



International Collaborative on Extreme Conformations in Dogs

International Collaborative on Extreme Conformations in Dogs (ICECDogs)

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Noisy breathing in brachycephalic (flat-faced) dogs at rest or light exercise is never normal

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Position of the International Collaborative on Extreme Conformations in Dogs (ICECDogs)

The International Collaborative on Extreme Conformations in Dogs (ICECDogs) considers that brachycephalic (flat faced) dogs with noisy breathing (awake-snoring or raspy breathing) at rest or light exercise are suffering from severe respiratory disease (brachycephalic obstructive airway syndrome - BOAS) and should never be considered as normal or healthy. Flat-faced dogs with noisy breathing at rest or light exercise are suffering and should not be described as healthy dogs if promoted, bred from, sold, shown or rehomed.

Wider public message:

Noisy breathing (awake-snoring or raspy breathing) in brachycephalic (flat-faced) dogs at rest or light exercise is never normal or healthy.

- Anyone wishing to acquire a healthy dog is encouraged never to acquire a brachycephalic (flat-faced) dog with noisy breathing.
- People already owning a brachycephalic (flat-faced) dog with noisy breathing are encouraged to never breed from that dog.
- People already owning a brachycephalic (flat-faced) dog with noisy breathing are encouraged to never promote that dog as healthy.
- People who already own a brachycephalic (flat-faced) dog with noisy or laboured breathing at rest or light exercise should:
 - Never consider noisy breathing at rest or light exercise as normal or healthy.
 - Be aware that breathing problems in flat-faced dogs generally worsen with age
 - Always keep your flat-faced dog slim.
 - Arrange a routine veterinary health examination at least once a year.
 - Ask your vet about grading your dog for respiratory function to assess the severity of your dog's breathing problems.
 - Exercise your flat-faced dog with caution if they have breathing problems.
 - Flat-faced dogs have substantially higher risk of developing heatstroke. To reduce the risk of heatstroke, keep your dog cool on warm/hot days and remember that exercise is the most common trigger for heatstroke.

Detailed Background

Wild dogs have evolved over millions of years to enjoy freedom to breathe, sleep and exercise naturally without restriction from obstructed respiratory passages. Sadly, many humans now accept severe respiratory compromise as being 'normal' for dogs within breeds with a flat face conformation (brachycephaly) and fail to recognise the lifetime of suffering that affected dogs endure. The position of the UK Brachycephalic Working Group is that dogs with brachycephaly that show noisy breathing (awake-snoring or raspy breathing) at rest or light exercise are suffering from severe respiratory problems (brachycephalic obstructive airway syndrome - BOAS) and should never be considered as normal or healthy. Flat-faced dogs with noisy breathing at rest or light exercise are suffering and should not be described as healthy dogs if promoted, bred from, sold, shown or rehomed.

Brachycephaly in dogs can be defined by a high cephalic index i.e. a high ratio of the width of the skull to the length of the skull. The skulls of dogs with brachycephaly show a substantial shortening of the premaxillary and maxillary bones (muzzle), the skull base and often also widening of the skull. The nasal conchae (cartilage scrolls) are frequently mispositioned and thickened and result in restricted high pressure nasal airflow (Hostnik *et al.* 2017; Oshita *et al.* 2022).

Over recent centuries, humankind has selected certain types of dogs towards more and more extreme brachycephaly (being flat-faced). This has led to increasing deformation of the upper airway tract because the soft tissues within the nose and pharynx did not proportionately reduce with the shortening of the skull. These deformations combine to cause varying degrees of obstruction to airflow as it enters the nares (nostrils) before finally getting down to the lung alveoli and then back out again (Liu *et al.* 2017). Brachycephalic obstructive airway syndrome (BOAS) is the term used to describe conformation-related respiratory problems that results from these deformations (Liu *et al.* 2015). The specific anatomical deformities that can combine to produce BOAS include narrowed nostrils, excessive nasal tissue, nasopharyngeal compression, macroglossia, hyperplastic soft palate and hypoplastic trachea (Ladlow 2021).

Secondary issues resulting from excessive respiratory effort mean that the severity of BOAS generally worsens over time. These include laryngeal collapse, bronchial collapse, pulmonary hypertension, along with a range of gastrointestinal effects that can lead to aspiration pneumonia (Poncet *et al.* 2005).

Key breeds that are commonly affected by BOAS include French Bulldogs (~50% affected), Pugs (~60% affected) and English Bulldogs (~40% affected) (Liu *et al.* 2016).

Key messages

Flat-faced (brachycephalic dogs) with noisy breathing (awake-snoring or raspy breathing) at rest or light exercise are suffering from severe respiratory problems (BOAS) and should never be considered as normal or healthy.

Flat-faced dogs with noisy breathing at rest or light exercise are suffering and should not be described as healthy dogs if promoted, bred from, sold, shown or rehomed.

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