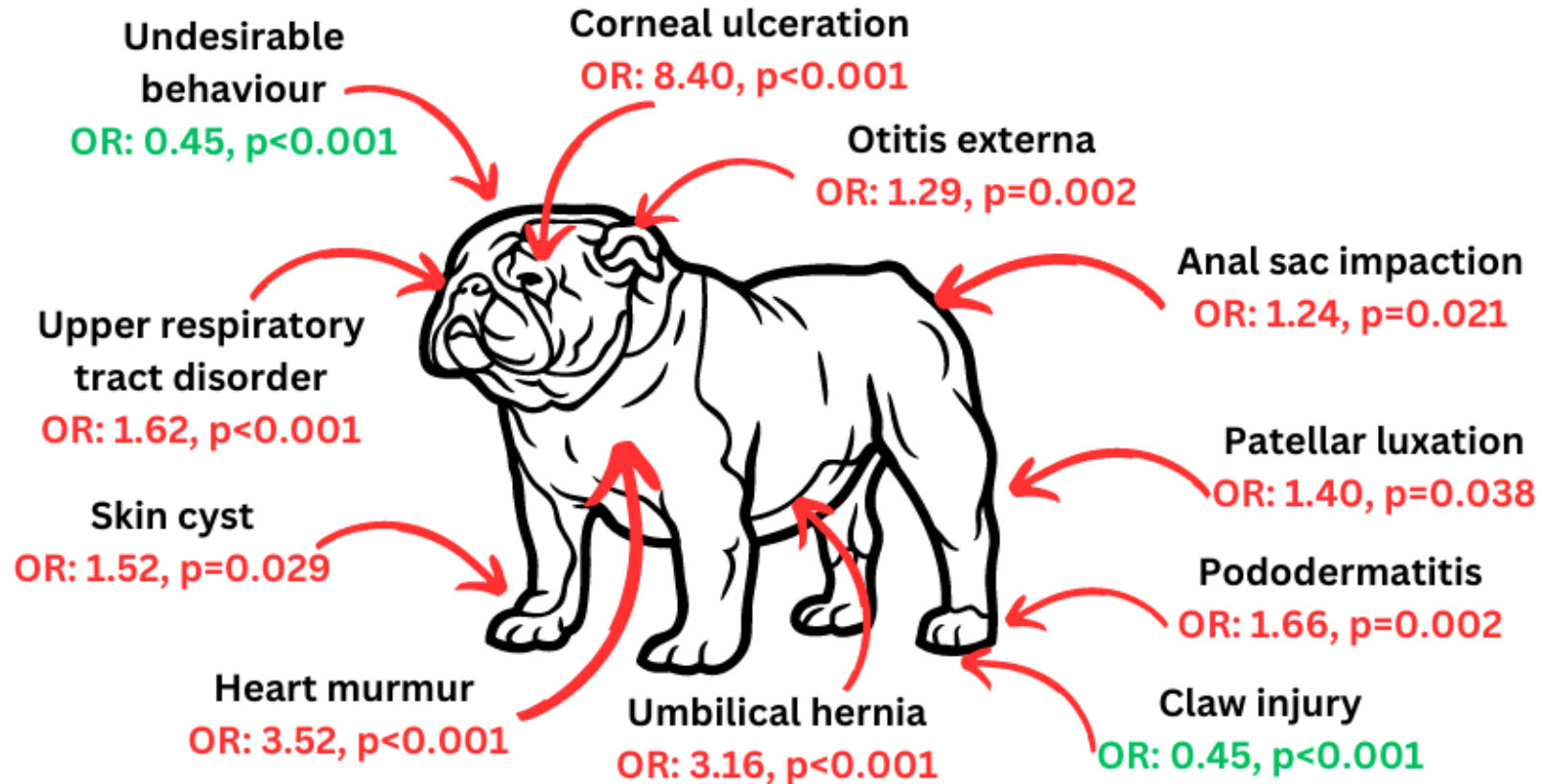


Disease burden in brachycephalic dogs

- ✦ **Respiratory:** Brachy 3x
- ✦ **Corneal ulceration:** Brachy 11x, Pug 19x
- ✦ **Cherry eye:** Brachy 7x, Bulldog 24x
- ✦ **Dry eye:** Brachy 4x, Bulldog 38x
- ✦ **Heat stroke:** Brachy 2x, Bulldog 14x
- ✦ **Skin fold dermatitis:** Brachy 5x, Bulldog 49x
- ✦ **Anal sac disorders:** Brachy 3x
- ✦ **Dystocia:** French Bulldog 16x
- ✦ **Patellar luxation:** French Bulldog 5x
- ✦ **Obesity:** Pug 3x



Disease burden in brachycephalic dogs



Evidence based veterinary medicine and the brachy boom

Clinical evidence of brachy disease burden

Brachycephalic Obstructive Airway Syndrome (BOAS)

Clinical assessment and decision making

Jane Ladlow and Nai-Chieh Liu

Brachycephalic Obstructive Airway Syndrome (BOAS)

Surgical management and post-operative management

Michael S. Tivers and Elizabeth Leece

Ophthalmology in practice for brachycephalic breeds

Màrian Matas Riera

Dermatological problems in the brachycephalic patient

Hilary Jackson and Deborah Gow

Dental and Oral Health for the Brachycephalic Companion Animal

Fraser Hale

Brain disorders associated with brachycephaly

Clare Rusbridge and Penny Knowler

Vertebral malformations and **spinal disease** in brachycephalic breeds

Steven De Decker and Rodrigo Gutierrez-Quintana

Obesity and weight management of brachycephalic breeds

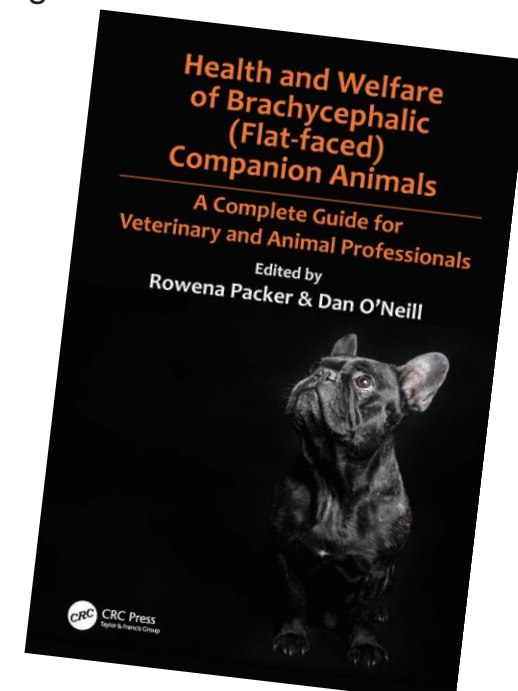
Eleanor Raffan

Reproduction in brachycephalic companion animal species

Aoife Reid, Laura Cuddy and Dan G. O'Neill

Anaesthesia for the brachycephalic patient

Frances Downing and Rebecca Robinson



Tackling the brachy boom: campaigns

2008



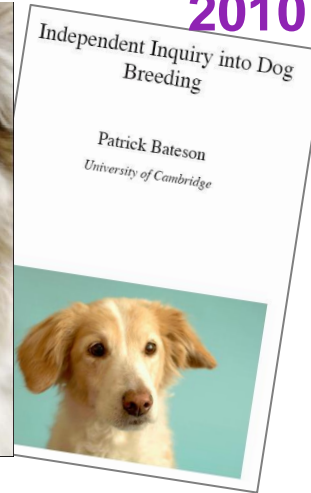
2009



2009



2010



With looks like these, winning might be easy. It's just breathing that's hard.



2011

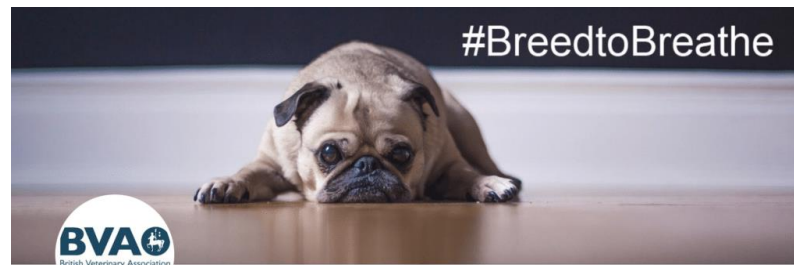
So many dogs born every year suffer because they've been bred mainly for their looks, not for their health and welfare. Underneath their shiny coats, they're suffering from a wide range of serious problems including severe breathing difficulties, joint problems, eye disease and painful skin conditions. Many pedigree dogs experience serious welfare problems for much of their lives because of the way they have been bred to look. Support the RSPCA's campaign to change breed standards so that the health, welfare and temperament of a dog is more important than its looks. Sign our petition at www.rspca.org.uk/bornstosuffer

BRED FOR LOOKS BORN TO SUFFER

2016



2018



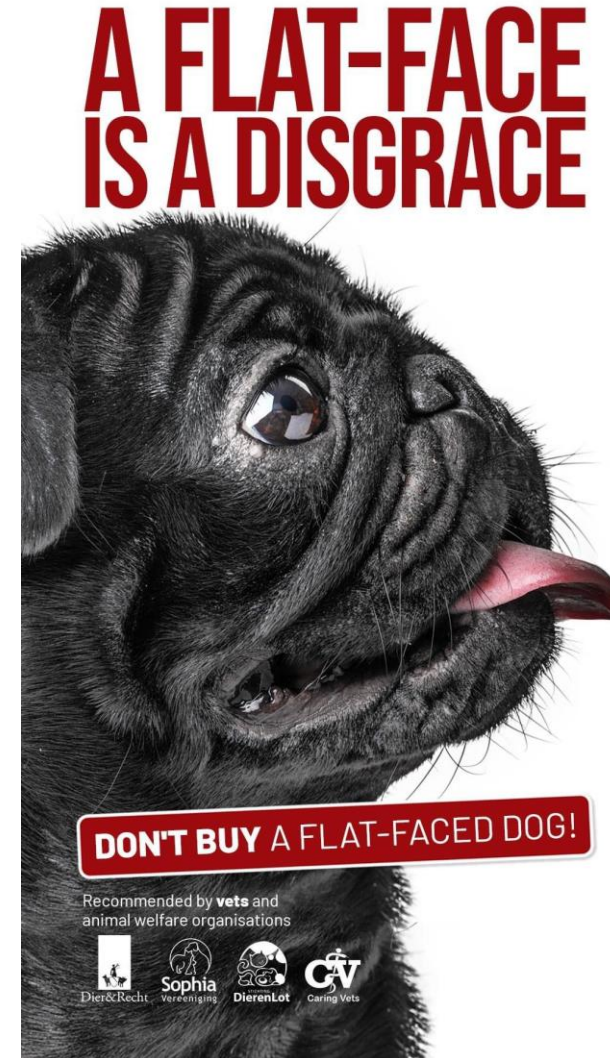
2021



Tackling the brachy boom: campaigns



Torture breeding
You think we're cute
...but you don't know, how we suffer!
Those who respect animals think differently!
(Vienna Animal Welfare Ombusman)



Tackling the brachy boom: legislation

HOME » NEWS » HEALTH » PETS HEALTH

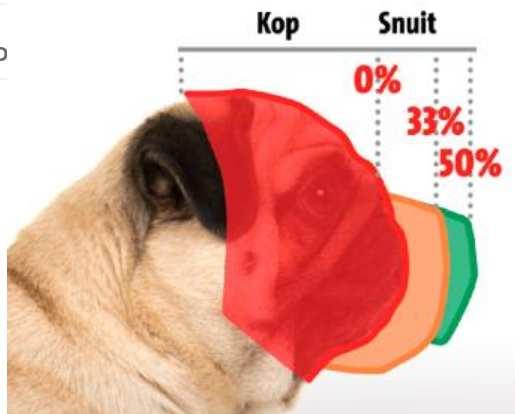
Ban 'unhealthy' dog breeds, say vets

A fifth of vets say some dog breeds should be banned, because of the health problems they suffer from

Future of the British bulldog is under threat as Dutch Kennel Club becomes first to BAN registration of puppies after introduction of new breeding laws

- The Dutch Kennel Club has banned the registration of new bulldog puppies
- The ban comes after the government restricted breeding broad-skulled dogs
- Broad-skulled dogs can suffer issues with breathing, their eyes and spines
- Some think the ban will force breeding underground with worse consequences

By [JORDAN KING FOR MAILONLINE](#)
PUBLISHED: 09:37, 23 May 2020 | UPDATED



Share: [✉](#) [Tweet](#) [Like 136](#) [Share](#)

Netherlands moves to ban pets suffering 'harmful' traits

Planned rules likely will target flat faces, folded ears

February 21, 2023 (published)

By [Ross Kelly](#).

In what may be a world first, the Netherlands is preparing legislation that would ban the ownership of pets with harmful physical characteristics that may include extremely flat faces or tightly folded ears.

No more British bulldogs: Norway bans breed over cruelty to animals

The group argued that selective breeding meant that there are currently no animals in Norway that could be classed as 'healthy'

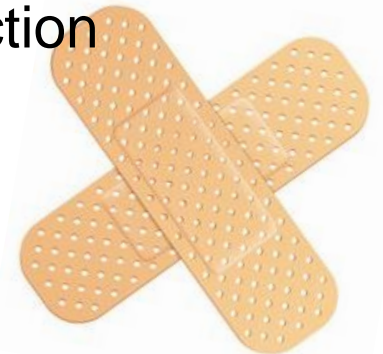
Ethics overview

- › Is it ever ethical to **breed** a brachycephalic dog?
- › Is it ever ethical to **acquire** a brachycephalic dog?
- › Is it ever ethical for **vets to treat** a brachycephalic dog?

Ethics of breeding brachycephalic dogs

Criteria for **within-breed health (disorder) testing** to be used **ethically** (maximising efficiency and welfare gains):

- Testing targets the **most pressing conditions** within a breed where most severe welfare impacts lie (e.g., most prevalent, severe, chronic)
- Health problems are **not linked to inherent conformation** of the breed (*where conformational change e.g., via outcrossing could improve welfare to a greater extent and/or more rapidly*)
- Sufficient **genetic diversity** within a breed to allow for further reduction by selection towards healthier individuals
- Testing is used as part of a **balanced selection strategy** (e.g., alongside temperament, other health disorders, level of inbreeding)



Ethics of breeding brachycephalics

Disorder screening

		Respiratory noise ^a	Inspiratory effort ^b	Dyspnoea/ Cyanosis/ Syncope ^c
Grade 0	Pre-ET	Not audible	Not present	Not present
	Post-ET	Not audible	Not present	Not present
Grade I	Pre-ET	Not audible to mild stertor, and/or moderate intermittent nasal stertor when sniffing ^d	Not present	Not present
	Post-ET	Mild stertor or stridor, and/or moderate intermittent nasal stertor when sniffing ^d , and/or intermittent gentle stertor when panting	Not present to mild	Not present
Grade II	Pre-ET	Mild to moderate stertor or stridor	Not present to moderate	Not present
	Post-ET	Moderate to severe stertor or stridor	Moderate to severe	Dyspnoea; cyanosis or syncope not present
Grade III	Pre-ET	Moderate to severe stertor or stridor	Moderate to severe	Dyspnoea; may or may not present cyanosis. Inability to exercise.
	Post-ET	Severe stertor or stridor	Severe	Dyspnoea; may or may not present cyanosis or syncope.

ET, exercise test

- Selection based on functional outcome of one disease; keeping the status quo for conformation (breeder buy in)
- Unknown whether RFG grade is heritable and linked to specific genetic traits

		DOG ONE (sire or dam)			
DOG TWO (sire or dam)	RFG GRADE FOR EACH DOG	GRADE 0	GRADE 1	GRADE 2	GRADE 3
	GRADE 0	Green	Green	Green	Red
	GRADE 1	Green	Green	Green	Red
	GRADE 2	Green	Green	Amber	Red
	GRADE 3	Red	Red	Red	Red



		DOG ONE (sire or dam)			
DOG TWO (sire or dam)	RFG Grade for each dog	Grade 0	Grade 1	Grade 2	Grade 3
	Grade 0	Green	Green	Amber	Red
	Grade 1	Green	Green	Amber	Red
	Grade 2	Amber	Amber	Amber	Red
	Grade 3	Red	Red	Red	Red

- **Green:** the lowest risk of breeding dogs affected by BOAS
- **Amber:** a higher risk of producing puppies that may grow up to be affected by BOAS
- **Red:** a mating which has a high risk of producing puppies that may grow up to be affected by BOAS. These matings are not recommended.



Ethics of breeding brachycephalics

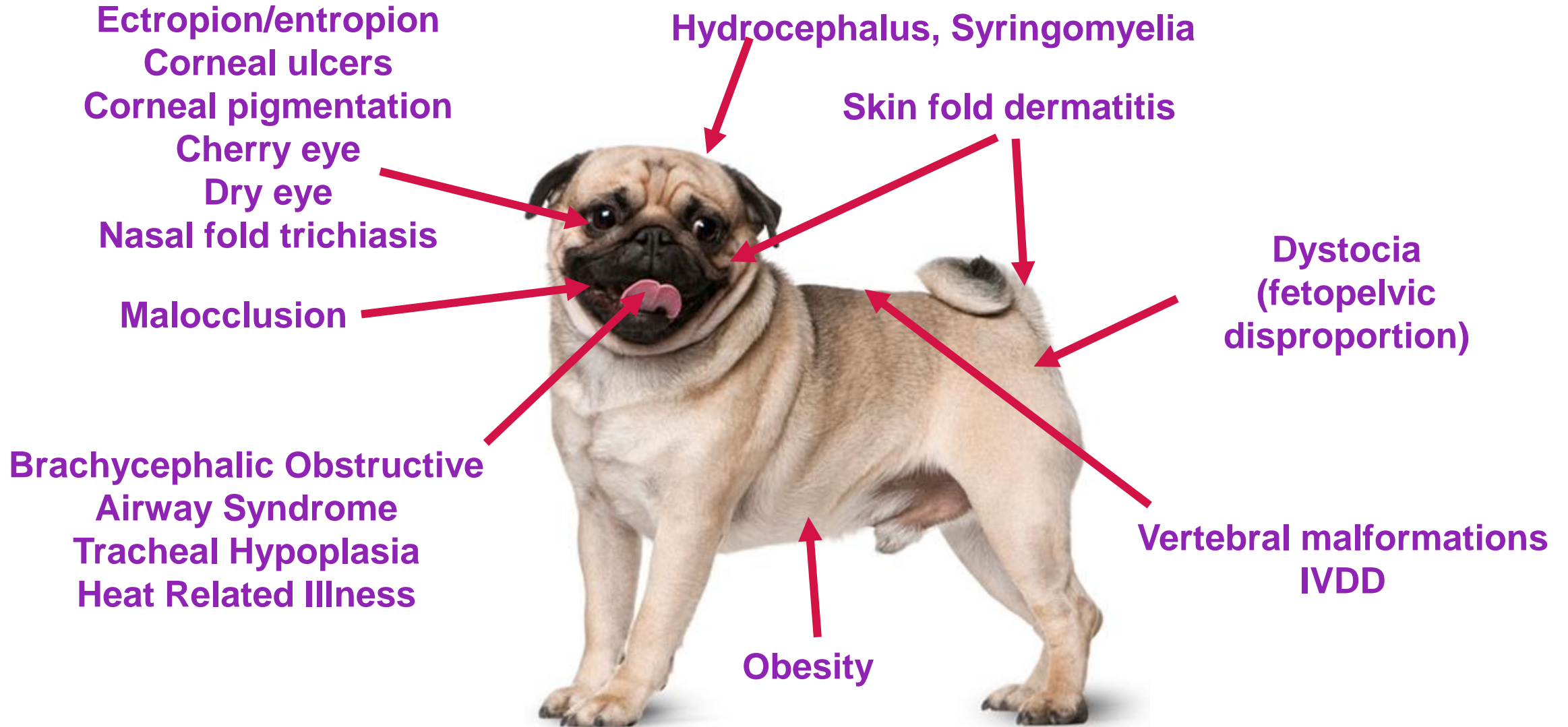
Disorder screening

- Pugs, French Bulldogs, and Bulldogs (1) Referred for **upper airway consultation** to University of Cambridge (“clinical dogs”); (2) Pet dogs **volunteered** by UK owners and breeders (“study dogs”)

	Pug	French Bulldog	Bulldog	Non-brachycephalic controls
N	100	100	66	28
Clinical/Study group	18/82	20/80	6/60	0/28
Functional Grade	Grade 0: 7%	Grade 0: 10%	Grade 0: 15.2%	Grade 0: 100%
	Grade I: 26%	Grade I: 34%	Grade I: 40.9%	
	Grade II: 50%	Grade II: 41%	Grade II: 28.8%	
	Grade III: 17%	Grade III: 15%	Grade III: 15.2%	

Even within the “study dog” population, the prevalence of more severe Grade II-III BOAS was 60% of Pugs, 46% of French Bulldogs, and 40% of Bulldogs

Disease burden in brachycephalic dogs



Ethics of breeding brachycephalic dogs

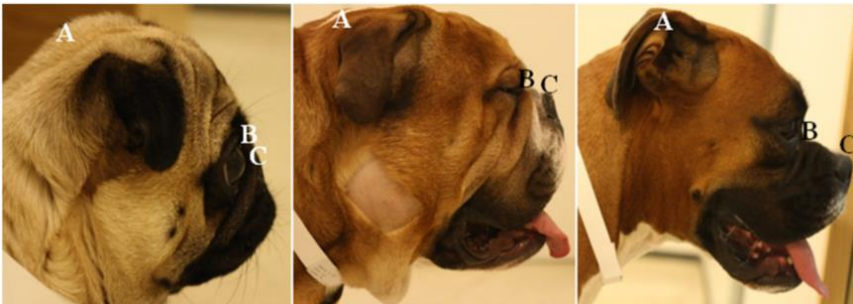
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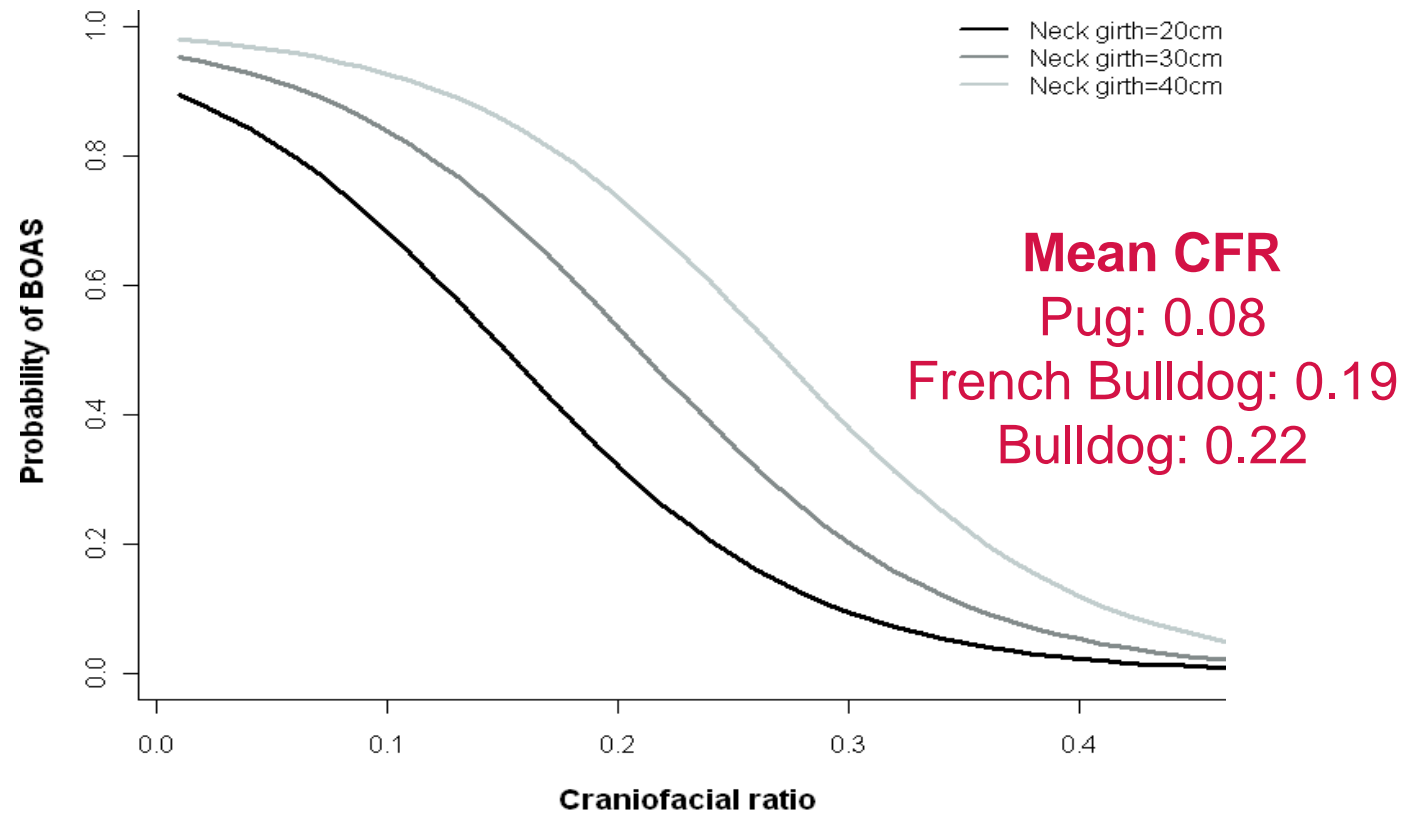


Ethics of breeding brachycephalics

Disorder screening



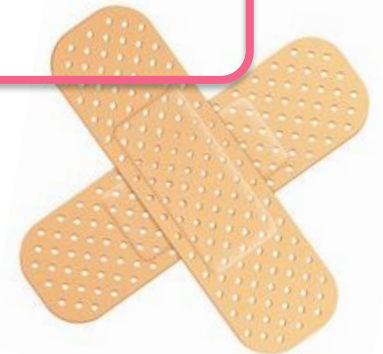
Risk of BOAS starts at **CFR 0.5**



Ethics of breeding brachycephalic dogs

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Ethics of breeding brachycephalics

Disorder screening

RESEARCH | OPEN ACCESS

A genetic assessment of the English bulldog

Niels C. Pedersen , Ashley S. Pooch and Hongwei Liu

Canine Genetics and Epidemiology 2016 3:6 | DOI: 10.1186/s40575-016-0036-y | © The Auth



English bulldogs have **very low genetic diversity** resulting from a **small founder population** and **artificial genetic bottlenecks**

Although some phenotypic and genotypic diversity still exists within the breed, **whether it is sufficient to use reverse selection to improve health**, select against simple recessive deleterious traits, and/or to accommodate further genotypic/phenotypic manipulations **without further decreasing existing genetic diversity is questionable**

Ethics of breeding brachycephalics

Changing breed standards

- **Not a simple process-** resistance to change; desire to keep the current extreme shape
- Brachycephalic Working Group revision of Pug breed standard in collaboration with Breed Clubs and The Kennel Club
 - Only one change related to conformational health:
 - 2012: *Decidedly square and cobby, it is 'multum in parvo' shown in compactness of form, well-knit proportions and hardness of muscle, but never to appear low on legs, **nor lean** and leggy.*
 - 2022: *Decidedly square and cobby, it is 'multum in parvo' shown in compactness of form, well-knit proportions and hardness of muscle, but never to appear either low on legs or leggy.*



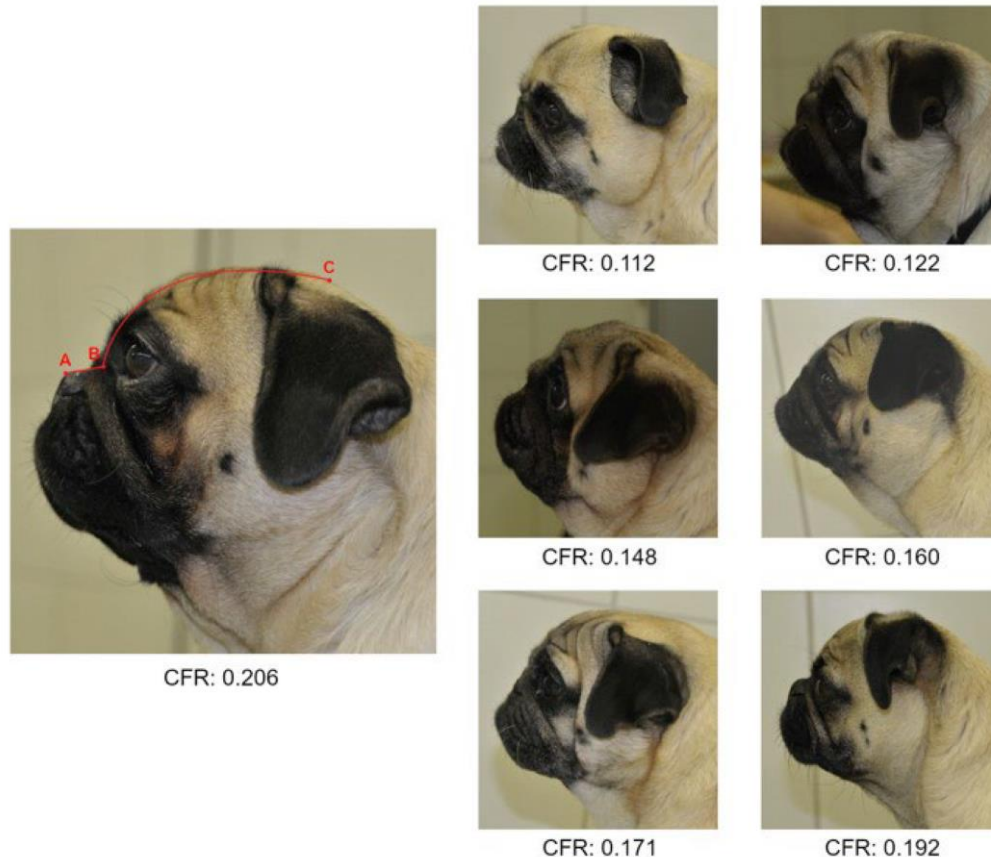
Ethics of breeding brachycephalic dogs

Breeding for moderation



Ethics of breeding brachycephalics

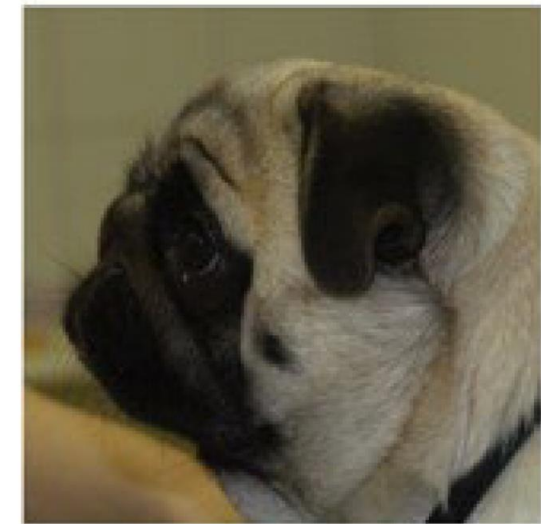
Breeding for moderation



CFR was the only conformational trait statistically significantly associated with BOAS grading in a study of Pugs (Mach et al, 2022)

HOWEVER

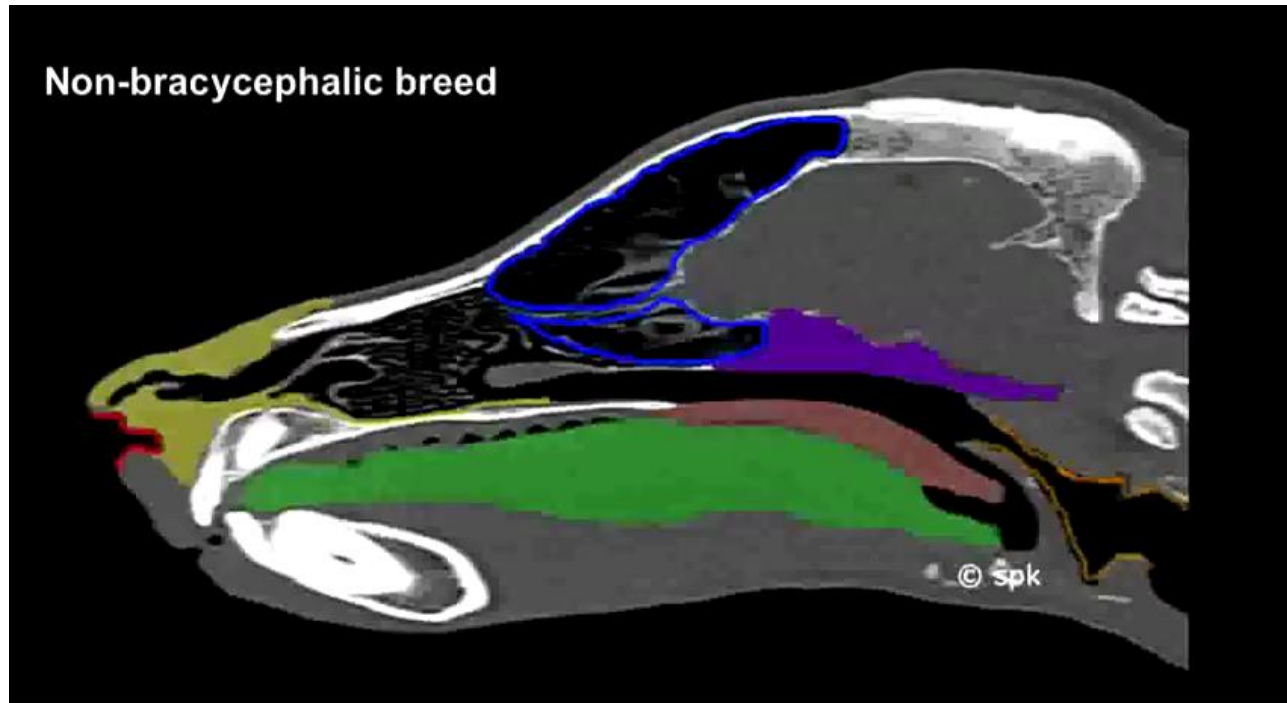
Mean CFR for Pugs in two UK populations was 0.08 and 0.12 (Packer et al, 2015)



Ethics of breeding brachycephalics

Breeding for moderation

Restoring functional anatomy 



Upper airways:

- ✓ **Soft palate** (to avoid obstruction)
- ✓ **Nasal cavity** (to allow effective thermoregulation and olfaction)
- ✓ **Tongue** (to fit in mouth)

Brain

- ✓ **Avoid overcrowding** – chiari malformation/syringomyelia

Eyes:

- ✓ **Orbit** (depth and shape to protect the eyeball)
- ✓ **Eyelids** (to comfortably fit against cornea and avoid exposure/abrasion)

Skin

- ✓ **To fit smoothly against the skull without folds/wrinkles** – avoiding infection and contact with the corneas

Ethics of breeding brachycephalics

Outcrossing

- **Healthy brachycephalic – an oxymoron?**
 - How many brachycephalic dogs make it through life without being affected by any conformation-related diseases?
 - Even if we can reduce the risk of some conditions via within-breed selection, can all conditions be avoided within an extreme brachycephalic body shape?
- **Raising welfare and ethical standards – thinking outside the ‘pedigree’ box**



Ethics of breeding brachycephalics

Outcrossing

- > To-date, just one small German published study documented improved respiratory health in **Pug-crosses 'Retropugs'** ($n=8$) compared to purebred Pugs ($n=42$) (Bartels et al, 2015)
- > Study dogs underwent a standardised exercise test, which requires **normalised heart and respiratory rates 15 min after having walking for 1km.**

**33% of purebred-Pugs 'failed' vs.
0% of Pug-crosses**

Figure 1



Profile and front of a beige pug.

Figure 2



Profile and front of a beige retropug.

Bartels, A., Martin, V., Bidoli, E., Steigmeier-Raith, S., Brühshwein, A., Reese, S., Erhard, M. (2015). Brachycephalic problems of pugs relevant to animal welfare. *Animal Welfare*, 24(3), 327-333. doi:10.7120/09627286.24.3.327

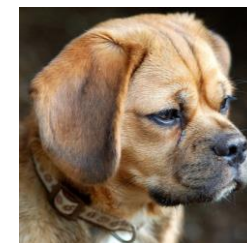
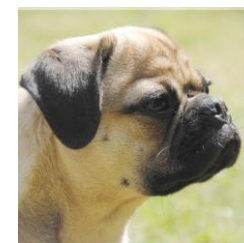
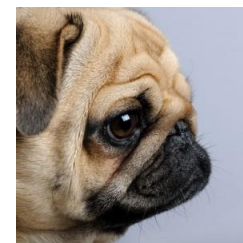
Potential solutions

CrossFit: Our new project

- > Study questions:
 - Do brachycephalic-outcrosses exhibit improved **respiratory and 'innate' health characteristics** compared to their extreme brachycephalic parent-breed?
 - Do brachycephalic-outcrosses **meet the aesthetic preferences** of people who desire extreme brachycephalic purebreds?



- > These questions are being addressed by:
 - Conducting **health assessments** of Pug-crosses using validated **respiratory assessments, owner questionnaires and conformational-health metrics**, to compare against data on purebred-Pugs.
 - Conducting a large-scale, **online survey** of aesthetic **preferences** and **perceptions** of the **health, behaviour** and **ethics** of brachycephalic-outcrosses more broadly, in current/prospective owners of extreme-brachycephalic purebreds.



Ethics of acquiring brachycephalics

Motivations for acquisition

- People acquire brachycephalic dogs because of their **looks** rather than health or longevity (Packer et al, 2017)
- Brachycephalic dogs adhere to the '**baby schema**' which induces the 'cute effect' in some people (Paul et al, 2023a,b)
- Owners of brachycephalic dogs **normalise poor health** (Packer et al, 2012; Packer et al, 2019, Packer et al, 2020)
- Owners of brachycephalic dogs **recommend their breed based on their poor health** (Packer et al, 2020)
- Owners of brachycephalic dogs are **extremely bonded** to their dog (Packer et al, 2019)
- Owners of brachycephalic dogs are **loyal to their breed** and highly likely to re-purchase them (Packer et al, 2020)



Ethics of acquiring brachycephalics

Motivations for acquisition

Owners of brachycephalic dogs **recommend their breed based on their poor health**
(Packer et al, 2020)

- > **Commoditisation of their disabilities** as a result of BOAS and/or musculoskeletal disease
- > Perceptions of **low exercise requirements** combined with **'lazy' temperaments** were strongly positively promoted by some owners, traits believed to make them ideal dogs for owners unable to provide moderate-high levels of exercise for their dog for a variety of reasons

"Pugs are good for low, low energy people, disabled people, elderly, or apartment living."
(O1493, Pug)

"Lazy and not needing tons of exercise makes them a good dog for working people"
(O230, Bulldog).

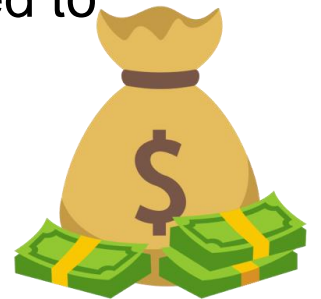
"Bulldogs do not require as much "dog-centric" tasks as other dogs. They do not need much exercise. They were not breed (sic) for a job, so they are happy to be companions. They are sweet and easy." (O871, Bulldog)

"Requires small amounts of exercise, so someone not overly keen on walking would suit this breed well"
(O1248, French Bulldog)

Ethics of acquiring brachycephalics

Acquisition source - breeders

- Median cost: BC £1200 (1000-1800); non-BC £600 (£400-£900)
- Acquisition differences - BC owners more likely to:
 - ❖ Use **puppy-selling websites** to find their dog
 - ❖ More likely to be purchased during the **first and only visit** to their breeder
 - ❖ Less likely to **see either parent** of their puppy, and
 - ❖ Less likely to ask to **see any health record**
- 49.8% of BC dogs entire (vs 18% non-BC), and 17.2% of BC owners planned to breed from their dog (vs 9.6% non-BC)



Ethics of acquiring brachycephalics

Acquisition source - breeders



- How is demand for these breeds met?
- Illegal puppy trade

Share of puppies found by origin country



- Dogs Trust investigation Sept-Nov 2020
- Contacted sellers in 640 adverts for specific breeds (e.g., Gumtree, Pets4Homes)
- Looked for red flags
- 29% of English adverts for imported puppies
- 8.8% of imported ads: French Bulldog

Dogs Trust puppy smuggling investigation reported that **63% of puppies intercepted at the British border** (December 2015 - July 2018) were **French Bulldogs, Pugs, English Bulldogs and Dachshunds**

Ethics of acquiring brachycephalics

Acquisition source - rescue

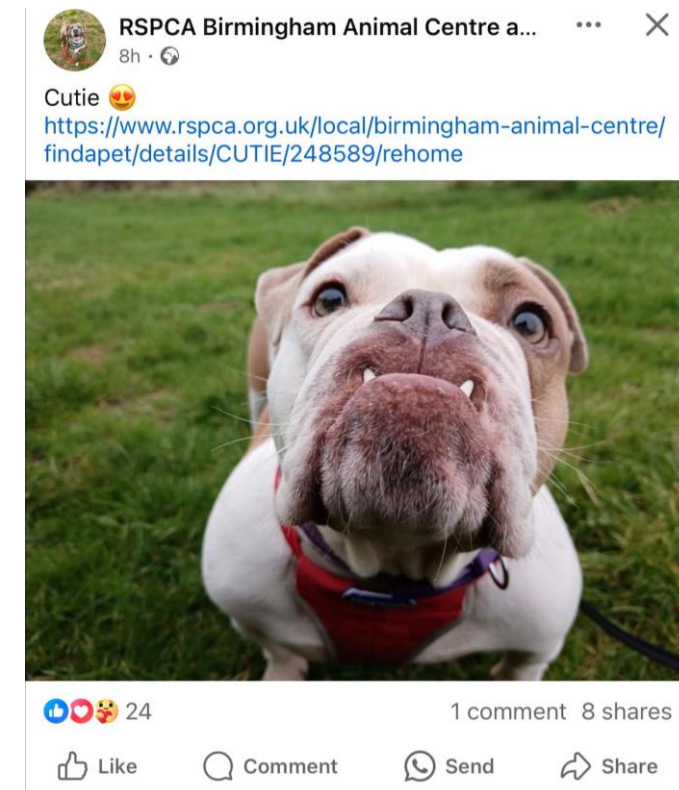
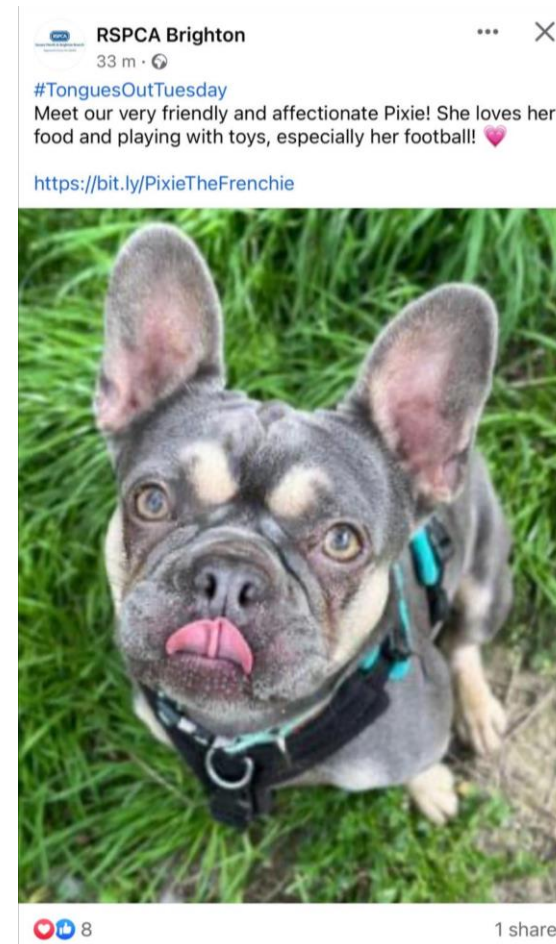
- > Brachycephalic numbers doubled in 3 years between 2015-2018 across 16 UK rehoming centres (Carter and Martin, 2020)
- > Impact on rehoming centres:
 - Cost of treatment/surgery for conformation-related surgeries e.g., BOAS surgery – balance against capacity to help other animals (lead to few being helped overall)
 - Finding owners aware of problems and able to maintain quality of life
- > Impact on new owners
 - Ongoing financial and/or emotional costs of caring for unwell animals
- > Are rescues another 'supplier' of brachycephalics?
- > Are many of these dogs healthy enough to qualify for rehoming at all?
- > Does rehoming these dogs somehow endorse these breeds?
- > Owners absolved of 'guilt' as they've done a 'good thing' by rescuing?



Ethics of acquiring brachycephalics

Acquisition source - rescue

- Use of terms like ‘**adorable**’, ‘**cute**’ are known to be more commonly used for brachy dogs/puppies in **commercial ads** (Paul et al, 2023a) but also by charities
- Fine line between promoting dogs for adoption vs **normalising health problems** and **glamorising the breed**
- Sending out the wrong message?



Ethics of treating brachycephalics

I don't think it's acceptable for us to ignore the fact that every Peke and Pug has noisy breathing because it has upper respiratory obstruction. And, I think – and I include myself in this – we have become immune to the consequences of these conformations because they are 'normal' for the breed

(Laurence, 2009)



“...our income is based on mending people’s animals and getting paid for it, and, like it or not, a large number of those clients have brachycephalic dogs.

...If I **stood up and told the truth** about these breeds, I would immediately alienate them and they would up sticks and move to the neighbouring practice where the vet was not as outspoken. Vets in general practice simply **cannot afford to be honest and to speak out**. You would be hard-pushed to find a general practitioner who likes the concept of a brachycephalic dog but you would be equally hard-pushed to find one being openly critical of them because this would put their livelihood on the line.”

Anonymous. Pugs are anatomical disasters. Vets must speak out—Even if it's bad for business. The Guardian, 22 September 2016.

Ethics of treating brachycephalics

Conformation-altering surgeries and caesarean sections



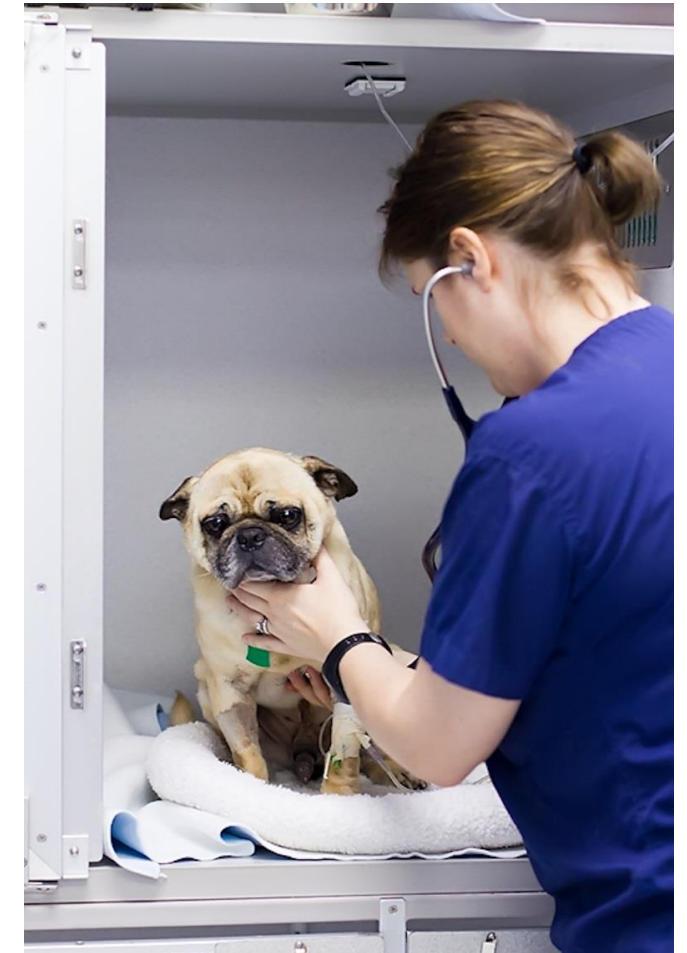
Brachycephalic breeds, and English Bulldogs in particular, are predisposed to dystocia compared to other breeds

When affected by dystocia, brachycephalic bitches are more likely to need a caesarean section

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Does the role of the vet begin and end in treating an individual brachycephalic patient?

- This approach benefits...
 - **Patients:** Procedures such as conformation altering surgeries e.g. nares widening and emergency c-sections **improve animal welfare at the individual level**
 - **Clients:** Pleasant interactions with clients who are not challenged e.g. for choice of breed, decision to breed from unhealthy animals may **improve client wellbeing**
 - **Vets:** Chance to develop and refine clinical skills to provide the best possible outcome for each patient may provide **professional gratification of alleviating suffering, paid for efforts**



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Vets as animal welfare advocates?

- Vets have **professional duty** to speak up about animal welfare issues despite risk of uncomfortable conversations (Hernandez et al, 2018)
- **Ethical obligations** to be strong patient advocates – **patient interests come first** (Coughlan, 2018)
- Simply serving the interests of the client, the individual patient and themselves and/or employer **abrogates vets' professional responsibilities to the wider animal population and community** (Fawcett et al, 2019)



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“Reputationally, if [vets] **don’t speak out about systemic animal welfare problems** or if we only do so reactively once a critical mass of favourable public opinion has been achieved, then this can lead to accusations of weak morality and, worse, **complicity in animal welfare problems**”



British Veterinary Association. Vets Speaking up for Animal Welfare: BVA Animal Welfare Strategy; BVA: London, UK, 2016.

Conclusions

- ❖ **Challenging to ethically justify current common approaches of breeding, buying and treating brachycephalic dogs when..**
 - ❖ Health improvement strategies are restricted to within breed selection, maintaining current (or near current) levels of extreme conformation that underlie diverse health problems
 - ❖ Large numbers are produced in low-welfare systems which have widespread negative consequences for dog behaviour and welfare
 - ❖ Brachycephalic dogs are often unable to become pregnant or give birth naturally
 - ❖ Dogs are palliated against most severe harms of brachycephaly via veterinary intervention, but quality of life compromises remain, and dogs may still be bred from following conformation-altering surgeries
- ❖ To promote high ethical and welfare standards in dog breeding, more **radical reforms** are required from **all stakeholders** to reject current extremes and move towards a system where health and welfare is championed above aesthetic desires of humans.
- ❖ Due to **strong human drivers** to maintain extremes, **legislative approaches** may be warranted

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@DogsbodyRVC



rpacker@rvc.ac.uk

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