

Critique of the publication: Darke, Thrusfield & Aitken (1985), Association between tail injuries and docking in dogs, *Veterinary Record*, **116**: 409.

Protagonists of docking maintain that it reduces the risk of tail injuries, while antagonists argue that it is such a barbaric procedure that it cannot be justified on prophylactic grounds. In view of the fact that no quantitative data were available to support either claim, Darke *et al* said they would “investigate whether docking is associated with a reduced occurrence of damage to tails”. They did this by examining the data base of clinical case record of the small animal practice teaching unit at the Univ. of Edinburgh. The study may be criticized from three aspects :

1. Strictly speaking, traditionally docked breeds are not directly comparable to non-docked breeds in terms of tail injury, because the principal original purpose of docking was to remove the tail from those breeds which were originally found to be susceptible to tail injury. Therefore, the truly valid test of the prophylactic value of docking is to compare docked with undocked individuals within traditionally docked breeds. For example, it is pointless to compare tail injuries in German Shorthaired Pointers with English Pointers because the much greater prevalence of injuries in the GSP (when originally being developed) is precisely the reason it began to be docked. There were & still are few injuries in the EP & therefore it does not require & has not ever required docking to protect it. This difference is presumably due to the lower tail-set in the EP.

Consequently, the Edinburgh data actually indicate a 15-times higher rate of tail injury in traditionally docked than in non-docked breeds. That is, the most valid comparison based on the data presented by Darke *et al* is to take the commonly assumed estimate that 5% of the pups of traditionally docked breeds are not docked, ie., 5% of 2616 = 131. Eight injuries of 131 = 6% of these with tail injuries. The traditionally non-docked group had 39 of 9513 with injuries, = 0.4%, a 15-fold difference. In fact, the “0.4%” is the value employed by the Australian Veterinary Association supposedly to illustrate how few tail injuries there are & therefore how unnecessary docking is. What the AVA failed to point out is the fact that their data came from breeds which were not docked *because they never needed to be docked*.

2. The Edinburgh data did not specify whether or not each individual dog had been docked & therefore the Darke *et al* assumed there had been normal docking practice according to breed, ie., all Boxers were assumed to have been docked whereas all Whippets were assumed to not be docked.

What bias could any misclassification cause & will it influence conclusions based on the data ? The *sole* effect which any misclassification can have had on the “docked” data, is a negative one, ie., a dog with tail injury which they assumed to have been docked (because of its breed) might not have been docked, leading to *an over-estimate of the number of injuries in docked dogs and the conclusion that docking is not beneficial in terms of avoiding injury*. Likewise, or conversely, the sole effect which any misclassification can have had on the “non-docked” data, is a positive one ie., a dog which had been docked (despite being of a non-docked breed) did not have a tail which could be injured, leading to an under-estimate of the number of injuries in non-docked dogs and the conclusion that a full length tail is not more likely to be injured.

Thus, misclassifications will have narrowed the difference between injuries to docked & non-docked dogs & caused a bias towards the conclusion that docking is not an effective prophylactic measure. This begs the question: “ **Because, for example, a dog cannot develop testicular cancer if it has been castrated earlier in life, how can a dog’s tail be injured if it has been docked ?**” From this perspective, there is absolutely no need for such a study as that by Darke *et al*.

3. Notwithstanding the above insurmountable problems, it is finally noteworthy that although Darke et al found the “**odds ratio**” which they employed as a test of the strength of association between tail injuries & the presence of a full tail, to be 1.28, they concluded there was not a positive association between tail injuries & an undocked tail.

PLEASE NOTE : A hitherto unmentioned highly **significant outcome from the data** is the much greater number (a factor of x3.6) of non-docked dogs which presented for treatment of any kind. If, as maintained by antagonists of docking, there are untoward side effects of docking (eg., urinary incontinence, attacks by non-docked dogs because of communication difficulties, etc), a relatively greater number of visits to the vet by docked breeds must be expected. That is, from Jan. 1977 to Oct. 1984, the Small Animal Practice Teaching Unit at the Univ. of Edinburgh recorded 12,129 consultations, of which 9513 were dogs of traditionally non-docked & 2616 traditionally docked breeds. Because around one-third of all breeds are docked, if there was no bias towards either non-docked or docked breeds, theoretical subdivision of the total would yield values of 8005 & 4003 (respectively). These data clearly indicate a distinct bias towards bad health in non-docked breeds & good health in docked breeds, however, we would not suggest that this is a reality , but that the bias is due to some other factor such as cross-breeds in the non-docked group. What we are undeniably left with, is the fact that the numbers of visits to the veterinarian shows that there is absolutely no bias towards there being more health problems in traditionally docked than in non-docked breeds.

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