

Prevalence of wrist injuries and return-to-work barriers among nurses and therapists in Singapore

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Dear Editor,

Musculoskeletal disorders, such as wrist injuries, represent a substantial occupational health concern for healthcare workers who perform patient handling tasks, as these activities often involve repetitive movements, awkward postures and heavy lifting that increase the risk of these conditions. Overseas studies showed that an estimated 55–91% of physical therapists experienced work-related musculoskeletal disorders during their careers, most often at lower back, neck, upper back and shoulders,¹ while an estimated 26% of nurses had upper extremity pain over a 12-month period.² In Singapore, musculoskeletal disorders represent the most reported occupational disease with healthcare as the second most affected industry,³ while a Singapore study found that hand injuries accounted for over one-third of workplace injury claims.⁴

Beyond physical discomfort, patients with wrist injuries faced various biopsychosocial challenges in their journey of returning to work.⁵ These challenges are especially relevant in healthcare in view of the high physical work demands, potential organisation barriers such as inadequate workplace accommodations and limitations in the use of wrist protective devices from infection control policies, and the inherent nature of nursing and therapy care where work modifications are difficult to implement.

To better understand the burden of wrist injuries among healthcare workers, the authors conducted a cross-sectional, anonymous, self-administered online survey in Woodlands Hospital, Singapore to assess prevalence and risk factors of wrist injuries among nurses and therapy staff, as well as associated concerns and barriers to return to work. Nurses, healthcare assistants, physiotherapists, occupational therapists, therapy assistants and speech therapists employed during the study period in July 2023 were included. The survey, administered over the FormSG platform, included detailed history of wrist injuries, individual and workplace risk factors of wrist injuries, and return-to-work concerns and barriers. To improve response rate,

various publicity channels were leveraged, including hospital email broadcast and department communication channels. Ethics clearance was granted by the National Healthcare Group Domain Specific Review Board (2023/00151).

A total of 386 healthcare workers participated, comprising 68 physiotherapists, occupational therapists and therapy assistants, and 317 nurses and healthcare assistants, with higher response rate among therapy staff (72%) than nursing staff (23%). Respondents were mostly below 40 years old (80%), females (80%), Singaporeans or permanent residents (69%), worked over 2 years in Woodlands Hospital (65%), worked in inpatient settings (54%) and performed direct patient care (98%).

The study found a significant prevalence of self-reported wrist injuries, with 107 respondents (28%) experiencing such injuries since entering the healthcare sector and 75 (19%) reporting injuries after starting work at Woodlands Hospital. Among the 107 respondents with prior wrist injuries, the majority (72 participants, 67%) agreed their wrist injuries were attributed to or exacerbated by work, yet only 6 (8%) of these respondents submitted internal injury incident reports. As under-reporting may hinder timely intervention and provision of necessary workplace support, there may be a need to review current mechanisms and workplace culture around injury reporting.⁶

While over 90% of the 107 respondents with wrist injuries have returned to full job duties, 37 respondents (35%) continued to experience symptoms that impeded their work. This is concerning, as persistent symptoms could compromise staff well-being and patient safety—a sentiment echoed by 51 respondents (48%) who believed their injuries could affect patient safety (Table 1). These findings are consistent with prior studies showing musculoskeletal injuries can have long-term functional impacts, increase risk of errors or reduce quality of care.⁷

The study also identified gaps in return-to-work support, with 66 respondents (62%) with wrist injuries

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Table 1. Perceptions of impact of wrist injury on return to work, among those with prior wrist injury after joining healthcare (n=107).

Perceptions	Rating, no. (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I believe my wrist injuries will affect patient safety.	5 (4.7)	17 (15.9)	34 (31.8)	33 (30.8)	18 (16.8)
2. I was given feedback that my wrist injuries would lead to patient safety issues.	20 (18.7)	25 (23.4)	54 (50.5)	5 (4.7)	3 (2.8)
3. My performance appraisal (e.g. total performance management) has been affected because of my wrist injury.	31 (29.0)	24 (22.4)	43 (40.2)	5 (4.7)	4 (3.7)
4. I feel that my job security is affected because of my wrist injury.	21 (19.6)	22 (20.6)	41 (38.3)	18 (16.8)	5 (4.7)
5. I believe my work could have been modified temporarily so that I could return to work earlier.	5 (4.7)	11 (10.3)	51 (47.7)	29 (27.1)	11 (10.3)
6. Having alternative job options in the workplace would be useful as I recover from my wrist injury.	1 (0.9)	4 (3.7)	37 (34.6)	42 (39.3)	23 (21.5)
7. The duration of medical leave issued by my doctors was adequate for my wrist injuries.	2 (1.9)	15 (14.0)	64 (59.8)	23 (21.5)	3 (2.8)
8. The duration of light duties issued by my doctors was adequate for my wrist injuries.	5 (4.7)	8 (7.5)	74 (69.2)	16 (15.0)	4 (3.7)
9. It is challenging to find available light duties within my normal job duties that I can do.	2 (1.9)	5 (4.7)	34 (31.8)	34 (31.8)	32 (29.9)
10. I received good support from my direct supervisor after my wrist injury.	4 (3.7)	12 (11.2)	63 (58.9)	19 (17.8)	9 (8.4)
11. I feel that my direct supervisor takes my injury seriously.	3 (2.8)	9 (8.4)	60 (56.1)	27 (25.2)	8 (7.5)
12. I feel that my colleagues take my injury seriously.	1 (0.9)	8 (7.5)	56 (52.3)	34 (32.0)	8 (7.5)
Among subgroup of respondents who used wrist supportive device (n=56)					
13. Due to infection control measures, I have experienced difficulties wearing a splint/brace while at work.	1 (1.8)	1 (1.8)	5 (8.9)	18 (32.1)	31 (55.4)
14. Wearing a splint/brace at work has affected how I perform my normal duties.	1 (1.8)	6 (10.7)	10 (17.9)	14 (25.0)	25 (44.6)
Among subgroup of respondents who had been given light duties (n=12)					
15. I had to perform work activities, which exceeded the light duty restrictions identified by my doctor.	1 (8.3)	0 (0.0)	3 (25.0)	5 (41.7)	3 (25.0)
16. The light duty restrictions identified by my doctors were helpful.	1 (8.3)	1 (8.3)	5 (41.7)	3 (25.0)	2 (16.7)

finding it challenging to find suitable light duties, 61 respondents (57%) being uncertain that they could suggest to their supervisor ways to modify their work to reduce discomfort, and only a small number (12 participants, 11%) received light duties. Out of the 12 respondents who were given light duties, 67% agreed that they performed work activities that exceeded the light duty restrictions given by their doctor. At the same time, utilisation of occupational medicine's return-to-work services remained low at 9% among the 107 respondents with wrist injuries, even though 52% were aware of these services. Greater access to and uptake of return-to-work programmes could better facilitate reintegration of injured staff,⁸ support sustained workforce participation and address patient safety concerns.

Among 56 injured respondents who were given wrist protective devices, a significant proportion (84%) admitted to non-compliance due to work-related factors, with many perceiving these devices hindered job performance (70%) and posed infection control challenges (88%). These barriers highlight the need for a more tailored approach to work accommodations to address practical challenges in the use of these devices. Collaboration between occupational medicine and infection control could be useful to identify feasible accommodations and promote adherence to protective measures without compromising job performance or infection control standards.⁹

The study identified higher injury prevalence among staff from intensive care units (12 out of 27 respondents, 44%) and emergency department (11 out of 41 respondents, 27%) even after stratifying by work duration. This association may be attributed to the physically demanding work nature in these settings, particularly frequent patient turning and handling, which has been shown to increase ergonomic risk.¹⁰ Targeted interventions, such as ergonomic training and equipment modification, may be useful in these departments.

While this study is limited by the low response rate and reliance of self-reported data, which raised the possibility of non-responder, recall and reporting biases, it is likely the first Singapore study to assess factors influencing return to work from wrist injuries, with actionable results that are applicable in Singapore hospitals. This letter raises awareness of work-related wrist musculoskeletal disorders and low utilisation of occupational health services, which could support healthcare professionals with these disorders. Addressing identified barriers and risk factors through organisational, ergonomic and cultural interventions

is essential to safeguard staff well-being and maintain patient safety.

Ethics statement

This study was approved by the National Healthcare Group Domain Specific Review Board (2023/00151).

Declaration

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