

Occupational Health and Safety Update

Report on the results of the Australian Sonography Survey on the prevalence of musculoskeletal disorders among Sonographers.

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In 1998 the Australian Sonographers Association (ASA) distributed a survey on musculoskeletal disorders among sonographers. The survey was designed by the Healthcare Benefit Trust for the BC ultrasonographers group and was adapted by the United States Society of Diagnostic Sonographers (SDMS) to survey its members.

The purpose, with this study, was to describe the prevalence of musculoskeletal disorders and related work and personal factors among diagnostic medical sonographers. It was hoped the results would influence designers of equipment and employers to introduce ways to reduce if not eliminate musculoskeletal injuries from the ultrasound workplace. (Pike et al).

The SDMS survey in the USA reported 81% of all respondents had experienced pain and discomfort since starting work as a sonographer. (Pike et al). This survey was distributed randomly to sonographers through the professional sonographers' registry.

Recently the ASA received the results of the SDMS survey completed by sonographers in Australia. Surveys were posted to all ASA members who in turn were asked to forward them to non-member sonographers. The total number of surveys distributed is not known. 197 completed surveys were returned. These were then forwarded to SDMS for analysis.

Of the Australian sonographers surveyed, the incidence of musculoskeletal pain and discomfort experienced by sonographers since starting scanning was 95.4%. In this paper I will summarise the results of this survey.

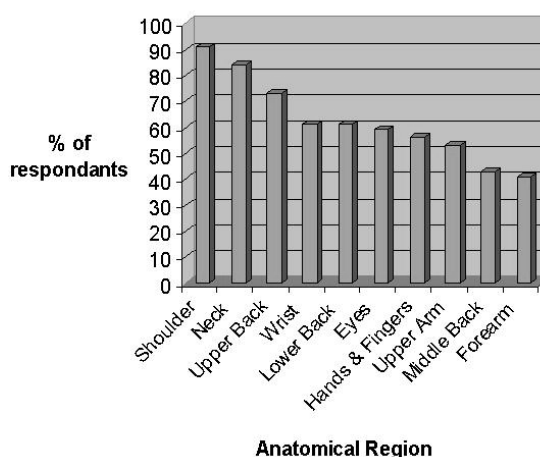
94% of sonographers described their state of health as good or excellent with 67% describing their fitness level as good or excellent. 57% exercised three or more times per week.

The average number of days spent scanning was 17.2 (SD 5.6) per month. The average time spent scanning was 6.8 (SD 1.1) hours per day. 42% had no or one break of more than 10 minutes per day and 50% had 2 or 3 breaks. Over 50% worked continuously for 3 or more hours between breaks.

The areas where sonographers suffered pain and discomfort overlapped as many sonographers had pain and discomfort

in more than one area. The breakdown is as follows. Shoulder 91%; neck 84%; upper back 73%; wrist 61%; lower back 61%; eyes 59%; hands and fingers 56%; upper arm 53%; middle back 43% and forearm 41%. Hip and leg pain was also reported.

Distribution of Sonographer Injuries



The pain and discomfort occurred mainly at the end of the working day and after work. The mean average time that sonographers had suffered pain and discomfort was 52 months (4 years 4 months) (SD 44.9).

The pain and discomfort was described as follows (again with overlap): aching feeling 94%; stiffness 57%; sharp pain 36%; weakness 30%; cramping 30%; numbness 29%. Other descriptions of tingling, spasm, swelling and loss of colour in the areas affected were also reported.

Whilst performing work duties 80% of respondents experienced pain and discomfort of which 25% reported decreased ability to perform work duties. 57% reported pain and discomfort whilst performing home activities and 53% reported pain and discomfort undertaking recreational activities, 39% reported decreased ability to perform both these activities.

Some sonographers reported having time off work or reduction of working hours due to their pain and discomfort.

14% of respondents had submitted workers' compensation claims to cover treatment and/or lost work time, of which 92% had been accepted.

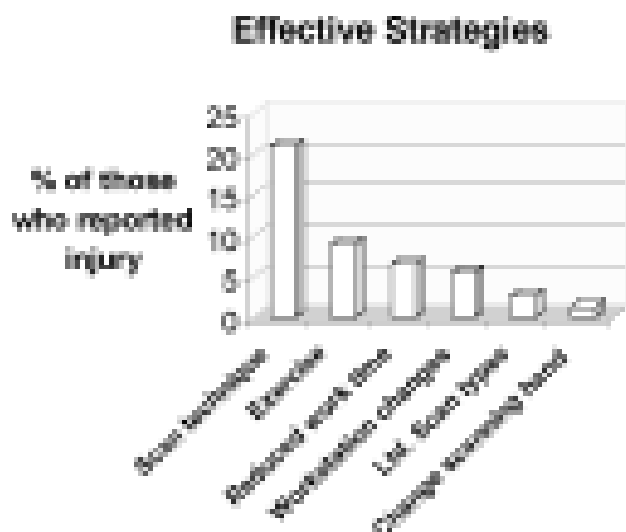
The main reasons for aggravation of pain and discomfort included applying sustained pressure while scanning, abduction of the shoulder and both sustained and repetitive twisting of the neck and trunk.

Of those suffering pain and discomfort 88% still have a problem, 56% have sought medical attention of which 82% received a diagnosis and 52% received treatment.

The diagnoses obtained included tendonitis 25%; tension neck syndrome 24%; musculoskeletal injury (not specific) 22%; bursitis 9% as well as epicondylitis, carpal tunnel syndrome, cervical syndrome and others.

Treatments received included physiotherapy 70%; massage 43% and medication 43%. 77% described the treatment received to be moderately to very effective. A total of 60% underwent treatment for six months or more.

A summary of the single most important intervention to reduce pain and discomfort is: changing scanning



techniques 21%; exercise 9%; reduced work time 6.6%; workstation changes 5.5% and limited scan types 2.6%. 1.3% changed their scanning hand or ultrasound units.

Sonographers mainly received education on Occupational Health and Safety issues related to the musculoskeletal injuries from other sonographers 42%; professional bodies 38% and physiotherapist 34%.

Workstations were ergonomically assessed in 22% of workplaces and of these 71% had been completely or partially modified. Another 50% of sonographers had made their own changes.

The majority of sonographers agreed that they were able to communicate with their supervisors about health and safety risks in the workplace and 50% of supervisors had taken steps to change unsafe or unhealthy work conditions.

In relation to work schedule and workload, 26% thought that the time to complete their work tasks were unrealistic, 57% were not able to take scheduled work breaks during the work day, 51% did not have control over their day to day workload and 80% reported an increase in workload over the past 5 years.

Overall the results obtained were similar to those obtained by the SDMS.

Comment:

This survey supports previous literature that reports the incidence of musculoskeletal pain and discomfort among sonographers to be around 80%. The higher incidence of 95.4% may be explained by the fact that those surveyed in Australia were mainly members of a professional body. Thus this represents a biased survey group. However, it may also indicate workplaces, workload and work practice conditions existing in Australia put sonographers at a greater risk of injury.

The high incidence of pain and discomfort reported represents a serious health hazard for our profession and we all need to be involved in improving the conditions in which we work.

I would like to thank all those sonographers who took the time and effort to complete this survey and the ASA for distributing the survey and financing the cost of the analysis.

References:

- Gregory V 1998. Musculoskeletal Injuries: An occupational Health and Safety Issue in Sonography. *Sound Effects*. September 1998, 30-34.
- Pike I. Russo A. Berkowitz J. Baker J. Lessoway V. 1997. The Prevalence of Musculoskeletal Disorders Among Diagnostic Medical Sonographers. *Journal of Diagnostic Medical Sonography*. Vol 13 No 9, 219-227.

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