

Claims Incidence of Work-related Disorders of the Back and Upper Extremity In Washington State, 1990-1997

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Summary

Objectives: This study examines the frequency, incidence rate (IR), cost and industry distribution of work-related back and upper extremity musculoskeletal disorder claims in Washington State in order to help focus prevention efforts.

Methods: Washington State Fund workers compensation accepted musculoskeletal claims from 1990-1997 were extracted and categorized into general and selected specific disorders of gradual or sudden onset. Self-Insured database only includes lost time claims data for those with 4 or more lost workdays and no specific diagnoses, we analyzed this data as well because it represents the experience of approximately one-third of Washington's workers who work for the 400 largest companies in the state. The data are not directly comparable to the State Fund data because of their incompleteness.

Frequency, incidence rate and relative risk or rate ratio were estimated for Washington Industrial Codes (WIC). A relative risk of more than 1 indicates increased risk compared to overall industry. A Prevention Index (PI) was developed to combine frequency and relative risk by averaging their 2 ranks.

Results: In the **State Fund**, there were 1,332,703 total claims accepted. Of these, there were 228,500 accepted back injury

claims (IR=231.2/10,000 full time equivalent employees [FTEs]) costing \$1.4 billion and 12.3 million lost days over the 8-year period. Gradual onset back injuries represented 67.6% of back claims, 55% of direct compensation costs and 60% of lost time. There were 254,607 upper extremity claims (IR= 258 /10,000 FTEs) costing \$1.3 billion and 12.9 million lost workdays. Gradual onset disorders represented 37.5% of upper extremity claims, 43% of costs and 47% of lost workdays.

Table a. Selected Examples of Specific ICD-9 Diagnoses, State Fund, 1990-1997

	Claims Rate	Cost	Lost Days
Rotator Cuff	20.9	\$216 mil	1.8 mil
Epicondylitis	13.2	\$55 mil	0.56 mil
Carpal Tunnel Syndrome	27.6	\$259 mil	2.6 mil
Sciatica	6.2	\$195 mil	1.6 mil

Among the **Self-Insured** employers, there were 151,871 lost time compensable claims, representing 1/3 of all accepted claims, 55% of them were musculoskeletal disorders (26% upper extremity and 29% back disorders). Gradual onset disorders were 46.4% of the back claims and 36% of the upper extremity musculoskeletal disorders.

Although there was a downward trend in musculoskeletal incidence rates over the eight-year period, the percent of all claims that were for musculoskeletal disorders remained constant over the period.

Washington work-related musculoskeletal disorders

Based on the Prevention Index, the top 5 ranking industries for State Fund back injuries were

- ◆ Nursing Homes,
- ◆ Roofing,
- ◆ Wood Frame Building Construction,
- ◆ Logging,
- ◆ Wallboard Installation.

Landscaping replaces logging in the top 5 industries for gradual onset back disorders.

The top 5 industries for upper extremity disorders were

- ◆ Wood Products Manufacturing,
- ◆ Sawmills,
- ◆ Wood Frame Building Construction,
- ◆ Roofing and
- ◆ Meat Dealers Wholesale.

For gradual onset upper extremity disorders the top 5 industries were:

- ◆ Wood Products Manufacturing
- ◆ Meat Dealers Wholesale
- ◆ Nursing Homes
- ◆ Temporary Help-Assembly
- ◆ Sawmills

Temporary workers were at high risk for back, shoulder and hand/wrist disorders, particularly in more recent years.

Self-Insured industries with the highest Prevention Index for back injuries were:

- ◆ Parcel package delivery
- ◆ Trucking not otherwise classified
- ◆ Bus Companies
- ◆ Airline ground crews
- ◆ Cities, all other employees

Self-Insured industries with the highest prevention index for lost time gradual onset back disorders were

- ◆ Parcel package delivery
- ◆ Warehouses, Not otherwise classified
- ◆ Wholesale stores, NOC
- ◆ Cities, all other employees NOC
- ◆ Schools, all other employees NOC

For lost time upper extremity disorders among the Self Insured, the highest risk industries were:

- ◆ Parcel package delivery
- ◆ Bus companies
- ◆ Schools, all other employees NOC
- ◆ Airlines ground crew
- ◆ Temp help-Administrative Staff

For lost time gradual onset upper extremity disorders, the high risk Self-Insured industries were

- ◆ Bus companies
- ◆ Parcel package delivery
- ◆ Schools, all other employees NOC
- ◆ Cities, all other employees NOC
- ◆ Supermarkets

Newspaper publishing ranked 8th in upper extremity and shoulder disorders.

Conclusions: Work-related back and upper extremity musculoskeletal disorders represent a large (36% of all State Fund claims) and costly problem in Washington State. Back and upper extremity MSDs represent 52% of all State Fund and 55% of all Self-Insured compensable claims. Workers in industries characterized by heavy manual handling and repetitive work are at high risk. The contingent workforce appears to be at high risk. These are likely an underestimate of the true burden of these work-related disorders in Washington State.

