

Musculoskeletal Disorder Coding Harmonization

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There are many names for injuries that are caused by work-related hazards due to poor physical ergonomics, such as force, awkward or sustained postures, repetition, vibration, and contact stress. Some jurisdictions in Canada refer to these injuries as musculoskeletal disorders (MSDs), while others refer to them as musculoskeletal injuries (MSIs).

Other terms include repetitive strain injuries (RSIs), soft tissue injuries, activity-related soft tissue disorder, and cumulative trauma disorders. These terms are umbrella terms for several different injuries and disorders of the musculoskeletal system. No matter what term is used though, the same set of injuries is being described. The term MSD will be used in this article.

Until recently, these injuries were not being counted the same way in jurisdictions across Canada. The biggest reason for this is the coding system that workers' compensation Boards and Commissions in Canada use to classify injuries.

Workers' compensation Boards and Commissions use a coding manual from the National Work Injuries Statistics Program (NWISP) that is run by the Association of Workers' Compensation Boards of Canada (AWCBC). This manual classifies injuries based on four categories:

- Nature of Injury or Disease (identifies the principal physical characteristics of the injury or disease; for example, a medical diagnosis)
- Part of Body (identifies the part or parts of the body directly affected by the Nature of Injury or Disease classification)
- Source of Injury or Disease (identifies the object, substance, exposure or bodily motion that directly produced or inflicted the injury or disease)
- Event or Exposure (describes the manner in which the injury or disease was produced or inflicted by the identified Source of Injury or Disease)

Since MSD is an umbrella term for several different injuries, it is difficult to pinpoint which injuries are MSDs based on the coding manual. To see if and how different jurisdictions in Canada were measuring the number of MSDs, a jurisdictional scan was performed. The scan found that seven jurisdictions in Canada measured the number of MSDs using workers' compensation data in some way. However, all these ways were different. To determine if an injury was an MSD:

- one jurisdiction looked at the Event or Exposure category
- one jurisdiction looked at the Nature of Injury category
- four jurisdictions looked at both the Event or Exposure and the Nature of Injury categories combined (for the injury to be an MSD, certain codes had to be selected under both of those categories)
- one jurisdiction looked at the Event or Exposure category, the Nature of Injury category, and the Part of Body category

For the four jurisdictions that looked at both the Event or Exposure category and the Nature of Injury category, all four looked at different codes in both the Event or Exposure category and the Nature of Injury category to determine if an injury was an MSD.

In an attempt to harmonize how jurisdictions measured MSDs, a committee was struck in 2017. It was led by Brian McInnes, Provincial Ergonomist of the Ontario Ministry of Labour and Linda Sagmeister, Ergonomist for the Occupational Health and Safety Division of Service NL with the Government of Newfoundland and Labrador. All jurisdictions were invited to participate in the committee with the vast majority participating in at least one meeting.

Committee participation included representation from workers' compensation Boards and government health and safety prevention and enforcement personnel, as well as representatives from AWCBC and NWISP. Members included experts in ergonomics and injury coding.

Through a series of meetings, a proposed national strategy was developed and made available in 2018. The strategy looks at both the Event and Exposure and the Nature of Injury to determine if an injury is an MSD. The strategy uses an "and" algorithm where, for an injury to be classified as an MSD, the claim must be a specified injury (Nature of Injury) AND be caused by a specific Event or Exposure. A list of the agreed upon MSD-specific Event or Exposure codes and Nature of Injury codes (as of December 2018) are included in the Appendix.

Examples of MSDs:

- herniated disc (Nature of Injury) that is due to overexertion in lifting (Event or Exposure)
- tendonitis (Nature of Injury) that is due to repetitive motion (Event or Exposure)

The strategy is recommended for use, to enhance consistency across jurisdictions when reviewing and comparing their MSD numbers. It can also help researchers or workplaces trying to identify the number of MSDs being experienced in various settings. This information will lend itself to a more harmonized approach to identifying and controlling MSD claims and hazards in the workplace.

AWCBC has confirmed that they will be referencing the strategy when providing information to those who request MSD data and the strategy can be obtained from AWCBC. The strategy has also been shared with all the injury coders at workers' compensation Boards and Commissions across the country.

Having a harmonized approach to measuring MSD prevalence will aid the efforts of health and safety personnel to reduce the number of these workplace injuries.

Appendix: Codes recommended for mapping MSI/MSD
(Event or Exposure Description to be used in conjunction with Nature of Injury Description codes)

Accident Type Code	Event or Exposure Description
5000	Rubbed or abraded by friction or pressure, uns.
5100	Rubbed or abraded by kneeling on surface
5200	Rubbed or abraded by objects being handled
5900	Rubbed or abraded by friction or pressure, n.e.c.
6000	Rubbed, abraded, or jarred by vibration, uns.
6100	Rubbed, abraded, or jarred by vehicle or mobile equipment vibration
6200	Rubbed, abraded, or jarred by other machine or equipment vibration
6900	Rubbed, abraded, or jarred by vibration, n.e.c.
9000	Contact with objects and equipment, n.e.c.
20000	Bodily reaction and exertion, uns.
21000	Bodily reaction, uns.
21100	Bending, climbing, crawling, reaching, twisting
21300	Running-without other incident
21400	Sitting
21600	Standing
21700	Walking -- without other incident
21900	Bodily reaction, n.e.c.
22000	Overexertion, uns.
22100	Overexertion in lifting
22200	Overexertion in pulling or pushing objects
22300	Overexertion in carrying, turning, or wielding objects
22400	Overexertion in throwing objects
22900	Overexertion, n.e.c.
22901	Overexertion in lifting and turning (object)
23000	Repetitive motion, uns.
23100	Typing or keyentry
23200	Repetitive use of tools
23300	Repetitive placing, grasping, or moving objects, except tools
23900	Repetitive motion, n.e.c.
24000	Sustained viewing
25000	Static posture without the application of force to an object
26000	Static posture with the application of force to an object
29000	Bodily reaction and exertion, n.e.c.
29001	Bodily reaction and exertion in lifting (object) and turning (body)

Nature of Injury Code	Nature of Injury Description
0	Traumatic injuries and disorders, uns.
2000	Traumatic injuries to muscles, tendons, ligaments, joints, etc., uns.
2001	Soft Tissue Injury (Traumatic)
2100	Sprains, strains, tears, uns
2101	Rotator cuff tear
2102	Meniscal Tear
2190	Sprains, strains, tears, n.e.c
2900	Traumatic injuries to musculoskeletal system with inflammation of muscles, tendons, ligaments, joints, etc., uns.
2901	Traumatic bursitis
2902	Traumatic tendonitis
2903	Traumatic epicondylitis
2904	Traumatic capsulitis
2905	Traumatic ganglion
2906	Traumatic synovitis
2907	Traumatic tenosynovitis
2908	Traumatic myositis
2909	Traumatic injuries to musculoskeletal system with inflammation of muscles, tendons, ligaments, joints, etc., n.e.c.
2910	Traumatic Arthropathies, arthritis, polyarthritis, ankylosis of the joint
2911	Traumatic dorsopathies, unspecified
2912	Traumatic dorsalgia
2913	Traumatic cervicalgia
2914	Traumatic sciatica
2915	Traumatic lumbago
2916	Traumatic disc disorders, unspecified
2917	Traumatic herniated disc
2918	Traumatic Intervertebral disc syndrome
2919	Traumatic disc disorders, n.e.c.
2920	Traumatic dorsopathies, n.e.c.
2921	Traumatic minor intervertebral disorders (MID)
2922	Traumatic facet syndrome
2923	Traumatic radiculitis
8200	Sprains or strains and bruises
8900	Other combinations of traumatic injuries and disorders, n.e.c.
9700	Nonspecific injuries and disorders, unspecified
9720	Back pain, hurt back
9730	Soreness, pain, hurt, except the back
9780	Multiple nonspecific injuries and disorders
9790	Nonspecific injuries and disorders
12410	Carpal tunnel syndrome
12490	Other disorders of the peripheral nervous system, n.e.c.
12900	Nervous system and sense organs diseases, n.e.c.
13710	Raynaud's syndrome or phenomenon, vibration induced white finger disease
13800	Diseases of the veins, lymphatics, uns.
13810	Varicose veins
13890	Diseases of the veins, lymphatics, n.e.c.
15300	Hernia, uns.
15310	Inguinal hernia
15320	Hiatal hernia
15330	Ventral hernia
15390	Hernia, n.e.c.
17000	Musculoskeletal system and connective tissue diseases and disorders, uns.
17100	Arthropathies and related disorders (arthritis)
17200	Dorsopathies, uns.

17201	Dorsalgia
17202	Cervicalgia
17210	Sciatica
17220	Lumbago
17230	Disc disorders, uns.
17231	Herniated disc
17232	Intervertebral disc syndrome
17233	Diskarthrosis
17239	Disc disorders, n.e.c.
17290	Dorsopathies, n.e.c.
17291	Minor intervertebral disorders (MID)
17292	Facet syndrome
17293	Radiculitis
17300	Inflammation and irritation of joints, tendons, muscles and connective tissues, uns.
17310	Bursitis
17320	Synovitis
17330	Tendonitis
17340	Tenosynovitis
17350	Ganglion/cystic tumour
17370	Sprains, strains, tears (Repetitive)
17390	Inflammation and irritation of joints, tendons, muscles and connective tissues, n.e.c.
17391	Rotator cuff syndrome
17392	Dupuytren's contracture
17393	Epicondylitis
17394	Capsulitis
17395	Trigger finger
17400	Osteopathies, chondropathies, acquired deformities, uns.
17490	Osteopathies, chondropathies, acquired deformities, n.e.c.
17900	Musculoskeletal system and connective tissue diseases and disorders, n.e.c.
17901	Fibromyalgia, fibrositis, myofascitis
41200	Symptoms involving nervous and musculoskeletal systems, uns.
41210	Spasms or tremors, n.e.c.
41230	Eye strain
41280	Multiple symptoms involving nervous and musculoskeletal systems
41290	Symptoms involving nervous and musculoskeletal systems, n.e.c.