



Pugs: The Terrible Truth

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ABSTRACT

For centuries, pugs have been bred for their large eyes and squished in face, also known as "brachycephalic (squashed nose/flat-faced)," unknowingly creating man-made health complications that now affect their day-to-day life. The Kennel Club states that “50% of pugs have significant breathing problems and only 7% to 15% of pugs breathe like a normal dog.” In her poster presentation, Hadley Krewall hopes to share her interesting research findings on the serious health issues that pugs face, and the ways to stop the breed from continuing to reproduce. The presenter also hopes to address what the Kennel Club and even the vets can do to help or speak up, and why it is imperative to consider the breed shift to extinction.

Problem

- Pugs have been bred over centuries with exaggerated features (brachycephalic), going back to ancient China (O'Neill, et al., 2016)
- These features have created man made health problems that affect the dog's day to day life.
- RSPCA vet Dr. Jade Norris mentions that breeders continuously breed this dog for its features despite knowing about the numerous health problems (Thomas & Armitage, 2017)
- A brachycephalic skull severely restricts the airway for the animal to breathe, bringing forth multiple health complications.
- A brachycephalic skull also has very limited room for the eyes, causing them to easily pop out of place or get severely scratched.



Figure 1. "A Favorite Pug" (Chalon, 1802)

Disorders

- **Brachycephalic Obstructive Airway Syndrome (BOAS):** This is a breathing disorder that affects breeds with short skulls and muzzles (brachycephalic) due to breeding selection. The affected breed can experience noisy breathing, exercise intolerance, heat intolerance, vomiting, and death. Symptoms can be improved by surgery, though 60% of owners do not recognize the signs of BOAS (Liu, et al., 2017)
- **Hemivertebrae:** This is the compression and deformation of the spine in a dog due to breeding the characteristic of a “screw tail” (Khuly, Hemivertebrae, n.d.). The affected dog could experience muscle wastage, posterior paresis, back pain, and loss of use of hind legs, A spine surgery is needed to decompress the spine. The dogs that do become paralyzed need long term care which many owners result to euthanizing their dog (Universities Federation for Animal Welfare, n.d.)

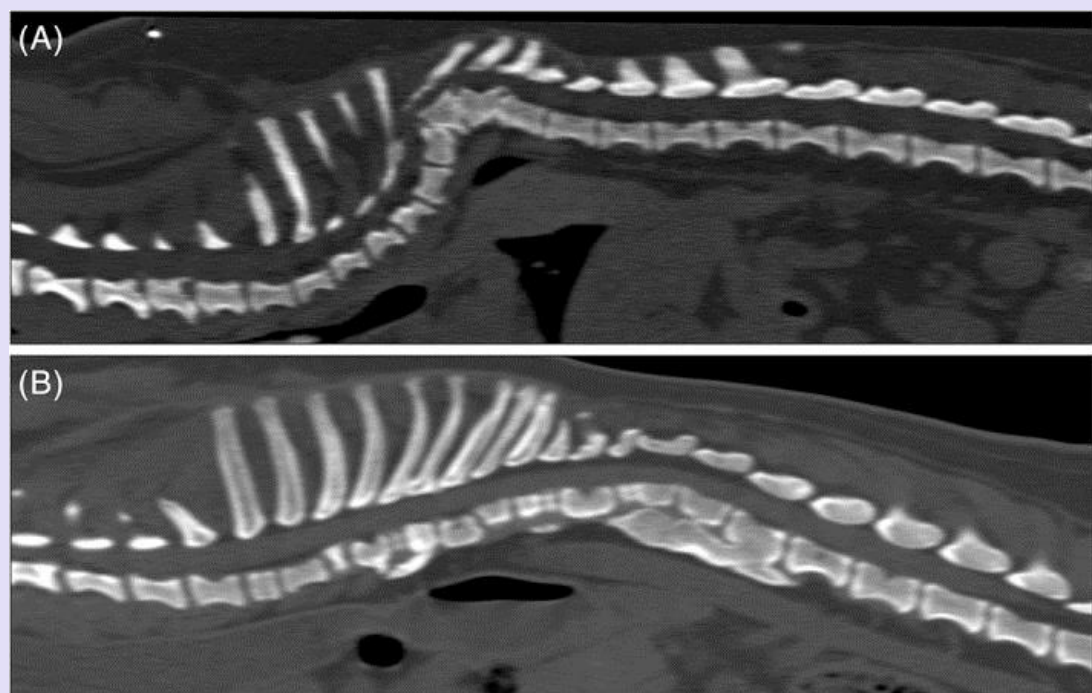


Figure 2.
A. Pug with hemivertebrae
B. English Bulldog without hemivertebrae (Decker, et al., 2019)



Figure 3. A pug skull

Disorders cont.

- **Pug Dog Encephalitis (PDE):** PDE is a brain inflammation that affects pugs specifically. The cause of the disease is unknown, though it is believed that it might be a genetic condition. Symptoms include agitation, weakness, seizures, and death (Khuly, Meningoencephalitis, n.d.). There is no cure for PDE. The pugs that are affected by PDE will not survive, most dying within a couple months after being diagnosed (Plotnick, 2015).
- **Elongated Soft Palate:** This disorder only affects breeds that are brachycephalic. This is when the soft palate is too long to the point that it enters the airway and obstructs the movement of air into the lungs. Symptoms include noisy breathing, gagging, exercise intolerance, and collapse. Surgery may be required if symptoms worsen. The long piece of the soft palate will be snipped off (American College of Veterinary Surgeons, n.d.).



Figure 4: "Elongated Soft Palate" (American College of Veterinary Surgeons, n.d.)

Solutions

- **Celebrity Endorsement:** Multiple celebrities' own pugs and do not speak out against the continuation of breeding this animal. If celebrities would speak out against the injustice of breeding pugs, this breed will hopefully become less popular, thus less of a demand to breed.
- **Media Awareness:** The Kennel Club has done a lot towards research of pugs, but they aren't their focus. There could be more media attention like news articles, tv commercials, or events to promote the discontinuation of breeding this dog. **Breeding Restrictions:** Out of the articles already presented, most suggest different breeding restrictions to help these common disorders disappear. I propose that it should be illegal to breed Pugs anymore and let the ones that are currently alive to die out naturally. That way, eventually, the breed itself will cease to exist.

Conclusions

- Pugs have numerous health complications.
- These health complications could lead to death.
- Breeders get the blame for these health complications that continue to persist.
- In order to stop these health complications, I propose that the breed shift to extinction or that there are tougher breeding restrictions.

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Table 2

Prevalence of the 25 most common disorders at their greatest diagnostic precision recorded in Pugs attending primary-care veterinary practices participating in the VetCompass Programme in England from January 1st, 2013 to December 31st, 2013 (*n* = 1009)

Diagnosis-level disorder	Disorder count	Prevalence %	95 % CI
Overweight/obesity	133	13.18	11.12–15.43
Corneal disorder	88	8.72	7.05–10.63
Otitis externa	76	7.53	5.98–9.34
Unspecified ear disorder	75	7.43	5.89–9.23
Anal sac impaction	66	6.54	5.09–8.25
Periodontal disease	62	6.14	4.74–7.81
Nails overlong	57	5.65	4.31–7.26
Brachycephalic obstructive airway syndrome (BOAS)	52	5.15	3.87–6.70
Vomiting	50	4.96	3.70–6.48
Diarrhoea	38	3.77	2.69–5.13
Upper respiratory tract noise increased	36	3.57	2.51–4.91
Intertrigo	32	3.17	2.18–4.45
Retained deciduous tooth	31	3.07	2.10–4.33
Umbilical hernia	28	2.78	1.85–3.99
Respiratory noise increased	28	2.78	1.85–3.99
Lameness	24	2.38	1.53–3.52
Ocular discharge	22	2.18	1.37–3.28
Pruritus	22	2.18	1.37–3.28
Pyotraumatic dermatitis	21	2.08	1.29–3.16
Alopecia	20	1.98	1.21–3.04
Conjunctivitis	19	1.88	1.14–2.93
Keratoconjunctivitis sicca	19	1.88	1.14–2.93
Coughing	18	1.78	1.06–2.80
Pyoderma	17	1.68	0.98–2.68

Figure 5. "Common Disorders Recorded in Pugs" (Liu, et al., 2017)



Learning Outcomes

In my original poster presentation and research, I did quite a bit of research on Pugs health. Pugs have been bred to have extremely exaggerated features (O'Neill, Darwent, et al., 2016, p. 7). These features have caused health problems that affect their day to day life including respiratory issues, eye issues, and spine issues. RSPCA vet Dr. Jade Norris mentions that unethical breeders are to blame because they continuously breed these features knowing the health complications that they bring (Thomas & Armitage, 2017). Some of the disorders I discussed was Brachycephalic Obstructive Airway Syndrome (BOAS), Hemivertebrae, Pug Dog Encephalitis (PDE), and Elongated Soft Palate. Almost all these disorders could've been avoided if it wasn't for the way that they have been bred. At the end of my research, I proposed that the pug breed should shift to extinction.

One thing that I did not get to do in my original study was to compare Pugs to different dog breeds. I wanted to originally do this to drive the point that breeders are at fault for Pugs health. Due to time constraint, I could not investigate this further. For the sake of this study, I will be focusing on only one breed. I have chosen Chihuahuas to be the compared breed, mostly since I have been around Chihuahuas throughout my life and I don't recall too many health complications. Another reason I picked them was because of their size. If a Chihuahua can breathe easier than a pug despite being smaller, then that really should raise flags on pug's health.

Firstly, I want to point out the different percentage of disorders. There was a study done by O'Neill and Packer of 5660 Chihuahuas under primary vet care where "at least one disorder was recorded during 2016 for 3112 (55.0%) Chihuahuas. The other 45% did not have any disorder recorded" (2020, p. 3). In a similar study O'Neill and Darwent did with Pugs, 1009 Pugs were studied under primary vet care and "There were 688 (68.19%) Pugs with at least one disorder recorded during 2013 while the remainder (31.81%) had no disorder recorded" (2016, p. 2). Just with these statistics, we can see that pugs have a much higher rate of having disorders than Chihuahua's. Some of the most common disorders that Chihuahua's have is dental, dislocated kneecaps, obesity, and aggression (O'Neil, Packer, et al., 2020, p. 6). None of the disorders that are listed are ever referred that it is a problem of the breeders and most of these disorders are common. In fact, dislocated kneecaps, or also known as patellar luxation, "is one of the most common orthopedic conditions in dogs" (American College of Veterinary Surgeons, n.d.). Most Pugs have Brachycephalic Obstructive Airway Syndrome, which is a respiratory disorder that contributes to a pug's obesity (Liu, et al., 2017, p. 1). This article continues to blame breeders for this issue. Obesity in Chihuahuas occur because "the general public prefer a larger type of this breed that is heavier than the breed standard" (O'Neill, Packer, et al., 2020, p. 10). In fact, throughout my reading, I could not find any disorders that Chihuahuas have that they suffer with daily like Pugs.

In conclusion, something needs to be done about the breeding standards. Compared to Chihuahuas, Pugs have many more disorders on top of the common ones due to unethical breeding while Chihuahuas just have the most common disorders dogs face. This drives my point that it isn't just a normal breed thing for pugs but something that breeders purposefully do for their own profit. This feeds more into my belief that the pug breed should shift to extinction or that there needs to be severe limitations on breeding standards.

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