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Brachycephalic problems of pugs relevant to animal welfare

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Abstract

Excessive breeding for brachycephaly (fore-shortened muzzle) has led to increasing problems in pugs related to brachycephalic airway syndrome (BAS). Consequently, the German Pug Club (Deutscher Mopsclub eV; DMC) established a stress test in 2009 that must be passed for breeding and requires normalised heart and respiratory rates 15 min after having covered a distance of 1 km. In this study, 42 pugs underwent the stress test under standardised conditions. Taking into account that this exercise should not be too physically demanding for any healthy dog, the results were surprising: 14 of the pugs failed, ie a failure rate of 33.3%. In addition to the stress test, the pugs were assessed according to their heart and respiratory rates at rest, which we predicted would be associated with BAS, and in this test, 21 out of 42 pugs failed. Thus, 50.0% of the pugs were in a severely compromised physical condition. A further group of seven retropugs, ie a crossbreed of pugs with a slightly longer muzzle, was included in the study to compare brachycephalic problems. All of the retropugs passed the test, even when respiratory and heart rates at rest were considered. However, the findings may not be transferable to all retropugs because of the small sample size, so further research is needed. In summary, this study has enabled the development of recommendations for future implementation of stress tests.

Keywords: *animal welfare, brachycephalic airway syndrome, physical exercise, pugs, retropugs, stress test*