



Is there sufficient evidence to justify tail docking in working breeds of dog in Scotland?

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What's the issue?

- There is a total ban (with no exemptions) on non-therapeutic docking in Scotland
- This legislation is different to that of the rest of the UK
- The Scottish legislation has been in place since April 2007, but the Scottish Government committed to a review of the impact of that legislation at some time in the future. Hence...
- A call for work to provide further evidence on the impact of the legislation on tail injuries in working dogs and working dog breeds
- Essentially asking the question:
- Is there sufficient strength of evidence to consult on changes to legislation/policy?



Methods

Study 1. Survey of owners of working dogs

- Owners who worked a dog(s) in Scotland during the 2010/11 season
- Questions about number of tail and body injuries
- Detailed information about the 'worst' tail injury sustained

Study 2. Text mining analysis of veterinary clinical records

- Veterinary practices in Scotland
- Data acquired from software management providers with permission of senior partners in those practices
- Clinical records requested for as far back as available

Analyses

- Prevalence of tail injury in different breeds and in dogs with different tail lengths estimated
- Multi-level logistic regression models, with respondent fitted as a random effect in Study 1
- Non-responder bias assessed by way of 'forced' completion of the survey by previous non-responders at two industry meetings

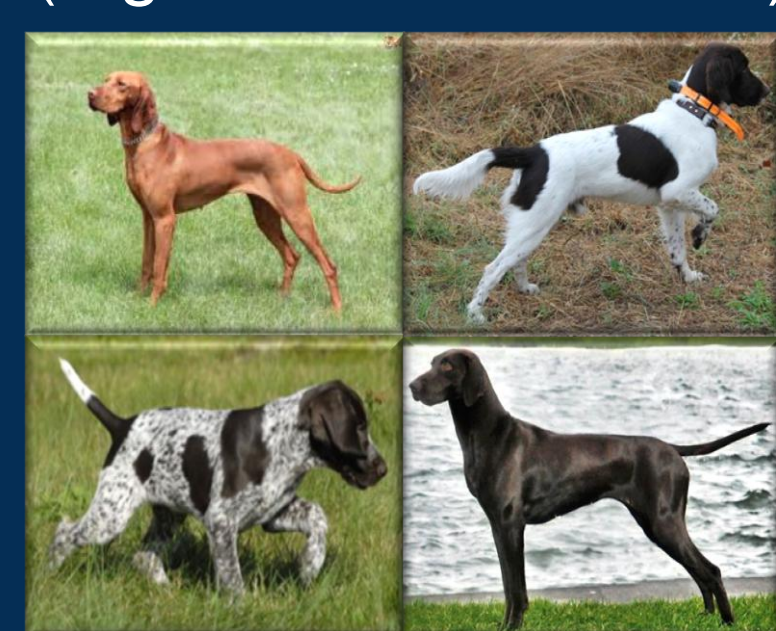
Results

Study 1. Survey of owners of working dogs

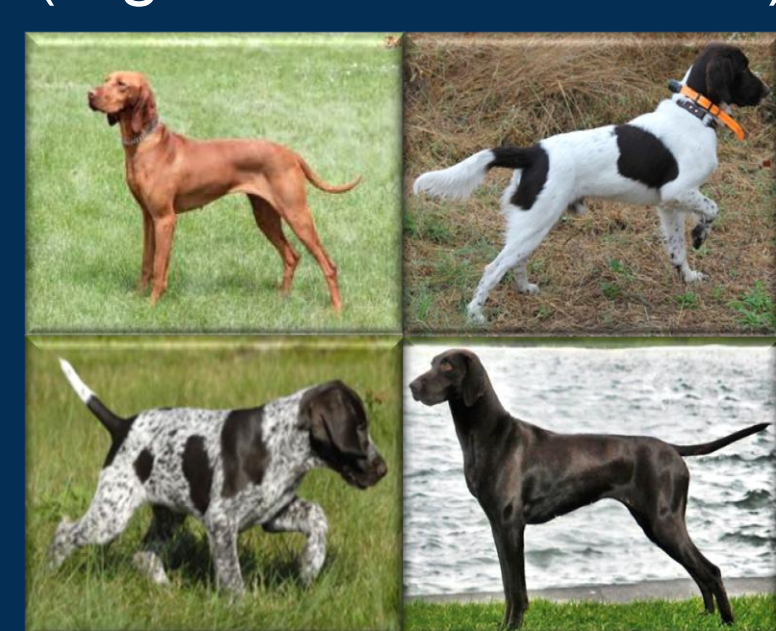
- **1002 respondents** with **2755 dogs** of which **318 (11.5%)** sustained at least one tail injury during the 2010/11 shooting season

Breed Type and any tail injury

Retrievers, Pointer-Setters, Hunt Point Retrieve Breeds
Terriers and others



Odds ratio 1
(95% CI) (Reference)



Odds ratio 10.9
(5.3 – 22.3)



Odds ratio 22.1
(13.7 – 37.2)

Tail Length and any tail injury

Natural



Odds ratio 1
(95% CI) (Reference)

Docked by 1/3



Odds ratio 0.04
(0.02 – 0.08)

Docked by 1/2



Odds ratio 0.03
(0.01 – 0.06)

Docked short



Odds ratio 0.04
(0.02 – 0.09)

- Number Needed to "Treat" (dock by 1/3) as a puppy to prevent one tail injury in a season

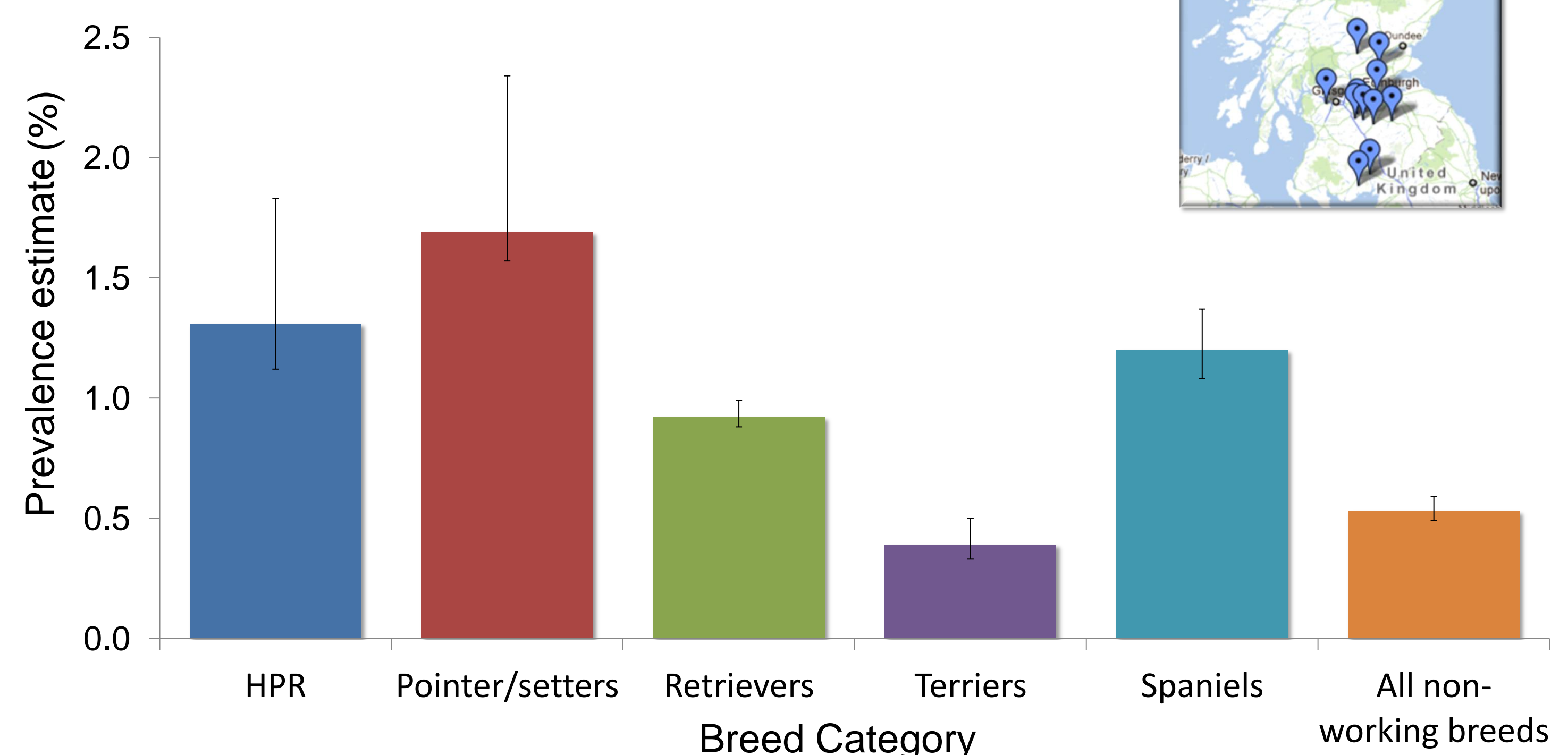
	No. of litter of 6 that go onto work		
	1	3	6
Number need to dock by 1/3 to prevent one injury in a working dog			
Spaniels	12	6	2
Hunt Point Retrievers	18	6	3

- Number Needed to "Treat" (dock by 1/3) as a puppy to prevent one tail injury that required veterinary examination in a season

	No. of litter of 6 that go onto work		
	1	3	6
Number need to dock by 1/3 to prevent one injury in a working dog			
Spaniels	36	12	6

Study 2. Text mining analysis of veterinary clinical records

- **16** veterinary practices across Scotland
- Data from **2002 to 2012**
- **2.6 million** clinical records from **100k different dogs**
- **Prevalence of any tail injury seen by a vet**



- Prevalence of **tail amputation** in **Spaniels (0.4%)** compared with **non-working breeds (0.09%)** ($p < 0.001$)
- Prevalence of **tail injury before (0.54%)** and **after (1.22%)** the ban in Scotland ($p < 0.001$)
- Number of Needed to "Treat" (dock by 1/3) as a puppy to prevent one tail injury that required...

	Breed group NNT (95%CI)	
	Spaniels	Hunt Point Retrievers
... a veterinary exam	135 (98-196)	117 (60-288)
... amputation	320 (207-527)	415 (133-2583)

Conclusions

- Apparent benefit to docking for Spaniels and Hunt Point Retrievers
- Removal of one-third of tail is sufficient
- Apparent increase in prevalence of tail injury seen by a vet since the introduction of the legislation

Policy advice

- If changes to the legislation are to be considered they should be aimed at specific working breeds (spaniels and Hunt Point Retrievers)
- The advice should be to remove **one-third** of the tail and no more

Acknowledgements

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