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It shouldn't happen to a vet... Occupational injuries in veterinary practitioners working in Ireland

Kieran O'Sullivan and Neasa Curran report on findings from a national survey which aims to determine the problem musculoskeletal ill health poses for the veterinary profession in Ireland.

Veterinary practitioners encounter an imposing array of hazards in the course of their working life. As far as musculoskeletal health is concerned, studies of the profession have traditionally concentrated on acute traumatic injuries, which is perhaps not surprising given that contact with animals/livestock is associated with high fatal and non-fatal injury rates (Boyle *et al.*, 1996; Drudi, 2000; Langley and Hunter, 2001; Stallones and Beseler, 2003). Interestingly, veterinarians and their staff are 9.2 times more likely to experience a severe occupational accident than general medical practitioners and staff (Nienhaus *et al.*, 2005). However, veterinary work also exposes practitioners to risk factors associated with non-traumatic musculoskeletal disorders, and international studies are now broadening their focus to include gradual onset or chronic work-related problems. A recent survey of Australian veterinarians, for example, found that 49% of respondents experienced chronic work-related musculoskeletal problems over the course of their career (Fritschi *et al.*, 2006). To-date there is a lack of published data on the musculoskeletal health of an acute or chronic nature of Irish veterinarians.

Is work a pain?

In an attempt to gauge the magnitude of the potential problem musculoskeletal ill health poses for the veterinary profession in Ireland, a pilot survey was conducted in November 2007. With the cooperation of Veterinary Ireland, a self-administered questionnaire was distributed via email to 926 practitioners employed in various settings across the country. Eighty-nine replies were received (response rate 9.6%). Fifty-three of the respondents were currently employed in private practice, with the remainder (36) in a variety of non-practice settings. The mean age of respondents was 44 years.



The main findings of the survey were as follows:

- Career and annual prevalence of work-related musculoskeletal symptoms were 82% and 59.5% respectively. Although high, these prevalence figures are in line with those reported for farmers (Rosecrance *et al.*, 2006) and dentists (Alexopoulos *et al.*, 2003). While gender did not affect the likelihood of symptom report, there was a significant association between employment setting and annual symptom prevalence, with more private practice veterinarians (68%) reporting symptoms than non-practice veterinarians (44%). An indication of symptom severity can be gleaned from the fact that, over the course of their careers, 59.5% of respondents had sought medical care for work-related symptoms, 34% had taken time off and 13.5% had been hospitalised;
- The most frequently reported site of symptoms was the low back, with career and annual prevalence of 61% and 35% respectively. The annual prevalence figure is very similar to that previously reported for veterinarians (Reijula *et al.*, 2003) and farmers (Rosecrance *et al.*, 2006) but, although both career and annual prevalence

Table 1: Anatomic area of symptoms reported by respondents over their career, in the 12 months prior to survey as their most significant symptoms.

Area of Symptoms	Career Prevalence (Total =89)		12 Month Prevalence (Total =89)		Most Significant Symptoms (Total =69) ^a	
	n	%	n	%	n	%
Low Back	54	60.7	31	34.8	41	59.4
Hands / Fingers	39	43.8	17	19.1	3	04.3
Neck	32	36.0	22	24.7	5	07.2
Shoulders	28	31.5	18	20.2	8	11.6
Elbows / Forearms	21	23.6	11	12.4	5	07.2
Upper Back	15	16.9	11	12.4	0	00.0
Hips / Thighs	12	13.5	4	04.5	3	04.3
Ankles / Feet	12	13.5	5	05.6	2	02.9
Knees	11	12.4	6	06.7	2	02.9

a. Although 73 respondents reported symptoms, four failed to indicate the anatomic area of their most significant symptoms.

are within the range reported in general population studies, they are higher than those in Irish health service workers where career and annual prevalence rates of 46% and 30% have been recorded (Cunningham *et al.*, 2006). Other common sites of symptoms were the hands / fingers (career prevalence 44%) and neck (career prevalence 36%) (See Table 1); and,

- Forty- seven per cent of respondents reported experiencing symptoms in three or more anatomic areas during their career.

In order to determine the symptoms of most concern to injured veterinarians, the questionnaire asked subjects to select and provide details of the musculoskeletal symptoms they considered to be “most significant”. In relation to these:

- Gradual onset symptoms were selected as frequently (50%) as sudden onset symptoms and tended to have a longer-term impact on work and other activities;
- Low back symptoms were selected by almost 60%, with shoulder symptoms a distant second (12%). Muscle strain and vertebral disc problems were the most frequently reported conditions with which symptoms were associated;
- The most frequently reported age of symptom onset was 21-30 years (47%) and while 38% could not recall the season of first onset, 40% reported the spring; and,
- Occupational risk factors considered important for symptom occurrence are shown in Figure 1 below. While 65% (45 of 69 respondents) rated lifting animals as a major or moderate contributory factor to their symptoms, this figure rose to 78% of those for whom low back symptoms were most significant.

Implications of findings

Accurate risk identification and assessment are the cornerstones of occupational health and safety, and necessary first steps in the development and prioritisation



Almost 60% of survey respondents had suffered lower back symptoms as a result of their work as veterinary practitioners.

of appropriate prevention strategies (Dembe *et al.*, 2004). The frequency with which gradual onset symptoms were deemed “most significant” highlights the fact that any future research should adopt a broad focus and consider the risk factors involved in both acute injury and gradual onset disorders. While gradual onset symptoms do not automatically rule out a single causative event, they are frequently a feature of injuries /disorders where stresses are cumulative rather than extreme, and for which repetitiveness and duration of work activity have been shown to be significant risk factors (Kumar, 2001). In this survey, tuberculosis testing of cattle, pregnancy testing of mares and typing were all tasks that were put forward by individuals as the cause of their most significant symptoms. Structuring workloads to allow adequate time for recovery may help to ameliorate these problems. Unfortunately, due to small sample size, the findings of this survey cannot be extrapolated to the wider Irish veterinary population. However, the high prevalence of symptoms within the group points to the need for a larger scale study.

Working with inadequate help or facilities was considered

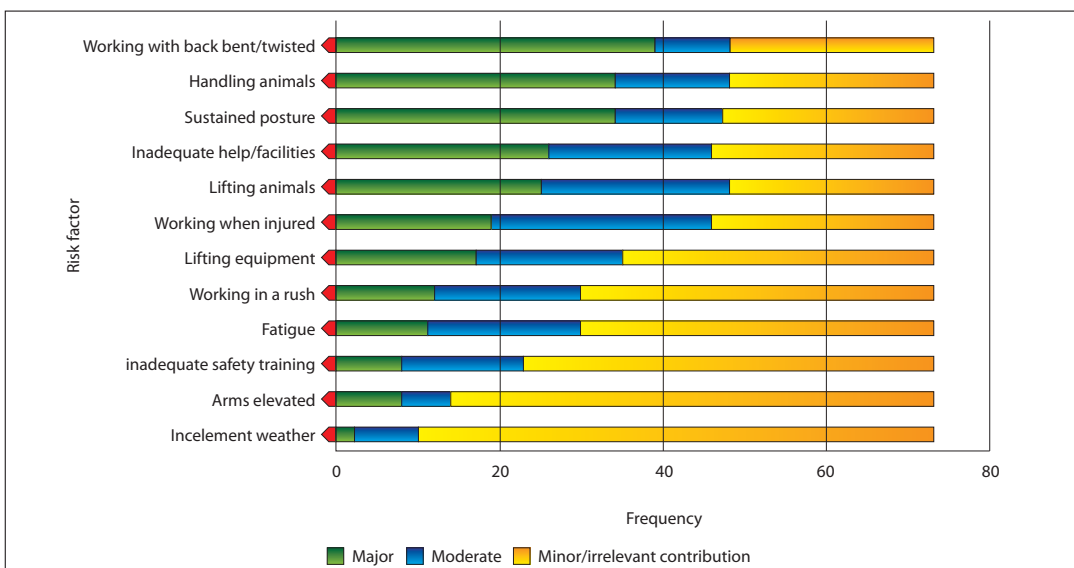


Figure 1: Perceived level of contribution of various occupational risk factors to the occurrence of respondents' most significant work-related musculoskeletal symptoms.

an important occupational risk factor, not only by the respondents in this study, but also by Finnish veterinarians surveyed by Reijula *et al.*, (2003) and this raises an interesting question regarding the culture within the veterinary profession. If, prior to incurring injury or experiencing symptoms, practitioners were aware of the inadequacy and yet proceeded to work, was this because they felt pressured to do so? A qualitative study by Cromie *et al.*, (2002) explored how the cultural values of physiotherapists impacted on their risk of experiencing work-related musculoskeletal disorders, and found that the belief that therapists are hardworking and that caring led some therapists to do things they knew were potentially harmful and/or to continue to

work when injured. It is conceivable that veterinarians, frequently regarded as guardians of animal health and welfare (Kinsella, 2006), might experience similar pressures, particularly when starting out in their careers. Thus, cultural issues may partly explain why almost 50% of injured veterinarians who gave a reason for not having taken time off for their most significant symptoms, felt that it had not been "possible" for them to do so.

That respondents did not rate inadequate training in injury prevention as an important risk factor again raises some interesting questions. Does it, for example, reflect attitudes to risk-taking, a belief that accidents and injury are an inevitable part of veterinary work or simply a lack of exposure to ergonomic principles and interventions?

Whatever the reason, the fact that less than a quarter of those surveyed had received manual handling/ergonomic training and only two had filled out an accident report subsequent to injury, is of concern. There is considerable evidence that systematic factors such as organisational mismanagement, ergonomic flaws, technical defects, lack of attention and low safety priority make a significant contribution to accident causation (Trimpop *et al.*, 2000). Veterinarians, either as employers or employees, have responsibilities under the Safety, Health and Welfare at Work Act 2005 and it may be that awareness of this legislation merits assessment. In order to keep the questionnaire brief, it was decided not to consider psychosocial or personal risk factors for musculoskeletal injury in this survey. However, these factors should be included in future studies as work-related stress and job satisfaction have previously been shown to have a significant effect on the annual prevalence of injury in German veterinarians (Trimpop *et al.*, 2000).

Time for action

Musculoskeletal complaints are the most common occupational health problem across the EU according to research by the Health and Safety Authority (2006). The findings of this pilot study indicate that the musculoskeletal health of those in the Irish veterinary profession warrants further research. In the short term, prospective studies should target relatively inexperienced practitioners and consider a range of biomechanical, personal, psychosocial and cultural issues so that appropriate prevention strategies can be identified and prioritised by those charged with providing veterinary training and ensuring employee health and safety.

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