

BRisk score offers fast risk assessment and screening tool for brachycephalic canines

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Video Abstract

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Abstract

Although wildly popular among pet owners, brachycephalic dogs are predisposed to a number of respiratory problems. Brachycephalic obstructive airway syndrome, or BOAS, refers to a set of upper airway abnormalities that some dogs of these breeds can face. These can include a long soft palate and laryngeal collapse. Surgery can improve some of these issues if pet owners and veterinarians act at the first sign of trouble. Unfortunately, that's not always the case. Most often, it's only when breathing becomes problematic that action is taken—when these dogs are already at a high risk of complication or even death. How can pet owners and vets understand this risk before it's too late? In a recent study, researchers report a 10-point scale they've devised to do just that. It's called the brachycephalic risk—or BRisk—score. The BRisk score tallies the risk of complication or death for dogs undergoing surgery for BOAS according to six measurable features: breed, surgical history, additional procedures planned, body condition score, level of respiratory compromise at admission, and admission rectal temperature. Consider an English bulldog with a history of previous airway surgery and no additional non-airway procedures planned or required, with a body condition score of 4 out of 5, that showed stertor at rest but did not require oxygen or sedation at admission, and had an admission rectal temperature of 102°F. The BRisk score for this dog would be 5 points of a maximum of 10, a relatively high score. An analysis of more than 230 dogs showed that those with a BRisk score of greater than 3 were 9 times more likely to experience a negative outcome. A score of 5 corresponded to an adverse outcome risk of 37%. Despite its reportedly high accuracy, the BRisk score is neither perfect nor universal. The research team looked at dogs from only three North American centers, with data collected from medical records at teaching hospitals, most commonly written by student veterinarians. In addition, the confidence levels recorded for scores were relatively wide. But the results are promising. The BRisk score represents a reliable measure for predicting the risk of complication for dogs undergoing surgery for BOAS. As such, it's expected to help owners and vets screen dogs being considered for breeding, manage expectations about clinical outcomes and mount the necessary resources to address individual pet needs as soon as possible.