



Occupational Musculoskeletal Injury Recurrences among Healthcare Workers

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Musculoskeletal injuries (MSI) are the most prevalent type of occupational injury among healthcare workers. Further, 20-70% of MSIs are followed by a recurrence within a year, leading to chronic back pain and other disabilities.

Understanding the cause and effects of recurrences are essential to successful injury prevention and return to work programs.

Project Scope

This study reports on the prevalence of MSI recurrences among healthcare workers to help identify the population most at risk and touch on the cause and effects of MSI recurrences.

Methods

Study Population: All healthcare workers in three health authorities in British Columbia who were:

- Hired prior to September 1, 2004
- Remained an employee until December 31, 2008
- Were symptom-free for two consecutive years (September 2004 – September 2006)

Injury Definitions:

Initial MSI: An incidence of MSI during the time period September 1, 2006–August 31, 2007 without any previously reported symptoms, in a period of two years prior to the incident

- **Time Loss (TL) Initial MSI:** An Initial MSI with accepted WorkSafeBC time-loss claims.
- **Non-TL Initial MSI:** An Initial MSI involving an accepted WorkSafeBC Healthcare Claim, or a visit to GP or ER, or report of a risk.

Recurrent MSI: An incidence of MSI within a year of the Initial MSI (during the time period September 1, 2006 - August 31, 2008)

- **TL Recurrent MSI:** A Recurrent MSI with accepted WorkSafeBC time-loss claims
- **Non-TL Recurrent MSI:** A Recurrent MSI involving an accepted WorkSafeBC Healthcare Claim, a visit to GP or ER, or report of a risk.

ANALYSIS AND OUTCOME MEASURES:

The analyses were divided according to the following two themes:

Effect of demographic characteristics on prevalence of Recurrent MSIs:

- The percentage of Initial MSIs that led to a Recurrent MSI was compared across the different occupation and sub-sector categories.

Severity, cause and effect of Recurrent MSIs compared to those of Initial MSI:

- The prevalence of (TL) claims and the duration of the WorkSafeBC compensated time loss claims were compared between Recurrent and Initial MSIs.
- The employee-reported cause of injury is provided for Recurrent and Initial MSIs

Data Sources: Information on injuries and healthcare workers was obtained from the Workplace Health Indicator Tracking and Evaluation (WHITE™) database and workers' compensation cost statements from WorkSafeBC.

Results

2,936 Initial MSIs occurred between September 1, 2006–August 31, 2007. Of these injuries, 900 (30.6%) were followed by a Recurrent MSI within one year of the initial injury.

Effects of Demographic Characteristics on Prevalence of Recurrent MSIs:

Care Aids (41%), Facility Support Services (36%), Community Health Workers (35%), Licensed Practical Nurses (33%), Healthcare Workers aged 40-49 (29%), and Long Term Care employees (36%) had the highest percentages of Recurrent MSIs (Table 1).

Table 1. Percentage of Initial MSIs Leading to Recurrent MSIs by Occupation and Sub-sector

Occupation	Number of Initial MSIs	Number of Recurrent MSIs	Percentage of Initial MSIs leading to a Recurrent MSI (%)
Registered Nurses (RN)	899	218	24
Licensed Practical Nurses (LPN)	231	76	33
Care Aide (CA)*	604	250	41
Facility Support Services**	272	98	36
Health Sciences Professionals***	194	38	20
Management/Clerk	168	42	25
Maintenance Worker	95	25	26
Community Health Worker	201	70	35
Sub-sector			
Acute Care	1828	520	28.4
Long Term Care	659	237	36.0
Community Care	429	134	31.2

* Care Aides, Nursing Assistants, Assisted Living workers
 ** Food Service Worker, Laundry Attendant, Groundskeeper, Keeping, Store Attendants, Housekeeper
 *** Lab Technologist, Dietician, Physiotherapist, Occupational Therapist, Occupational Hygienist, Pharmacist, Psychologist, Audiologist

Severity, Cause and Effect of Recurrent MSIs Compared to Those of Initial MSIs

- **Time-loss MSIs:** On average, 36% of the Recurrent MSIs and 30% of the Initial MSIs involved time-loss claims (Figure 1).
- Of the 878 TL Initial MSIs, 36% led to a Recurrent MSI and 14% led to a TL Recurrent MSI.
- Of the 2057 Non-TL Initial MSIs, 28% led to Recurrent MSI and 9.7% led to a TL Recurrent MSI (Table 2).

Figure 1. Percentage of Initial and Recurrent MSIs by Type of Care Required

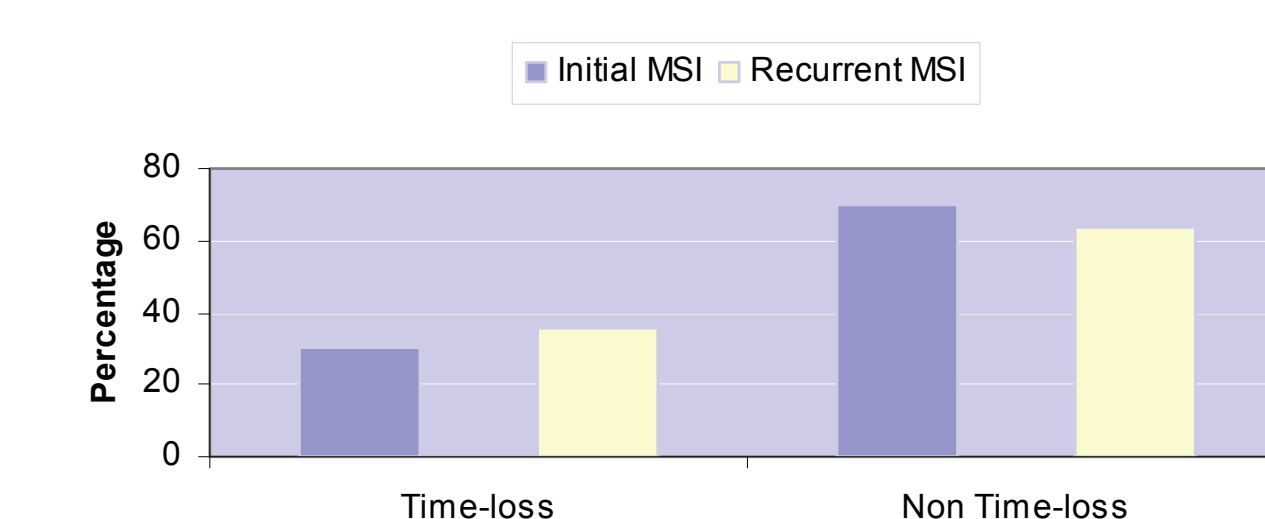


Table 2. The Number of Initial and Recurrent MSIs by Type of Care Required

Initial MSIs Count	TL			Non-TL		
	TL	Non-TL	Total	TL	Non-TL	Total
878	126	190	316	199	385	584
Recurrent MSIs Count	14.4	21.6	36.0	9.7	18.7	28.4

Reported Cause: Previous Discomfort was the most frequently-reported cause of incident for Recurrent MSIs (24% of Recurrent MSIs were reported to have been due to Previous Discomfort); whereas Awkward Posture was reported as the most frequent cause of incident for Initial MSI (Figure 2).

Duration of Time-loss: The average number of days lost (per accepted WorkSafeBC time-loss claim) was 50 days for Recurrent MSIs, which is five days higher than the average number of days lost due to the Initial MSIs (Table 3).

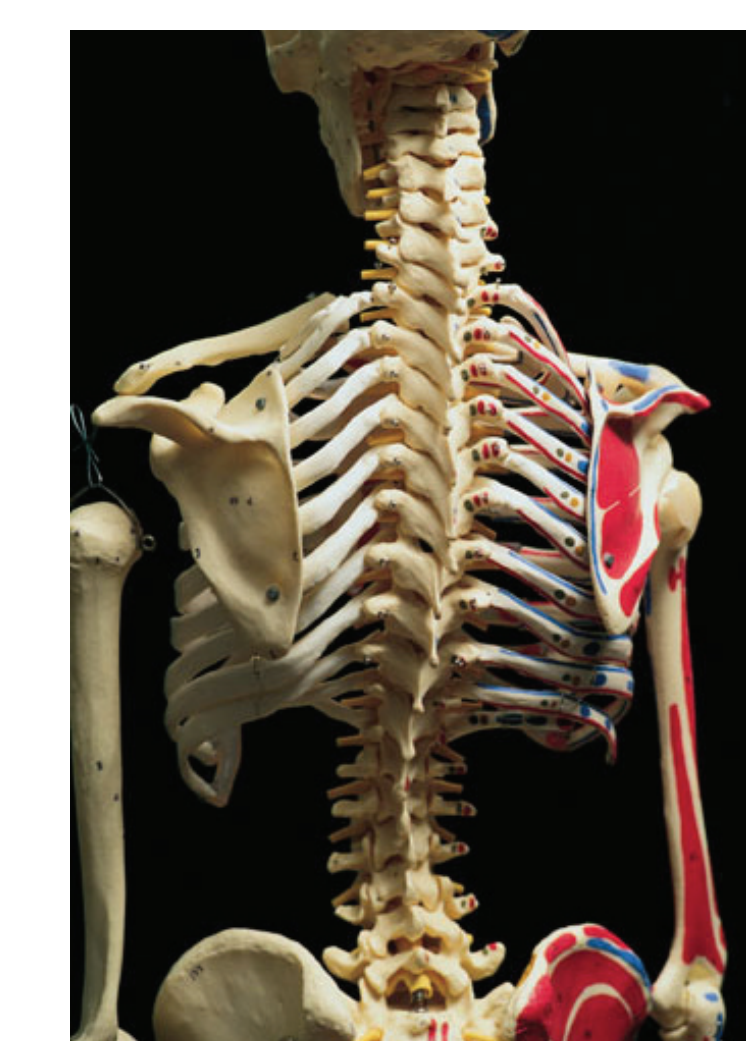


Figure 2. Employee Reported Cause of Injury

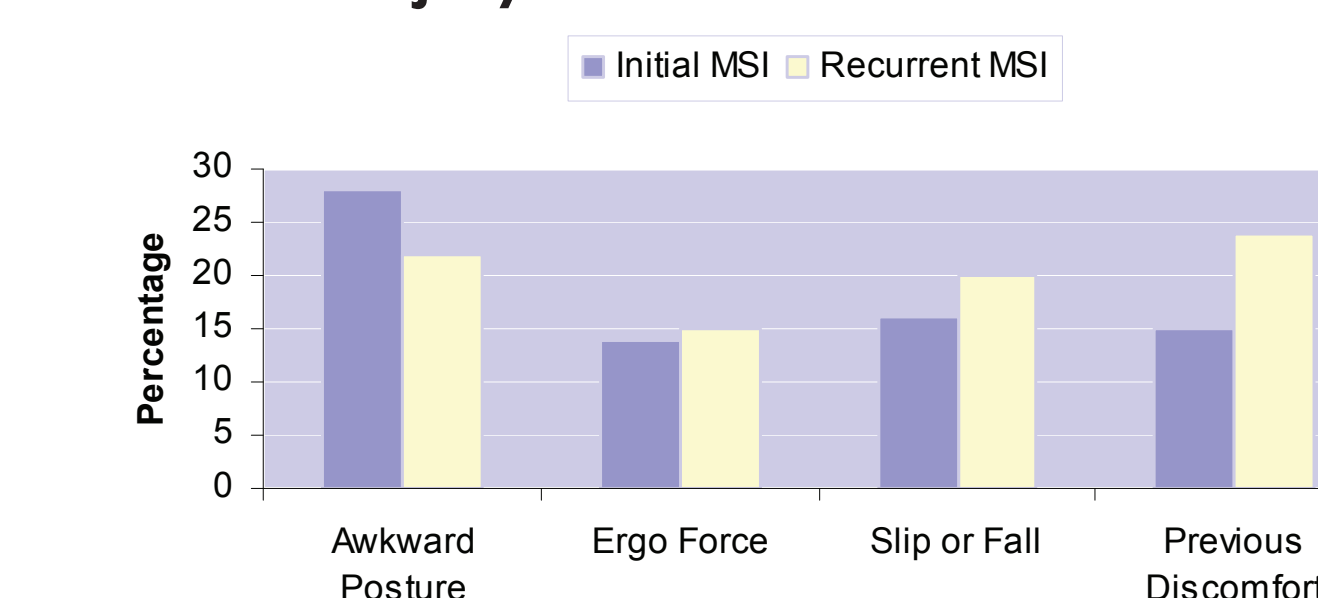


Table 3. Total, Average, and Median Number of Days Lost Due to Initial and Recurrent MSIs

Incident	Number of Days Lost	TL MSI	Average Days Lost per TL MSI	Median Days Lost per TL MSI
Initial MSIs	39539	879	45	19
Recurrent MSIs	16296	325	50	25

The median and the average number of days lost (per time-loss injury), due to Recurrent MSIs, were higher than those of the Initial MSIs for Licensed Practical Nurses, Facility Support Services, Maintenance Workers, Care Aides, and Healthcare Workers working at Long Term and Community Care facilities (Table 4).

Table 4. Total, Average, and Median Number of Days Lost Due to TL Initial and TL Recurrent MSIs by Occupation and Sub-sector

Occupation	Number of Initial TL MSIs	Number of TL Recurrent MSIs	Total Days Lost due to Initial MSIs	Total Days Lost due to Recurrent MSIs	Average Days Lost due to Initial MSIs	Average Days Lost due to Recurrent MSIs	Median Days Lost due to Initial MSIs	Median Days Lost due to Recurrent MSIs
Registered Nurses (RN)	235	75	11353	3685	48.3	49.1	16	17
Licensed Practical Nurses (LPN)	76	28	3408	1617	44.8	57.8	17	34
Care Aides (CA)	225	108	10941	5749	48.6	53.2	25	31
Facility Support Services	94	30	3806	1471	40.5	49.0	22	36
Health Sciences Professionals	33	6	1041	104	31.5	17.3	6	10.5
Management/ Clerks	30	9	875	279	29.2	31.0	7	21
Maintenance Workers	24	8	549	207	22.9	25.9	9.5	22
Community Health Workers	74	32	4014	1746	54.2	54.6	23.5	21.5
Sub-sector								
Acute Care	535	170	22802	7385	42.6	43.4	17	20
Long Term Care	211	103	10175	5735	48.2	55.7	19	30
Community Care	128	50	6468	2969	50.5	59.4	21.5	37.5

Implications

- The prevalence of MSI recurrence was found to be 30.6% within the first year of the Initial MSI.
- Care Aides (41%) and workers within the Long Term Care sector (36%) had the highest frequency of recurrence, indicating that ergonomically-demanding duties and work environment may have an increasing effect.
- TL-Initial MSIs led to a recurrence at 36% suggesting that the severity of the Initial MSIs may be related.
- Previous Discomfort, reported as the leading cause for Recurrent MSIs, imply that injured workers may not have fully recovered from the initial injury before returning to regular duties.
- Compared to the Initial MSIs, Recurrent MSIs involved longer recovery durations, suggesting that they may be more severe in nature.

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