# Work-related musculoskeletal disorders in veterinary echocardiographers: A cross-sectional study on prevalence and risk  factors

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**Abstract** *Objective:* Assess the relationship between work-related musculoskeletal disorders (WRMSDs) and performing echocardiograms (ECHOS) in veterinarians with a cardiology focus.

*Methods:* Prospective study. A survey was submitted to the ACVIM veterinary cardiology list-serve regarding pain associated with performing ECHOS (ECHOPain). Associations of demographic and work habit variables with ECHOPain and WRMSD were evaluated with logistic regression.

*Results:* Respondents included 198 of 487 (41%) members, evenly divided in gender. Most (69%) were 31-50 years old. Almost all (96%) currently perform ECHOS, usually 4-5 ECHOS/week (74%), every week except vacation (93%). ECHOPain was reported by 87 people (44%), which was classified as mild/occasional in 77%, frequent/moderate in 21%, and frequent/severe in 2%. Of those with ECHOPain, 52% reported ECHOS as the sole cause, 31% reported ECHOS aggravating pain from a pre-existing problem, and 17% reported unrelated pain. The most common areas of pain were neck (54%), shoulder (52%), wrist (42%), and back (35%) with 78% reporting pain at 2 or more sites. Pain impaired job performance in 36%, required sick leave or disability in 12%, required reduction in ECHOS/day in 36%, and affected lifestyle in 22%. Ten percent of people have been diagnosed with WRMSD, of which 21% have a permanent disability. Both gender and weeks/year predicted pain with ECHOS ($c^2$(3) 11.38, *P* 0.01). The odds ratio for females versus males with ECHOPain was 2.23.

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