



A NIOSH LOOK AT

DATA FROM THE BUREAU OF LABOR STATISTICS



Worker Health by Industry and Occupation

- Musculoskeletal Disorders
- Anxiety Disorders
- Dermatitis
- Hernia

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**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
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National Institute for Occupational Safety and Health**

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Authors: *Carol A. Burnett; Nina R. Lalich; Leslie MacDonald; Toni Alterman*

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Introduction

In 1970 Congress passed the Occupational Safety and Health Act “to assure so far as possible every working man and woman in the Nation safe and healthful working conditions.” The National Institute for Occupational Safety and Health (NIOSH) was created to perform research concerning the causes of occupational injuries and illnesses. One responsibility of NIOSH is to identify occupational diseases and conditions in order to target research and prevention efforts. To meet this goal, surveillance of occupational health is a necessary first step. NIOSH uses a number of occupational health surveillance systems, some developed by NIOSH and others from outside agencies. One such external system is the annual Survey of Occupational Injuries and Illnesses (SOII), from the Bureau of Labor Statistics (BLS) in the Department of Labor. The SOII is the only national health surveillance system covering all types of illnesses and injuries caused by hazards in the workplace. NIOSH has used the SOII to target interventions to specific industries, for background information in NIOSH reports (NIOSH, 1997), and for descriptive reports on occupational disease (Burnett et al., 1998).

The purpose of this report is to provide descriptive information on six of the most common occupational illnesses or conditions in the United States: 1) musculoskeletal disorders of the back, 2) musculoskeletal disorders of the upper extremities, 3) musculoskeletal disorders of the lower extremities, 4) hernia, 5) dermatitis, and 6) anxiety, stress, and neurotic disorders. The SOII information presented here is not available from any other published or electronic source and can be obtained only by special request to BLS.

The rate of disorders due to repeated trauma reported in the SOII, mainly musculoskeletal disorders (MSDs), rose dramatically from 5.1/10,000 workers in 1984 to a high of 41.1/10,000 workers in 1994. Since 1994 the rate has decreased each year to a rate

of 32.0/10,000 in 1997. Numerous studies have been published debating the relationship between MSDs and work-related factors (NIOSH, 1997). MSDs include conditions due to repeated motion, vibration, or pressure, such as carpal tunnel syndrome; noise-induced hearing loss; synovitis, tenosynovitis, and bursitis, and Raynaud’s syndrome. Musculoskeletal disorders of the upper extremities and low back disorders are priority research areas in NIOSH’s National Occupational Research Agenda (NORA) (NIOSH, 1996). Surveillance data are necessary to determine the magnitude of the problem, the industries and occupations experiencing the highest rates, and the trends over time (Drudi, 1997).

Hernia is often reported in the SOII as a work-related condition, but debate continues on whether hernia could be caused or promoted by factors in the workplace and whether a person with a hernia should be restricted in work activities. An analysis of the 1994 BLS data provides information on this subject (Kang et al., 1999). The surveillance data presented here could be used to target further studies addressing these questions.

Dermatitis has long been one of the most common occupational illnesses. Allergic and irritant dermatitis is one of the NORA priority research areas. The surveillance data provides information on the industries with the highest rates and the causes of dermatitis within the industries, as well as an indication of the magnitude of the problem and the trend over time. A NIOSH analysis of the BLS data reported this information for 1993 (Burnett et al., 1998).

Anxiety, stress, and neurotic disorders thought to result from conditions in the workplace are reported in the SOII. Organization of work, which could lead to these disorders, is a NORA priority research area. A recent NIOSH document on stress at work (NIOSH, 1999) points out the dangers of stress. The

SOII data could be used to target studies in this important area. A recent presentation was based on the 1994 BLS data (Alterman et al., 1998).

This document gives an in-depth look at the SOII data, adding to its usefulness to occupational health researchers and others who use the data. It should increase awareness of the availability and value of these data to the occupational health community.

Background

Since 1972 the Bureau of the Labor Statistics (BLS) has conducted a survey on occupational injuries and illnesses. The amount of information originally collected was very limited. Starting in 1992 the survey was expanded to include descriptions of a sample of cases that result in one or more days away from work, giving demographic variables for each worker. This information has been used to target interventions and hazard evaluations, and to develop surveillance reports. The information routinely available in published documents or on the World Wide Web is restricted because of space considerations. To obtain more detailed information to develop reports or to target intervention activities, the National Institute for Occupational Safety and Health (NIOSH) commonly requests more specific data from BLS. This document presents the type of information that has been used by NIOSH, based on data for 1996.

Description of Data Source

The Annual Survey of Occupational Injuries and Illnesses is a BLS surveillance system that collects employer reports from private industry establishments each year (BLS, 1998), including about 165,000 establishments in 1996 (BLS, 1997). A two-stage selection process is used to produce the survey estimates. The first stage of the survey has been conducted since 1972. Selection of establishments is based on a scientifically selected probability sample of the universe of establishments. Comparable occupational injury and illness data for coal, metal, and nonmetal mining and for railroad activities are provided by the

Department of Labor's Mine Safety and Health Administration and the Department of Transportation's Federal Railroad Administration. Excluded from the survey are the self-employed, farms with fewer than 11 employees, private households, and federal, state, and local government agencies. Information on the number of workers and the number of work-related injuries and illnesses provided to the BLS is collected on the Log and Summary of Occupational Injuries and Illnesses (OSHA No. 200) kept by each establishment. The illness categories may change with anticipated changes in the OSHA recordkeeping rule and ergonomics standard. From the survey results, estimates are projected to private industry. Injury is a single category. Illnesses are divided into seven broad categories: skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning, disorders due to physical agents, disorders associated with repeated trauma, and all other occupational illnesses (see Appendix for Glossary.) These data are called the summary data.

Prior to 1992, this information was used to identify industries with high rates of injuries and illness, but gave no information on the occupations at high risk or on the risks themselves. In 1992, the survey was redesigned with a second stage to collect descriptive information on a sample of the cases derived from the selected establishments that result in at least one day away from work. Establishments are instructed to take this information from workers' compensation reports, insurance forms, or other supplementary records. These data are called the case and demographic data. Again, using the results, estimates are projected to private industry. The descriptive information includes the personal characteristics of industry, occupation, race/ethnicity, sex, age, and length of employment. The injury or illness is characterized by information on the nature of injury or illness; the part of body affected; the event that produced the injury or illness; and the exposure source (the object, substance, bodily motion, or other exposure) that directly produced the injury or illness. The number of days away from work is used as a surrogate for the severity of the case.

Industry is coded by using the 1987 Standard Industrial Classification Manual (SIC) (Office of Management and Budget, 1987) and occupation from the 1990 Bureau of the Census (BOC) classification system (U.S. Bureau of the Census, 1982). For manufacturing industries, information is available at the 4-digit SIC level. For all other industries, the most detailed level is 3-digit SIC. The nature of the injury or illness, the part of body affected, the exposure source of injury or illness, and the event are coded according to the Occupational Injury and Illness Classification Structure (OIICS) developed by BLS (BLS, 1992). This system provides coding at four levels, from 1-digit to 4-digit, although not all categories can be expanded to the 4-digit level.

The complex statistical design of the Annual Survey required BLS to design special computer software to calculate estimates and variances. Estimates not meeting publication guidelines as determined by BLS, such as estimates based on an industry with fewer than three companies, are not reported (BLS, 1998, p. 332).

For the 1972 through 1996 data, BLS has disseminated the summary data either in a BLS publication or on the Internet. Information is available on the number and rates of all injuries and the seven illness categories by industry. The categories of all injuries and all illnesses are broken out by cases without lost workdays, lost

workday cases involving restricted work activity, and cases with days away from work (see Appendix for Glossary). Selected information is available by number of employees.

Tables 1 through 4 show the type of data available from the first stage of the survey. *Table 1* gives the numbers of cases and rates for illnesses for 1982-1996. While the number of cases and the rates increased slightly for most of the illnesses over this time period, disorders associated with repeated trauma increased nearly 10-fold. The illness information is also available by industry, as in *Tables 2 to 4*. The number of cases and rates by broad industry categories are shown in Table 2. Over half the cases occur in the manufacturing industry, and manufacturing has the highest rate of illnesses. Table 3 presents the number and rate of disorders associated with repeated trauma for top ten industries with more than 1000 cases, ranked by rate. Meat packing plants have the highest rate and the motor vehicles and car bodies industry has the most cases. The top ten industries with more than 100 cases of skin diseases or disorders are shown in Table 4. The ball and roller bearings industry has the highest rate and motor vehicle parts and accessories have the most cases. Although not shown, the injury and illness data (not broken out by illness conditions) are available according to lost workday cases or cases without lost workdays by industry. Until 1992 this was the extent of the data.

Table 1. Number and rate of occupational illnesses by category of illness, private industry, 1982–1996

Category		Number (In thousands)																
		1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996		
Total illness cases		1056	1061	1246	1254	1368	1902	2407	2837	3316	3683	4574	4821	5147	4948	4390		
Skin diseases or disorders		419	395	425	418	419	542	579	621	609	582	629	602	657	642	581		
Dust diseases of the lungs		20	17	18	17	32	34	29	26	30	25	26	27	27	27	35		
Respiratory conditions due to toxic agents		88	79	106	116	123	143	161	189	205	183	235	242	253	244	217		
Poisoning		34	30	45	42	43	48	55	58	61	67	70	76	72	75	48		
Disorders due to physical agents		83	88	90	90	92	138	173	177	182	182	222	201	217	224	168		
Disorders associated with repeated trauma		226	267	347	370	455	729	1154	1469	1854	2236	2818	3024	3321	3082	2811		
All other occupational illnesses		186	184	214	201	204	268	256	297	373	408	573	648	600	653	530		
		Incidence rates per 10,000 full-time workers																
		1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996		
Total illness cases		16.8	16.7	18.4	18.0	19.2	26.1	32.2	37.1	43.0	49.0	59.8	61.1	63.7	60.7	52.2		
Skin diseases or disorders		6.7	6.2	6.3	6.0	5.9	7.4	7.7	8.1	7.9	7.7	8.2	7.6	8.1	7.9	6.9		
Dust diseases of the lungs		0.3	0.3	0.3	0.2	0.5	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.4		
Respiratory conditions due to toxic agents		1.4	1.2	1.6	1.7	1.7	2.0	2.2	2.5	2.7	2.4	3.1	3.1	3.1	3.0	2.6		
Poisoning		0.5	0.5	0.7	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	1.0	0.9	0.9	0.6		
Disorders due to physical agents		1.3	1.4	1.3	1.3	1.3	1.9	2.3	2.3	2.4	2.4	2.9	2.5	2.7	2.8	2.0		
Disorders associated with repeated trauma		3.6	4.2	5.1	5.3	6.4	10.0	15.4	19.2	24.1	29.7	36.8	38.3	41.1	37.8	33.5		
All other occupational illnesses		3.0	2.9	3.2	2.9	2.9	3.7	3.4	3.9	4.8	5.4	7.5	8.2	7.4	8.4	6.3		

Source: Bureau of Labor Statistics, U.S. Department of Labor

Table 2. Number and rate of occupational illnesses by industry division and illness category, private industry, 1996
Number (In thousands)

Industry division	Total Cases	Skin diseases or disorders	Dust diseases of the lungs	Respiratory conditions due to toxic agents	Poisoning	Disorders due to physical agents	Disorders associated with repeated trauma	All other occupational illnesses
Private industry ¹	439,002	58,099	3,473	21,724	4,785	16,776	281,128	53,018
Agriculture, forestry, and fishing ¹	4,646	2,170	(²)	217	109	279	919	945
Agricultural production ¹	2,390	1,405	(²)	97	90	73	591	130
Mining ³	926	96	97	(²)	(²)	134	458	109
Construction	7,618	1,616	63	609	492	563	2,585	1,690
Manufacturing	264,902	25,877	2,568	7,790	2,325	8,879	203,036	14,427
Durable goods manufacturing	166,293	16,813	2,274	5,166	1,805	6,686	124,362	9,186
Nondurable goods manufacturing	98,609	9,063	294	2,624	520	2,193	78,674	5,241
Transportation and public utilities ³	19,726	2,125	206	1,821	376	1,036	10,822	3,341
Trade	39,401	5,573	62	2,026	405	2,096	22,771	6,470
Wholesale trade	10,939	1,471	(²)	747	283	523	6,577	1,323
Retail trade	28,463	4,102	(²)	1,278	122	1,573	16,194	5,146
Finance, insurance, and real estate	15,810	731	(²)	745	60	225	12,360	1,648
Services	85,972	19,912	429	8,498	1,004	3,564	28,177	24,389

Incidence rates per 10,000 full-time workers

Industry division	Total Cases	Skin diseases or disorders	Dust diseases of the lungs	Respiratory conditions due to toxic agents	Poisoning	Disorders due to physical agents	Disorders associated with repeated trauma	All other occupational illnesses
Private industry ¹	52.2	6.9	0.4	2.6	0.6	2.0	33.5	6.3
Agricultural production ¹	46.9	27.6	0.1	1.9	1.8	1.4	11.6	2.6
Mining ³	15.0	1.6	1.6	0.3	0.2	2.2	7.4	1.8
Agriculture, forestry, and fishing ¹	35.9	16.8	0.1	1.7	0.8	2.2	7.1	7.3
Construction	15.6	3.3	0.1	1.2	1.0	1.1	5.3	3.5
Manufacturing	144.0	14.1	1.4	4.2	1.3	4.8	110.4	7.8
Durable goods manufacturing	152.9	15.5	2.1	4.8	1.7	6.1	114.1	8.4
Nondurable goods manufacturing	131.1	12.0	0.4	3.5	0.7	2.9	104.6	7.0
Transportation and public utilities ³	33.5	3.6	0.3	3.1	0.6	1.8	18.4	5.7
Trade	17.5	2.5	(²)	0.9	0.2	0.9	10.1	2.9
Wholesale trade	17.6	2.4	(²)	1.2	0.5	0.8	10.6	2.1
Retail trade	17.5	2.5	(²)	0.8	0.1	1.0	10.0	3.2
Finance, insurance, and real estate	25.8	1.2	0.1	1.2	0.1	0.4	20.2	2.7
Services	35.3	8.2	0.2	3.5	0.4	1.5	11.6	10.0

Source: Bureau of Labor Statistics, US Department of Labor.

¹ Excludes farms with fewer than 11 employees

² Data not available or fewer than 50 cases

³ Data conforming to OSHA definitions for mining operators in coal, metal, and nonmetal mining and for employers in railroad transportation are provided to BLS by the Mine Safety and Health Administration, US Department of Labor; and by the Federal Railroad Administration, US Department of Transportation. Independent mining contractors are excluded from the coal, metal, and nonmetal mining industries.

NOTE: Because of rounding, components may not add to totals

Table 3. Top ten industries for disorders associated with repeated trauma: industries having more than 1000 cases, 1996

SIC code	Industry	Incidence rate per 10,000 workers	Total cases
2011	Meat packing plants	921.6	14,600
2254	Knit underwear mills	910.4	1,600
3711	Motor vehicles and car bodies	710.5	25,000
2015	Poultry slaughtering and processing	535.0	12,800
2325	Men's and boy's trousers and slacks	380.7	2,600
3694	Engine electrical equipment	363.7	2,500
3714	Motor vehicle parts and accessories	333.7	18,600
3465	Automotive stampings	327.9	3,900
2531	Public building and related furniture	315.3	1,300
2252	Hosiery, nec*	282.2	1,100

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 4. Top ten industries for skin diseases or disorders: industries having more than 100 cases, 1996

SIC code	Industry	Incidence rate per 10,000 workers	Total cases
3562	Ball and roller bearings	98.4	400
2011	Meat packing plants	82.4	1,300
024	Dairy farms	56.5	200
3714	Motor vehicle parts and accessories	54.7	3,000
2015	Poultry slaughtering and processing	51.7	1,200
2092	Fresh or frozen prepared fish	44.3	200
3711	Motor vehicle and car bodies	42.7	1,500
3451	Screw machine products	37.4	200
3585	Refrigeration and heating equipment	34.4	500
3621	Motors and generators	33.5	200

Source: Bureau of Labor Statistics, U.S. Department of Labor

The case and demographic data from 1992 through 1996 are available on the Web in 2-way tables at <http://stats.bls.gov/oshhome.htm>. Each variable at the greatest classification detail is crossed with all other variables classified by broad categories. Numbers of cases, and where available, rates are given. Rates are not available for occupations or for demographic variables.

The following tables show the type of information available in the standard BLS tables. Demographic information on the cases of injury (traumatic injuries and disorders) and illness (systemic diseases and disorders) reported in 1996 is shown in *table 5*. Sex, race, age, and length of service for the injured or ill workers by detailed industry, occupation, source, body part, and event are available on the Web. Race

Table 5. Number and percent of injuries and illnesses involving days away from work by sex, race, age, and length of service, 1996

Characteristic	Workforce Composition	Total cases	Total percent of cases	Traumatic injuries & disorders	Systemic diseases & disorders
Sex					
Men	58,121,000	1,240,018	65.9	67.1	57.1
Women	49,916,000	620,508	33.0	32.0	42.2
Not reported		19,999	1.1		0.6
Race/ethnicity					
White, non-Hispanic	168,317,000	1,001,424	53.3	52.9	60.0
Black, non-Hispanic	23,604,000	165,700	8.8	9.0	6.8
Hispanic	19,213,000	169,300	9.0	9.1	7.4
Asian or Pacific Islander		27,010	1.4	1.4	1.1
American Indian or Alaskan Native		7,316	0.4	0.4	0.3
Not reported		509,775	27.1	27.2	24.3
Age					
Under 20	6,461,000	75,327	4.0	4.2	2.1
20 to 24	11,967,000	231,273	12.3	12.6	9.2
25 to 34	29,291,000	559,893	29.8	30.0	27.4
35 to 44	31,684,000	511,689	27.2	27.1	29.2
45 to 54	23,482,000	304,382	16.2	15.9	29.2
55 to 64	10,377,000	126,494	6.7	6.5	19.6
65 and over	2,631,000	17,664	0.9	1.0	0.7
Not reported		53,804	2.9	2.6	2.8
Length of service					
Less than 3 months	*	235,382	12.5	12.8	8.8
3 to 11 months	*	342,382	18.2	18.5	14.9
1 to 5 years	*	587,786	31.3	31.2	31.0
More than 5 years	*	506,341	26.9	26.3	35.8
Not reported	*	208,072	11.1	11.1	9.6

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Data not included

and length of service are optional items in the survey. Race was not reported for about 27% of the cases and length of service was not reported for about 11%. Age and sex, which are mandatory, were not reported for fewer than 3% of the cases. Men constitute about two-thirds of the cases, with a larger percentage within the injury category than the illness. Non-Hispanic Whites comprise 73% of those with a reported race. Hispanics slightly outnumber non-Hispanic Blacks. Over half the injuries and illnesses occur in the 25 to 44 age range. About one-third of the cases have been with the employer for one to five years, with the illness cases having a longer length of service.

Table 6 presents selected natures (types) of injury or illness by major industry groups. The injury and ill-

ness natures shown are those included under conditions that are the focus of the next section of this report: musculoskeletal conditions caused by overexertion and repetitive motion, i.e., ergonomic factors; hernia; dermatitis; anxiety, stress, and neurotic disorders. Of these selected natures, sprains, strains, and tears have by far the most cases. Musculoskeletal system and connective tissue diseases and disorders have the most cases in the systemic diseases and disorders category. Manufacturing is the industry division with the largest number of cases, followed closely by services, which includes such industries as hotels, personal services, automotive repair services, amusement and recreation services, health services, legal services, and educational services.

Table 6. Number of occupational illnesses and conditions involving days away from work by selected natures of illness or condition and industry division, 1996

Nature	Nature code	Private industry	Agriculture, forestry, & fishing	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services
Totals		1,880,525	38,256	15,091	182,334	462,239	224,030	144,698	322,046	42,784	449,047
Traumatic injuries and disorders	0-0999	1,713,613	34,759	14,214	170,882	403,576	210,473	133,883	299,023	36,903	409,902
Sprains, strains, tears	21	819,658	13,080	5,849	68,649	176,699	117,749	64,299	135,008	17,154	221,171
Back pain, hurt back	972	52,046	1,230	184	4,944	10,766	6,236	4,274	7,549	1,221	15,644
Soreness, pain, hurt, except the back	973	73,542	1,575	365	6,732	16,526	8,418	5,411	11,739	1,746	21,030
Systemic diseases and disorders	1000-9999	123,190	2,516	628	8,999	49,484	8,939	8,294	16,015	3,751	24,563
Carpal tunnel syndrome	1241	29,937	184	39	1,338	12,358	1,618	1,379	4,645	1,641	6,735
Hernia	153	29,624	570	235	3,630	10,698	3,149	2,928	3,677	361	4,378
Musculoskeletal system and connective tissue diseases and disorders	17	35,238	475	211	1,575	16,765	2,005	2,138	4,338	1,150	6,582
Dorsopathies	172	4,316	210	*	412	1,065	196	810	362	60	1,201
Rheumatism, except the back	173	29,528	246	42	1,093	15,344	1,697	1,306	3,754	976	5,069
Disorders of the skin and subcutaneous tissue	18	10,101	1,116	21	583	3,030	492	597	1,048	149	3,066
Dermatitis	182	6,884	680	8	326	1,939	374	423	691	80	2,363
Anxiety, stress, and neurotic disorders	521	5,561	*	*	153	877	461	132	1,390	838	1,676

Source: Bureau of Labor Statistics, U.S. Department of Labor.

*Date not available.

Table 7 presents the same natures of injury or illness by major occupation groups. Operators, fabricators, and laborers have the most cases, followed by precision production, craft, and repair occupations.

Table 8 gives the median days away from work (DAFW) and percent of cases having more than 20 DAFW for the selected natures of injury or illness. Carpal tunnel has the largest median days away from work with 25, followed by hernia with 24 days. Over 50% of the cases for these two conditions have over 20 days away from work.

Tables 9 and 10 show the illnesses and conditions resulting from overexertion and repetitive motion (ergonomic risk factors) by major industries and occupations. The services industry has the largest number of cases caused by overexertion and is second in the number of repetitive motion cases. Manufacturing ranks second for overexertion and has the largest number of repetitive motion cases. Transportation and public utilities has the highest rate for overexertion. Manufacturing has the highest rate of repetitive motion cases. Operators, fabricators, and laborers have the most cases due to overexertion, followed by service occupations. Operators, fabricators, and laborers also have the most repetitive motion cases, followed by technical, sales, and administrative support occupations.

Methods

While the tables published or made available on the Web by BLS furnish a great deal of information on occupational illnesses and conditions, they don't provide the detail needed to inform targeted research and intervention activities. To provide more specific information, BLS does special data tabulations on request. Using the 1996 data provided by BLS in response to our requests for information, we constructed tables

for musculoskeletal disorders of the back, upper extremities (including shoulder), and lower extremities. In addition to the musculoskeletal tables, tables for hernia, dermatitis, and anxiety, stress, and neurotic disorders were constructed. We also included information on carpal tunnel syndrome, which is available from the Web.

It is not possible to use the nature of injury and illness classification system given by the SOII survey to identify musculoskeletal conditions resulting from ergonomic risk factors. Musculoskeletal conditions are coded to several different nature of injury or illness categories: musculoskeletal system and connective tissue diseases and disorders; sprains, strains, and tears; back pain, hurt back; soreness, pain, hurt, except the back; and other less specific categories. Many of the cases included in these categories may result from traumatic injuries. A preferable way to identify the ergonomically related cases appears to be to use the event categories (the event or exposure that led to the condition) of overexertion and repetitive motion. Web tables with the nature of injury or illness by major events or exposures show that at least 95% of overexertion and repetitive motion cases are musculoskeletal in nature.

Table 11 shows the subcategories included within these broad event categories of overexertion and repetitive motion. We used these events for three body parts: back (all areas), upper extremities (including shoulder), and lower extremities (all areas). Carpal tunnel syndrome, a subset of upper extremity disorders, is a specific nature of injury or illnesses category reported by BLS in the standard tables on the Web. When the source of the condition is bodily motion or position of the worker in cases defined as ergonomically related, the event is repetitive motion. For all other sources the event is overexertion, usually in lifting.

Table 7. Number of occupational illnesses and conditions involving days away from work by selected nature of illness or condition and occupational summary groups, 1996

Nature	Nature code	Private industry	Managerial and professional specialty	Technical, sales, and administrative support	Service	Farming, forestry, and fishing	Precision Production, Craft, and repair	Operators, fabricators, and laborers
Total		1,880,525	106,760	274,001	332,460	45,118	309,027	797,581
Traumatic injuries and disorders	0-0999	1,713,613	94,497	242,572	312,010	41,860	282,581	729,699
Sprains, strains, tears	0021	819,658	48,467	126,078	163,634	16,064	116,994	343,538
Back pain, hurt back	0972	52,046	3,320	7,750	10,801	1,281	7,685	20,919
Soreness, pain, hurt, except the back	0973	73,542	3,570	12,726	14,605	2,122	9,711	30,500
Systemic diseases and disorders	1000-9999	123,190	6,716	22,731	12,825	2,509	21,808	55,761
Carpal tunnel syndrome	1241	29,937	1,750	9,778	2,357	88	3,796	12,025
Hernia	153	29,624	1,162	2,967	2,852	626	7,540	14,151
Musculoskeletal system and connective tissue diseases and disorders	17	35,238	1,473	6,322	3,522	594	5,194	17,882
Dorsopathies	172	4,316	399	564	611	262	609	1,851
Rheumatism	173	17,416	464	3,615	1,517	250	2,153	9,339
Disorders of the skin and subcutaneous tissue	18	10,101	333	1,123	2,238	994	1,583	3,775
Dermatitis	182	6,884	253	889	1,787	807	896	2,210
Anxiety, stress, and neurotic disorders	521	5,561	1,256	2,487	540	34	425	768

Source: Bureau of Labor Statistics, U.S. Department of Labor.

Table 8. Number of days away from work (DAFW) for selected nature of illness or condition, 1996

Nature	Nature code	Median days away from work	Cases involving >20 days (%)
Total		5	24.7
Traumatic injuries and disorders	0-0999	5	23.7
Sprains, strains, tears	0021	6	23.8
Back pain, hurt back	0972	6	25.9
Soreness, pain, hurt, except the back	0973	5	25.2
Systemic diseases and disorders	1000-9999	14	40.3
Carpal tunnel syndrome	1241	25	57.6
Hernia	153	24	55.3
Musculoskeletal system and connective tissue diseases and disorders	17	10	33.8
Dorsopathies	172	11	29.1
Rheumatism, except back	173	10	33.5
Disorders of the skin and subcutaneous tissue	18	3	8.8
Dermatitis	182	3	5.6
Anxiety, stress, neurotic disorders	521	11	40.2

Source: Bureau of Labor Statistics, U.S. Department of Labor.

Results

Table 12 shows the demographic distribution, including sex, race/ethnicity, age, and length of service, of the seven conditions and illnesses. The musculoskeletal conditions are most prevalent. Rates for all illnesses are low. Of the rates for illnesses, those for dermatitis and anxiety, stress, and neurotic conditions are among the highest. Unfortunately BLS is unable to combine years of data to provide more descriptive information for rarer conditions and illnesses.

A total of 600,390 musculoskeletal injury and illness cases were reported to be caused by overexertion and repetitive motion in 1996. The majority of these occurred in the back (52.2%) (*See figure*). The trunk, except back, had 10.8% of the cases. The upper extremity cases accounted for 26.0%, followed by the lower extremity cases with 3.7%. The neck accounted for 2.1% of the cases and all other and multiple sites had 5.3%. We selected the back, upper extremities, and lower extremities for further analyses. The trunk, except back, includes many hernia cases, which is

one of the conditions reported later in the document. Twenty-eight percent of the cases attributed to overexertion and repetitive motion had more than 20 days away from work.

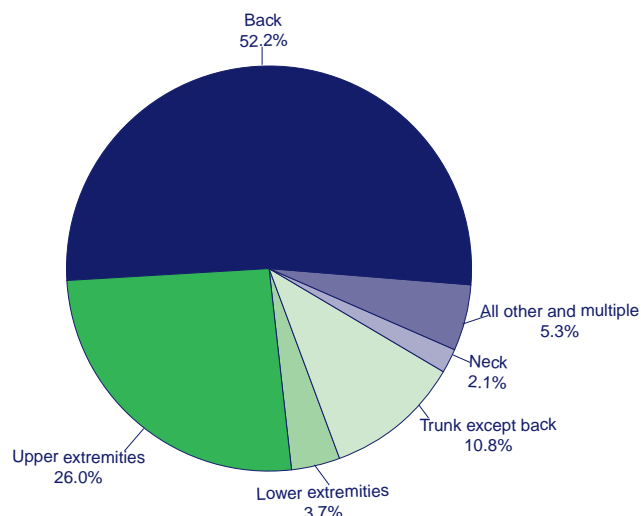


Figure. Conditions caused by overexertion and repetitive motion according to body part.

Source: Bureau of Labor Statistics, U.S. Department of Labor.

Back

There were 312,994 cases of musculoskeletal disorders of the back reported, having a rate of 37.25/10,000 workers and a median of five DAFW. **Table 13** shows back conditions according to industry by number of cases, rate, and DAFW. Rates range from a low of 1.22/10,000 for the passenger transportation arrangement industry to a high of

213.68/10,000 for the scheduled air transportation industry. Nursing and personal care facilities and hospitals have the most cases, with 25,525 and 24,534, respectively. The industry with the highest median days away from work is anthracite mining, having 67, based on 11 cases. The top ten manufacturing industries and nonmanufacturing industries, having more than 500 cases, are shown in **table 14**. The most common event leading to musculoskeletal disorders of the

Table 9. Number and rate of occupational illnesses and conditions by DAFW cases by industry and event or exposure leading to illness or condition, 1996

Industry	Overexertion and Repetitive motion (Total)	Overexertion		Repetitive motion
	Total	Total	In Lifting	
Number of cases				
Private industry (Total)	600,390	526,594	311,851	73,796
Goods producing				
Agriculture, forestry, and fishing	7,812	7,315	4,177	497
Mining	3,994	3,918	1,527	76
Construction	44,875	41,984	24,074	2,891
Manufacturing	156,630	120,022	66,409	36,608
Service producing				
Transportation and public utilities	72,275	68,162	38,550	4,113
Wholesale trade	48,525	45,227	29,234	3,298
Retail Trade	93,751	84,095	59,526	9,656
Finance, insurance, and real estate	11,721	8,122	5,290	3,599
Services	160,807	147,749	83,064	13,058
Rates per 10,000 full-time workers				
Private industry (Total)	71.5	62.7	37.1	8.8
Goods producing				
Agriculture, forestry, and fishing	60.3	56.5	32.3	3.8
Mining	64.9	63.7	24.8	1.2
Construction	91.6	85.7	49.2	5.9
Manufacturing	85.1	65.2	36.1	19.9
Service producing				
Transportation and public utilities	122.8	115.8	65.5	7.0
Wholesale trade	77.9	72.6	46.9	5.3
Retail trade	57.8	51.8	36.7	6.0
Finance, insurance, and real estate	19.2	13.3	8.6	5.9
Services	66.0	60.6	34.1	5.4

Source: Bureau of Labor Statistics, U.S. Department of Labor

back is overexertion in lifting (not shown). **Table 15** shows the top industries and sources of overexertion in lifting leading to back conditions. The information from these tables can be used to identify the industries with the greatest problems. For instance, scheduled air transportation had the highest rate and also one of the largest number of cases. Within the industry, the highest rates were for the lifting of packages and parcels and boxes, cartons, and crates. Nursing homes have the largest number of cases and also a

high rate. The highest rate in this industry was for the lifting of health care patients. Trucking and courier services, except air, (SIC 421, **Table 13**) also having high rates, had a median of eleven DAFW, indicating that the injuries may be more severe than in most industries. This industry had 78 different sources of injury, with the highest two rates for boxes, crates, and cartons and cooling and humidifying machinery and appliances.

Table 10. Number of occupational injuries and illnesses for DAFW cases by causal event or exposure and summary occupational groups, 1996

Occupation	Overexertion and Repetitive motion (Total)	Overexertion		Repetitive motion
		Total	In Lifting	
Private industry (Total)	600,390	526,594	311,851	73,796
Managerial and administrative support	30,886	27,950	14,847	2,936
Service	113,270	108,092	62,983	5,178
Farming, forestry, and fishing	9,134	8,346	4,603	788
Precision production, craft, and repair	81,624	71,846	41,250	9,778
Operators, fabricators, and laborers	263,084	227,279	131,731	35,805

Source: Bureau of Labor Statistics, U.S. Department of Labor

Table 11. Subcategories included in the event categories of overexertion and repetitive motion

Overexertion	
220	Overexertion, unspecified
221	Overexertion in lifting
222	Overexertion in pulling or pushing objects
223	Overexertion in holding, carrying, turning, or welding objects
224	Overexertion in throwing objects
229	Overexertion, nec
Repetitive motion	
230	Repetitive motion, unspecified
231	Typing or keyentry
232	Repetitive use of tools
233	Repetitive placing, grasping, or moving objects, except tools
239	Repetitive motion, nec

Source: Bureau of Labor Statistics, U.S. Department of Labor

*nec = not elsewhere classified.

Table 12. Number of cases for demographic characteristics: selected conditions and illnesses, BLS 1996

	Upper Extremities												Anxiety, Stress, and Neurotic Disorders			
	Back			Carpal Tunnel Syndrome			Lower Extremities			Hernia			Dermatitis		Anxiety, Stress, and Neurotic Disorders	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total	312,994	100	156,100	100	29,937	100	22,229	100	29,624	100	6,884	100	5,561	100	0.70	
Rate*	37.25		18.58		3.60		2.65		3.50		0.80		0.70			
Sex																
Men	203,434	65.0	77,283	49.5	9,160	30.6	13,376	60.2	27,928	94.3	3,467	50.4	2,181	39.2		
Women	107,671	34.4	77,836	49.9	20,725	69.2	8,719	39.2	1,402	4.7	3,267	47.5	3,360	60.4		
Not reported	1,888	0.6	982	0.6	51	0.2	133	0.6	295	1.0	150	2.2	19	0.3		
Race																
White, non-Hispanic	167,592	53.5	84,760	54.3	19,002	63.5	13,021	58.6	19,463	65.7	3,392	49.3	1,633	29.4		
Black, non-Hispanic	29,396	9.4	13,625	8.7	1,689	5.6	1,608	7.2	1,490	5.0	702	10.2	853	15.3		
Hispanic	24,399	7.8	10,560	6.8	1,596	5.3	1,261	5.7	2,649	8.9	775	11.3	522	9.4		
Asian or Pacific Islander	3,203	1.0	2,544	1.6	410	1.4	250	1.1	80	0.3	91	1.3	350	6.3		
American Indian or Alaskan Native	1,387	0.4	639	0.4	103	0.3	62	0.3	61	0.2	**	**	**	**		
Not reported	87,016	27.8	43,973	28.2	7,136	23.8	6,026	27.1	5,882	19.9	1,908	27.7	2,198	39.5		
Age																
Under 20	10,043	3.21	4,294	2.75	153	0.51	650	2.92	362	1.22	740	10.75	**	**		
20 to 24	38,701	12.36	16,788	10.75	1,292	4.32	2,404	10.81	2,801	9.46	1,048	15.22	440	8		
25 to 34	104,756	33.47	43,932	28.14	7,080	23.65	6,000	26.99	8,110	27.38	1,792	26.03	1,334	24		
35 to 44	91,759	29.32	45,862	29.38	9,740	32.53	7,110	31.99	7,810	26.36	1,955	28.40	2,270	41		
45 to 54	44,135	14.10	28,615	18.33	6,743	22.52	3,474	15.63	6,230	21.03	853	12.39	1,077	19		
55 to 64	15,657	5.00	11,851	7.59	3,710	12.39	1,770	7.96	3,405	11.49	308	4.47	347	6		
65 and over	1,446	0.46	968	0.62	185	0.62	218	0.98	266	0.90	43	0.62	**	**		
Not reported	6,496	2.08	3,790	2.43	1,033	3.45	603	2.71	641	2.16	130	1.89	203	4		
Length of service																
Less than 3 months	32,955	11	12,809	8	841	3	3,614	16	1,666	6	1,283	19%	**	**		
3 to 11 months	55,441	18	24,984	16	3,061	10	3,585	16	5,171	17	1,136	17%	1,206	22%		
1 to 5 years	104,822	33	48,613	31	9,437	32	5,959	27	10,031	34	1,653	24%	1,926	35%		
More than 5 years	85,030	27	52,384	34	14,072	47	6,315	28	10,220	34	1,858	27%	1,777	32%		
Not reported	34,746	11	17,311	11	2,525	8	2,757	12	2,536	9	955	14%	623	11%		

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Rate per 10,000 full-time workers

**Data are not available.

NOTE: Because of rounding, components may not add to totals

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
All private industry		312,994	310,613 , 315,275	37.25	36.97 , 37.53	23	5
Agriculture, Forestry, and Fishing							
013	Field crops, except cash grains	80	28 , 132	18.76	6 , 31	5	2
016	Vegetables and melons	138	67 , 209	21.89	11 , 33	12	6
017	Fruits and tree nuts	210	108 , 312	19.4	10 , 29	22	10
018	Horticultural specialties	702	360 , 1044	52.38	27 , 78	6	14
021	Livestock, except dairy and poultry	181	101 , 261	47.97	27 , 69	6	3
024	Dairy farms	114	40 , 188	39.02	14 , 64	16	8
025	Poultry and eggs	229	162 , 296	55.37	39 , 72	19	5
027	Animal specialties	24	5 , 43	24.16	5 , 43	22	4
072	Crop services	274	167 , 381	28.21	17 , 39	17	11
074	Veterinary services	215	92 , 338	16.37	7 , 26	10	19
078	Landscape and horticultural services	1884	1486 , 2282	53.86	42 , 65	17	8
Mining							
101	Iron ores	48	*	54.06	*	50	20
102	Copper ores	16	*	11.41	*	56	33
103	Lead and zinc ores	16	*	65.12	*	63	29
104	Gold and silver ores	51	*	26.29	*	41	10
109	Misc. metal ores	9	*	39.74	*	0	3
122	Bituminous coal and lignite mining	926	*	96.32	*	54	26
123	Anthracite mining	11	*	66.82	*	73	67
131	Crude petroleum and natural gas	106	34 , 178	7.27	2 , 12	11	3
138	Oil and gas field services	513	348 , 678	27.17	18 , 36	31	10
141	Dimension stone	23	*	61.79	*	30	7
142	Crushed and broken stone	241	*	38.59	*	39	9
144	Sand and gravel	114	*	33.95	*	44	13
145	Clay, ceramic, and refractory minerals	32	*	27.98	*	47	10
147	Chemical and fertilizer minerals	20	*	14.38	*	55	33
149	Misc. nonmetallic minerals	27	*	54.85	*	30	10
Construction							
152	Residential building construction	2570	2115 , 3025	45.78	38 , 54	26	7
154	Nonresidential building construction	2826	2442 , 3210	50.86	44 , 58	24	6
161	Highway and street construction	950	768 , 1132	45.08	36 , 54	32	8
162	Heavy construction, except highway	2069	1740 , 2398	39.83	33 , 46	24	10
171	Plumbing, heating, and air-conditioning	3830	3299 , 4361	53.22	46 , 61	25	7
172	Painting and paper hanging	1108	862 , 1354	68.65	53 , 84	33	6
173	Electrical work	2970	2496 , 3444	49.85	42 , 58	25	9
174	Masonry, stonework, and plastering	2851	2354 , 3348	76.7	63 , 90	22	5
175	Carpentry and floor work	1467	1178 , 1756	71.63	58 , 86	17	5
176	Roofing, siding, and sheet metal work	1415	1145 , 1685	76.03	62 , 91	22	5
177	Concrete work	1347	1127 , 1567	59.67	50 , 69	20	10
178	Water well drilling	79	26 , 132	36.65	12 , 61	10	1
179	Misc. special trade contractors	2550	2185 , 2915	47.2	40 , 54	30	7

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
Manufacturing							
2011	Meat packing plants	574	429 , 719	36.24	27 , 45	23	3
2013	Sausages and other prepared meats	398	298 , 498	41.52	31 , 52	22	5
2015	Poultry slaughtering and processing	526	342 , 710	21.94	14 , 30	20	5
2022	Cheese, natural and processed	178	108 , 248	45.61	28 , 64	12	5
2023	Dry, condensed, evaporated products	97	60 , 134	57.82	36 , 80	30	8
2024	Ice cream and frozen desserts	110	62 , 158	47.97	27 , 69	16	3
2026	Fluid milk	623	529 , 717	96.89	82 , 111	40	11
2033	Canned fruits and vegetables	257	187 , 327	35.97	26 , 46	21	3
2034	Dehydrated fruits, vegetables, soups	120	53 , 187	70.36	31 , 110	21	8
2035	Pickles, sauces, and salad dressings	70	28 , 112	30.47	12 , 49	36	14
2037	Frozen fruits and vegetables	144	93 , 195	31.28	20 , 42	19	3
2038	Frozen specialties,**	123	71 , 175	24.19	14 , 34	17	8
2041	Flour and other grain mill products	171	60 , 282	84.09	29 , 139	35	10
2043	Cereal breakfast foods	89	60 , 118	47.83	32 , 64	30	8
2045	Prepared flour mixes and doughs	105	45 , 165	76.71	33 , 120	42	13
2048	Prepared feeds,**	330	207 , 453	77.85	49 , 107	13	5
2051	Bread, cake, and related products	700	571 , 829	48.39	39 , 57	22	5
2052	Cookies and crackers	180	127 , 233	36.63	26 , 47	25	4
2061	Raw cane sugar	22	5 , 39	38.63	9 , 69	22	14
2064	Candy and other confectionery products	127	64 , 190	25.21	13 , 38	13	5
2066	Chocolate and cocoa products	33	14 , 52	26	11 , 41	48	17
2082	Malt beverages	102	62 , 142	28.84	18 , 40	37	18
2084	Wines, brandy, and brandy spirits	68	33 , 103	36.85	18 , 56	0	9
2085	Distilled and blended liquors	40	12 , 68	55.85	16 , 96	9	4
2086	Bottled and canned soft drinks	1119	930 , 1308	120.81	100 , 141	23	5
2091	Canned and cured fish and seafood	31	14 , 48	40.59	19 , 62	34	12
2092	Fresh or frozen prepared fish	314	232 , 396	77.19	57 , 97	15	3
2096	Potato chips and similar snacks	129	87 , 171	40.94	27 , 54	22	10
2098	Macaroni, spaghetti, vermicelli and noodles	10	1 , 19	11.67	1 , 22	67	47
2099	Food preparations,**	396	286 , 506	56.52	41 , 72	31	10
211	Cigarettes	107	82 , 132	41.13	31 , 51	40	8
222	Broadwoven fabric mills, manmade	159	85 , 233	23.97	13 , 35	17	3
224	Narrow fabric mills	118	60 , 176	56.02	28 , 84	18	17
2252	Hosiery,**	103	63 , 143	27.56	17 , 38	32	5
2253	Knit outerwear mills	149	105 , 193	28.16	20 , 36	15	5
2254	Knit underwear mills	68	29 , 107	37.81	16 , 59	27	4
2257	Weft knit fabric mills	56	30 , 82	22.65	12 , 33	35	5
2261	Finishing plants, cotton	72	32 , 112	21.43	9 , 33	28	10
2262	Finishing plants, manmade	95	42 , 148	41.59	18 , 65	11	6
2269	Finishing plants,**	135	56 , 214	94.63	39 , 150	29	14
227	Carpets and rugs	83	36 , 130	14.01	6 , 22	35	4
2281	Yarn spinning mills	57	32 , 82	8.75	5 , 13	26	11
2282	Throwing and winding mills	17	1 , 37	10.43	0 , 22	14	2

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
2284	Thread mills	19	2 , 36	28.7	3 , 54	44	3
2297	Nonwoven fabrics	46	15 , 77	35.89	12 , 60	41	6
2299	Textile goods,**	36	16 , 56	20.06	9 , 31	30	7
231	Men's and boys' suits and coats	54	37 , 71	18.51	13 , 24	23	4
2321	Men's and boys' shirts	111	47 , 175	26.35	11 , 41	15	4
2322	Men's and boys' underwear and nightwear	54	29 , 79	30.93	17 , 45	24	6
2325	Men's and boys' trousers and slacks	146	101 , 191	21.35	15 , 28	27	3
2326	Men's and boys' work clothing	104	75 , 133	34.2	25 , 44	26	6
2329	Men's and boys' clothing,**	68	28 , 108	16.2	7 , 26	8	2
2331	Women's and misses' blouses and shirts	84	25 , 143	35.73	11 , 61	55	26
2337	Women's and misses' suits and coats	52	26 , 78	22.03	11 , 33	33	6
2339	Women's and misses' outerwear,**	278	193 , 363	17.77	12 , 23	35	8
2361	Girls' and children's dresses, blouses	29	9 , 49	21.3	6 , 36	6	2
2369	Girls' and children's outerwear,**	35	18 , 52	17.1	9 , 26	5	4
2384	Robes and dressing gowns	14	5 , 23	66.44	22 , 111	0	1
2385	Waterproof outerwear	11	3 , 19	27.65	7 , 48	21	2
2389	Apparel and accessories,**	26	8 , 44	18.97	6 , 32	38	15
2391	Curtains and draperies	110	71 , 149	58.33	38 , 79	29	4
2392	House furnishings,**	168	87 , 249	31.67	16 , 47	25	4
2393	Textile bags	40	10 , 70	35.16	9 , 62	38	6
2395	Pleating and stitching	17	2 , 32	10.31	1 , 19	11	1
2396	Automotive and apparel trimmings	107	60 , 154	17.33	10 , 25	14	10
2397	Schiffli machine embroideries	9	2 , 16	26.51	7 , 46	38	20
2399	Fabricated textile products,**	96	63 , 129	33.63	22 , 45	30	2
241	Logging	185	106 , 264	26.41	15 , 38	19	10
2421	Sawmills and planing mills, general	658	464 , 852	46.92	33 , 61	31	7
2426	Hardwood dimension and flooring mills	225	120 , 330	64.97	35 , 95	18	3
2431	Millwork	682	526 , 838	62.4	48 , 77	12	4
2434	Wood kitchen cabinets	481	373 , 589	63.01	49 , 77	19	5
2435	Hardwood veneer and plywood	228	172 , 284	78.14	59 , 97	26	5
2439	Structural wood members,**	358	232 , 484	92.59	60 , 125	23	5
2448	Wood pallets and skids	325	201 , 449	83.55	52 , 116	32	6
2451	Mobile homes	505	383 , 627	74.6	57 , 93	24	4
2452	Prefabricated wood buildings	261	169 , 353	128.2	83 , 173	7	2
2491	Wood preserving	35	10 , 60	29.65	8 , 51	7	2
2493	Reconstituted wood products	41	13 , 69	18.37	6 , 31	40	4
2499	Wood products,**	228	89 , 367	42.7	17 , 69	38	7
2511	Wood household furniture	484	367 , 601	39.39	30 , 49	20	4
2512	Upholstered household furniture	309	202 , 416	36.77	24 , 50	40	10
2514	Metal household furniture	55	28 , 82	25.3	13 , 38	22	6
2515	Mattresses and bedsprings	229	169 , 289	71.51	53 , 90	18	4
2517	Wood television and radio cabinets	12	5 , 19	25.85	11 , 41	21	4
2521	Wood office furniture	179	87 , 271	62.11	30 , 94	16	4
2522	Office furniture, except wood	148	83 , 213	43.52	24 , 63	30	4

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
253	Public building and related furniture	429	253 , 605	100.34	59 , 142	13	6
2541	Wood partitions and fixtures	247	112 , 382	52.47	24 , 81	35	9
2591	Drapery hardware and blinds and shades	50	22 , 78	23.87	10 , 37	20	5
2599	Furniture and fixtures,**	73	26 , 120	42.56	15 , 70	19	4
261	Pulp mills	33	18 , 48	25.39	14 , 37	45	8
262	Paper mills	502	374 , 630	29.63	22 , 37	21	6
263	Paperboard mills	75	43 , 107	13.9	8 , 20	29	6
2652	Setup paperboard boxes	14	1 , 30	19.23	0 , 41	0	1
2653	Corrugated and solid fiber boxes	378	292 , 464	27.85	21 , 34	21	5
2657	Folding paperboard boxes	161	111 , 211	32.84	23 , 43	40	12
2671	Paper coated and laminated, packaging	66	31 , 101	29.32	14 , 45	13	10
2672	Paper coated and laminated,**	185	122 , 248	40.38	27 , 54	22	5
2673	Bags: plastics, laminated, and coated	114	80 , 148	29.01	20 , 38	28	3
2674	Bags: uncoated paper	68	36 , 100	37.27	20 , 55	27	5
2675	Paperboard and cardboard	44	14 , 74	22.63	7 , 38	8	6
2676	Sanitary paper products	60	42 , 78	20.24	14 , 26	20	2
2677	Envelopes	85	52 , 118	34.87	21 , 48	22	5
2679	Converted paper products,**	120	74 , 166	35.91	22 , 50	13	5
271	Newspapers	1063	928 , 1198	29.28	26 , 33	26	7
272	Periodicals	148	103 , 193	12.16	8 , 16	14	4
2731	Book publishing	142	84 , 200	18.63	11 , 26	24	6
2732	Book printing	163	116 , 210	42.85	31 , 55	18	3
274	Misc. publishing	72	40 , 104	9.85	6 , 14	35	7
2752	Commercial printing, lithographic	1022	879 , 1165	28.64	25 , 33	15	4
2754	Commercial printing, gravure	94	71 , 117	45.15	34 , 56	49	17
2759	Commercial printing,**	630	521 , 739	36.34	30 , 43	21	5
276	Manifold business forms	210	155 , 265	48.26	36 , 61	30	10
277	Greeting cards	55	39 , 71	22.2	16 , 28	5	2
2782	Blank books and looseleaf binders	113	80 , 146	31.82	23 , 41	12	4
2789	Bookbinding and related work	124	67 , 181	44.44	24 , 65	30	6
2791	Typesetting	89	22 , 156	49.58	12 , 87	44	10
2796	Platemaking and related services	30	10 , 50	9.53	3 , 16	37	4
2819	Industrial inorganic chemicals,**	71	36 , 106	9.43	5 , 14	36	6
2821	Plastics materials and resins	83	49 , 117	10.43	6 , 15	41	7
2833	Medicinals and botanicals	67	29 , 105	32.37	14 , 51	36	15
2834	Pharmaceutical preparations	326	269 , 383	15.87	13 , 19	23	4
2835	Diagnostic substances	13	1 , 26	8.52	0 , 17	9	1
2836	Biological products except diagnostic	51	25 , 77	32.2	16 , 49	7	2
2841	Soaps and other detergents	59	23 , 95	14.2	6 , 23	15	5
2842	Polishes and sanitation goods	75	37 , 113	24.53	12 , 37	3	2
2844	Toilet preparations	100	71 , 129	14.35	10 , 19	19	2
285	Paints and allied products	223	94 , 352	42.31	18 , 67	30	8
2865	Cyclic crudes and intermediates	34	13 , 55	13.41	5 , 22	25	7
2869	Industrial organic chemicals,**	128	74 , 182	10.96	6 , 16	11	4

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
2893	Printing ink	51	19 , 83	31.29	12 , 51	59	25
2899	Chemical preparations,**	87	49 , 125	20.57	12 , 29	43	8
291	Petroleum refining	79	54 , 104	7.57	5 , 10	34	6
2951	Asphalt paving mixtures and blocks	80	28 , 132	59.55	21 , 98	18	5
2952	Asphalt felts and coatings	36	15 , 57	24.76	10 , 39	23	10
301	Tires and inner tubes	240	197 , 283	30	25 , 35	34	9
3052	Rubber and plastics hose and belting	197	94 , 300	69.57	33 , 106	37	12
3053	Gaskets, packing and sealing devices	340	210 , 470	83.19	51 , 115	24	3
3061	Mechanical rubber goods	459	325 , 593	92.85	66 , 120	15	5
3069	Fabricated rubber products,**	343	287 , 399	53.61	45 , 62	17	4
3081	Unsupported plastics film and sheet	204	146 , 262	30.54	22 , 39	26	3
3082	Unsupported plastics profile shapes	85	52 , 118	34.69	21 , 48	24	5
3083	Laminated plastics plate and sheet	157	60 , 254	64.34	25 , 104	5	6
3084	Plastics pipe	78	33 , 123	44.13	19 , 69	11	4
3085	Plastics bottles	47	13 , 81	14.22	4 , 25	0	3
3086	Plastics foam products	353	237 , 469	60.53	41 , 80	17	6
3087	Custom compound purchased resins	105	56 , 154	37.82	20 , 55	31	4
3088	Plastics plumbing fixtures	214	117 , 311	121.2	66 , 176	15	4
3089	Plastics products,**	1932	1679 , 2185	42.58	37 , 48	20	5
311	Leather tanning and finishing	77	41 , 113	56.34	30 , 83	25	3
3143	Men's footwear, except athletic	43	28 , 58	20.07	13 , 27	12	3
3144	Women's footwear, except athletic	23	13 , 33	16.89	9 , 24	7	3
3149	Footwear, except rubber,**	15	3 , 27	30.16	7 , 54	9	1
3172	Personal leather goods,**	33	14 , 52	53.54	23 , 84	18	2
319	Misc. Leather goods	27	7 , 47	20.4	5 , 36	3	3
321	Flat glass	102	36 , 168	61.1	22 , 100	23	3
3221	Glass containers	95	67 , 123	34.33	24 , 44	54	21
3229	Pressed and blown glass,**	161	111 , 211	37.57	26 , 49	25	10
323	Products of purchased glass	167	122 , 212	27.04	20 , 34	17	4
3253	Ceramic wall and floor tile	13	2 , 24	13.88	2 , 26	19	10
3261	Vitreous plumbing fixtures	101	44 , 158	99.56	44 , 155	33	5
3269	Pottery products,**	141	72 , 210	108.78	56 , 162	79	53
3271	Concrete block and brick	131	71 , 191	71.78	39 , 104	36	3
3272	Concrete products,**	483	357 , 609	66.96	49 , 84	26	6
3273	Ready-mixed concrete	554	415 , 693	50.52	38 , 63	22	5
3274	Lime	20	1 , 41	38.27	0 , 78	56	33
3275	Gypsum products	14	3 , 25	9.97	2 , 18	84	52
3291	Abrasive products	31	13 , 49	15.79	7 , 25	11	8
3296	Mineral wool	84	50 , 118	34.51	21 , 48	27	7
3312	Blast furnaces and steel mills	560	466 , 654	31.41	26 , 37	32	11
3315	Steel wire and related products	80	46 , 114	36.37	21 , 52	15	8
3316	Cold finishing of steel shapes	131	57 , 205	75.56	33 , 118	40	8
3317	Steel pipe and tubes	146	87 , 205	49.68	30 , 70	25	5
3321	Gray and ductile iron foundries	739	586 , 892	84.44	67 , 102	29	7

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3322	Malleable iron foundries	11	3 , 19	25.26	7 , 43	24	5
3324	Steel investment foundries	62	33 , 91	35.97	19 , 53	9	3
3325	Steel foundries,**	212	145 , 279	87.97	60 , 116	39	15
3334	Primary aluminum	68	44 , 92	30.3	19 , 41	47	16
334	Secondary nonferrous metals	121	73 , 169	71.56	43 , 100	22	7
3351	Copper rolling and drawing	102	73 , 131	43.9	31 , 56	32	7
3353	Aluminum sheet, plate, and foil	18	10 , 26	7.64	4 , 11	32	9
3354	Aluminum extruded products	173	124 , 222	52.91	38 , 68	17	3
3356	Nonferrous rolling and drawing,**	58	39 , 77	40.34	27 , 53	25	5
3357	Nonferrous wiredrawing and insulating	389	285 , 493	52.38	38 , 66	26	7
3363	Aluminum die—castings	209	136 , 282	53.84	35 , 73	16	5
3365	Aluminum foundries	155	48 , 262	63.14	19 , 107	8	3
3398	Metal heat treating	67	30 , 104	36.75	16 , 57	13	5
3399	Primary metal products,**	42	11 , 73	36.41	10 , 63	31	5
3411	Metal cans	68	25 , 111	19.71	7 , 32	28	6
3421	Cutlery	60	36 , 84	49.11	29 , 69	8	4
3423	Hand and edge tools,**	151	73 , 229	41.62	20 , 63	6	4
3425	Saw blades and handsaws	42	13 , 71	56.5	17 , 96	21	9
3429	Hardware,**	240	184 , 296	35.16	27 , 43	25	5
3431	Metal sanitary ware	99	42 , 156	72.48	31 , 114	10	4
3432	Plumbing fixture fittings and trim	80	42 , 118	32.78	17 , 48	37	6
3433	Heating equipment, except electric	141	94 , 188	70.55	47 , 94	32	6
3441	Fabricated structural metal	460	328 , 592	59.11	42 , 76	40	11
3442	Metal doors, sash, and trim	447	341 , 553	57.8	44 , 72	14	4
3443	Fabricated plate work (boiler shops)	473	348 , 598	46.3	34 , 59	31	8
3444	Sheet metalwork	620	504 , 736	54.25	44 , 64	25	5
3446	Architectural metal work	95	33 , 157	31.62	11 , 52	21	4
3448	Prefabricated metal buildings	172	118 , 226	61.47	42 , 81	28	4
3449	Misc. metal work	80	28 , 132	60.09	21 , 99	22	3
3451	Screw machine products	313	222 , 404	59.03	42 , 76	17	4
3452	Bolts, nuts, rivets, and washers	228	152 , 304	45.29	30 , 60	8	3
3462	Iron and steel forgings	278	161 , 395	86.41	50 , 123	35	10
3465	Automotive stampings	840	559 , 1121	70.39	47 , 94	19	6
3469	Metal stampings,**	507	382 , 632	54.72	41 , 68	22	5
3471	Plating and polishing	514	392 , 636	63.1	48 , 78	12	3
3479	Metal coating and allied services	173	105 , 241	33.26	20 , 46	25	4
3483	Ammunition, except for small arms,**	36	23 , 49	15.03	10 , 20	56	39
3484	Small arms	48	29 , 67	45.21	27 , 63	11	2
3491	Industrial valves	71	45 , 97	26.25	16 , 36	23	5
3492	Fluid power valves and hose fittings	187	114 , 260	54.86	34 , 76	8	7
3496	Misc. fabricated wire products	329	245 , 413	61.08	45 , 77	28	9
3498	Fabricated pipe and fittings	139	81 , 197	46.13	27 , 65	14	7
3499	Fabricated metal products,**	331	237 , 425	54.27	39 , 70	14	3
3511	Turbines and turbine generator sets	38	17 , 59	16.77	7 , 26	5	2

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3519	Internal combustion engines,**	205	139 , 271	33.89	23 , 45	30	7
3523	Farm machinery and equipment	359	265 , 453	48.66	36 , 61	36	5
3524	Lawn and garden equipment	100	66 , 134	39.48	26 , 53	21	4
3531	Construction machinery	546	362 , 730	60.73	40 , 81	24	5
3532	Mining machinery	34	14 , 54	20.94	9 , 33	10	3
3533	Oil and gas field machinery	149	69 , 229	34	16 , 52	29	15
3535	Conveyors and conveying equipment	206	143 , 269	48.96	34 , 64	17	4
3536	Hoists, cranes, and monorails	71	27 , 115	78.38	30 , 127	0	3
3537	Industrial trucks and tractors	130	88 , 172	42.17	29 , 56	20	11
3541	Machine tools, metal cutting types	144	81 , 207	34.42	19 , 49	15	4
3544	Special dies, tools, jigs and fixtures	468	360 , 576	26.51	20 , 33	38	9
3545	Machine tool accessories	175	108 , 242	32.5	20 , 45	24	4
3546	Power driven handtools	144	105 , 183	66.03	48 , 84	9	1
3549	Metalworking machinery,**	66	36 , 96	56.02	31 , 82	13	3
3552	Textile machinery	31	14 , 48	20.92	9 , 33	13	3
3553	Woodworking machinery	48	23 , 73	45.45	22 , 69	0	3
3554	Paper industries machinery	134	91 , 177	57.72	39 , 76	12	4
3556	Food products machinery	174	75 , 273	67.55	29 , 106	9	9
3559	Special industry machinery,**	231	165 , 297	27.91	20 , 36	19	4
3561	Pumps and pumping equipment	83	45 , 121	26.46	14 , 39	11	7
3562	Ball and roller bearings	93	67 , 119	23.29	17 , 30	17	5
3564	Blowers and fans	192	115 , 269	56.58	34 , 79	7	4
3565	Packaging machinery	143	96 , 190	61.51	41 , 82	32	3
3566	Speed changers, drives, and gears	56	24 , 88	32.07	14 , 51	46	11
3567	Industrial furnaces and ovens	52	18 , 86	27.82	10 , 46	40	9
3568	Power transmission equipment,**	206	146 , 266	97.47	69 , 126	21	5
3569	General industrial machinery,**	175	109 , 241	36.4	23 , 50	19	5
3571	Electronic computers	226	155 , 297	11.86	8 , 16	29	4
3572	Computer storage devices	40	15 , 65	9.16	3 , 15	25	4
3577	Computer peripheral equipment,**	80	50 , 110	11.57	7 , 16	12	3
3579	Office machines,**	87	55 , 119	33.31	21 , 46	15	10
3581	Automatic vending machines	24	12 , 36	31.51	16 , 47	18	5
3582	Commercial laundry equipment	17	7 , 27	28.99	12 , 46	35	9
3585	Refrigeration and heating equipment	522	448 , 596	35.28	30 , 40	21	5
3586	Measuring and dispensing pumps	15	6 , 24	25.94	10 , 42	22	5
3589	Service industry machinery,**	155	94 , 216	36.38	22 , 51	19	5
3593	Fluid power cylinders and actuators	136	98 , 174	63.07	45 , 81	9	2
3594	Fluid power pumps and motors	92	50 , 134	33.73	18 , 49	19	7
3596	Scales and balances, except laboratory	14	6 , 22	23.37	9 , 38	19	6
3599	Industrial machinery,**	1008	817 , 1199	36.24	29 , 43	17	4
3612	Transformers, except electronic	155	110 , 200	38.01	27 , 49	19	4
3613	Switchgear and switchboard apparatus	92	27 , 157	22.24	7 , 38	34	9
3621	Motors and generators	267	201 , 333	36.02	27 , 45	28	6
3625	Relays and industrial controls	167	111 , 223	27.82	18 , 37	13	3

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3632	Household refrigerators and freezers	86	58 , 114	32.4	22 , 43	34	4
3633	Household laundry equipment	43	23 , 63	27.91	15 , 41	25	4
3634	Electric housewares and fans	70	27 , 113	25.64	10 , 42	19	5
3639	Household appliances,**	69	33 , 105	49.19	23 , 75	29	10
3641	Electric lamps	39	17 , 61	17.12	7 , 27	35	10
3643	Current carrying wiring devices	176	135 , 217	28.68	22 , 35	11	4
3644	Noncurrent carrying wiring devices	117	63 , 171	70	38 , 102	8	2
3645	Residential lighting fixtures	91	31 , 151	43.08	15 , 72	7	3
3646	Commercial lighting fixtures	96	54 , 138	39.42	22 , 56	33	8
3647	Vehicular lighting equipment	101	65 , 137	53.24	34 , 72	27	7
3651	Household audio and video equipment	150	104 , 196	29.14	20 , 38	24	9
3652	Prerecorded records and tapes	39	10 , 68	13.88	4 , 24	0	5
3661	Telephone and telegraph apparatus	206	135 , 277	17.87	12 , 24	19	4
3663	Radio and TV communications equipment	196	156 , 236	15.34	12 , 18	27	4
3669	Communications equipment,**	42	19 , 65	14.61	6 , 23	6	2
3671	Electron tubes	101	56 , 146	43.74	24 , 63	9	3
3672	Printed circuit boards	352	258 , 446	26.9	20 , 34	16	3
3674	Semiconductors and related devices	223	157 , 289	8.61	6 , 11	17	3
3675	Electronic capacitors	27	15 , 39	13.27	7 , 19	14	2
3677	Electronic coils and transformers	36	9 , 63	19.74	5 , 35	37	3
3678	Electronic connectors	35	16 , 54	18.11	8 , 28	24	5
3679	Electronic components,**	207	136 , 278	15.19	10 , 20	17	4
3691	Storage batteries	77	35 , 119	27.98	13 , 43	6	5
3692	Primary batteries, dry and wet	16	3 , 29	13.59	3 , 24	20	9
3694	Engine electrical equipment	291	215 , 367	42.71	32 , 54	11	3
3695	Magnetic and optical recording media	32	12 , 52	16.91	6 , 28	24	5
3699	Electrical equipment and supplies,**	71	35 , 107	24.11	12 , 36	19	3
3711	Motor vehicles and car bodies	1727	1505 , 1949	49.15	43 , 55	28	7
3713	Truck and bus bodies	237	159 , 315	60.53	41 , 80	9	4
3714	Motor vehicle parts and accessories	2682	2259 , 3105	48.14	41 , 56	26	4
3715	Truck trailers	296	208 , 384	91.09	64 , 118	9	3
3716	Motor homes	61	37 , 85	34.4	21 , 48	15	4
3721	Aircraft	570	439 , 701	22.72	18 , 28	27	8
3724	Aircraft engines and engine parts	123	79 , 167	12.69	8 , 17	30	9
3728	Aircraft parts and equipment,**	309	196 , 422	25.09	16 , 34	31	8
3731	Ship building and repairing	652	486 , 818	64.09	48 , 80	31	7
3732	Boat building and repairing	232	160 , 304	43.08	30 , 56	18	3
374	Railroad equipment	163	109 , 217	44.45	30 , 59	32	7
375	Motorcycles, bicycles, and parts	39	17 , 61	17.9	8 , 28	56	24
3761	Guided missiles and space vehicles	53	22 , 84	8.17	3 , 13	27	11
3792	Travel trailers and campers	124	101 , 147	61.47	50 , 73	16	3
3795	Tanks and tank components	13	3 , 23	18.19	4 , 32	57	26
3799	Transportation equipment,**	151	111 , 191	62.16	46 , 79	7	6
381	Search and navigation equipment	213	151 , 275	13.4	10 , 17	23	5

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >2m0 days (%)	Median days away from work
3821	Laboratory apparatus and furniture	18	7 , 29	18.36	7 , 30	17	5
3822	Environmental controls	114	85 , 143	27.36	20 , 34	6	5
3823	Process control instruments	130	45 , 215	20.67	7 , 34	16	4
3824	Fluid meters and counting devices	31	21 , 41	26.06	18 , 35	41	7
3825	Instruments to measure electricity	89	57 , 121	12.16	8 , 17	1	5
3826	Analytical instruments	46	28 , 64	15.04	9 , 21	9	3
3827	Optical instruments and lenses	20	11 , 29	9.22	5 , 13	0	2
3829	Measuring and controlling devices,**	84	36 , 132	20.55	9 , 32	9	2
3841	Surgical and medical instruments	139	107 , 171	13.46	10 , 17	28	6
3842	Surgical appliances and supplies	144	107 , 181	15.35	11 , 19	19	5
3843	Dental equipment and supplies	14	4 , 24	10.35	3 , 18	11	3
3844	X-ray apparatus and tubes	20	8 , 32	14.52	6 , 23	42	6
3845	Electromedical equipment	42	23 , 61	9.64	5 , 14	3	1
386	Photographic equipment and supplies	339	261 , 417	41.58	32 , 51	16	4
3911	Jewelry, precious metal	95	35 , 155	28.02	10 , 46	11	5
393	Musical instruments	66	35 , 97	44.13	24 , 65	9	2
3949	Sporting and athletic goods,**	268	212 , 324	36.57	29 , 44	23	4
3951	Pens and mechanical pencils	6	2 , 10	7.02	2 , 12	34	4
3952	Lead pencils and art goods	16	7 , 25	22.79	10 , 35	47	12
3955	Carbon paper and inked ribbons	9	1 , 17	14.06	1 , 27	39	17
3965	Fasteners, buttons, needles, and pins	27	10 , 44	25.05	10 , 41	35	9
3991	Brooms and brushes	33	16 , 50	23.6	11 , 36	28	4
3993	Signs and advertising specialties	369	277 , 461	56.84	43 , 71	17	4
3995	Burial caskets	46	20 , 72	52.55	23 , 82	18	6
3996	Hard surface floor coverings,**	30	24 , 36	41.01	33 , 49	48	18
3999	Manufacturing industries,**	260	174 , 346	48.56	32 , 65	12	3
Transportation, Communications, Electric, Gas, and Sanitary Services							
411	Local and suburban transportation	2130	1759 , 2501	126.98	105 , 149	22	5
412	Taxicabs	58	29 , 87	21.57	11 , 32	30	7
413	Intercity and rural bus transportation	146	87 , 205	78.98	47 , 111	27	3
414	Bus charter service	78	43 , 113	30.58	17 , 44	40	20
415	School buses	108	75 , 141	14.53	10 , 19	26	6
421	Trucking and courier services, except air	11240	9434 , 13046	74.84	63 , 87	33	11
422	Public warehousing and storage	851	650 , 1052	59.86	46 , 74	11	5
448	Water transportation of passengers	15	2 , 28	10.53	1 , 20	0	4
449	Water transportation services	513	416 , 610	51.03	41 , 61	45	15
451	Air transportation, scheduled	17048	15478 , 18618	213.68	194 , 233	26	8
452	Air transportation, nonscheduled	78	42 , 114	20.72	11 , 30	15	4
458	Airports, flying fields, and services	439	339 , 539	44.77	35 , 55	19	3
472	Passenger transportation arrangement	23	6 , 40	1.22	0 , 2	5	3
473	Freight transportation arrangement	463	375 , 551	29.77	24 , 35	23	5
478	Misc. transportation services	155	104 , 206	40.13	27 , 53	19	5
481	Telephone communications	1530	1294 , 1766	17.17	15 , 20	18	6

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
483	Radio and television broadcasting	101	49 , 153	4.67	2 , 7	22	3
484	Cable and other pay television services	505	401 , 609	30.88	25 , 37	26	5
491	Electric services	777	581 , 973	20.45	15 , 26	27	8
492	Gas production and distribution	342	269 , 415	23.21	18 , 28	11	4
493	Combination utility services	166	125 , 207	10.37	8 , 13	27	6
494	Water supply	99	56 , 142	41.47	23 , 60	24	6
495	Sanitary services	1302	1066 , 1538	77.92	64 , 92	13	4
Wholesale Trade							
501	Motor vehicles, parts, and supplies	2392	1882 , 2902	49.62	39 , 60	22	5
502	Furniture and home furnishings	621	374 , 868	41.77	25 , 58	11	5
503	Lumber and construction materials	2638	1972 , 3304	107.6	80 , 135	25	5
504	Professional and commercial equipment	2137	1453 , 2821	27.14	18 , 36	17	8
505	Metals and minerals, except petroleum	574	387 , 761	39.44	27 , 52	12	3
506	Electrical goods	896	623 , 1169	17.53	12 , 23	20	10
507	Hardware, plumbing and heating equipment	1215	761 , 1669	42.76	27 , 59	29	5
508	Machinery, equipment, and supplies	2872	2225 , 3519	36.63	28 , 45	17	4
509	Misc. durable goods	1385	863 , 1907	44.16	28 , 61	31	14
511	Paper and paper products	701	511 , 891	29.52	22 , 38	17	5
512	Drugs, proprietaries, and sundries	423	297 , 549	22.38	16 , 29	18	5
513	Apparel, piece goods, and notions	359	233 , 485	17.91	12 , 24	26	8
514	Groceries and related products	6715	5758 , 7672	78.36	67 , 90	23	6
515	Farm product raw materials	226	83 , 369	23.21	8 , 38	21	3
516	Chemicals and allied products	350	152 , 548	23.45	10 , 37	62	25
517	Petroleum and petroleum products	476	195 , 757	31.66	13 , 50	23	5
518	Beer, wine, and distilled beverages	1968	1575 , 2361	128.19	103 , 154	25	5
519	Misc. nondurable goods	2050	1586 , 2514	41.39	32 , 51	34	7
Retail Trade							
521	Lumber and other building materials	4280	3632 , 4928	85.86	73 , 99	18	4
523	Paint, glass, and wallpaper stores	294	159 , 429	50.28	27 , 73	20	6
525	Hardware stores	391	283 , 499	28.92	21 , 37	32	7
526	Retail nurseries and garden stores	405	281 , 529	53.56	37 , 70	13	7
531	Department stores	10437	9486 , 11388	59.37	54 , 65	19	5
533	Variety stores	781	424 , 1138	76.85	42 , 112	12	2
539	Misc. general merchandise stores	789	610 , 968	53.09	41 , 65	33	6
541	Grocery stores	12009	10481 , 13537	55.06	48 , 62	26	5
542	Meat and fish (seafood) markets	177	79 , 275	43.03	19 , 67	3	5
543	Fruit and vegetable markets	30	7 , 53	13.09	3 , 23	50	45
546	Retail bakeries	175	91 , 259	11.81	6 , 17	16	2
549	Misc. food stores	82	40 , 124	14.19	7 , 21	21	5
551	New and used car dealers	1972	1626 , 2318	19.14	16 , 22	23	6
553	Auto and home supply stores	1244	935 , 1553	34.16	26 , 43	19	8
554	Gasoline service stations	955	613 , 1297	16.89	11 , 23	22	5
562	Women's clothing stores	151	101 , 201	7.71	5 , 10	30	9
565	Family clothing stores	590	489 , 691	24.38	20 , 29	28	5

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
566	Shoe stores	242	126 , 358	16.85	9 , 25	28	3
569	Misc. apparel and accessory stores	19	2 , 36	2.72	0 , 5	22	5
571	Furniture and home furnishings stores	1970	1575 , 2365	45.04	36 , 54	27	7
572	Household appliance store	185	103 , 267	27.66	15 , 40	32	7
573	Radio, television, and computer stores	763	581 , 945	22.52	17 , 28	16	5
591	Drug stores and proprietary stores	789	629 , 949	18.09	14 , 22	29	9
592	Liquor stores	151	48 , 254	18.53	6 , 31	2	4
593	Used merchandise stores	150	80 , 220	17.1	9 , 25	28	5
594	Misc. shopping goods stores	1494	1200 , 1788	21.63	17 , 26	27	5
596	Nonstore retailers	1684	1070 , 2298	58.87	37 , 80	60	29
598	Fuel dealers	732	494 , 970	76.48	52 , 101	53	22
599	Retail stores, **	703	390 , 1016	18.02	10 , 26	16	3
Finance, Insurance, and Real Estate							
601	Central reserve depositories	58	37 , 79	23.6	15 , 32	8	5
602	Commercial banks	645	512 , 778	4.86	4 , 6	9	5
603	Savings institutions	62	27 , 97	2.54	1 , 4	7	3
606	Credit unions	77	29 , 125	5.16	2 , 8	17	3
615	Business credit institutions	46	15 , 77	4.62	1 , 8	73	21
616	Mortgage bankers and brokers	55	23 , 87	2.54	1 , 4	44	6
621	Security brokers and dealers	70	19 , 121	1.78	0 , 3	18	5
631	Life insurance	124	81 , 167	3.41	2 , 5	15	4
632	Medical service and health insurance	187	124 , 250	6.22	4 , 8	52	23
633	Fire, marine, and casualty insurance	286	205 , 367	5.75	4 , 7	20	5
637	Pension, health and welfare funds	18	1 , 39	4.95	0 , 11	0	4
651	Real estate operators and lessors	1538	1230 , 1846	32.9	26 , 39	18	5
653	Real estate agents and managers	1103	895 , 1311	19.68	16 , 23	21	6
655	Subdividers and developers	507	344 , 670	54.34	37 , 72	21	4
672	Investment offices	7	2 , 12	3.56	1 , 6	0	1
Services							
701	Hotels and motels	5129	4404 , 5854	38.52	33 , 44	11	5
721	Laundry, cleaning, and garment services	1145	849 , 1441	30.88	23 , 39	31	7
722	Photographic studios, portrait	181	68 , 294	32.62	12 , 53	6	2
723	Beauty shops	82	28 , 136	2.73	1 , 5	9	11
726	Funeral service and crematories	203	79 , 327	25.84	10 , 42	23	5
729	Misc. personal services	18	3 , 33	1.93	0 , 4	5	3
733	Mailing, reproduction, stenographic	319	196 , 442	11.73	7 , 16	13	5
734	Services to buildings	2563	1944 , 3182	39.22	30 , 49	21	5
735	Misc. equipment rental and leasing	706	248 , 1164	30.04	11 , 50	25	5
736	Personnel supply services	2078	1061 , 3095	30.56	16 , 46	15	4
737	Computer and data processing services	395	267 , 523	3.4	2 , 5	19	4
738	Misc. business services	1012	763 , 1261	7.44	6 , 9	23	7
751	Automotive rentals, no drivers	199	117 , 281	11.23	7 , 16	23	6
752	Automobile parking	76	22 , 130	12.91	4 , 22	22	2
753	Automotive repair shops	1320	713 , 1927	23.03	12 , 34	32	7

Table 13. Number of cases, rate, and median days away from work for musculoskeletal disorders of the back by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
769	Misc. repair shops	942	649 , 1235	43.02	30 , 56	18	3
782	Motion picture distribution and service	19	1 , 37	8.48	1 , 16	7	3
792	Producers, orchestras, entertainers	173	66 , 280	15.24	6 , 25	47	16
794	Commercial sports	166	102 , 230	22.35	14 , 31	26	6
799	Misc. amusement, recreation services	2321	1671 , 2971	31.25	22 , 40	22	5
801	Offices and clinics of medical doctors	783	434 , 1132	5.6	3 , 8	16	4
804	Offices of other health practitioners	503	192 , 814	16.58	6 , 27	6	5
805	Nursing and personal care facilities	25525	22348 , 28702	186.44	163 , 210	17	5
806	Hospitals	24534	23991 , 25077	81.78	80 , 84	18	5
807	Medical and dental laboratories	157	79 , 235	8.84	4 , 13	15	3
808	Home health care services	5332	4550 , 6114	111.65	95 , 128	23	6
809	Health and allied services, **	581	348 , 814	21.84	13 , 31	26	7
821	Elementary and secondary schools	414	288 , 540	13.35	9 , 17	15	4
822	Colleges and universities	833	709 , 957	13.94	12 , 16	22	6
832	Individual and family services	1852	1462 , 2242	35.69	28 , 43	28	6
833	Job training and related services	731	379 , 1083	38.18	20 , 57	20	5
835	Child day care services	949	582 , 1316	22.51	14 , 31	12	3
836	Residential care	3357	2517 , 4197	61.72	46 , 77	10	4
839	Social services, **	333	203 , 463	20.51	12 , 29	7	4
841	Museums and art galleries	176	114 , 238	36.36	24 , 49	9	6
864	Civic and social associations	379	220 , 538	12.7	7 , 18	23	5
871	Engineering and architectural services	564	371 , 757	6.92	5 , 9	23	6
872	Accounting, auditing, and bookkeeping	345	115 , 575	6.56	2 , 11	87	48
873	Research and testing services	762	610 , 914	14.68	12 , 18	6	3
874	Management and public relations	698	486 , 910	8.57	6 , 11	13	5

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Indicates no relative standard error available.

**Not elsewhere classified.

Table 14. Top 10* manufacturing and nonmanufacturing industries for musculoskeletal disorders of the back, 1996

SIC code	Industry	Rate per 10,000 workers	Total cases	Median days away from work
Manufacturing				
2086	Bottled and canned soft drinks	120.8	1,119	5
2026	Fluid milk	96.9	623	11
3321	Gray and ductile iron foundries	84.4	739	7
2451	Mobile homes	74.6	505	4
3465	Automotive stampings	70.4	840	6
3731	Ship building and repairing	64.1	652	7
3471	Plating and polishing	63.1	514	3
2431	Millwork	62.4	682	4
3531	Construction machinery	60.7	546	5
3469	Metal stampings,**	54.7	507	5
Nonmanufacturing				
451	Air transportation, scheduled	213.7	17,048	8
805	Nursing and personal care facilities	186.4	25,525	5
518	Beer, wine, and distilled beverages	128.2	1,968	5
411	Local and suburban transportation	127.0	2,130	5
808	Home health care services	111.7	5,332	6
122	Bituminous coal and lignite mining	96.3	926	26
805	Nursing and personal care facilities	86.4	25,525	5
521	Lumber and other building materials	85.9	4,280	4
806	Hospitals	81.8	24,534	5
514	Groceries and related products	78.4	6,715	6

Source: Bureau of Labor Statistics, U.S. Department of Labor

*N>500

**Not elsewhere classified.

Table 15. Top industries and sources of musculoskeletal disorders of the back caused by lifting, 1996

SIC code	Industry	Source	Rate	Total cases
805	Nursing and personal care facilities	Health care patient	95.2	13,031
808	Home health care services	Health care patient	52.4	2,500
2086	Bottles and canned soft drinks	Boxes, crates, cartons	50.8	471
451	Air transportation, scheduled	Packages, parcels	44.8	3,574
518	Beer, wine, and distilled beverages	Boxes, crates, cartons	41.8	633
411	Local and suburban transportation	Health care patient	39.6	664
451	Air transportation, scheduled	Boxes, crates, cartons	37.1	2,959
2026	Fluid milk	Boxes, crates, cartons	35.0	225
514	Groceries and related products	Boxes, crates, cartons	33.8	2,893
539	Misc. general merchandise stores	Boxes, crates, cartons	33.6	500
533	Variety stores	Boxes, crates, cartons	29.0	295
806	Hospitals	Health care patient	27.3	8,189
018	Horticultural specialties	Buckets, baskets, pails	26.1	350
541	Grocery store	Boxes, crates, cartons	26.0	5,667

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Rate over 25/10,000 and more than 200 cases

Table 16 shows the number of cases and DAFW for musculoskeletal disorders of the back by occupation. Rates are not available for occupations since BLS does not collect information on the number of workers at an establishment in each occupation. **Table 17** shows the 20 occupations with the most cases. Nursing aides and orderlies experienced the most cases (33,578), followed by truck drivers (26,228), and nonconstruction laborers (20,196). For occupations with over 1,000 cases, miscellaneous food preparation workers had the highest median DAFW of 12, followed by technicians not elsewhere classified, farm workers, and construction supervisors having a median of 10 DAFW.

Upper Extremities

There were 156,100 cases of musculoskeletal disorders of the upper extremities reported, with a rate of 18.58/10,000 workers, and a median DAFW of 10. The major sites of the conditions were the wrist (6.72/10,000), shoulder (6.47/10,000), unspecified part of arm (1.15/10,000), and elbows (1.06/10,000). **Table 18** shows upper extremity conditions according to industry by number of cases, rate, and DAFW. Savings institutions (SIC=603) had the lowest rate of 1.58/10,000 worker. The flour and other grain mill products industry had the highest rate of 120.06/10,000 workers. Hospitals had 9,117 cases and a rate of 30.9 per 10,000 workers. The management and public relations industry had a median of 175 days away from work, based on 720 cases. The top ten manufacturing industries and top ten nonmanufacturing industries, having more than 500 cases, are shown in **table 19**. The source of bodily motion or position of injured worker is the most common for the upper extremity conditions. The industries having the highest rates of conditions caused by this source are shown in **table 20**. In **table 19**, the motor vehicle and car body manufacturing industry and the scheduled air transportation industry have both high rates and large numbers of cases. For the motor vehicle and car body industry, the main source of the condition was the bodily motion or position of the worker. For air transportation, the largest source was packages

and parcels, followed by boxes, crates, and cartons (Not shown in a table).

Table 21 shows the number of cases and days away from work by occupation. **Table 22** shows the 20 occupations having the most cases. Nursing aides and orderlies have the most cases, followed by nonconstruction laborers, assemblers, and truck drivers. The median DAFW for hand packers and packagers with a Bureau of Census (BOC) Code = 888 is four times that of private industry, having a median of 40 DAFW. Cooks (BOC=436), plumbers and pipefitters (BOC=585), have over twice that of private industry (data not shown).

Carpal Tunnel Syndrome

All the information on carpal tunnel syndrome is taken from the Web. Relative standard errors are not included, so it is not possible to calculate confidence intervals.

There were 29,937 carpal tunnel syndrome cases, with a rate of 3.60/10,000 workers and a median DAFW of 25. The source of carpal tunnel syndrome is always the bodily motion or position of the injured worker. The event that causes the condition is almost always repetitive motion. Under repetitive motion, unspecified repetitive motion accounted for 27.4% of the cases; typing or keyentry for 21.3%; repetitive use of tools for 12.0%; repetitive placing, grasping, or moving objects, except tools, for 26.8%; and repetitive motion, not elsewhere classified, for 12.4%.

Table 23 shows carpal tunnel syndrome cases according to industry by rate and number of cases. The top ten manufacturing industries and top seven nonmanufacturing industries, having more than 100 cases, are shown in **table 24**. Those with high rates and the most cases are health and allied services, nec, motor vehicle and car body manufacturing, and motor vehicle parts and accessories manufacturing.

Table 25 shows occupations by the number of cases. **Table 26** shows the twelve occupations having the most cases. Most of the top occupations are those one would expect: assemblers, machine operators, users of computers, etc.

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
	All private industry	312,994	310,613 , 315,375	23	5
	Executive, Administrative, and Managerial Occupations				
007	Financial managers	121	71 , 171	13	3
008	Personnel and labor relations	20	1 , 40	0	1
009	Purchasing managers	53	20 , 86	0	2
013	Managers, marketing, advertising, public relations	199	135 , 263	0	11
014	Administrators, education	93	49 , 137	10	4
015	Managers, medicine and health	130	78 , 182	10	4
017	Managers, food and lodging	646	531 , 761	31	4
018	Managers, properties, real estate	326	244 , 408	8	5
019	Funeral directors	59	24 , 94	44	5
021	Managers, service organizations,*	162	104 , 220	29	19
022	Managers and administrators,*	1967	1766 , 2168	13	4
023	Accountants and auditors	166	107 , 225	3	3
025	Other financial officers	36	9 , 63	31	6
026	Management analysts	17	1 , 36	50	24
027	Personnel, training, labor relations	99	54 , 144	2	3
028	Purchasing agents, buyers, farm products	71	33 , 109	0	3
029	Buyers, wholesale, retail, except farm products	501	399 , 603	23	4
033	Purchasing agents and buyers,*	122	72 , 172	7	2
036	Inspectors and compliance officers, except construction	16	1 , 34	12	3
037	Management related,*	176	116 , 236	37	6
	Professional Specialty Occupations				
053	Engineers, civil	35	8 , 62	0	1
055	Engineers, electrical, electronic	67	30 , 104	18	3
056	Engineers, industrial	40	11 , 69	25	4
057	Engineers, mechanical	63	27 , 99	17	1
058	Engineers, marine, naval	18	1 , 37	12	7
059	Engineers,*	130	78 , 182	38	18
063	Surveyors, mapping scientists	96	51 , 141	96	64
064	Computer systems analysts	103	57 , 149	22	4
065	Operations and systems researchers, analysts	80	39 , 121	4	3
068	Mathematical scientists,*	46	15 , 77	0	3
073	Chemists, except biochemists	34	8 , 60	0	1
084	Physicians	18	1 , 37	18	6
095	Registered nurses	8814	8389 , 9239	13	4
096	Pharmacists	41	12 , 70	40	20
098	Respiratory therapists	407	315 , 499	4	6
099	Occupational therapists	60	25 , 95	26	3
103	Physical therapists	442	346 , 538	5	5
105	Therapists,*	59	24 , 94	2	1
106	Physician's assistants	88	45 , 131	7	3
138	Teachers, postsecondary, physical education	17	1 , 36	0	5
155	Teachers, prekindergarten, kindergarten	311	231 , 391	1	1
158	Teachers, special education	40	11 , 69	0	7
159	Teachers, except postsecondary,*	678	560 , 796	4	3

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
163	Counselors, educational, vocational	228	159 , 297	14	4
174	Social workers	279	203 , 355	10	2
175	Recreation workers	60	25 , 95	29	5
178	Lawyers	81	40 , 122	6	8
185	Designers	206	141 , 271	13	4
187	Actors and directors	43	13 , 73	86	40
189	Photographers	203	138 , 268	6	2
194	Artists, performers	66	29 , 103	3	1
197	Public relations specialists	70	32 , 108	3	3
199	Athletes	40	11 , 69	23	7
Technicians and Related Support Occupations					
203	Clinical laboratory technologists	546	440 , 652	22	4
205	Health record technologists	141	87 , 195	18	4
206	Radiologic technicians	1179	1023 , 1335	33	4
207	Licensed practical nurses	3775	3496 , 4054	12	5
208	Health technologists,*	2935	2689 , 3181	22	5
213	Electrical, electronic technicians	507	405 , 609	21	4
215	Mechanical engineering technicians	63	27 , 99	2	2
216	Engineering technicians,*	193	130 , 256	8	11
217	Drafting	62	26 , 98	0	3
218	Surveying and mapping technicians	78	38 , 118	0	3
223	Biological technicians	46	15 , 77	8	2
224	Chemical technicians	45	15 , 75	8	3
225	Science technicians,*	315	234 , 396	4	2
226	Airplane pilots and navigators	127	76 , 178	13	10
228	Broadcast equipment operators	38	10 , 66	20	2
229	Computer programmers	63	27 , 99	9	5
235	Technicians,*	1599	1418 , 1780	21	10
Sales Occupations					
243	Supervisors and proprietors, sales occupations	4617	4308 , 4926	25	7
253	Insurance sales occupations	50	18 , 82	26	14
256	Advertising and related sales occupations	79	39 , 119	12	16
257	Sales occupations, other business services	115	66 , 164	13	11
259	Sales representatives, mining, manufacturing, wholesale	1004	860 , 1148	21	7
263	Sales workers, motor vehicles and boats,	87	45 , 129	0	5
264	Sales workers, apparel	524	420 , 628	48	14
265	Sales workers, shoes	115	66 , 164	3	2
266	Sales workers, furniture and home furnishings	290	213 , 367	6	4
267	Sales workers, appliances	278	202 , 354	10	4
268	Sales workers, hardware and building supplies	1177	1021 , 1333	11	6
269	Sales workers, parts	544	438 , 650	10	4
274	Sales workers, other commodities	4508	4203 , 4813	28	5
275	Sales counter clerks	370	283 , 457	17	5
276	Cashiers	5624	5284 , 5964	24	5
285	Sales support occupations,*	63	27 , 99	0	12

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
Administrative Support Occupations, Including Clerical					
303	Supervisors, general office	150	94 , 206	21	7
305	Supervisors, financial records processing	124	74 , 174	27	13
307	Supervisors, clerks, distribution and adjusting	200	136 , 264	25	5
308	Computer operators	130	78 , 182	20	4
313	Secretaries	461	363 , 559	14	3
316	Interviewers	58	24 , 92	20	4
317	Hotel clerks	196	132 , 260	0	1
318	Ticket agents, transportation	1239	1079 , 1399	20	5
319	Receptionists	367	280 , 454	27	3
323	Information clerks,*	34	7 , 61	31	6
327	Order clerks	272	197 , 347	19	7
329	Library clerks	19	1 , 39	39	4
335	File clerks	147	92 , 202	6	3
336	Records clerks	101	55 , 147	10	3
337	Bookkeepers, accounting, auditing	316	235 , 397	17	4
339	Billing clerks	49	17 , 81	3	3
343	Cost and rate clerks	15	1 , 32	12	3
344	Billing, posting, calculating machine operators	45	14 , 76	0	1
346	Mail, paper handling machine operators	53	20 , 86	27	9
347	Office machine operators,*	105	58 , 152	51	24
348	Telephone operators	58	24 , 92	23	7
356	Mail clerks, except postal service	586	476 , 696	21	5
357	Messengers	237	167 , 307	12	3
359	Dispatchers	70	32 , 108	1	3
363	Production coordinators	227	159 , 295	29	4
364	Shipping and receiving clerks	5379	5047 , 5711	21	6
365	Stock and inventory clerks	3071	2819 , 3323	27	9
368	Weighers and checkers	439	344 , 534	17	6
373	Expeditors	648	532 , 764	14	4
374	Recording and distributing clerks,*	182	121 , 243	8	5
375	Insurance investigators, adjusters	74	35 , 113	11	3
376	Investigators, adjusters, except insurance	691	572 , 810	9	4
377	Eligibility clerks, social welfare	16	1 , 34	100	60
379	General office clerks	1053	906 , 1200	29	5
383	Bank tellers	137	84 , 190	7	4
384	Proofreaders	35	8 , 62	0	7
385	Data-entry keyers	127	76 , 178	14	2
386	Statistical clerks	63	27 , 99	6	4
387	Teachers' aides	155	99 , 211	4	2
389	Administrative support,*	779	652 , 906	18	5
Protective Service Occupations					
426	Guards and police, except public	873	739 , 1007	17	5
Service Occupations, Except Protective and Household					
433	Supervisors, food preparation, service	574	465 , 683	34	4
434	Bartenders	272	197 , 347	7	7

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
435	Waiters and waitresses	979	837 , 1121	24	7
436	Cooks	2244	2029 , 2459	23	5
438	Food counter, fountain workers	185	123 , 247	25	2
439	Kitchen workers	707	586 , 828	24	5
443	Waiters', waitresses' assistants	363	276 , 450	6	3
444	Misc. food preparation	4363	4064 , 4662	47	12
446	Health aides, except nursing	3369	3106 , 3632	9	4
447	Nursing aides, orderlies	33578	32755 , 34401	20	5
448	Supervisors, cleaning, building service workers	605	493 , 717	18	5
449	Maids and housemen	4341	4042 , 4640	15	5
453	Janitors and cleaners	8151	7742 , 8560	20	6
459	Attendants, amusement, recreation	280	204 , 356	1	4
461	Guides	131	79 , 183	17	4
463	Attendants, public transportation	1336	1170 , 1502	27	8
464	Baggage porters and bellhops	342	258 , 426	27	6
465	Welfare service aides	249	177 , 321	17	5
466	Family child care providers	18	1 , 37	0	2
467	Early childhood teachers' assistants	108	61 , 155	12	14
468	Child care workers,*	406	314 , 498	18	3
469	Personal service,*	645	530 , 760	20	3
Farming, Forestry, and Fishing Occupations					
477	Supervisors, farm workers	64	28 , 100	11	14
479	Farm workers	1430	1258 , 1602	27	10
484	Nursery workers	244	173 , 315	7	2
485	Supervisors, related agricultural	429	335 , 523	4	8
486	Groundskeepers and gardeners, except farm	2799	2559 , 3039	27	6
487	Animal caretakers, except farm	200	136 , 264	8	19
488	Graders and sorters, farm products	190	127 , 253	17	6
495	Forestry workers, except logging	20	1 , 40	53	83
496	Timber cutting, logging	144	90 , 198	13	9
Precision Production, Craft, and Repair Occupations					
503	Supervisors, mechanics, repairers	309	229 , 389	11	3
505	Mechanics, automobile	2469	2243 , 2695	26	5
506	Apprentices, automobile mechanic	18	1 , 37	0	12
507	Mechanics, bus, truck, stationary engine	2052	1846 , 2258	31	5
508	Mechanics, aircraft engine	324	242 , 406	24	6
509	Repairers, small engine	55	21 , 89	5	2
514	Repairers, automobile body	172	112 , 232	15	5
515	Mechanics, aircraft, except engine	123	73 , 173	4	5
516	Mechanics, heavy equipment	552	445 , 659	27	5
517	Mechanics, farm equipment	75	36 , 114	25	5
518	Repairers, industrial machinery	1649	1465 , 1833	24	6
519	Machinery maintenance	281	205 , 357	20	1
523	Repairers, electronic, communication equipment	687	568 , 806	22	6
525	Repairers, data processing equipment	40	11 , 69	0	3
526	Repairers, household appliances, power tools	299	220 , 378	54	25

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
527	Telephone line installers, repairers	216	149 , 283	10	6
529	Telephone installers, repairers	804	675 , 933	22	10
533	Repairers, misc. electrical, electronic	177	117 , 237	10	6
534	Mechanics, heating, air conditioning	793	665 , 921	22	5
538	Repairers, office machines	118	69 , 167	7	3
539	Repairers, mechanical controls, valves	38	10 , 66	4	3
543	Elevator installers, repairers	45	14 , 76	42	10
544	Millwrights	574	465 , 683	31	9
547	Specified mechanics, repairers,*	1049	902 , 1196	19	5
549	Mechanics, repairers, not specified	2275	2058 , 2492	29	8
554	Supervisors, carpenters	89	46 , 132	41	8
558	Supervisors,*	1231	1072 , 1390	7	10
563	Brickmasons and stonemasons	646	531 , 761	32	7
564	Apprentices, brickmason, stonemason	16	1 , 34	44	14
565	Tile setters, hard and soft	139	85 , 193	21	6
566	Carpet installers	466	368 , 564	34	10
567	Carpenters	4685	4375 , 4995	25	6
569	Apprentices, carpenter	111	63 , 159	26	2
573	Drywall installers	669	552 , 786	16	5
575	Electricians	1930	1731 , 2129	23	5
576	Apprentices, electrician	397	307 , 487	48	13
577	Electrical power installers, repairers	491	390 , 592	36	9
579	Painters	1384	1215 , 1553	34	6
584	Plasterers	99	54 , 144	8	12
585	Plumbers and pipefitters	2255	2039 , 2471	28	6
587	Apprentices, plumber, pipefitter	87	45 , 129	33	5
588	Concrete and terrazzo finishers	323	241 , 405	25	10
589	Glaziers	184	122 , 246	0	7
593	Insulation workers	250	178 , 322	47	7
594	Operators, paving, surfacing, tamping equipment	68	31 , 105	5	14
595	Roofers	724	602 , 846	26	5
596	Sheetmetal duct installers	453	356 , 550	31	3
597	Structural metal workers	481	381 , 581	17	5
598	Drillers, earth	38	10 , 66	19	13
599	Construction trades,*	705	585 , 825	32	7
613	Supervisors, extractive workers	69	31 , 107	45	14
614	Drillers, oil well	140	86 , 194	6	8
616	Operators, mining machines	76	36 , 116	60	22
617	Mining occupations,*	257	184 , 330	40	10
628	Supervisors, production workers	1773	1582 , 1964	20	5
634	Tool and die makers	281	205 , 357	44	10
636	Assemblers, precision, metal	171	112 , 230	31	3
637	Machinists	1412	1242 , 1582	23	6
643	Boilermakers	66	29 , 103	31	18
646	Lay-out workers	156	99 , 213	14	4
653	Sheet metal workers	419	326 , 512	21	4

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
654	Apprentices, sheet metal workers	61	26 , 96	8	5
657	Cabinet makers, bench carpenters	249	177 , 321	28	5
658	Furniture and wood finishers	132	80 , 184	12	4
667	Tailors	99	54 , 144	9	1
668	Upholsterers	152	96 , 208	17	7
675	Hand molders, shapers, except jewelers	63	27 , 99	48	10
677	Optical goods workers	39	11 , 67	39	2
679	Bookbinders	41	12 , 70	29	10
683	Assemblers, electrical, electronic	852	719 , 985	22	5
684	Misc. precision workers,*	209	143 , 275	23	4
686	Butchers and meat cutters	1287	1124 , 1450	34	5
687	Bakers	222	154 , 290	2	3
688	Food batchmakers	87	45 , 129	23	5
689	Inspectors, testers, graders	266	192 , 340	13	3
694	Operators, water, sewage treatment plants	55	21 , 89	7	1
695	Operators, power plants	35	8 , 62	5	4
696	Stationary engineers	369	282 , 456	31	7
699	Operators, misc. plant and systems	108	61 , 155	3	3
	Machine Operators, Assemblers, and Inspectors				
703	Set-up operators, lathes and turning machines	112	64 , 160	34	7
704	Lathes and turning machine operators	183	122 , 244	31	11
705	Milling and planing machine operators	53	20 , 86	24	3
706	Punching and stamping machine operators	1145	991 , 1299	20	4
707	Rolling machine operators	180	119 , 241	59	45
708	Drilling and boring machine operators	58	23 , 93	11	5
709	Grinding and polishing machine operators	855	722 , 988	16	6
713	Forging machine operators	143	89 , 197	19	2
714	Numerical control machine operators	173	113 , 233	13	3
715	Misc. metal, plastic, stone, glass working machine operators	136	83 , 189	29	7
717	Fabricating machine operators,*	207	142 , 272	31	11
719	Molding and casting machine operators	623	510 , 736	24	6
723	Metal plating machine operators	202	138 , 266	19	3
724	Heat treating machine operators	113	65 , 161	23	4
725	Misc. metal, plastic processing machine operators	83	42 , 124	18	6
727	Sawing machine operators	549	443 , 655	24	4
728	Shaping, joining machine operators	61	26 , 96	30	9
733	Misc. woodworking machine operators	449	353 , 545	4	1
734	Printing press operators	851	719 , 983	19	6
735	Photoengravers and lithographers	34	7 , 61	40	5
737	Misc. printing machine operators	367	280 , 454	19	4
738	Winding, twisting machine operators	131	79 , 183	14	4
739	Knitting, looping, weaving machine operators	84	42 , 126	19	3
744	Textile sewing machine operators	756	631 , 881	27	6
745	Shoe machine operators	36	9 , 63	8	2
747	Pressing machine operators	69	31 , 107	49	11
748	Laundry, dry cleaning machine operators	858	725 , 991	30	5

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
749	Misc. textile machine operators	309	229 , 389	30	10
753	Cementing, gluing machine operators	89	46 , 132	28	12
754	Packaging, filling machine operators	1855	1659 , 2051	30	8
755	Extruding and forming machine operators	476	377 , 575	19	2
756	Mixing and blending machine operators	730	607 , 853	24	5
757	Separating, filtering, clarifying machine operators	326	244 , 408	8	4
758	Compressing, compacting machine operators	155	98 , 212	17	8
759	Painting and paint spraying machine operators	793	665 , 921	20	4
764	Washing, cleaning, pickling machine operators	138	85 , 191	19	3
765	Folding machine operators	43	13 , 73	3	4
766	Furnace, kiln, and oven operators, except food	698	578 , 818	29	7
768	Crushing and grinding machine operators	377	289 , 465	35	8
769	Slicing and cutting machine operators	937	798 , 1076	16	5
774	Photographic process machine operators	114	65 , 163	3	7
777	Misc. machine operators,*	9012	8583 , 9441	24	5
779	Machine operators, not specified	3648	3374 , 3922	15	4
783	Welders and cutters	3471	3204 , 3738	22	4
784	Solderers and brazers	38	10 , 66	36	12
785	Assemblers	6478	6114 , 6842	23	5
786	Hand cutting and trimming occupations	56	22 , 90	55	44
787	Hand molding, casting, forming occupations	129	77 , 181	42	13
789	Hand painting, coating, decorating occupations	57	23 , 91	11	4
793	Hand engraving, printing occupations	53	20 , 86	11	5
795	Misc. hand working occupations	533	428 , 638	60	37
796	Production inspectors	1249	1089 , 1409	19	4
797	Production testers	177	117 , 237	53	29
799	Graders, sorters, except farm	701	581 , 821	20	5
Transportation and Material Moving Occupations					
803	Supervisors, motor vehicle operators	128	77 , 179	32	7
804	Truck drivers	26228	25498 , 26958	29	8
806	Driver-sales workers	3305	3044 , 3566	26	7
808	Bus drivers	675	557 , 793	33	11
809	Taxicab drivers and chauffeurs	437	342 , 532	29	5
813	Parking lot attendants	109	62 , 156	4	7
823	Railroad conductors and yardmasters	112	64 , 160	54	23
824	Locomotive operators	38	10 , 66	74	57
825	Railroad brake, signal, switch operators	85	43 , 127	57	33
828	Ship captains, mates, except fishing	42	12 , 72	37	14
829	Sailors and deckhands	151	95 , 207	22	7
843	Supervisors, material moving equipment operators	96	51 , 141	15	4
844	Operating engineers	334	251 , 417	16	6
848	Hoist and winch operators	79	39 , 119	20	14
849	Crane and tower operators	153	97 , 209	27	5
853	Excavating and loading machine operators	197	133 , 261	29	6
855	Grader, dozer, scraper operators	82	41 , 123	17	11
856	Industrial truck operators	1942	1742 , 2142	18	5

Table 16. Number of cases, days away from work for musculoskeletal disorders of the back by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
859	Misc. moving equipment operators	704	584 , 824	30	5
	Handlers, Equipment Cleaners, Helpers, and Laborers				
864	Supervisors, handlers, cleaners, and laborers	216	149 , 283	17	4
865	Helpers, mechanics and repairers	374	286 , 462	15	6
866	Helpers, construction trades	1237	1077 , 1397	26	8
868	Helpers, extractive	67	30 , 104	73	22
869	Construction laborers	6663	6293 , 7033	26	7
874	Helpers, production	1228	1069 , 1387	13	7
875	Garbage collectors	185	123 , 247	39	5
876	Stevedores	143	89 , 197	66	39
877	Stock handlers and baggers	7204	6820 , 7588	23	5
878	Machine feeders and offbearers	1056	908 , 1204	29	9
883	Freight, stock, material handlers,*	13864	13331 , 14397	25	6
885	Garages, service stations	643	528 , 758	14	8
887	Vehicle washers and cleaners	612	500 , 724	31	10
888	Hand packers and packagers	1408	1238 , 1578	25	5
889	Laborers, nonconstruction	20196	19555 , 20837	22	5
	Non-classifiable				
999	Non-classifiable	1472	1298 , 1646	24	8

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 17. Top 20 occupations with musculoskeletal disorders of the back

BOC code	Occupation	Total cases	Median days away from work
447	Nursing aides, orderlies	33,578	5
804	Truck drivers	26,228	8
889	Laborers, nonconstruction	20,196	5
883	Freight, stock, material handlers,*	13,864	6
777	Misc. machine operators,*	9,012	5
095	Registered nurses	8,814	4
453	Janitors and cleaners	8,151	6
877	Stock handlers and baggers	7,204	5
869	Construction laborers	6,663	7
785	Assemblers	6,478	5
276	Cashiers	5,624	5
364	Shipping and receiving clerks	5,379	6
567	Carpenters	4,685	6
243	Supervisors and proprietors	4,617	7
274	Other commodities	4,508	5
444	Misc. food preparation	4,363	12
449	Maids and housemen	4,341	5
207	Licensed practical nurses	3,775	5
779	Machine operators, not specified	3,648	4
783	Welders and cutters	3,471	4

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
	All private industry	156,100	153,102 , 159,098	18.58	18.22 , 18.94	35	10
	Agriculture, Forestry, and Fishing						
016	Vegetables and melons	41	10 , 72	6.52	1.65 , 11.39	0	7
018	Horticultural specialties	236	108 , 364	17.61	8.07 , 27.15	22	15
021	Livestock, except dairy and poultry	66	23 , 109	17.57	6.20 , 28.94	49	14
025	Poultry and eggs	114	72 , 156	27.57	17.52 , 37.62	23	4
072	Crop services	67	23 , 111	6.88	2.35 , 11.41	26	8
075	Animal services, except veterinary	51	15 , 87	13.04	3.71 , 22.37	44	5
078	Landscape and horticultural services	531	375 , 687	15.19	10.72 , 19.66	28	15
	Mining						
101	Iron ores	19	*	21.40	*	84	57
103	Lead and zinc ores	6	*	24.42	*	100	51
104	Gold and silver ores	29	*	14.95	*	62	41
109	Misc. metal ores	6	*	27.09	*	83	52
122	Bituminous coal and lignite mining	210	*	21.84	*	58	28
123	Anthracite mining	5	*	30.37	*	60	57
138	Oil and gas field services	115	51 , 179	6.07	2.69 , 9.45	78	37
141	Dimension stone	8	*	21.49	*	13	4
142	Crushed and broken stone	71	*	11.37	*	54	21
144	Sand and gravel	31	*	9.23	*	36	5
145	Clay, ceramic, and refractory minerals	15	*	13.11	*	67	50
147	Chemical and fertilizer minerals	16	*	11.51	*	81	62
149	Misc. nonmetallic minerals	11	*	22.35	*	36	5
	Construction						
152	Residential building construction	629	459 , 799	11.21	8.18 , 14.24	33	9
153	Operative builders	14	1 , 29	5.97	0 , 12.47	0	1
154	Nonresidential building construction	803	643 , 963	14.45	11.58 , 17.32	36	10
161	Highway and street construction	250	188 , 312	11.88	8.92 , 14.84	37	6
162	Heavy construction, except highway	578	446 , 710	11.13	8.58 , 13.68	24	8
171	Plumbing, heating, and air-conditioning	1609	1319 , 1899	22.35	18.32 , 26.38	42	11
172	Painting and paper hanging	293	200 , 386	18.17	12.43 , 23.91	26	4
173	Electrical work	860	666 , 1054	14.44	11.19 , 17.69	56	30
174	Masonry, stonework, and plastering	1160	915 , 1405	31.21	24.62 , 37.80	34	7
175	Carpentry and floor work	213	132 , 294	10.40	6.47 , 14.33	27	12
176	Roofing, siding, and sheet metal work	541	407 , 675	29.05	21.85 , 36.25	25	5
177	Concrete work	333	245 , 421	14.73	10.84 , 18.62	37	5
178	Water well drilling	93	33 , 153	43.18	15.54 , 70.82	28	3
179	Misc. special trade contractors	1155	935 , 1375	21.38	17.31 , 25.45	34	14
	Manufacturing						
2011	Meat packing plants	809	619 , 999	51.09	39.00 , 63.00	18	6
2013	Sausages and other prepared meats	691	539 , 843	72.04	56.00 , 88.00	36	11
2015	Poultry slaughtering and processing	1049	702 , 1396	43.80	29.33 , 58.33	38	11
2022	Cheese, natural and processed	164	98 , 230	42.09	25.33 , 59.00	25	13
2023	Dry, condensed, evaporated products	32	13 , 51	18.97	7.33 , 30.33	17	6
2024	Ice cream and frozen desserts	78	40 , 116	34.17	17.33 , 51.00	14	1

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
2026	Fluid milk	291	233 , 349	45.33	36.33 , 54.33	36	10
2033	Canned fruits and vegetables	170	116 , 224	23.75	16.33 , 31.33	52	27
2034	Dehydrated fruits, vegetables, soups	64	24 , 104	37.24	14.00 , 60.67	19	11
2037	Frozen fruits and vegetables	180	121 , 239	39.22	26.33 , 52.00	35	9
2038	Frozen specialties,**	164	99 , 229	32.37	19.67 , 45.33	21	6
2041	Flour and other grain mill products	244	95 , 393	120.06	47.00 , 193.33	65	45
2043	Cereal breakfast foods	53	31 , 75	28.69	17.00 , 40.33	23	4
2045	Prepared flour mixes and doughs	120	56 , 184	87.74	40.67 , 134.67	41	13
2048	Prepared feeds,**	178	98 , 258	41.91	23.00 , 61.00	48	4
2051	Bread, cake, and related products	579	467 , 691	40.06	32.33 , 47.67	39	12
2052	Cookies and crackers	255	187 , 323	51.95	38.00 , 66.00	24	6
2064	Candy and other confectionery products	139	71 , 207	27.63	14.33 , 41.00	33	12
2066	Chocolate and cocoa products	12	2 , 22	9.28	2.00 , 16.67	75	28
2082	Malt beverages	81	47 , 115	23.04	13.33 , 32.67	44	18
2084	Wines, brandy, and brandy spirits	34	11 , 57	18.56	6.00 , 31.00	69	32
2085	Distilled and blended liquors	66	24 , 108	92.97	34.00 , 152.00	19	6
2086	Bottled and canned soft drinks	467	370 , 564	50.44	40.00 , 61.00	26	7
2091	Canned and cured fish and seafood	36	18 , 54	47.11	23.00 , 71.00	40	5
2092	Fresh or frozen prepared fish	322	239 , 405	79.39	59.00 , 100.00	23	6
2095	Roasted coffee	20	1 , 41	20.40	0 , 42.33	54	31
2096	Potato chips and similar snacks	237	174 , 300	75.46	55.33 , 95.67	36	8
2098	Macaroni, spaghetti, vermicelli and noodles	14	2 , 26	16.85	3.00 , 31.00	6	8
2099	Food preparations,**	118	74 , 162	16.88	10.67 , 23.33	27	7
211	Cigarettes	63	43 , 83	24.24	16.41 , 32.07	61	35
222	Broadwoven fabric mills, manmade	93	45 , 141	14.09	6.84 , 21.34	29	10
223	Broadwoven fabric mills, wool	43	12 , 74	29.72	8.46 , 50.98	21	6
224	Narrow fabric mills	87	42 , 132	41.18	19.78 , 62.58	50	25
2252	Hosiery,**	188	125 , 251	50.38	33.33 , 67.33	35	9
2253	Knit outerwear mills	85	56 , 114	15.96	10.67 , 21.33	26	3
2254	Knit underwear mills	62	26 , 98	34.23	14.33 , 54.33	27	7
2257	Weft knit fabric mills	23	10 , 36	9.29	4.00 , 14.67	21	3
2261	Finishing plants, cotton	50	20 , 80	14.82	6.00 , 23.67	14	10
2262	Finishing plants, manmade	35	11 , 59	15.12	5.00 , 25.33	19	1
227	Carpets and rugs	178	89 , 267	30.22	15.12 , 45.32	30	11
2281	Yarn spinning mills	86	53 , 119	13.08	8.00 , 18.00	64	28
2284	Thread mills	14	1 , 27	22.12	1.00 , 43.33	30	9
2297	Nonwoven fabrics	15	1 , 29	11.89	0.67 , 23.00	65	30
2299	Textile goods,**	15	4 , 26	8.33	2.00 , 14.33	33	18
231	Men's and boys' suits and coats	260	228 , 292	88.48	77.43 , 99.53	56	22
2321	Men's and boys' shirts	279	130 , 428	66.30	30.67 , 101.67	36	6
2322	Men's and boys' underwear and nightwear	61	34 , 88	35.03	19.33 , 50.67	44	15
2325	Men's and boys' trousers and slacks	389	295 , 483	56.72	43.00 , 70.33	35	8
2326	Men's and boys' work clothing	319	250 , 388	104.87	82.33 , 127.33	37	11
2329	Men's and boys' clothing,**	114	51 , 177	27.03	12.00 , 42.00	33	9
2335	Women's, junior's, and misses' dresses	46	14 , 78	11.55	3.67 , 19.33	72	35

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
2337	Women's and misses' suits and coats	20	7 , 33	8.48	2.67 , 14.33	51	21
2339	Women's and misses' outerwear,**	398	284 , 512	25.46	18.33 , 32.67	44	17
2361	Girls' and children's dresses, blouses	56	23 , 89	40.64	16.67 , 64.67	82	49
2369	Girls' and children's outerwear,**	60	34 , 86	29.33	16.33 , 42.33	37	10
2385	Waterproof outerwear	25	11 , 39	63.86	27.00 , 100.67	82	124
2386	Leather and sheep-lined clothing	8	2 , 14	51.45	11.00 , 92.00	70	64
2389	Apparel and accessories,**	35	13 , 57	25.26	9.33 , 41.00	19	4
2391	Curtains and draperies	128	84 , 172	67.77	44.67 , 91.00	26	14
2392	Housefurnishings,**	163	84 , 242	30.76	16.00 , 45.67	40	17
2393	Textile bags	64	22 , 106	56.76	19.33 , 94.33	5	5
2395	Pleating and stitching	16	2 , 30	9.98	1.00 , 19.00	18	15
2396	Automotive and apparel trimmings	177	111 , 243	28.58	18.00 , 39.33	55	25
2397	Schiffli machine embroideries	15	5 , 25	45.64	16.67 , 74.67	65	30
2399	Fabricated textile products,**	104	69 , 139	36.35	24.00 , 48.67	44	9
241	Logging	76	31 , 121	10.85	4.39 , 17.31	77	25
2421	Sawmills and planing mills, general	366	245 , 487	26.12	17.67 , 34.67	39	11
2426	Hardwood dimension and flooring mills	171	88 , 254	49.41	25.33 , 73.33	21	5
2431	Millwork	604	462 , 746	55.31	42.33 , 68.33	21	10
2434	Wood kitchen cabinets	175	122 , 228	22.99	16.00 , 30.00	32	10
2435	Hardwood veneer and plywood	110	73 , 147	37.88	25.00 , 50.67	52	25
2439	Structural wood members,**	171	103 , 239	44.16	26.67 , 61.67	54	21
2448	Wood pallets and skids	219	123 , 315	56.34	31.67 , 81.00	41	19
2451	Mobile homes	151	98 , 204	22.29	14.33 , 30.00	16	3
2452	Prefabricated wood buildings	59	28 , 90	28.80	13.33 , 44.00	26	10
2491	Wood preserving	30	7 , 53	24.86	5.67 , 44.00	8	2
2493	Reconstituted wood products	16	2 , 30	7.34	0.67 , 14.00	90	32
2499	Wood products,**	469	200 , 738	87.61	37.33 , 137.67	66	36
2511	Wood household furniture	249	179 , 319	20.24	14.67 , 26.00	29	9
2512	Upholstered household furniture	293	190 , 396	34.88	22.67 , 47.00	56	31
2514	Metal household furniture	59	31 , 87	27.48	14.67 , 40.33	30	10
2515	Mattresses and bedsprings	228	168 , 288	71.41	52.67 , 90.00	46	8
2521	Wood office furniture	155	74 , 236	53.81	25.67 , 82.00	37	20
2522	Office furniture, except wood	125	69 , 181	36.89	20.33 , 53.67	51	23
253	Public building and related furniture	307	176 , 438	71.83	41.17 , 102.49	44	17
2541	Wood partitions and fixtures	102	41 , 163	21.72	8.67 , 34.67	19	2
2591	Drapery hardware and blinds and shades	53	23 , 83	24.99	11.00 , 39.00	46	10
2599	Furniture and fixtures,**	152	65 , 239	88.63	38.00 , 139.33	47	20
261	Pulp mills	6	1 , 12	4.59	0.23 , 8.95	52	27
262	Paper mills	269	194 , 344	15.90	11.46 , 20.34	62	29
263	Paperboard mills	48	25 , 71	8.88	4.56 , 13.20	39	15
2652	Setup paperboard boxes	16	1 , 33	22.32	0 , 45.67	29	2
2653	Corrugated and solid fiber boxes	219	158 , 280	16.14	11.67 , 20.67	30	6
2657	Folding paperboard boxes	132	89 , 175	26.99	18.00 , 36.00	48	20
2671	Paper coated and laminated, packaging	34	12 , 56	15.07	5.33 , 24.67	65	32
2672	Paper coated and laminated,**	73	39 , 107	15.87	8.33 , 23.33	11	4

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
2673	Bags: plastics, laminated, and coated	185	138 , 232	47.08	35.33 , 59.00	28	5
2674	Bags: uncoated paper	97	54 , 140	53.30	29.33 , 77.33	63	37
2676	Sanitary paper products	42	27 , 57	13.94	9.00 , 19.00	53	21
2677	Envelopes	79	48 , 110	32.37	19.33 , 45.33	41	6
2679	Converted paper products,**	135	86 , 184	40.46	25.67 , 55.00	33	14
271	Newspapers	741	636 , 846	20.42	17.53 , 23.31	37	13
272	Periodicals	180	128 , 232	14.77	10.51 , 19.03	27	12
2731	Book publishing	102	58 , 146	13.41	7.67 , 19.33	22	10
2732	Book printing	139	98 , 180	36.47	25.67 , 47.33	45	16
274	Misc. publishing	87	51 , 123	11.80	6.90 , 16.70	34	12
2752	Commercial printing, lithographic	808	689 , 927	22.63	19.33 , 26.00	35	10
2754	Commercial printing, gravure	54	39 , 69	26.25	19.00 , 33.67	54	22
2759	Commercial printing,**	343	275 , 411	19.79	16.00 , 23.67	41	14
276	Manifold business forms	94	62 , 126	21.53	14.17 , 28.89	46	13
277	Greeting cards	55	39 , 71	22.12	15.87 , 28.37	22	12
2782	Blankbooks and looseleaf binders	93	65 , 121	26.17	18.33 , 34.00	33	16
2789	Bookbinding and related work	76	36 , 116	27.25	13.00 , 41.67	53	21
2791	Typesetting	17	1 , 33	9.42	0.67 , 18.33	44	14
2796	Platemaking and related services	26	8 , 44	8.25	2.67 , 14.00	59	29
2819	Industrial inorganic chemicals,**	44	20 , 68	5.76	2.67 , 9.00	42	8
2821	Plastics materials and resins	76	44 , 108	9.53	5.33 , 13.67	34	11
2833	Medicinals and botanicals	35	10 , 60	16.76	5.00 , 28.67	28	10
2834	Pharmaceutical preparations	187	148 , 226	9.12	7.33 , 11.00	55	24
2835	Diagnostic substances	11	1 , 23	7.52	0 , 15.67	63	30
2836	Biological products except diagnostic	15	4 , 26	9.80	3.00 , 16.67	42	17
2841	Soaps and other detergents	54	21 , 87	13.00	5.00 , 21.00	42	12
2844	Toilet preparations	128	94 , 162	18.33	13.33 , 23.33	37	9
285	Paints and allied products	71	26 , 116	13.43	4.86 , 22.00	40	15
2869	Industrial organic chemicals,**	61	32 , 90	5.20	2.67 , 7.67	47	15
2879	Agricultural chemicals,**	17	2 , 32	7.04	0.67 , 13.33	24	10
2893	Printing ink	33	8 , 58	19.98	5.00 , 35.00	47	16
2899	Chemical preparations,**	45	21 , 69	10.62	5.00 , 16.33	2	17
291	Petroleum refining	33	19 , 47	3.16	1.86 , 4.46	53	23
301	Tires and inner tubes	335	284 , 386	41.96	35.55 , 48.37	47	20
302	Rubber and plastics footwear	18	1 , 36	28.31	0.19 , 56.43	80	23
3052	Rubber and plastics hose and belting	111	47 , 175	39.14	16.67 , 61.67	36	11
3053	Gaskets, packing and sealing devices	205	122 , 288	50.21	30.00 , 70.33	25	4
3061	Mechanical rubber goods	363	253 , 473	73.48	51.33 , 95.67	28	8
3069	Fabricated rubber products,**	219	174 , 264	34.18	27.00 , 41.33	23	4
3081	Unsupported plastics film and sheet	169	118 , 220	25.32	17.67 , 33.00	29	7
3082	Unsupported plastics profile shapes	70	41 , 99	28.48	16.67 , 40.33	45	15
3083	Laminated plastics plate and sheet	74	20 , 128	30.47	8.33 , 52.67	51	29
3084	Plastics pipe	87	39 , 135	49.15	22.33 , 76.00	12	3
3085	Plastics bottles	63	21 , 105	18.86	6.33 , 31.33	45	12
3086	Plastics foam products	201	125 , 277	34.34	21.33 , 47.33	20	5

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3087	Custom compound purchased resins	67	32 , 102	23.99	11.33 , 36.67	43	14
3089	Plastics products,**	2091	1822 , 2360	46.06	40.00 , 52.00	33	11
311	Leather tanning and finishing	78	42 , 114	57.61	30.88 , 84.34	42	5
3143	Men's footwear, except athletic	94	66 , 122	43.58	30.33 , 56.67	39	15
3144	Women's footwear, except athletic	79	57 , 101	58.71	42.00 , 75.33	44	16
3149	Footwear, except rubber,**	45	16 , 74	90.79	31.67 , 150.00	43	18
316	Luggage	17	1 , 33	17.67	1.12 , 34.22	47	16
3172	Personal leather goods,**	35	16 , 54	57.30	25.33 , 89.00	31	12
321	Flat glass	105	38 , 172	63.03	22.58 , 103.48	31	10
3221	Glass containers	98	69 , 127	35.66	25.33 , 46.00	64	31
3229	Pressed and blown glass,**	294	217 , 371	68.64	50.67 , 86.67	56	31
323	Products of purchased glass	200	150 , 250	32.45	24.28 , 40.62	43	8
3253	Ceramic wall and floor tile	32	13 , 51	34.19	14.33 , 54.00	48	16
3261	Vitreous plumbing fixtures	34	10 , 58	33.78	9.67 , 58.00	23	8
3269	Pottery products,**	74	29 , 119	57.26	22.33 , 92.00	25	11
3271	Concrete block and brick	14	1 , 29	7.70	0 , 16.33	37	10
3272	Concrete products,**	207	136 , 278	28.66	18.67 , 38.67	49	19
3273	Ready-mixed concrete	172	107 , 237	15.70	9.67 , 21.67	43	15
3274	Lime	16	1 , 34	31.09	0 , 65.67	100	104
3291	Abrasive products	26	10 , 42	13.11	4.67 , 21.33	30	16
3296	Mineral wool	73	43 , 103	30.04	17.67 , 42.67	60	25
3312	Blast furnaces and steel mills	349	278 , 420	19.57	15.67 , 23.67	44	15
3315	Steel wire and related products	74	41 , 107	33.39	18.67 , 48.00	39	18
3316	Cold finishing of steel shapes	61	17 , 105	35.16	10.00 , 60.33	51	51
3317	Steel pipe and tubes	123	70 , 176	41.84	23.67 , 60.00	32	17
3321	Gray and ductile iron foundries	483	374 , 592	55.20	42.67 , 67.67	35	9
3322	Malleable iron foundries	29	12 , 46	67.75	27.67 , 108.00	0	13
3324	Steel investment foundries	82	45 , 119	47.83	26.00 , 69.67	41	14
3325	Steel foundries,**	132	84 , 180	54.88	35.00 , 75.00	38	5
3331	Primary copper	9	5 , 13	19.55	11.00 , 28.00	52	65
3334	Primary aluminum	30	14 , 46	13.40	6.33 , 20.67	50	20
334	Secondary nonferrous metals	38	14 , 62	22.44	8.48 , 36.40	26	2
3351	Copper rolling and drawing	77	52 , 102	32.92	22.33 , 43.33	60	33
3353	Aluminum sheet, plate, and foil	20	12 , 28	8.51	5.00 , 12.00	76	75
3354	Aluminum extruded products	107	73 , 141	32.72	22.33 , 43.33	24	8
3356	Nonferrous rolling and drawing,**	20	9 , 31	13.86	6.67 , 21.33	38	20
3357	Nonferrous wire drawing and insulating	343	249 , 437	46.18	33.33 , 59.00	45	17
3363	Aluminum die—castings	253	168 , 338	65.16	43.33 , 87.00	22	4
3365	Aluminum foundries	226	75 , 377	92.22	30.67 , 153.67	8	3
3398	Metal heat treating	42	14 , 70	22.95	7.67 , 38.33	45	5
3399	Primary metal products,**	50	15 , 85	43.32	12.67 , 74.00	13	2
3411	Metal cans	50	17 , 83	14.46	5.00 , 24.00	25	7
3421	Cutlery	48	27 , 69	39.79	22.33 , 57.33	38	18
3423	Hand and edge tools,**	89	38 , 140	24.61	10.33 , 39.00	31	5
3425	Saw blades and handsaws	30	7 , 53	40.12	9.67 , 70.67	56	37

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3429	Hardware,**	312	244 , 380	45.75	35.67 , 55.67	58	32
3431	Metal sanitary ware	99	42 , 156	72.41	31.00 , 114.00	15	11
3432	Plumbing fixture fittings and trim	67	34 , 100	27.72	14.00 , 41.33	48	16
3433	Heating equipment, except electric	51	26 , 76	25.28	13.00 , 37.33	37	10
3441	Fabricated structural metal	309	209 , 409	39.70	27.00 , 52.67	61	30
3442	Metal doors, sash, and trim	221	157 , 285	28.55	20.33 , 36.67	22	6
3443	Fabricated plate work (boiler shops)	223	150 , 296	21.77	14.67 , 29.00	28	6
3444	Sheet metalwork	329	251 , 407	28.79	22.00 , 35.67	35	12
3446	Architectural metal work	116	46 , 186	38.55	15.33 , 61.67	70	59
3449	Misc. metal work	18	1 , 36	13.83	0 , 28.00	9	1
3451	Screw machine products	198	129 , 267	37.47	24.33 , 50.33	46	16
3452	Bolts, nuts, rivets, and washers	131	81 , 181	26.11	16.00 , 36.00	17	12
3462	Iron and steel forgings	197	107 , 287	61.21	33.33 , 89.00	46	11
3465	Automotive stampings	834	554 , 1114	69.89	46.33 , 93.33	48	20
3469	Metal stampings,**	260	182 , 338	28.10	19.67 , 36.33	29	10
3471	Plating and polishing	166	110 , 222	20.37	13.67 , 27.33	43	8
3479	Metal coating and allied services	132	76 , 188	25.53	14.67 , 36.33	12	10
3483	Ammunition, except for small arms,**	42	28 , 56	17.48	11.67 , 23.33	45	15
3484	Small arms	29	15 , 43	27.60	14.33 , 40.67	51	21
3491	Industrial valves	42	23 , 61	15.50	8.67 , 22.33	27	12
3492	Fluid power valves and hose fittings	183	111 , 255	53.76	32.67 , 74.67	20	6
3496	Misc. fabricated wire products	254	185 , 323	47.07	34.33 , 59.67	38	10
3498	Fabricated pipe and fittings	109	59 , 159	36.19	19.67 , 52.67	39	5
3499	Fabricated metal products,**	221	149 , 293	36.25	24.67 , 48.00	47	17
3511	Turbines and turbine generator sets	38	17 , 59	16.63	7.33 , 26.00	84	88
3519	Internal combustion engines,**	306	216 , 396	50.59	35.67 , 65.33	49	20
3523	Farm machinery and equipment	180	124 , 236	24.36	16.67 , 32.00	39	10
3524	Lawn and garden equipment	111	74 , 148	43.70	29.33 , 58.33	36	9
3531	Construction machinery	254	159 , 349	28.23	17.67 , 38.67	36	10
3532	Mining machinery	33	13 , 53	19.75	8.00 , 31.67	19	2
3533	Oil and gas field machinery	81	30 , 132	18.52	6.67 , 30.33	56	25
3535	Conveyors and conveying equipment	80	45 , 115	18.91	10.67 , 27.00	35	6
3537	Industrial trucks and tractors	78	49 , 107	25.22	15.67 , 34.67	41	7
3541	Machine tools, metal cutting types	67	33 , 101	16.14	8.00 , 24.33	38	16
3544	Special dies, tools, jigs and fixtures	159	105 , 213	9.00	6.00 , 12.00	54	29
3545	Machine tool accessories	209	132 , 286	38.64	24.33 , 52.67	38	15
3546	Power driven handtools	60	40 , 80	27.70	18.33 , 37.00	52	22
3549	Metalworking machinery,**	32	13 , 51	26.87	11.00 , 42.67	68	36
3552	Textile machinery	7	1 , 14	4.99	0 , 10.00	13	10
3553	Woodworking machinery	9	1 , 18	8.58	0 , 17.33	45	9
3554	Paper industries machinery	81	50 , 112	34.66	21.33 , 48.00	6	5
3559	Special industry machinery,**	131	86 , 176	15.84	10.33 , 21.33	52	25
3561	Pumps and pumping equipment	82	44 , 120	26.19	14.00 , 38.33	54	25
3562	Ball and roller bearings	66	45 , 87	16.43	11.00 , 21.67	35	12
3564	Blowers and fans	102	55 , 149	30.17	16.33 , 44.00	24	10

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3565	Packaging machinery	41	18 , 64	17.50	7.67 , 27.33	19	11
3566	Speed changers, drives, and gears	55	23 , 87	31.65	13.33 , 50.00	11	3
3567	Industrial furnaces and ovens	66	27 , 105	35.64	14.33 , 57.00	50	25
3568	Power transmission equipment,**	127	84 , 170	60.28	40.00 , 80.67	67	33
3569	General industrial machinery,**	80	44 , 116	16.56	9.00 , 24.00	63	21
3571	Electronic computers	140	94 , 186	7.37	5.00 , 9.67	34	9
3572	Computer storage devices	45	17 , 73	10.37	4.00 , 16.67	46	9
3577	Computer peripheral equipment,**	80	50 , 110	11.60	7.33 , 16.00	51	25
3579	Office machines,**	45	25 , 65	17.32	9.67 , 25.00	29	10
3581	Automatic vending machines	55	35 , 75	71.00	45.00 , 97.00	33	6
3582	Commercial laundry equipment	15	6 , 24	25.77	10.33 , 41.33	23	14
3585	Refrigeration and heating equipment	440	371 , 509	29.73	25.00 , 34.33	43	18
3586	Measuring and dispensing pumps	8	2 , 14	14.93	4.33 , 25.67	60	42
3589	Service industry machinery,**	131	78 , 184	30.93	18.33 , 43.67	26	9
3593	Fluid power cylinders and actuators	40	21 , 59	18.76	9.67 , 27.67	56	30
3594	Fluid power pumps and motors	71	38 , 104	26.12	13.67 , 38.33	50	21
3596	Scales and balances, except laboratory	18	8 , 28	30.92	13.67 , 48.00	7	1
3599	Industrial machinery,**	361	268 , 454	12.98	9.67 , 16.33	29	6
3612	Transformers, except electronic	140	98 , 182	34.41	24.00 , 44.67	46	15
3613	Switchgear and switchboard apparatus	110	34 , 186	26.54	8.00 , 45.00	37	14
3621	Motors and generators	365	280 , 450	49.33	37.67 , 61.00	47	14
3625	Relays and industrial controls	259	181 , 337	43.15	30.33 , 56.00	34	9
3629	Electrical industrial apparatus,**	15	1 , 31	15.41	0 , 31.33	27	6
3632	Household refrigerators and freezers	97	67 , 127	36.64	25.33 , 47.67	25	10
3633	Household laundry equipment	113	79 , 147	72.91	50.67 , 95.00	22	10
3634	Electric housewares and fans	86	34 , 138	31.46	12.67 , 50.33	24	15
3639	Household appliances,**	103	57 , 149	73.33	40.33 , 106.33	48	17
3641	Electric lamps	40	18 , 62	17.58	7.67 , 27.33	57	26
3643	Current carrying wiring devices	139	104 , 174	22.73	17.00 , 28.33	38	11
3644	Noncurrent carrying wiring devices	41	15 , 67	24.49	9.00 , 40.00	27	6
3645	Residential lighting fixtures	69	22 , 116	32.71	10.33 , 55.00	44	16
3646	Commercial lighting fixtures	94	53 , 135	38.67	21.67 , 55.67	51	23
3647	Vehicular lighting equipment	123	82 , 164	64.98	43.33 , 86.67	29	6
3651	Household audio and video equipment	141	97 , 185	27.29	18.67 , 35.67	36	8
3661	Telephone and telegraph apparatus	148	95 , 201	12.84	8.33 , 17.33	53	22
3663	Radio and TV communications equipment	229	184 , 274	17.92	14.33 , 21.33	43	15
3669	Communications equipment,**	25	8 , 42	8.76	3.00 , 14.67	34	10
3671	Electron tubes	154	97 , 211	66.46	42.00 , 91.00	27	5
3672	Printed circuit boards	160	110 , 210	12.18	8.33 , 16.00	28	6
3674	Semiconductors and related devices	339	246 , 432	13.08	9.33 , 16.67	28	11
3675	Electronic capacitors	32	19 , 45	15.42	9.00 , 21.67	48	18
3676	Electronic resistors	13	1 , 26	12.93	0 , 25.67	0	3
3677	Electronic coils and transformers	73	31 , 115	39.69	16.67 , 62.67	61	31
3678	Electronic connectors	24	9 , 39	12.06	4.33 , 19.67	60	27
3679	Electronic components,**	433	294 , 572	31.71	21.33 , 42.00	30	8

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3691	Storage batteries	115	56 , 174	41.76	20.33 , 63.33	28	7
3692	Primary batteries, dry and wet	6	1 , 11	5.36	0.67 , 10.00	35	15
3694	Engine electrical equipment	336	251 , 421	49.28	37.00 , 61.67	37	7
3695	Magnetic and optical recording media	36	13 , 59	19.09	7.00 , 31.00	52	21
3699	Electrical equipment and supplies,**	158	91 , 225	54.00	31.00 , 77.00	57	35
3711	Motor vehicles and car bodies	3353	3054 , 3652	95.41	87.00 , 104.00	49	19
3713	Truck and bus bodies	201	132 , 270	51.36	33.67 , 69.00	40	13
3714	Motor vehicle parts and accessories	3335	2824 , 3846	59.87	50.67 , 69.00	38	11
3715	Truck trailers	73	38 , 108	22.35	11.67 , 33.33	22	3
3716	Motor homes	56	33 , 79	31.72	18.67 , 44.67	28	3
3721	Aircraft	617	481 , 753	24.58	19.00 , 30.00	37	13
3724	Aircraft engines and engine parts	167	113 , 221	17.24	11.67 , 22.67	56	29
3728	Aircraft parts and equipment,**	327	208 , 446	26.57	17.00 , 36.33	36	14
3731	Ship building and repairing	440	309 , 571	43.18	30.33 , 56.00	55	21
3732	Boat building and repairing	222	153 , 291	41.28	28.33 , 54.00	25	6
374	Railroad equipment	150	99 , 201	40.77	26.93 , 54.61	72	51
375	Motorcycles, bicycles, and parts	113	75 , 151	51.78	34.39 , 69.17	27	4
3761	Guided missiles and space vehicles	42	16 , 68	6.43	2.67 , 10.33	62	33
3792	Travel trailers and campers	54	38 , 70	26.52	18.33 , 34.67	28	6
3795	Tanks and tank components	17	6 , 28	24.18	8.33 , 40.00	59	23
3799	Transportation equipment,**	129	92 , 166	53.38	38.00 , 69.00	60	40
381	Search and navigation equipment	193	136 , 250	12.17	8.60 , 15.74	42	11
3821	Laboratory apparatus and furniture	28	13 , 43	28.24	13.00 , 43.67	21	7
3822	Environmental controls	139	106 , 172	33.31	25.33 , 41.33	42	16
3823	Process control instruments	136	47 , 225	21.58	7.33 , 35.67	32	10
3824	Fluid meters and counting devices	9	4 , 14	7.53	3.67 , 11.33	39	10
3825	Instruments to measure electricity	135	91 , 179	18.41	12.33 , 24.33	13	4
3826	Analytical instruments	54	34 , 74	17.88	11.33 , 24.33	41	15
3827	Optical instruments and lenses	29	17 , 41	13.31	8.00 , 18.67	61	25
3829	Measuring and controlling devices,**	46	14 , 78	11.39	3.67 , 19.33	32	5
3841	Surgical and medical instruments	204	160 , 248	19.68	15.33 , 24.00	31	10
3842	Surgical appliances and supplies	315	245 , 385	33.61	26.33 , 41.00	51	21
3843	Dental equipment and supplies	21	8 , 34	15.24	5.67 , 24.67	40	14
3844	X-ray apparatus and tubes	7	1 , 14	5.13	0.33 , 10.00	80	52
3845	Electromedical equipment	36	20 , 52	8.23	4.33 , 12.00	38	7
386	Photographic equipment and supplies	126	79 , 173	15.42	9.70 , 21.14	59	21
3911	Jewelry, precious metal	52	16 , 88	15.13	4.67 , 25.67	61	48
393	Musical instruments	67	36 , 98	44.65	23.85 , 65.45	42	16
3949	Sporting and athletic goods,**	241	189 , 293	32.92	25.67 , 40.00	44	10
3951	Pens and mechanical pencils	26	18 , 34	29.01	20.33 , 37.67	28	10
3952	Lead pencils and art goods	20	10 , 30	28.88	14.33 , 43.33	30	15
3955	Carbon paper and inked ribbons	23	9 , 37	38.15	14.33 , 62.00	60	35
3965	Fasteners, buttons, needles, and pins	8	1 , 16	7.35	0 , 14.67	59	24
3991	Brooms and brushes	42	21 , 63	30.07	15.33 , 45.00	33	14
3993	Signs and advertising specialties	137	88 , 186	21.00	13.67 , 28.33	44	8

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3995	Burial caskets	15	5 , 25	16.53	5.00 , 28.00	53	32
3996	Hard surface floor coverings,**	13	9 , 17	18.30	12.67 , 24.00	22	9
3999	Manufacturing industries,**	149	94 , 204	27.71	17.33 , 38.00	24	8
	Transportation, Communications, Electric, Gas, and Sanitary Services						
411	Local and suburban transportation	630	492 , 768	37.57	29.34 , 45.80	26	5
412	Taxicabs	26	8 , 44	9.63	3.06 , 16.20	30	5
413	Intercity and rural bus transportation	55	21 , 89	29.44	11.41 , 47.47	21	7
414	Bus charter service	18	4 , 32	7.10	1.51 , 12.69	66	108
415	School buses	269	208 , 330	36.12	27.99 , 44.25	72	30
421	Trucking and courier services, except air	4431	3548 , 5314	29.50	23.62 , 35.38	26	5
422	Public warehousing and storage	424	310 , 538	29.83	21.84 , 37.82	36	8
448	Water transportation of passengers	6	1 , 13	4.10	0 , 8.90	21	4
449	Water transportation services	231	170 , 292	22.99	16.91 , 29.07	69	37
451	Air transportation, scheduled	7363	6579 , 8147	92.28	82.46 , 102.10	34	10
452	Air transportation, nonscheduled	35	14 , 56	9.20	3.70 , 14.70	41	5
458	Airports, flying fields, and services	173	118 , 228	17.66	12.06 , 23.26	17	6
472	Passenger transportation arrangement	37	12 , 62	1.93	0.65 , 3.21	63	44
473	Freight transportation arrangement	167	123 , 211	10.75	7.92 , 13.58	24	9
478	Misc. transportation services	90	55 , 125	23.24	14.26 , 32.22	46	14
481	Telephone communications	1364	1149 , 1579	15.31	12.89 , 17.73	39	16
483	Radio and television broadcasting	40	14 , 66	1.86	0.64 , 3.08	37	12
484	Cable and other pay television services	218	159 , 277	13.29	9.69 , 16.89	21	4
491	Electric services	204	138 , 270	5.37	3.64 , 7.10	27	10
492	Gas production and distribution	166	122 , 210	11.28	8.31 , 14.25	32	11
493	Combination utility services	195	150 , 240	12.19	9.37 , 15.01	40	11
494	Water supply	70	36 , 104	29.23	15.00 , 43.46	21	10
495	Sanitary services	349	255 , 443	20.86	15.25 , 26.47	13	5
	Wholesale Trade						
501	Motor vehicles, parts, and supplies	424	290 , 558	8.79	6.02 , 11.56	21	6
502	Furniture and home furnishings	169	81 , 257	11.38	5.47 , 17.29	28	4
503	Lumber and construction materials	607	369 , 845	24.77	15.04 , 34.50	33	4
504	Professional and commercial equipment	901	585 , 1217	11.45	7.44 , 15.46	24	2
505	Metals and minerals, except petroleum	273	161 , 385	18.72	11.03 , 26.41	38	10
506	Electrical goods	368	228 , 508	7.20	4.46 , 9.94	30	15
507	Hardware, plumbing and heating equipment	1064	659 , 1469	37.44	23.19 , 51.69	22	3
508	Machinery, equipment, and supplies	676	455 , 897	8.62	5.81 , 11.43	22	17
509	Misc. durable goods	689	399 , 979	21.98	12.72 , 31.24	22	4
511	Paper and paper products	262	174 , 350	11.03	7.32 , 14.74	47	15
512	Drugs, proprietaries, and sundries	214	139 , 289	11.31	7.33 , 15.29	33	5
513	Apparel, piece goods, and notions	191	117 , 265	9.50	5.80 , 13.20	52	22
514	Groceries and related products	2315	1907 , 2723	27.01	22.25 , 31.77	22	9
516	Chemicals and allied products	208	72 , 344	13.92	4.81 , 23.03	44	11
517	Petroleum and petroleum products	358	139 , 577	23.81	9.28 , 38.34	9	3
518	Beer, wine, and distilled beverages	570	419 , 721	37.13	27.31 , 46.95	28	6

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
519	Misc. nondurable goods	504	346 , 662	10.18	6.99 , 13.37	31	5
	Retail Trade						
521	Lumber and other building materials	696	509 , 883	13.97	10.22 , 17.72	10	5
523	Paint, glass, and wallpaper stores	97	37 , 157	16.66	6.36 , 26.96	70	60
525	Hardware stores	112	68 , 156	8.30	5.01 , 11.59	20	1
526	Retail nurseries and garden stores	86	39 , 133	11.32	5.09 , 17.55	54	27
531	Department stores	4021	3534 , 4508	22.87	20.10 , 25.64	30	7
533	Variety stores	186	82 , 290	18.32	8.03 , 28.61	44	10
539	Misc. general merchandise stores	250	175 , 325	16.83	11.80 , 21.86	25	5
541	Grocery stores	6626	5686 , 7566	30.38	26.07 , 34.69	37	11
546	Retail bakeries	160	81 , 239	10.85	5.50 , 16.20	53	21
549	Misc. food stores	34	11 , 57	5.95	1.93 , 9.97	64	30
551	New and used car dealers	840	630 , 1050	8.16	6.12 , 10.20	33	5
553	Auto and home supply stores	446	294 , 598	12.26	8.09 , 16.43	39	9
554	Gasoline service stations	731	457 , 1005	12.93	8.08 , 17.78	50	20
562	Women's clothing stores	76	43 , 109	3.90	2.23 , 5.57	47	20
565	Family clothing stores	265	208 , 322	10.96	8.60 , 13.32	18	5
566	Shoe stores	120	53 , 187	8.39	3.69 , 13.09	7	1
571	Furniture and home furnishings stores	1096	841 , 1351	25.05	19.23 , 30.87	32	16
572	Household appliance store	206	117 , 295	30.67	17.49 , 43.85	3	1
573	Radio, television, and computer stores	109	67 , 151	3.22	1.98 , 4.46	36	15
591	Drug stores and proprietary stores	341	254 , 428	7.83	5.84 , 9.82	53	24
593	Used merchandise stores	64	23 , 105	7.27	2.63 , 11.91	17	8
594	Misc. shopping goods stores	639	491 , 787	9.25	7.10 , 11.40	24	5
596	Nonstore retailers	754	471 , 1037	26.37	16.46 , 36.28	34	7
598	Fuel dealers	102	42 , 162	10.67	4.39 , 16.95	52	22
599	Retail stores,**	484	254 , 714	12.41	6.52 , 18.30	40	14
	Finance, Insurance, and Real Estate						
601	Central reserve depositories	46	29 , 63	18.53	11.52 , 25.54	27	9
602	Commercial banks	1017	827 , 1207	7.66	6.23 , 9.09	49	20
603	Savings institutions	39	13 , 65	1.58	0.53 , 2.63	50	30
606	Credit unions	172	90 , 254	11.51	6.01 , 17.01	18	11
615	Business credit institutions	64	24 , 104	6.46	2.41 , 10.51	40	9
616	Mortgage bankers and brokers	110	57 , 163	5.09	2.64 , 7.54	63	32
621	Security brokers and dealers	86	24 , 148	2.19	0.62 , 3.76	32	11
623	Security and commodity exchanges	34	13 , 55	39.94	15.45 , 64.43	40	16
628	Security and commodity services	17	2 , 32	1.68	0.20 , 3.16	37	15
631	Life insurance	274	193 , 355	7.53	5.31 , 9.75	55	26
632	Medical service and health insurance	786	553 , 1019	26.07	18.33 , 33.81	36	7
633	Fire, marine, and casualty insurance	429	315 , 543	8.61	6.32 , 10.90	42	13
651	Real estate operators and lessors	551	404 , 698	11.77	8.63 , 14.91	12	3
653	Real estate agents and managers	402	296 , 508	7.17	5.29 , 9.05	16	9
655	Subdividers and developers	92	43 , 141	9.85	4.59 , 15.11	23	4
672	Investment offices	15	7 , 23	8.01	3.61 , 12.41	50	17

Table 18. Number of cases, rate and days away from work for musculoskeletal disorders of upper extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
Services							
701	Hotels and motels	1966	1608 , 2324	14.76	12.08 , 17.44	25	5
721	Laundry, cleaning, and garment services	806	587 , 1025	21.74	15.84 , 27.64	35	6
723	Beauty shops	188	88 , 288	6.22	2.90 , 9.54	53	27
726	Funeral service and crematories	97	25 , 169	12.34	3.22 , 21.46	97	60
729	Misc. personal services	33	9 , 57	3.60	0.99 , 6.21	68	24
732	Credit reporting and collection	132	51 , 213	11.63	4.50 , 18.76	93	48
733	Mailing, reproduction, stenographic	285	171 , 399	10.47	6.29 , 14.65	17	2
734	Services to buildings	1377	1013 , 1741	21.06	15.50 , 26.62	39	4
736	Personnel supply services	880	423 , 1337	12.95	6.22 , 19.68	15	10
737	Computer and data processing services	385	260 , 510	3.32	2.24 , 4.40	41	18
738	Misc. business services	678	496 , 860	4.98	3.64 , 6.32	46	19
751	Automotive rentals, no drivers	111	57 , 165	6.23	3.21 , 9.25	19	3
753	Automotive repair shops	334	125 , 543	5.83	2.19 , 9.47	46	10
769	Misc. repair shops	378	236 , 520	17.27	10.76 , 23.78	35	5
782	Motion picture distribution and service	10	1 , 21	4.23	0 , 9.05	27	3
792	Producers, orchestras, entertainers	80	24 , 136	7.08	2.09 , 12.07	12	4
794	Commercial sports	273	172 , 374	36.84	23.20 , 50.48	36	17
799	Misc. amusement, recreation services	578	381 , 775	7.78	5.13 , 10.43	25	7
801	Offices and clinics of medical doctors	965	539 , 1391	6.90	3.85 , 9.95	19	19
805	Nursing and personal care facilities	7477	6353 , 8601	54.61	46.40 , 62.82	19	4
806	Hospitals	9117	8749 , 9485	30.39	29.16 , 31.62	31	9
807	Medical and dental laboratories	153	77 , 229	8.65	4.37 , 12.93	39	10
808	Home health care services	1288	1042 , 1534	26.97	21.83 , 32.11	42	12
809	Health and allied services,**	784	478 , 1090	29.44	17.95 , 40.93	64	50
821	Elementary and secondary schools	158	95 , 221	5.08	3.04 , 7.12	68	45
822	Colleges and universities	445	370 , 520	7.44	6.19 , 8.69	37	10
832	Individual and family services	329	222 , 436	6.34	4.28 , 8.40	27	6
833	Job training and related services	191	90 , 292	9.99	4.69 , 15.29	26	10
835	Child day care services	217	93 , 341	5.15	2.20 , 8.10	25	9
836	Residential care	1096	777 , 1415	20.14	14.28 , 26.00	11	5
839	Social services,**	70	31 , 109	4.32	1.91 , 6.73	39	14
841	Museums and art galleries	13	2 , 24	2.63	0.39 , 4.87	13	5
864	Civic and social associations	144	72 , 216	4.81	2.41 , 7.21	14	10
866	Religious organizations	216	73 , 359	26.27	8.88 , 43.66	6	6
869	Membership organizations,**	172	89 , 255	30.03	15.52 , 44.54	92	63
871	Engineering and architectural services	246	148 , 344	3.02	1.82 , 4.22	45	16
872	Accounting, auditing, and bookkeeping	167	37 , 297	3.17	0.71 , 5.63	27	12
873	Research and testing services	311	234 , 388	5.98	4.50 , 7.46	35	10
874	Management and public relations	720	502 , 938	8.85	6.17 , 11.53	77	175

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Indicates no relative standard error available.

**Not elsewhere classified.

Table 19. Top 10 manufacturing and nonmanufacturing industries for musculoskeletal disorders of the upper extremities, 1996

SIC code	Industry	Rate per 10,000 workers	Total* cases	Median days away from work
Manufacturing				
3711	Motor vehicles and car bodies	95.4	3,353	19
2499	Wood products,**	87.6	469	36
2013	Sausages and other prepared meats	72.0	691	11
3465	Automotive stampings	69.9	834	20
3714	Motor vehicle parts and accessories	59.9	3,335	11
2431	Millwork	55.3	604	10
3321	Gray and ductile iron foundries	55.2	483	9
2011	Meat packing plants	51.1	809	6
2086	Bottled and canned soft drinks	50.4	467	7
3089	Plastics products,**	46.1	2,091	11
Nonmanufacturing				
451	Air transportation, scheduled	92.3	7,363	10
805	Nursing and personal care facilities	54.6	7,477	4
411	Local and suburban transportation	37.6	630	5
507	Hardware, plumbing and heating equipment	37.4	1,064	3
518	Beer, wine, and distilled beverages	37.1	570	6
174	Masonry, stonework, and plastering	31.2	1,160	7
806	Hospitals	30.4	9,117	9
541	Grocery stores	30.4	6,626	11
422	Public warehousing and storage	29.8	424	8
421	Trucking and courier services, except air	29.5	4,431	5

Source: Bureau of Labor Statistics, U.S. Department of Labor

*N>400

**Not elsewhere classified.

Table 20. Top industries with bodily motion as the source of musculoskeletal disorders of the upper extremities, 1996

SIC code	Industry	Rate	Total cases
2326	Men's and boys' work clothing	75.2	229
231	Men's and boys' suits and coats	68.9	202
3711	Motor vehicles and car bodies	65.1	228
253	Public building and related furniture	53.1	227
2092	Fresh and frozen prepared fish	49.9	203
3465	Automotive stampings	46.1	550
2013	Sausage and other prepared meats	45.4	435
2325	Men's and boys' trousers and slacks	43.5	298
2011	Meat packing plants	41.6	223
2499	Wood products,*	41.6	223
3714	Motor vehicle parts and accessories	37.1	2068
3694	Engine electrical equipment	35.9	245
2015	Poultry, slaughtering and processing	35.1	841
3621	Motors and generators	33.4	247

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
	All private industry	156,100	153,102 , 159,098	35.2	10
	Executive, Administrative, and Managerial Occupations				
007	Financial managers	176	116 , 236	74	72
009	Purchasing managers	82	41 , 123	0	2
013	Managers, marketing, advertising, public relations	55	21 , 89	19	10
015	Managers, medicine and health	67	30 , 104	8	4
018	Managers, properties, real estate	148	93 , 203	3	1
019	Funeral directors	94	50 , 138	100	60
022	Managers and administrators,*	793	665 , 921	37	11
023	Accountants and auditors	144	89 , 199	47	16
025	Other financial officers	175	115 , 235	26	7
027	Personnel, training, labor relations	43	13 , 73	38	8
029	Buyers, wholesale, retail, except farm products	159	102 , 216	32	15
033	Purchasing agents and buyers,*	108	61 , 155	24	14
035	Construction inspectors	49	17 , 81	0	15
037	Management related,*	389	299 , 479	41	12
	Professional Specialty Occupations				
055	Engineers, electrical, electronic	46	15 , 77	8	5
056	Engineers, industrial	18	1 , 37	16	9
059	Engineers,*	56	22 , 90	2	16
064	Computer systems analysts	132	80 , 184	56	21
065	Operations and systems researchers, analysts	49	17 , 81	38	18
095	Registered nurses	1846	1649 , 2043	36	10
096	Pharmacists	67	30 , 104	91	35
098	Respiratory therapists	44	14 , 74	57	35
103	Physical therapists	17	1 , 36	12	3
106	Physician's assistants	16	1 , 34	14	3
155	Teachers, prekindergarten, kindergarten	17	1 , 36	0	2
159	Teachers, except postsecondary,*	98	53 , 143	4	2
163	Counselors, educational, vocational	58	23 , 93	5	3
174	Social workers	50	18 , 82	8	2
178	Lawyers	75	36 , 114	3	5
184	Technical writers	58	24 , 92	0	19
185	Designers	184	122 , 246	26	14
188	Painters, sculptors, craft-artists, printmakers	39	11 , 67	50	27
194	Artists, performers	59	24 , 94	0	1
199	Athletes	228	159 , 297	39	19
	Technicians and Related Support Occupations				
203	Clinical laboratory technologists	360	274 , 446	52	22
204	Dental hygienists	331	248 , 414	59	22
205	Health record technologists	204	139 , 269	18	11
206	Radiologic technicians	242	171 , 313	21	3
207	Licensed practical nurses	873	738 , 1008	12	4
208	Health technologists,*	884	748 , 1020	27	7
213	Electrical, electronic technicians	174	114 , 234	33	10
216	Engineering technicians,*	85	43 , 127	35	15

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
217	Drafting	69	31 , 107	10	1
223	Biological technicians	68	30 , 106	51	26
224	Chemical technicians	37	10 , 64	55	34
225	Science technicians,*	83	41 , 125	71	92
226	Airplane pilots and navigators	52	19 , 85	8	10
229	Computer programmers	98	53 , 143	5	4
235	Technicians,*	1196	1038 , 1354	47	16
Sales Occupations					
243	Supervisors and proprietors, sales occupations	1494	1317 , 1671	22	7
253	Insurance sales occupations	63	27 , 99	38	10
255	Securities and financial services sales occupations	20	1 , 40	93	166
257	Sales occupations, other business services	142	88 , 196	18	5
259	Sales occupations, mining, manufacturing, wholesale	208	142 , 274	44	11
263	Sales workers, motor vehicles and boats	93	49 , 137	56	28
264	Sales workers, apparel	176	116 , 236	15	3
267	Sales workers, appliances	125	74 , 176	0	1
268	Sales workers, hardware and building supplies	157	100 , 214	8	5
274	Sales workers, other commodities	1580	1398 , 1762	30	7
275	Sales counter clerks	235	165 , 305	48	12
276	Cashiers	3634	3355 , 3913	26	7
Administrative Support Occupations, Including Clerical					
303	Supervisors, general office	45	15 , 75	68	40
305	Supervisors, financial records processing	16	1 , 34	55	25
307	Supervisors, clerks, distribution and adjusting	74	35 , 113	43	18
308	Computer operators	118	69 , 167	19	7
313	Secretaries	1898	1698 , 2098	41	10
314	Stenographers	51	19 , 83	23	3
315	Typists	766	640 , 892	35	19
316	Interviewers	442	346 , 538	5	1
318	Ticket agents, transportation	1073	923 , 1223	25	8
319	Receptionists	348	263 , 433	47	15
323	Information clerks,*	54	21 , 87	24	4
326	Correspondence clerks	39	11 , 67	43	19
327	Order clerks	559	451 , 667	43	17
328	Personnel clerks, except payroll	59	24 , 94	66	22
335	File clerks	128	76 , 180	31	9
336	Records clerks	236	166 , 306	21	3
337	Bookkeepers, accounting, auditing	992	848 , 1136	37	15
338	Payroll and timekeeping clerks	142	88 , 196	22	15
339	Billing clerks	412	320 , 504	85	115
343	Cost and rate clerks	48	16 , 80	90	31
344	Billing, posting, calculating machine operators	617	504 , 730	22	10
346	Mail, paper handling machine operators	78	38 , 118	33	5
347	Office machine operators,*	71	33 , 109	21	9
348	Telephone operators	262	188 , 336	51	21
356	Mail clerks, except postal service	312	232 , 392	45	19

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
357	Messengers	63	27 , 99	49	20
359	Dispatchers	105	58 , 152	59	27
363	Production coordinators	203	138 , 268	30	13
364	Shipping and receiving clerks	1726	1536 , 1916	30	7
365	Stock and inventory clerks	1038	891 , 1185	28	7
366	Meter readers	17	1 , 36	71	111
368	Weighers and checkers	189	127 , 251	35	14
373	Expeditors	318	237 , 399	43	12
374	Recording and distributing clerks,*	69	31 , 107	39	13
375	Insurance investigators, adjusters	594	483 , 705	52	25
376	Investigators, adjusters, except insurance	544	438 , 650	40	13
378	Bill and account collectors	97	52 , 142	76	60
379	General office clerks	1323	1157 , 1489	36	14
383	Bank tellers	307	227 , 387	31	11
385	Data-entry keyers	978	835 , 1121	48	20
386	Statistical clerks	39	10 , 68	62	28
389	Administrative support,*	655	538 , 772	54	21
Protective Service Occupations					
426	Guards and police, except public	311	231 , 391	13	4
Service Occupations, Except Protective and Household					
433	Supervisors, food preparation, service	120	70 , 170	32	12
434	Bartenders	81	40 , 122	2	6
435	Waiters and waitresses	786	658 , 914	72	22
436	Cooks	1495	1318 , 1672	51	26
438	Food counter, fountain workers	158	101 , 215	7	1
439	Kitchen workers	906	769 , 1043	38	6
443	Waiters', waitresses' assistants	276	200 , 352	19	16
444	Misc. food preparation	982	839 , 1125	19	6
445	Dental assistants	131	79 , 183	6	1
446	Health aides, except nursing	743	619 , 867	27	7
447	Nursing aides, orderlies	10550	10056 , 11044	26	5
448	Supervisors, cleaning, building service workers	125	74 , 176	23	7
449	Maids and housemen	1983	1779 , 2187	29	8
453	Janitors and cleaners	2700	2460 , 2940	36	9
457	Barbers	80	39 , 121	100	40
458	Hairdressers and cosmetologists	199	135 , 263	67	48
459	Attendants, amusement, recreation	261	188 , 334	28	3
461	Guides	55	21 , 89	24	8
463	Attendants, public transportation	687	568 , 806	29	12
464	Baggage porters and bellhops	134	81 , 187	8	20
465	Welfare service aides	40	11 , 69	13	4
467	Early childhood teachers' assistants	165	107 , 223	54	45
468	Child care workers,*	156	99 , 213	2	2
469	Personal service,*	176	116 , 236	40	15

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
Farming, Forestry, and Fishing Occupations					
475	Managers, farms, except horticultural	18	1 , 37	0	15
477	Supervisors, farm workers	16	1 , 34	0	5
479	Farm workers	251	179 , 323	7	5
484	Nursery workers	219	152 , 286	34	20
485	Supervisors, related agricultural	62	26 , 98	22	10
486	Groundskeepers and gardeners, except farm	624	510 , 738	31	5
487	Animal caretakers, except farm	75	36 , 114	66	43
488	Graders and sorters, farm products	81	40 , 122	18	4
496	Timber cutting, logging	121	71 , 171	78	25
Precision Production, Craft, and Repair Occupations					
503	Supervisors, mechanics, repairers	79	39 , 119	14	2
505	Mechanics, automobile	693	573 , 813	46	13
507	Mechanics, bus, truck, stationary engine	587	477 , 697	29	5
508	Mechanics, aircraft engine	124	73 , 175	32	8
514	Repairers, automobile body	498	396 , 600	55	25
515	Mechanics, aircraft, except engine	71	33 , 109	19	9
516	Mechanics, heavy equipment	91	48 , 134	56	25
517	Mechanics, farm equipment	77	37 , 117	53	101
518	Repairers, industrial machinery	540	434 , 646	35	10
519	Machinery maintenance	214	147 , 281	19	4
523	Repairers, electronic, communication equipment	234	164 , 304	28	15
526	Repairers, household appliances, power tools	44	14 , 74	17	9
527	Telephone line installers, repairers	105	58 , 152	38	10
529	Telephone installers, repairers	188	126 , 250	31	5
533	Repairers, misc. electrical, electronic	83	42 , 124	56	44
534	Mechanics, heating, air conditioning	255	182 , 328	34	5
535	Repairers, camera, watch, musical instruments	42	13 , 71	100	56
543	Elevator installers, repairers	15	1 , 32	87	94
544	Millwrights	147	92 , 202	60	27
547	Specified mechanics, repairers,*	491	390 , 592	38	7
549	Mechanics, repairers, not specified	860	726 , 994	30	7
558	Supervisors,*	153	97 , 209	22	5
563	Brickmasons and stonemasons	452	355 , 549	55	30
564	Apprentices, brickmason, stonemason	16	1 , 34	26	6
566	Carpet installers	72	34 , 110	29	20
567	Carpenters	1193	1035 , 1351	36	10
569	Apprentices, carpenter	43	13 , 73	11	3
573	Drywall installers	218	151 , 285	37	6
575	Electricians	620	507 , 733	54	30
576	Apprentices, electrician	270	195 , 345	86	30
577	Electrical power installers, repairers	116	67 , 165	48	15
579	Painters	385	296 , 474	36	4
584	Plasterers	60	25 , 95	36	7
585	Plumbers and pipefitters	1165	1009 , 1321	62	26
587	Apprentices, plumber, pipefitter	78	38 , 118	21	1

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
588	Concrete and terrazzo finishers	67	30 , 104	4	5
589	Glaziers	97	52 , 142	72	60
593	Insulation workers	166	107 , 225	27	18
595	Roofers	198	134 , 262	40	10
596	Sheetmetal duct installers	268	194 , 342	38	17
597	Structural metal workers	164	106 , 222	50	21
599	Construction trades,*	167	108 , 226	41	10
615	Explosives workers	17	1 , 36	6	1
616	Operators, mining machines	16	1 , 34	69	40
617	Mining occupations,*	55	21 , 89	58	33
628	Supervisors, production workers	727	604 , 850	40	13
634	Tool and die makers	183	122 , 244	57	22
636	Assemblers, precision, metal	180	119 , 241	27	4
637	Machinists	744	620 , 868	43	14
643	Boilermakers	79	39 , 119	16	2
646	Lay-out workers	46	15 , 77	84	23
647	Precious stones and metals workers	43	13 , 73	64	115
653	Sheet metal workers	187	125 , 249	26	10
654	Apprentices, sheet metal workers	16	1 , 34	0	15
657	Cabinet makers, bench carpenters	82	41 , 123	54	27
658	Furniture and wood finishers	34	8 , 60	32	5
667	Tailors	34	8 , 60	63	101
668	Upholsterers	219	152 , 286	33	13
675	Hand molders, shapers, except jewelers	55	21 , 89	60	31
676	Patternmakers, lay-out workers, cutters	17	1 , 36	37	5
678	Dental, medical appliance technicians	80	39 , 121	48	20
679	Bookbinders	36	9 , 63	29	7
683	Assemblers, electrical, electronic	1904	1704 , 2104	39	12
684	Misc. precision workers,*	149	93 , 205	34	10
686	Butchers and meat cutters	1240	1079 , 1401	31	9
687	Bakers	292	214 , 370	44	15
688	Food batchmakers	175	115 , 235	47	20
689	Inspectors, testers, graders	164	106 , 222	50	21
695	Operators, power plants	16	1 , 34	19	7
696	Stationary engineers	84	42 , 126	53	27
	Machine Operators, Assemblers, and Inspectors				
703	Set-up operators, lathes and turning machines	84	42 , 126	52	23
704	Lathes and turning machine operators	156	99 , 213	52	23
706	Punching and stamping machine operators	809	679 , 939	35	8
707	Rolling machine operators	87	45 , 129	17	5
708	Drilling and boring machine operators	72	33 , 111	49	17
709	Grinding and polishing machine operators	828	697 , 959	40	11
713	Forging machine operators	70	32 , 108	35	12
714	Numerical control machine operators	45	14 , 76	52	26
715	Misc. metal, plastic, stone, glass working machine operators	110	62 , 158	20	5
717	Fabricating machine operators,*	154	98 , 210	24	8

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
719	Molding and casting machine operators	602	490 , 714	24	9
723	Metal plating machine operators	138	85 , 191	45	13
725	Misc. metal, plastic processing machine operators	74	35 , 113	29	12
726	Wood lathe, routing, planing machine operators	17	1 , 36	61	23
727	Sawing machine operators	544	438 , 650	30	10
729	Nailing, tacking machine operators	68	31 , 105	67	26
733	Misc. woodworking machine operators	237	167 , 307	40	10
734	Printing press operators	517	413 , 621	44	15
736	Typesetters and compositors	62	26 , 98	29	5
737	Misc. printing machine operators	296	218 , 374	33	8
738	Winding, twisting machine operators	169	110 , 228	56	28
739	Knitting, looping, weaving machine operators	71	33 , 109	30	3
743	Textile cutting machine operators	35	8 , 62	6	3
744	Textile sewing machine operators	2549	2316 , 2782	40	14
745	Shoe machine operators	151	95 , 207	48	20
747	Pressing machine operators	208	142 , 274	53	25
748	Laundry, dry cleaning machine operators	717	595 , 839	16	5
749	Misc. textile machine operators	360	274 , 446	24	9
753	Cementing, gluing machine operators	146	91 , 201	40	10
754	Packaging, filling machine operators	2045	1837 , 2253	36	10
755	Extruding and forming machine operators	293	215 , 371	31	9
756	Mixing and blending machine operators	451	354 , 548	39	12
757	Separating, filtering, clarifying machine operators	157	100 , 214	42	16
758	Compressing, compacting machine operators	202	137 , 267	40	15
759	Painting and paint spraying machine operators	525	421 , 629	39	10
764	Washing, cleaning, pickling machine operators	82	41 , 123	32	10
765	Folding machine operators	155	98 , 212	29	6
766	Furnace, kiln, and oven operators, except food	277	201 , 353	32	20
768	Crushing and grinding machine operators	198	134 , 262	61	36
769	Slicing and cutting machine operators	685	566 , 804	47	18
774	Photographic process machine operators	136	83 , 189	14	3
777	Misc. machine operators,*	7950	7528 , 8372	38	12
779	Machine operators, not specified	2664	2426 , 2902	32	11
783	Welders and cutters	2118	1907 , 2329	40	10
784	Solderers and brazers	83	42 , 124	50	18
785	Assemblers	8825	8377 , 9273	44	16
786	Hand cutting and trimming occupations	154	98 , 210	39	10
787	Hand molding, casting, forming occupations	200	136 , 264	41	14
789	Hand painting, coating, decorating occupations	309	229 , 389	5	3
793	Hand engraving, printing occupations	42	12 , 72	55	59
795	Misc. hand working occupations	350	265 , 435	42	15
796	Production inspectors	1193	1035 , 1351	44	15
797	Production testers	106	59 , 153	62	44
799	Graders, sorters, except farm	752	627 , 877	23	9

Table 21. Number of cases, days away from work for musculoskeletal disorders of the upper extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
Transportation and Material Moving Occupations					
803	Supervisors, motor vehicle operators	53	20 , 86	0	4
804	Truck drivers	8372	7937 , 8807	30	7
806	Driver-sales workers	1147	992 , 1302	24	6
808	Bus drivers	571	462 , 680	68	30
809	Taxicab drivers and chauffeurs	145	90 , 200	10	7
813	Parking lot attendants	51	19 , 83	76	100
823	Railroad conductors and yardmasters	61	26 , 96	44	17
825	Railroad brake, signal, switch operators	50	18 , 82	70	54
829	Sailors and deckhands	46	15 , 77	18	8
844	Operating engineers	179	118 , 240	17	15
848	Hoist and winch operators	68	30 , 106	84	37
849	Crane and tower operators	36	9 , 63	49	10
853	Excavating and loading machine operators	134	81 , 187	10	3
856	Industrial truck operators	671	553 , 789	44	13
859	Misc. moving equipment operators	295	217 , 373	38	10
Handlers, Equipment Cleaners, Helpers, and Laborers					
864	Supervisors, handlers, cleaners, and laborers	130	78 , 182	4	16
866	Helpers, construction trades	369	282 , 456	22	3
869	Construction laborers	2229	2012 , 2446	30	7
874	Helpers, production	609	497 , 721	41	11
875	Garbage collectors	374	286 , 462	3	4
876	Stevedores	85	43 , 127	84	92
877	Stock handlers and baggers	2470	2241 , 2699	24	6
878	Machine feeders and offbearers	680	561 , 799	34	10
883	Freight, stock, material handlers,*	5845	5486 , 6204	28	7
885	Garages, service stations	436	341 , 531	31	9
887	Vehicle washers and cleaners	360	274 , 446	37	11
888	Hand packers and packagers	1664	1477 , 1851	57	40
889	Laborers, nonconstruction	9114	8658 , 9570	34	8
Non-classifiable					
999	Non-classifiable	697	577 , 817	27	8

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 22. Top 20 occupations with musculoskeletal disorders of the upper extremities

BOC* code	Occupation	Total cases	Median days away from work
447	Nursing aides, orderlies	10,550	5
889	Laborers, nonconstruction	9,114	8
785	Assemblers	8,825	16
804	Truck drivers	8,372	7
777	Misc. machine operators,**	7,950	12
883	Freight, stock, material handlers,**	5,845	7
276	Cashiers	3,634	7
453	Janitors and cleaners	2,700	9
779	Machine operators, not specified	2,664	11
744	Textile sewing machine operators	2,549	14
877	Stock handlers and baggers	2,470	6
869	Construction laborers	2,229	7
783	Welders and cutters	2,118	10
754	Packaging, filling machine operators	2,045	10
449	Maids and housemen	1,983	8
683	Assemblers, electrical, electronic	1,904	12
313	Secretaries	1,898	10
095	Registered nurses	1,846	10
364	Shipping and receiving clerks	1,726	7
888	Hand packers and packagers	1,664	40

Source: Bureau of Labor Statistics, U.S. Department of Labor

*BOC—Bureau of Census

**Not elsewhere classified.

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996

SIC code	Industry	Rate per 10,000 workers	Total cases
Industry divisions			
01–09	Agriculture, forestry, and fishing	1.4	184
10–14	Mining	0.6	39
15–17	Construction	2.7	1338
20–39	Manufacturing	6.7	12358
	Durable goods	7.1	7734
	Nondurable goods	6.1	4623
40–49	Transportation and public utilities	2.8	1618
50–59	Wholesale and retail trade	2.7	6024
50–51	Wholesale trade	2.2	1379
52–59	Retail trade	2.9	4645
60–67	Finance, insurance, and real estate	2.7	1641
70–89	Services	2.8	6735

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
	Industry		
	Agriculture, Forestry, and Fishing		
025	Poultry and eggs	3.0	12
075	Animal services, not veterinary	3.4	13
078	Landscape and horticultural services	3.4	118
	Mining		
131	Crude petroleum and natural gas	1.1	16
	Construction		
152	Residential building construction	3.5	198
154	Nonresidential building construction	1.9	106
161	Highway and street construction	1.0	22
171	Plumbing, heating, air-conditioning	2.8	202
173	Electrical work	5.1	302
174	Masonry, stonework, and plastering	4.2	154
176	Roofing, siding, and sheet metal work	4.1	77
179	Misc. special trade contractors	3.4	183
	Manufacturing		
2011	Meat packing plants	8.6	137
2013	Sausages and other prepared meats	10.7	102
2015	Poultry slaughtering and processing	14.8	356
2022	Cheese, natural and processed	19.7	77
2023	Dry, condensed, evaporated products	5.0	8
2026	Fluid milk	10.6	68
2033	Canned fruits and vegetables	2.4	17
2037	Frozen fruits and vegetables	8.7	40
2038	Frozen specialties,*	4.5	23
2041	Flour and other grain mill products	50.7	103
2043	Cereal breakfast foods	7.0	13
2048	Prepared feeds,*	12.1	51
2051	Bread, cake, and related products	8.4	121
2052	Cookies and crackers	10.5	51
2064	Candy and other confectionery products	7.6	38
2082	Malt beverages	2.3	8
2086	Bottled and canned soft drinks	4.0	37
2096	Potato chips and similar snacks	11.5	36
2099	Food preparations,*	3.3	23
2252	Hosiery,*	11.0	41
2253	Knit outerwear mills	1.8	9
2254	Knit underwear mills	5.1	9
227	Carpets and rugs	6.4	38
2281	Yarn spinning mills	7.5	49
2284	Thread mills	12.2	8
231	Men's and boys' suits and coats	31.7	93
2321	Men's and boys' shirts	15.1	64
2322	Men's and boys' underwear and nightwear	13.1	23
2325	Men's and boys' trousers and slacks	16.1	110

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
2326	Men's and boys' work clothing	24.7	75
2329	Men's and boys' clothing,*	10.0	42
2339	Women's and misses' outerwear,*	5.8	91
234	Women's and children's undergarments	4.1	15
2361	Girls' and children's dresses, blouses	27.4	38
2369	Girls' and children's outerwear,*	11.2	23
2386	Leather and sheep-lined clothing	36.0	6
2391	Curtains and draperies	13.4	25
2392	House furnishings,*	8.0	42
2396	Automotive and apparel trimmings	5.6	35
2397	Schiffli machine embroideries	25.1	8
2399	Fabricated textile products,*	8.9	26
2421	Sawmills and planing mills, general	5.2	73
2426	Hardwood dimension and flooring mills	4.7	16
2431	Millwork	10.4	114
2434	Wood kitchen cabinets	8.1	62
2435	Hardwood veneer and plywood	5.3	15
2439	Structural wood members,*	9.7	37
2451	Mobile homes	2.4	16
2499	Wood products,*	27.1	145
2511	Wood household furniture	7.3	90
2512	Upholstered household furniture	11.3	95
2514	Metal household furniture	9.8	21
2515	Mattresses and bedsprings	6.0	19
2521	Wood office furniture	21.4	62
2522	Office furniture, except wood	17.7	60
253	Public building and related furniture	14.3	61
2591	Drapery hardware and blinds and shades	3.6	8
2599	Furniture and fixtures,*	8.4	14
262	Paper mills	4.3	72
263	Paperboard mills	2.5	13
2653	Corrugated and solid fiber boxes	4.3	58
2655	Fiber cans, drums, and similar products	10.2	16
2657	Folding paperboard boxes	4.0	20
2671	Paper coated and laminated, packaging	10.2	23
2673	Bags: plastics, laminated, and coated	6.2	24
2674	Bags: uncoated paper and multiwall	9.4	17
2676	Sanitary paper products	2.5	8
2677	Envelopes	9.1	22
2679	Converted paper products,*	11.7	39
271	Newspapers	3.4	122
272	Periodicals	3.1	38
2731	Book publishing	3.6	28
2732	Book printing	11.4	44
274	Misc. publishing	4.0	30
2752	Commercial printing, lithographic	5.2	186

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
2754	Commercial printing, gravure	3.4	7
2759	Commercial printing,*	4.1	71
276	Manifold business forms	2.9	12
277	Greeting cards	14.2	35
2782	Blankbooks and looseleaf binders	14.0	50
2789	Bookbinding and related work	4.1	11
2791	Typesetting	5.2	9
2819	Industrial inorganic chemicals,*	0.8	6
2821	Plastics materials and resins	3.0	24
2834	Pharmaceutical preparations	1.7	35
2836	Biological products except diagnostic	6.0	9
2844	Toilet preparations	3.8	27
285	Paints and allied products	3.4	18
2869	Industrial organic chemicals,*	1.9	22
2899	Chemical preparations,*	4.7	20
291	Petroleum refining	0.9	10
301	Tires and inner tubes	12.6	100
3053	Gaskets, packing and sealing devices	4.4	18
3061	Mechanical rubber goods	13.3	66
3069	Fabricated rubber products,*	4.2	27
3081	Unsupported plastics film and sheet	4.3	29
3082	Unsupported plastics profile shapes	5.6	14
3089	Plastics products,*	11.0	500
3143	Men's footwear, except athletic	12.5	27
3144	Women's footwear, except athletic	26.5	36
3172	Personal leather goods,*	13.1	8
3221	Glass containers	8.9	25
3229	Pressed and blown glass,*	13.7	59
323	Products of purchased glass	10.3	64
3253	Ceramic wall and floor tile	14.6	13
3272	Concrete products,*	6.7	48
3296	Mineral wool	4.1	10
3312	Blast furnaces and steel mills	1.5	26
3315	Steel wire and related products	10.1	22
3321	Gray and ductile iron foundries	6.8	60
3324	Steel investment foundries	4.2	7
3325	Steel foundries,*	9.4	23
3351	Copper rolling and drawing	12.3	29
3354	Aluminum extruded products	7.9	26
3357	Nonferrous wiredrawing and insulating	6.0	44
3363	Aluminum die—castings	16.4	64
3365	Aluminum foundries	41.2	101
3399	Primary metal products,*	13.2	15
3411	Metal cans	3.1	11
3421	Cutlery	12.6	15
3423	Hand and edge tools,*	5.5	20

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
3429	Hardware,*	13.9	95
3431	Metal sanitary ware	41.8	57
3432	Plumbing fixture fittings and trim	5.9	14
3433	Heating equipment, except electric	7.3	15
3441	Fabricated structural metal	5.3	41
3442	Metal doors, sash, and trim	2.6	20
3443	Fabricated plate work (boiler shops)	3.2	33
3444	Sheet metalwork	5.3	60
3446	Architectural metal work	23.0	69
3452	Bolts, nuts, rivets, and washers	5.2	26
3462	Iron and steel forgings	17.4	56
3465	Automotive stampings	21.2	252
3469	Metal stampings,*	4.4	41
3471	Plating and polishing	3.3	27
3483	Ammunition, except for small arms,*	9.6	23
3484	Small arms	4.9	5
3491	Industrial valves	3.0	8
3492	Fluid power valves and hose fittings	9.3	32
3496	Misc. fabricated wire products	10.2	55
3498	Fabricated pipe and fittings	12.0	36
3499	Fabricated metal products,*	7.7	47
3519	Internal combustion engines,*	12.6	76
3523	Farm machinery and equipment	5.9	44
3524	Lawn and garden equipment	10.8	27
3531	Construction machinery	8.1	73
3535	Conveyors and conveying equipment	2.7	12
3537	Industrial trucks and tractors	5.4	17
3541	Machine tools, metal cutting types	6.2	26
3544	Special dies, tools, jigs and fixtures	2.5	44
3545	Machine tool accessories	10.8	58
3546	Power-driven handtools	9.6	21
3549	Metalworking machinery,*	8.0	9
3559	Special industry machinery,*	7.6	63
3561	Pumps and pumping equipment	6.4	20
3562	Ball and roller bearings	7.6	30
3564	Blowers and fans	14.8	50
3567	Industrial furnaces and ovens	7.8	14
3569	General industrial machinery,*	9.9	48
3571	Electronic computers	2.9	54
3572	Computer storage devices	2.5	11
3577	Computer peripheral equipment,*	4.7	32
3579	Office machines,*	3.8	10
3581	Automatic vending machines	8	6
3585	Refrigeration and heating equipment	6.4	95
3589	Service industry machinery,*	1.8	8
3593	Fluid power cylinders and actuators	3.5	8

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
3594	Fluid power pumps and motors	4.3	12
3596	Scales and balances, except laboratory	23.3	14
3599	Industrial machinery, *	2.7	75
3612	Transformers, except electronic	11	45
3621	Motors and generators	10.9	81
3625	Relays and industrial controls	4.4	27
3632	Household refrigerators and freezers	9.7	26
3633	Household laundry equipment	12.6	20
3639	Household appliances, *	22.1	31
3641	Electric lamps	6.9	16
3643	Current-carrying wiring devices	8.2	50
3644	Noncurrent-carrying wiring devices	5.6	9
3645	Residential lighting fixtures	9.1	19
3647	Vehicular lighting equipment	18.4	35
3651	Household audio and video equipment	7.7	40
3661	Telephone and telegraph apparatus	3.7	43
3663	Radio and TV communications equipment	4.8	62
3669	Communications equipment, *	3.6	10
3672	Printed circuit boards	2.4	31
3674	Semiconductors and related devices	2.4	61
3675	Electronic capacitors	4.7	10
3678	Electronic connectors	2.8	5
3679	Electronic components, *	5.6	76
3691	Storage batteries	12.3	34
3694	Engine electrical equipment	14.7	100
3699	Electrical equipment and supplies, *	32.5	95
3711	Motor vehicles and car bodies	14.1	495
3713	Truck and bus bodies	6.3	24
3714	Motor vehicle parts and accessories	12.0	666
3715	Truck trailers	3.4	11
3716	Motor homes	6.4	11
3721	Aircraft	5.1	129
3724	Aircraft engines and engine parts	8.7	84
3728	Aircraft parts and equipment, *	10.2	125
3732	Boat building and repairing	5.9	32
374	Railroad equipment	15.9	58
375	Motorcycles, bicycles, and parts	10.8	24
3792	Travel trailers and campers	8.8	18
3799	Transportation equipment, *	10.3	25
381	Search and navigation equipment	4.4	70
3821	Laboratory apparatus and furniture	11.3	11
3822	Environmental controls	9.4	39
3823	Process control instruments	5.4	34
3825	Instruments to measure electricity	1.6	12
3826	Analytical instruments	6.5	20
3827	Optical instruments and lenses	3.9	8

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
3841	Surgical and medical instruments	6.3	65
3842	Surgical appliances and supplies	5.6	53
3845	Electromedical equipment	2.1	9
385	Ophthalmic goods	6.4	22
386	Photographic equipment and supplies	3.9	32
3911	Jewelry, precious metal	3.1	10
393	Musical instruments	18.0	27
3949	Sporting and athletic goods,*	8.4	62
3951	Pens and mechanical pencils	12.8	11
3955	Carbon paper and inked ribbons	17.7	11
3991	Brooms and brushes	7.9	11
3993	Signs and advertising specialties	2.4	16
3999	Manufacturing industries,* Transportation, Communications, Electric, Gas, and Sanitary Services	6.9	37
414	Bus charter service	3.1	8
415	School buses	21.0	156
422	Public warehousing and storage	7.8	111
449	Water transportation services	3.5	36
451	Air transportation, scheduled	4.0	318
458	Airports, flying fields, and services	1.4	14
472	Passenger transportation arrangement	0.6	11
473	Freight transportation arrangement	0.9	14
481	Telephone communications	6.5	582
484	Cable and other pay television services	2.4	40
491	Electric services	2.4	93
492	Gas production and distribution	3.4	50
493	Combination utility services	2.2	36
495	Sanitary services	2.2	37
	Wholesale Trade		
501	Motor vehicles, parts, and supplies	1.2	55
504	Professional and commercial equipment	2.8	223
505	Metals and minerals, except petroleum	4.7	69
507	Hardware, plumbing, and heating equipment	11.2	320
511	Paper and paper products	4.4	106
512	Drugs, proprietaries, and sundries	3.4	65
513	Apparel, piece goods, and notions	3.8	76
514	Groceries and related products	2.3	194
	Retail Trade		
531	Department stores	2.8	485
533	Variety stores	6.3	64
541	Grocery stores	7.6	1657
549	Misc. food stores	2.7	16
551	New and used car dealers	1.6	163
554	Gasoline service stations	3.9	219
562	Women's clothing stores	0.4	9

Table 23. Rates and counts for carpal tunnel syndrome by industry, 1996, cont.

SIC code	Industry	Rate per 10,000 workers	Total cases
565	Family clothing stores	1.0	24
571	Furniture and home furnishings stores	3.3	143
573	Radio, television, and computer stores	0.5	16
58	Eating and drinking places	2.2	1122
591	Drug stores and proprietary stores	2.6	113
594	Misc. shopping goods stores	1.0	73
596	Nonstore retailers	5.1	147
599	Retail stores,*	5.9	230
	Finance, Insurance, and Real Estate		
602	Commercial banks	2.6	344
603	Savings institutions	0.7	17
606	Credit unions	2.9	43
615	Business credit institutions	1.6	16
616	Mortgage bankers and brokers	2.2	47
621	Security brokers and dealers	1.2	46
631	Life insurance	4.1	150
632	Medical service and health insurance	10.7	322
633	Fire, marine, and casualty insurance	4.5	226
64	Insurance agents, brokers, and service	2.2	139
651	Real estate operators and lessors	1.1	54
672	Investment offices	3.8	7
	Services		
701	Hotels and motels	1.2	156
721	Laundry, cleaning, and garment services	3.2	117
723	Beauty shops	1.7	50
732	Credit reporting and collection	11.3	128
734	Services to buildings	5.2	338
737	Computer and data processing services	2.0	236
738	Misc. business services	1.9	254
751	Automotive rentals, no drivers	0.9	16
769	Misc. repair shops	2.5	55
801	Offices and clinics of medical doctors	4.3	599
806	Hospitals	4.4	1327
807	Medical and dental laboratories	2.6	45
808	Home health care services	3.5	169
809	Health and allied services,*	20.3	540
81	Legal services	6.6	548
821	Elementary and secondary schools	3.0	94
822	Colleges and universities	2.2	129
832	Individual and family services	0.8	42
833	Job training and related services	2.4	47
839	Social services,*	2.6	41
864	Civic and social associations	1.3	38
866	Religious organizations	23.8	196
871	Engineering and architectural services	1.8	150
873	Research and testing services	2.2	114
874	Management and public relations	1.8	144

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 24. Top manufacturing and nonmanufacturing industries for carpal tunnel syndrome, 1996

SIC code	Industry	Rate per 10,000 workers	Total* cases
Manufacturing			
2041	Flour and other grain mill products	50.7	103
3365	Aluminum foundries	41.2	101
2499	Wood products,**	27.1	145
3465	Automotive stampings	21.2	252
2325	Men's and boys' trousers and slacks	16.1	110
2015	Poultry slaughtering and processing	14.8	356
3694	Engine electrical equipment	14.7	100
3711	Motor vehicles and car bodies	14.1	495
3011	Tires and inner tubes	12.6	100
3498	Fabricated pipe and fittings	12.0	666
Nonmanufacturing			
866	Religious organizations	23.8	196
415	School bus transportation	21.0	156
809	Health and allied services,**	20.3	540
249	Misc. wood products	17.3	122
732	Credit reporting and collection	11.3	128
507	Hardware, plumbing, and heating equipment	11.2	320
632	Medical service and health insurance	10.7	322

Source: Bureau of Labor Statistics, U.S. Department of Labor

*N>100

**Not elsewhere classified.

Table 25. Number of cases of carpal tunnel syndrome by occupation, 1996

BOC code	Occupation	Total cases
Executive, Administrative, and Managerial Occupations		
015	Managers, medicine and health	19
022	Managers and administrators*	470
023	Accountants and auditors	66
025	Other financial officers	72
033	Purchasing agents and buyers,*	46
037	Management related,*	237
Professional Specialty Occupations		
059	Engineers,*	46
064	Computer systems analysts	80
095	Registered nurses	118
096	Pharmacists	65
178	Lawyers	74
184	Technical writers	48
185	Designers	141

Table 25. Number of cases of carpal tunnel syndrome by occupation, 1996, cont.

BOC code	Occupation	Total cases
	Technicians and Related Support Occupations	
203	Clinical laboratory technologists	36
204	Dental hygienists	294
205	Health record technologists	151
206	Radiologic technicians	19
208	Health technologists,*	92
213	Electrical, electronic technicians	45
216	Engineering technicians,*	35
217	Drafting	17
225	Science technicians,*	58
235	Technicians,*	392
	Sales Occupations	
243	Supervisors and proprietors, sales occupations	157
257	Sales occupations, other business services	38
259	Sales representative, mining, manufacturing, wholesale	52
274	Sales workers, other commodities	332
275	Sales counter clerks	41
276	Cashiers	1217
	Administrative Support Occupation, Including Clerical	
308	Computer operators	90
313	Secretaries	1118
314	Stenographers	17
315	Typists	562
316	Interviewers	34
318	Ticket agents, transportation	195
319	Receptionists	216
327	Order clerks	195
335	File clerks	48
336	Records clerks	179
337	Bookkeepers, accounting, auditing	245
338	Payroll and timekeeping clerks	107
339	Billing clerks	195
343	Cost and rate clerks	40
344	Billing, posting, calculating machine operators	471
347	Office machine operators,*	36
348	Telephone operators	135
359	Dispatchers	38
364	Shipping and receiving clerks	186
373	Expeditors	70
376	Investigators, adjusters, except insurance	202
378	Bill and account collectors	61
379	General office clerks	549
383	Bank tellers	46
385	Data-entry keyers	586
389	Administrative support,*	272

Table 25. Number of cases of carpal tunnel syndrome by occupation, 1996, cont.

BOC code	Occupation	Total cases
	Service Occupations, Except Protective and Household	
434	Bartenders	19
435	Waiters and waitresses	494
436	Cooks	172
439	Kitchen workers	148
444	Misc. food preparation	137
446	Health aides, except nursing	52
447	Nursing aides, orderlies	624
449	Maids and housemen	105
453	Janitors and cleaners	244
457	Barbers	75
458	Hairdressers and cosmetologists	56
459	Attendants, amusement, recreation	37
467	Early childhood teachers' assistants	88
	Farming, Forestry, and Fishing Occupations	
486	Groundskeepers and gardeners, except farm	34
487	Animal caretakers, except farm	19
	Precision Production, Craft, and Repair Occupations	
505	Mechanics, automobile	142
507	Mechanics, bus, truck, stationary engine	74
508	Mechanics, aircraft engine	20
517	Mechanics, farm equipment	41
518	Repairers, industrial machinery	88
525	Repairers, data processing equipment	18
529	Telephone installers, repairers	16
533	Repairers, misc. electrical, electronic	20
534	Mechanics, heating, air conditioning	40
547	Specified mechanics, repairers,*	47
549	Mechanics, repairers, not specified	86
563	Brickmasons and stonemasons	120
566	Carpet installers	19
567	Carpenters	320
573	Drywall installers	15
575	Electricians	88
576	Apprentices, electrician	209
585	Plumbers and pipefitters	281
588	Concrete and terrazzo finishers	17
596	Sheetmetal duct installers	63
628	Supervisors, production workers	137
634	Tool and die makers	62
637	Machinists	138
653	Sheet metal workers	40
668	Upholsterers	52
675	Hand molders, shapers, except jewelers	38
683	Assemblers, electrical, electronic	516
686	Butchers and meat cutters	256
687	Bakers	66
689	Inspectors, testers, grader	54
696	Stationary engineers	44

Table 25. Number of cases of carpal tunnel syndrome by occupation, 1996, cont.

BOC code	Occupation	Total cases
	Machine Operators, Assemblers, and Inspectors	
703	Set-up, lathes and turning machines	16
704	Lathes and turning machines	18
705	Milling and planing machine	16
706	Punching and stamping machines	151
708	Drilling and boring machine	17
709	Grinding and polishing machines	206
713	Forging machines	37
717	Fabricating machines,*	41
719	Molding and casting machine	181
727	Sawing machines	82
733	Misc. woodworking machines	57
734	Printing press operators	120
737	Misc. printing machines	62
738	Winding, twisting machines	64
744	Textile sewing machines	789
745	Shoe machines	46
748	Laundry, dry cleaning machines	60
749	Misc. textile machines	73
754	Packaging, filling machines	406
755	Extruding and forming machines	54
756	Mixing and blending machine	98
757	Separating, filtering, clarifying machines	16
758	Compressing, compacting machines	55
759	Painting and paint spraying machines	100
766	Operators, furnace, kiln, oven, except food	82
769	Slicing and cutting machine	164
774	Photographic processing machines	16
777	Misc. machine operators,*	1686
779	Machine operators, not specified	410
783	Welders and cutters	431
785	Assemblers	2196
786	Hand cutting and trimming	35
793	Hand engraving, printing	19
795	Misc. hand working	47
796	Production inspectors	258
799	Graders, sorters, except farm	85
	Transportation and Material Moving Occupations	
804	Truck drivers	261
806	Driver-sales workers	98
808	Bus drivers	168
844	Operating engineers	98
856	Industrial truck operators	59
859	Misc. moving equipment operators	16
	Handlers, Equipment Cleaners, Helpers, and Laborers	
869	Construction laborers	330
874	Helpers, production	102
877	Stock handlers and baggers	306

Table 25. Number of cases of carpal tunnel syndrome by occupation, 1996, cont.

BOC code	Occupation	Total cases
878	Machine feeders and offbearers	122
883	Freight, stock, material handlers,*	202
887	Vehicle washers and cleaner	66
888	Hand packers and packagers	704
889	Laborers, nonconstruction	990
	Non-classifiable	
999	Non-classifiable	142

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 26. Occupations having more than 500 cases of carpal tunnel syndrome, 1996

BOC code	Occupation	Total cases
785	Assemblers	2196
777	Misc. machine operators,*	1686
276	Cashiers	1217
313	Secretaries	1118
889	Laborers, nonconstruction	990
744	Textile sewing machines	789
888	Hand packers and packagers	704
447	Nursing aides, orderlies	624
385	Data-entry keyers	586
315	Typists	562
379	General office clerks	549
683	Assemblers, electrical, electronic	516

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Lower Extremities

There were 22,229 cases of musculoskeletal disorders of the lower extremities reported, with a rate of 2.65/10,000 workers and a median DAFW of eight. The major sites of the condition were the knee (1.42/10,000), leg other than the knee (0.68/10,000), and ankle (0.33/10,000). **Table 27** shows lower extremity conditions according to industry by number of cases, rate, and DAFW. The top manufacturing industries and top ten nonmanufacturing industries,

having more than 50 cases, are shown in **table 28**. The top industries and sources in those industries leading to musculoskeletal disorders are shown in **table 29**. The top three industries, in terms of both number of cases and rate, were scheduled air transportation, nursing and personal care facilities, and hospitals. The most important source of the condition for both nursing and personal care facilities and hospitals was health care patients. For air transportation, packages and parcels and boxes, crates, and cartons were the top sources.

Table 30 shows the number of cases and DAFW for musculoskeletal disorders of the lower extremities by occupation. **Table 31** shows the occupations with the most cases of musculoskeletal disorders. Four occupations experienced over 1,000 cases: miscellaneous food preparation workers, nursing aides and orderlies, truck drivers, and freight, stock, and material handlers, not elsewhere classified.

Hernia

There were 29,624 cases of hernia causing at least one day away from work in 1996, with a rate of 3.5/10,000 workers. The median DAFW was 24. Most of the cases, 27,928, occurred in males. **Table 32** shows number of cases and DAFW by industry for males. Rates are not available for an industry breakdown by sex. In a publication on hernia using the 1994 data (Kang, 1999), rates were computed for males by major industry sector using data from the 1994 Current Population Survey for the population at risk. This is shown in **table 33**. Wholesale trade industry had the highest rate, followed by manufacturing and construction industries.

The number of cases and days away from work by occupation are shown in **table 34**. Truck drivers, non-construction laborers, and freight, stock, and material handlers, each have over 1,000 cases of hernia.

Table 35 shows the number of cases, DAFW by major occupational group. Handlers, equipment cleaners, helpers and laborers had the highest number of cases. **Table 36** shows the eighteen occupations at the highest risks as computed using the 1994 BLS data and the Current Population Survey. Nonconstruction laborers had the highest risk, followed by miscellaneous machine operators.

Table 37 shows the events that led up to the reported hernia cases. Sixty percent of the cases were due to overexertion in lifting. Other types of overexertion accounted for another 27% of the cases.

Dermatitis

There were 6,884 cases of dermatitis causing at least one day away from work in 1996, with a rate of 0.8/10,000 workers and a median DAFW of 3.

Table 38 shows the number of cases, rate, and DAFW for dermatitis by industry at the 3-digit SIC level. In **table 39**, the top industries, having at least 50 cases and a rate above 1.5, are shown by manufacturing and nonmanufacturing. Several service industries have high rates and large numbers of cases: landscape and horticultural services, services to buildings, and nursing and personal care facilities. **Table 40** lists the sources of dermatitis by the number of cases and the median days away from work. Cleaning and polishing agents caused the most cases, followed by exposure to poison ivy, oak, and sumac. Adhesives and glues caused the most days away from work, having a median of 67 days. Sources of dermatitis within broad industry categories are shown in **table 41**. Other than the non-classifiable sources, clothing and shoes in the health services industry caused the most cases. This category includes latex gloves.

Table 42 shows the number of dermatitis cases and days away from work by occupation. The occupations having more than 50 cases are shown in **table 43**. Nursing aides and orderlies and janitors and cleaners are the two occupations with the most cases. Miscellaneous food preparation workers have the most days away from work, with a median of 10 days.

Anxiety, Stress, and Neurotic Disorders

There were an estimated 5,561 cases of anxiety, stress, and neurotic disorders reported in 1996, with a rate of 0.7 per 10,000 workers and a median of 11 days away from work. Thirty percent of the cases occurred in the services industry, having a rate of 0.7; 15% in retail trade, having a rate of 0.9; 16% in manufacturing, having a rate of 0.5; and 15% in finance, insurance, and real estate, having a rate of 1.4. **Table 44** presents the number of cases and days away from work by industry for females and males, separately. When presenting the industries by sex, it is not possible to compute rates. The DAFW vary widely within the industries. **Table 45** shows the event that led to the disorder. Bodily conditions, nec (that is, other than bodily reaction, overexertion, repetitive motion, and sustained

viewing; heart attack and stroke are included in this category) led to the largest number of cases for both men and women. Exposure to traumatic or stressful event, nec (includes instances where workers are made ill by stressful events on the job or by witnessing accidents or other traumatic events) was second most common for both sexes. The number of cases by

major occupation categories is shown in *table 46*. Women in administrative support occupations reported the most cases, while the most cases for men were seen in sales occupations. Looking at detailed occupations (*Table 47*) shows that supervisors and proprietors in sales occupations reported the most cases for both men and women.

Table 27. Number of cases, rate, and days away from work for musculoskeletal disorders of lower extremities by industry, 1996

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
	All private industry	22,229	21,558 , 22,900	2.65	2.57 , 2.73	27	8
	Mining						
101	Iron ores	12	*	13.52	*	67	33
102	Copper ores	5	*	3.57	*	60	43
103	Lead and zinc ores	7	*	28.49	*	43	17
104	Gold and silver ores	14	*	7.22	*	71	40
122	Bituminous coal and lignite mining	253	*	26.32	*	66	39
123	Anthracite mining	6	*	36.45	*	67	67
142	Crushed and broken stone	64	*	10.25	*	47	14
144	Sand and gravel	34	*	10.13	*	41	14
145	Clay, ceramic, and refractory minerals	8	*	6.99	*	38	13
147	Chemical and fertilizer minerals	9	*	6.47	*	33	9
	Construction						
152	Residential building construction	194	108 , 280	3.45	1.92 , 4.98	17	8
154	Nonresidential building construction	245	165 , 325	4.41	2.97 , 5.85	46	19
161	Highway and street construction	41	21 , 61	1.95	1.00 , 2.90	47	14
162	Heavy construction, except highway	67	28 , 106	1.28	0.53 , 2.03	37	18
171	Plumbing, heating, and air-conditioning	330	215 , 445	4.59	2.99 , 6.19	16	15
172	Painting and paper hanging	16	1 , 34	0.99	0 , 2.11	71	40
173	Electrical work	118	56 , 180	1.97	0.94 , 3.00	23	7
174	Masonry, stonework, and plastering	238	150 , 326	6.4	4.02 , 8.78	51	32
175	Carpentry and floor work	47	11 , 83	2.3	0.56 , 4.04	32	19
176	Roofing, siding, and sheet metal work	120	66 , 174	6.44	3.53 , 9.35	12	11
177	Concrete work	43	14 , 72	1.89	0.61 , 3.17	0	3
179	Misc. special trade contractors	173	96 , 250	3.19	1.76 , 4.62	81	45
	Manufacturing						
2011	Meat packing plants	32	7 , 57	2	0.44 , 3.56	0	9
2015	Poultry slaughtering and processing	27	6 , 48	1.11	0.26 , 1.96	74	132
2026	Fluid milk	43	23 , 63	6.71	3.51 , 9.91	18	6
2033	Canned fruits and vegetables	17	2 , 32	2.35	0.24 , 4.46	69	25
2043	Cereal breakfast foods	7	1 , 15	3.54	0 , 7.50	62	32
2051	Bread, cake, and related products	45	23 , 67	3.11	1.57 , 4.65	49	16
2052	Cookies and crackers	12	2 , 22	2.49	0.40 , 4.58	0	5
2085	Distilled and blended liquors	12	1 , 25	16.77	0 , 34.48	0	3
2086	Bottled and canned soft drinks	87	53 , 121	9.36	5.69 , 13.03	32	16

Table 27. Number of cases, rate, and days away from work for musculoskeletal disorders of lower extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
2096	Potato chips and similar snacks	26	9 , 43	8.3	2.88 , 13.72	38	6
222	Broadwoven fabric mills, manmade	12	1 , 24	1.78	0 , 3.63	0	6
224	Narrow fabric mills	9	1 , 19	4.17	0 , 8.59	9	2
2253	Knit outerwear mills	5	1 , 10	0.99	0 , 2.04	0	4
2262	Finishing plants, manmade	10	1 , 20	4.28	0 , 8.63	37	14
2299	Textile goods,**	11	2 , 20	6.27	1.07 , 11.47	25	5
2321	Men's and boys' shirts	12	1 , 23	2.74	0.12 , 5.36	0	1
2325	Men's and boys' trousers and slacks	37	17 , 57	5.38	2.54 , 8.22	0	2
2329	Men's and boys' clothing,**	11	1 , 21	2.62	0.25 , 4.99	19	1
2335	Women's, junior's, and misses' dresses	50	17 , 83	12.75	4.22 , 21.28	0	1
2337	Women's and misses' suits and coats	8	1 , 16	3.19	0 , 6.41	15	4
2339	Women's and misses' outerwear,**	41	18 , 64	2.61	1.17 , 4.05	23	4
2391	Curtains and draperies	21	8 , 34	10.93	4.07 , 17.79	0	2
2392	Housefurnishings,**	31	8 , 54	5.92	1.45 , 10.39	0	2
2393	Textile bags	17	1 , 34	15.34	0 , 30.99	57	90
2396	Automotive and apparel trimmings	27	6 , 48	4.28	0.93 , 7.63	22	5
2421	Sawmills and planing mills, general	34	8 , 60	2.4	0.58 , 4.22	20	5
2431	Millwork	29	8 , 50	2.67	0.73 , 4.61	0	5
2434	Wood kitchen cabinets	32	12 , 52	4.17	1.54 , 6.80	45	19
2435	Hardwood veneer and plywood	19	4 , 34	6.53	1.41 , 11.65	22	2
2439	Structural wood members,**	23	5 , 41	5.9	1.34 , 10.46	0	7
2452	Prefabricated wood buildings	12	1 , 24	5.91	0 , 12.05	29	18
2511	Wood household furniture	51	26 , 76	4.16	2.12 , 6.20	29	2
2512	Upholstered household furniture	16	1 , 31	1.84	0.14 , 3.54	5	4
2515	Mattresses and bedsprings	16	4 , 28	4.95	1.12 , 8.78	0	2
262	Paper mills	32	15 , 49	1.91	0.88 , 2.94	48	18
2653	Corrugated and solid fiber boxes	15	1 , 29	1.1	0.07 , 2.13	28	9
2657	Folding paperboard boxes	14	3 , 25	2.82	0.63 , 5.01	0	2
2673	Bags: plastics, laminated, and coated	9	1 , 18	2.3	0.10 , 4.50	56	42
2674	Bags: uncoated paper	8	1 , 15	4.63	0.78 , 8.48	100	25
2677	Envelopes	9	1 , 19	3.71	0 , 7.70	0	1
271	Newspapers	81	52 , 110	2.22	1.43 , 3.01	47	17
272	Periodicals	10	1 , 19	0.8	0.09 , 1.51	16	2
2731	Book publishing	15	3 , 27	2.01	0.46 , 3.56	76	34
2752	Commercial printing, lithographic	40	21 , 59	1.12	0.59 , 1.65	32	13
2759	Commercial printing,**	47	27 , 67	2.68	1.55 , 3.81	6	12
276	Manifold business forms	12	2 , 22	2.67	0.39 , 4.95	0	14
2789	Bookbinding and related work	20	3 , 37	7.14	0.91 , 13.37	0	4
2819	Industrial inorganic chemicals,**	13	4 , 22	1.75	0.48 , 3.02	15	3
2821	Plastics materials and resins	10	1 , 19	1.22	0.09 , 2.35	0	16
2834	Pharmaceutical preparations	25	12 , 38	1.2	0.60 , 1.80	38	17
2841	Soaps and other detergents	44	15 , 73	10.57	3.63 , 17.51	87	37
2842	Polishes and sanitation goods	10	1 , 21	3.15	0 , 6.58	100	24
2844	Toilet preparations	13	3 , 23	1.86	0.48 , 3.24	54	53
285	Paints and allied products	14	1 , 27	2.66	0.22 , 5.10	16	2

Table 27. Number of cases, rate, and days away from work for musculoskeletal disorders of lower extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
301	Tires and inner tubes	30	15 , 45	3.75	1.90 , 5.60	35	19
3053	Gaskets, packing and sealing devices	13	1 , 25	3.08	0.26 , 5.90	40	2
3061	Mechanical rubber goods	9	1 , 19	1.91	0 , 4.08	14	3
3069	Fabricated rubber products,**	17	4 , 30	2.65	0.64 , 4.66	7	13
3081	Unsupported plastics film and sheet	12	1 , 23	1.74	0.10 , 3.38	31	14
3083	Laminated plastics plate and sheet	19	1 , 41	7.71	0 , 16.72	0	12
3086	Plastics foam products	16	1 , 33	2.67	0 , 5.45	0	3
3089	Plastics products,**	200	139 , 261	4.4	3.05 , 5.75	19	2
323	Products of purchased glass	41	22 , 60	6.56	3.46 , 9.66	78	34
3312	Blast furnaces and steel mills	41	19 , 63	2.3	1.04 , 3.56	63	35
3321	Gray and ductile iron foundries	23	7 , 39	2.64	0.75 , 4.53	30	5
3334	Primary aluminum	11	1 , 21	4.92	0.54 , 9.30	49	5
3354	Aluminum extruded products	6	1 , 13	1.72	0 , 3.62	23	2
3357	Nonferrous wiredrawing and insulating	53	27 , 79	7.19	3.61 , 10.77	44	16
3363	Aluminum die—castings	30	10 , 50	7.75	2.52 , 12.98	80	47
3411	Metal cans	14	1 , 27	4.1	0.40 , 7.80	0	4
3429	Hardware,**	9	1 , 17	1.3	0.15 , 2.45	22	6
3442	Metal doors, sash, and trim	14	1 , 27	1.79	0.10 , 3.48	11	5
3443	Fabricated plate work (boiler shops)	31	8 , 54	3.04	0.81 , 5.27	72	27
3444	Sheet metalwork	17	1 , 33	1.5	0.08 , 2.92	7	1
3448	Prefabricated metal buildings	16	1 , 34	5.78	0 , 12.15	0	1
3496	Misc. fabricated wire products	18	5 , 31	3.32	0.91 , 5.73	0	2
3498	Fabricated pipe and fittings	16	1 , 34	5.19	0 , 10.91	72	320
3499	Fabricated metal products,**	38	12 , 64	6.2	2.03 , 10.37	43	20
3519	Internal combustion engines,**	11	1 , 22	1.81	0 , 3.62	0	10
3523	Farm machinery and equipment	8	1 , 17	1.13	0 , 2.40	42	13
3531	Construction machinery	24	6 , 42	2.7	0.64 , 4.76	42	15
3544	Special dies, tools, jigs, and fixtures	16	1 , 31	0.92	0.03 , 1.81	59	23
3559	Special industry machinery,**	23	6 , 40	2.76	0.76 , 4.76	5	5
3562	Ball and roller bearings	10	2 , 18	2.54	0.63 , 4.45	0	3
3568	Power transmission equipment,**	10	1 , 20	4.92	0.08 , 9.76	100	55
3571	Electronic computers	7	1 , 13	0.37	0.06 , 0.68	0	1
3577	Computer peripheral equipment,**	14	4 , 24	2	0.50 , 3.50	90	28
3585	Refrigeration and heating equipment	28	10 , 46	1.89	0.65 , 3.13	45	9
3589	Service industry machinery,**	7	1 , 15	1.62	0 , 3.41	87	78
3594	Fluid power pumps and motors	10	2 , 18	3.55	0.59 , 6.51	24	18
3621	Motors and generators	12	3 , 21	1.64	0.42 , 2.86	24	7
3639	Household appliances,**	14	1 , 29	9.85	0 , 20.54	47	10
3641	Electric lamps	13	2 , 24	5.61	0.90 , 10.32	10	19
3643	Current carrying wiring devices	28	13 , 43	4.49	2.16 , 6.82	63	30
3651	Household audio and video equipment	6	1 , 13	1.12	0 , 2.34	45	20
3663	Radio and TV communications equipment	6	1 , 12	0.43	0.01 , 0.85	100	51
3672	Printed circuit boards	15	3 , 27	1.11	0.26 , 1.96	11	5
3674	Semiconductors and related devices	11	1 , 21	0.42	0.05 , 0.79	24	4
3676	Electronic resistors	18	2 , 34	16.99	1.57 , 32.41	0	2

Table 27. Number of cases, rate, and days away from work for musculoskeletal disorders of lower extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
3678	Electronic connectors	12	2 , 22	5.99	1.01 , 10.97	7	2
3679	Electronic components,**	14	4 , 24	1.01	0.28 , 1.74	11	5
3694	Engine electrical equipment	17	4 , 30	2.43	0.55 , 4.31	49	2
3695	Magnetic and optical recording media	6	1 , 13	2.95	0 , 6.18	0	1
3711	Motor vehicles and car bodies	199	121 , 277	5.65	3.43 , 7.87	25	6
3713	Truck and bus bodies	15	1 , 30	3.87	0.09 , 7.65	33	1
3714	Motor vehicle parts and accessories	168	106 , 230	3.02	1.91 , 4.13	28	10
3721	Aircraft	76	30 , 122	3.02	1.19 , 4.85	0	2
3724	Aircraft engines and engine parts	10	1 , 21	1.05	0 , 2.17	15	14
3731	Ship building and repairing	119	55 , 183	11.68	5.43 , 17.93	82	50
3732	Boat building and repairing	20	5 , 35	3.66	0.88 , 6.44	9	4
375	Motorcycles, bicycles, and parts	12	1 , 24	5.57	0 , 11.19	0	13
3792	Travel trailers and campers	10	3 , 17	4.9	1.34 , 8.46	50	10
381	Search and navigation equipment	9	2 , 16	0.55	0.11 , 0.99	46	10
3822	Environmental controls	9	3 , 15	2.23	0.63 , 3.83	49	13
3841	Surgical and medical instruments	11	5 , 17	1.09	0.45 , 1.73	11	5
3949	Sporting and athletic goods,**	22	9 , 35	3.05	1.32 , 4.78	0	4
3993	Signs and advertising specialties	35	12 , 58	5.45	1.94 , 8.96	47	20
Transportation, Communications, Electric, Gas, and Sanitary Services							
411	Local and suburban transportation	276	198 , 354	16.44	11.78 , 21.10	14	7
415	School buses	11	2 , 20	1.48	0.24 , 2.72	25	1
421	Trucking and courier services, except air	678	401 , 955	4.52	2.67 , 6.37	30	5
422	Public warehousing and storage	46	19 , 73	3.2	1.35 , 5.05	17	5
451	Air transportation, scheduled	1253	1016 , 1490	15.7	12.74 , 18.66	33	11
458	Airports, flying fields, and services	44	18 , 70	4.44	1.85 , 7.03	88	157
473	Freight transportation arrangement	14	3 , 25	0.89	0.17 , 1.61	27	2
481	Telephone communications	153	101 , 205	1.71	1.13 , 2.29	29	8
483	Radio and television broadcasting	16	1 , 31	0.74	0.06 , 1.42	11	10
484	Cable and other pay television services	33	12 , 54	1.98	0.75 , 3.21	47	17
491	Electric services	46	21 , 71	1.2	0.55 , 1.85	31	13
492	Gas production and distribution	63	39 , 87	4.25	2.63 , 5.87	0	2
493	Combination utility services	27	12 , 42	1.7	0.78 , 2.62	10	3
495	Sanitary services	110	62 , 158	6.56	3.70 , 9.42	9	2
Wholesale Trade							
501	Motor vehicles, parts, and supplies	74	27 , 121	1.54	0.56 , 2.52	11	5
502	Furniture and home furnishings	54	12 , 96	3.61	0.82 , 6.40	0	1
504	Professional and commercial equipment	92	31 , 153	1.17	0.40 , 1.94	42	15
506	Electrical goods	66	17 , 115	1.29	0.34 , 2.24	2	1
512	Drugs, proprietaries, and sundries	27	6 , 48	1.41	0.30 , 2.52	32	7
514	Groceries and related products	617	447 , 787	7.2	5.21 , 9.19	23	12
518	Beer, wine, and distilled beverages	196	120 , 272	12.74	7.79 , 17.69	3	4
519	Misc nondurable goods	58	14 , 102	1.18	0.29 , 2.07	4	1

Table 27. Number of cases, rate, and days away from work for musculoskeletal disorders of lower extremities by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate per 10,000 workers	95% CI for rate	Cases involving >20 days (%)	Median days away from work
Retail Trade							
521	Lumber and other building materials	178	90 , 266	3.57	1.81 , 5.33	43	3
525	Hardware stores	13	1 , 26	0.98	0 , 1.96	9	2
531	Department stores	694	518 , 870	3.95	2.95 , 4.95	20	6
541	Grocery stores	612	412 , 812	2.81	1.89 , 3.73	23	7
546	Retail bakeries	65	19 , 111	4.36	1.26 , 7.46	97	90
551	New and used car dealers	351	220 , 482	3.41	2.14 , 4.68	47	11
553	Auto and home supply stores	83	25 , 141	2.28	0.69 , 3.87	8	14
565	Family clothing stores	37	19 , 55	1.55	0.80 , 2.30	23	3
571	Furniture and home furnishings stores	320	205 , 435	7.31	4.69 , 9.93	49	7
572	Household appliance store	54	18 , 90	8.07	2.67 , 13.47	26	2
573	Radio, television, and computer stores	34	13 , 55	1.02	0.39 , 1.65	9	4
591	Drug stores and proprietary stores	124	78 , 170	2.83	1.78 , 3.88	28	3
594	Misc. shopping goods stores	75	37 , 113	1.08	0.54 , 1.62	15	10
596	Nonstore retailers	39	14 , 64	1.37	0.48 , 2.26	18	2
Finance, Insurance, and Real Estate							
602	Commercial banks	14	1 , 28	0.1	0 , 0.20	9	1
633	Fire, marine, and casualty insurance	15	3 , 27	0.29	0.06 , 0.52	7	2
651	Real estate operators and lessors	249	159 , 339	5.31	3.40 , 7.22	6	1
Services							
701	Hotels and motels	540	379 , 701	4.06	2.85 , 5.27	5	3
721	Laundry, cleaning, and garment services	44	14 , 74	1.17	0.38 , 1.96	52	21
734	Services to buildings	112	46 , 178	1.71	0.70 , 2.72	11	10
737	Computer and data processing services	12	1 , 23	0.1	0.01 , 0.19	29	5
738	Misc. business services	49	13 , 85	0.36	0.10 , 0.62	14	2
794	Commercial sports	26	11 , 41	3.55	1.51 , 5.59	29	14
799	Misc. amusement, recreation services	142	68 , 216	1.91	0.92 , 2.90	19	4
805	Nursing and personal care facilities	2120	1655 , 2585	15.49	12.09 , 18.89	15	5
806	Hospitals	2478	2278 , 2678	8.26	7.59 , 8.93	25	3
808	Home health care services	217	138 , 296	4.54	2.88 , 6.20	35	15
809	Health and allied services,**	41	9 , 73	1.55	0.34 , 2.76	6	2
821	Elementary and secondary schools	75	35 , 115	2.43	1.14 , 3.72	14	5
822	Colleges and universities	122	92 , 152	2.04	1.54 , 2.54	20	6
832	Individual and family services	154	87 , 221	2.97	1.67 , 4.27	26	1
833	Job training and related services	177	82 , 272	9.26	4.30 , 14.22	77	152
836	Residential care	394	245 , 543	7.24	4.50 , 9.98	48	14
839	Social services,**	54	21 , 87	3.29	1.28 , 5.30	4	3
864	Civic and social associations	59	21 , 97	1.99	0.70 , 3.28	14	7
873	Research and testing services	14	1 , 27	0.26	0.02 , 0.50	40	18

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Indicates no relative standard error available

**Not elsewhere classified.

Table 28. Top manufacturing and nonmanufacturing industries with musculoskeletal disorders of the lower extremities, 1996

SIC code	Industry	Rate per 10,000 workers	Total cases*	Median days away from work
Manufacturing				
2335	Women's, junior's, and misses' dresses	12.8	50	1
3731	Ship building and repairing	11.7	119	50
2086	Bottled and canned soft drinks	9.4	87	16
3357	Nonferrous wire drawing and insulating	7.2	53	16
3711	Motor vehicles and car bodies	5.7	199	6
3089	Plastics products,**	4.4	200	2
2511	Wood household furniture	4.2	51	2
3714	Motor vehicle parts and accessories	3.0	168	10
3721	Aircraft	3.0	76	2
Nonmanufacturing				
122	Bituminous coal and lignite mining	26.3	253	39
411	Local and suburban transportation	16.4	276	7
451	Air transportation, scheduled	15.7	1,253	11
805	Nursing and personal care facilities	15.5	2,120	5
518	Beer, wine, and distilled beverages	12.7	196	4
142	Crushed and broken stone	10.3	64	14
833	Job training and related services	9.3	177	152
806	Hospitals	8.3	2,478	3
572	Household appliance store	8.1	54	2
571	Furniture and home furnishings stores	7.3	320	7

Source: Bureau of Labor Statistics, U.S. Department of Labor

*N>49

**Not elsewhere classified.

Table 29. Top industries and sources of musculoskeletal disorders of the lower extremities, 1996

SIC code	Industry	Source	Rate per 10,000 workers	Total cases*
805	Nursing and personal care facilities	Health care patient	14.03	1921
411	Local and suburban transportation	Health care patient	8.08	136
833	Job training and related services	Health care patient	7.07	135
349	Misc. fabricated metal products	Extruding, injecting, forming, molding machinery	4.11	106
571	Furniture and home furnishings stores	Reels, rolls	4.06	178
808	Home health care services	Health care patient	3.65	174
836	Residential care	Health care patient	3.65	199
451	Air transportation	Packages, parcels	3.58	285
451	Air transportation	Boxes, crates, cartons	3.12	249
651	Real estate operators and lessors	Other machinery	3.06	143

Source: Bureau of Labor Statistics, U.S. Department of Labor

*N>100

Table 30. Number of cases, days away from work for musculoskeletal disorders of lower extremities by occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
	All private industry	22,229	21,558 , 22,900	27	8
	Executive, Administrative, and Managerial Occupations				
013	Managers, marketing, advertising, public relations	20	1 , 40	9	1
018	Managers, properties, real estate	143	89 , 197	0	1
022	Managers and administrators,*	76	36 , 116	72	52
029	Buyers, wholesale, retail, except farm products	98	53 , 143	20	12
	Professional Specialty Occupations				
095	Registered nurses	742	618 , 866	20	2
098	Respiratory therapists	58	23 , 93	0	1
159	Teachers, except postsecondary,*	184	122 , 246	83	152
174	Social workers	65	28 , 102	45	3
175	Recreation workers	280	204 , 356	0	3
185	Designers	34	8 , 60	41	10
189	Photographers	17	1 , 36	7	2
199	Athletes	19	1 , 39	48	18
	Technicians and Related Support Occupations				
207	Licensed practical nurses	149	94 , 204	35	14
208	Health technologists,*	395	305 , 485	12	5
213	Electrical, electronic technicians	47	16 , 78	23	10
235	Technicians,*	67	30 , 104	2	2
	Sales Occupations				
243	Supervisors and proprietors, sales occupations	345	261 , 429	15	4
259	Sales representatives, mining, manufacturing, wholesale	43	13 , 73	84	72
268	Sales workers, hardware and building supplies	54	20 , 88	0	1
274	Sales workers, other commodities	199	135 , 263	25	9
276	Cashiers	191	128 , 254	36	10
	Administrative Support Occupations, Including Clerical				
313	Secretaries	20	1 , 40	52	21
318	Ticket agents, transportation	142	88 , 196	24	4
327	Order clerks	63	27 , 99	5	2
345	Duplicating machine operators	36	9 , 63	0	15
356	Mail clerks, except postal service	40	11 , 69	35	4
364	Shipping and receiving clerks	364	277 , 451	17	2
365	Stock and inventory clerks	178	117 , 239	53	35
376	Investigators, adjusters, except insurance	16	1 , 34	41	16
379	General office clerks	57	23 , 91	20	5
	Protective Service Occupations				
426	Guards and police, except public	40	11 , 69	31	7
	Service Occupations, Except Protective and Household				
435	Waiters and waitresses	17	1 , 36	0	5
436	Cooks	159	102 , 216	5	1
439	Kitchen workers	77	37 , 117	81	90
443	Waiters', waitresses' assistants	101	55 , 147	3	3
444	Misc. food preparation	1496	1320 , 1672	20	11
445	Dental assistants	16	1 , 34	94	38
446	Health aides, except nursing	121	71 , 171	4	3

Table 30. Number of cases, days away from work for musculoskeletal disorders of lower extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
447	Nursing aides, orderlies	2748	2510 , 2986	14	5
448	Supervisors, cleaning, building service workers	151	95 , 207	0	8
449	Maids and housemen	237	167 , 307	17	4
453	Janitors and cleaners	629	515 , 743	18	4
459	Attendants, amusement, recreation	54	20 , 88	35	3
463	Attendants, public transportation	100	54 , 146	39	19
468	Child care workers,*	137	84 , 190	83	112
469	Personal service,*	49	17 , 81	62	60
Farming, Forestry, and Fishing Occupations					
486	Groundskeepers and gardeners, except farm	86	44 , 128	45	9
Precision Production, Craft, and Repair Occupations					
505	Mechanics, automobile	266	192 , 340	62	40
507	Mechanics, bus, truck, stationary engine	74	35 , 113	32	6
514	Repairers, automobile body	47	16 , 78	0	14
518	Repairers, industrial machinery	176	116 , 236	40	11
523	Repairers, electronic, communication equipment	100	55 , 145	29	1
529	Telephone installers, repairers	66	29 , 103	10	8
534	Mechanics, heating, air conditioning	108	61 , 155	9	1
547	Specified mechanics, repairers,*	55	21 , 89	16	6
549	Mechanics, repairers, not specified	87	45 , 129	25	6
558	Supervisors,*	94	50 , 138	53	32
563	Brickmasons and stonemasons	18	1 , 37	91	45
566	Carpet installers	157	100 , 214	96	48
567	Carpenters	232	163 , 301	36	13
573	Drywall installers	57	23 , 91	2	20
575	Electricians	106	59 , 153	28	9
579	Painters	38	10 , 66	78	46
585	Plumbers and pipefitters	57	23 , 91	66	33
587	Apprentices, plumber, pipefitter	63	27 , 99	0	1
589	Glaziers	114	65 , 163	100	45
595	Roofers	49	17 , 81	21	5
597	Structural metal workers	17	1 , 36	68	127
613	Supervisors, extractive workers	16	1 , 34	63	24
616	Operators, mining machines	16	1 , 34	75	28
617	Mining occupations,*	60	25 , 95	59	38
628	Supervisors, production workers	102	56 , 148	24	12
637	Machinists	52	19 , 85	33	10
653	Sheet metal workers	91	48 , 134	25	11
668	Upholsterers	18	1 , 38	0	1
683	Assemblers, electrical, electronic	36	9 , 63	30	3
689	Inspectors, testers, graders	62	26 , 98	10	11
Machine Operators, Assemblers, and Inspectors					
706	Punching and stamping machine operators	34	7 , 61	77	35
709	Grinding and polishing machine operators	41	12 , 70	30	2
719	Molding and casting machine operators	79	39 , 119	43	14
744	Textile sewing machine operators	96	52 , 140	23	4

Table 30. Number of cases, days away from work for musculoskeletal disorders of lower extremities by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
754	Packaging, filling machine operators	181	120 , 242	21	4
756	Mixing and blending machine operators	87	45 , 129	11	3
758	Compressing, compacting machine operators	45	15 , 75	0	1
768	Crushing and grinding machine operators	60	25 , 95	30	16
769	Slicing and cutting machine operators	38	10 , 66	40	10
777	Misc. machine operators,*	480	381 , 579	24	6
779	Machine operators, not specified	249	177 , 321	61	45
783	Welders and cutters	200	136 , 264	56	31
785	Assemblers	322	241 , 403	24	10
796	Production inspectors	59	24 , 94	21	4
Transportation and Material Moving Occupations					
804	Truck drivers	1517	1340 , 1694	43	12
806	Driver-sales workers	390	300 , 480	6	4
808	Bus drivers	35	8 , 62	43	10
844	Operating engineers	18	1 , 37	41	3
853	Excavating and loading machine operators	34	7 , 61	44	14
856	Industrial truck operators	139	85 , 193	33	5
859	Misc. moving equipment operators	107	60 , 154	30	15
Handlers, Equipment Cleaners, Helpers, and Laborers					
864	Supervisors, handlers, cleaners, and laborers	19	1 , 39	0	8
866	Helpers, construction trades	167	108 , 226	16	15
869	Construction laborers	516	413 , 619	31	8
874	Helpers, production	134	81 , 187	75	94
876	Stevedores	15	1 , 32	45	12
877	Stock handlers and baggers	515	412 , 618	17	6
883	Freight, stock, material handlers,*	1027	881 , 1173	20	6
887	Vehicle washers and cleaners	66	29 , 103	2	7
888	Hand packers and packagers	72	33 , 111	10	4
889	Laborers, nonconstruction	794	666 , 922	33	6
Non-classifiable					
999	Non-classifiable	93	49 , 137	26	6

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 31. Top ten occupations with musculoskeletal disorders of the lower extremities

BOC code	Occupation	Total cases	Cases involving >20 days (%)	Median days away from work
883	Nursing aides, orderlies	2748	14	5
804	Truck drivers	1517	43	12
444	Misc. food preparation	1496	20	11
883	Freight, stock, material handlers, *	1027	20	6
889	Laborers, nonconstruction	794	33	6
095	Registered Nurses	742	20	2
453	Janitors and cleaners	629	18	4
869	Construction laborers	516	31	8
877	Stock handlers and baggers	515	17	6
777	Misc. machine operators,**	480	24	6

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 32. Number of cases and days away from work for hernia in males by industry, 1996

SIC code	Industry	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
	All private industry	27,928	27,058 , 28,798	56	24
	Agriculture, Forestry, and Fishing				
01	Agricultural production—crops	209	124 , 294	74	63
02	Agricultural production—livestock	39	12 , 66	27	20
07	Agricultural services	308	203 , 413	65	26
	Mining				
10	Metal mining	29	28 , 30	72	32
12	Coal Mining	79	*	82	40
13	Oil and gas extraction	59	18 , 100	77	31
14	Nonmetallic minerals, except fuels	67	*	75	32
	Construction				
15	General building contractors	812	646 , 978	56	27
16	Heavy construction, except building	325	246 , 404	62	26
17	Special trade contractors	2482	2194 , 2770	50	21
	Manufacturing				
20	Food and kindred products	1450	1299 , 1601	56	25
22	Textile mill products	124	89 , 159	57	25
23	Apparel and other textile products	102	72 , 132	52	22
24	Lumber and wood products	534	435 , 633	43	18
25	Furniture and fixtures	290	229 , 351	64	26
26	Paper and allied products	343	283 , 403	71	28
27	Printing and publishing	445	381 , 509	55	24
28	Chemicals and allied products	312	255 , 369	55	22
29	Petroleum and coal products	19	6 , 32	80	30
30	Rubber and misc. plastics products	451	368 , 534	61	24
31	Leather and leather products	10	2 , 18	50	14

Table 32. Number of cases and days away from work for hernia in males by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
32	Stone, clay, and glass products	460	373 , 547	52	23
33	Primary metal industries	718	620 , 816	65	24
34	Fabricated metal products	1425	1264 , 1586	59	26
35	Industrial machinery and equipment	1631	1477 , 1785	48	20
36	Electronic and other electric equipment	394	334 , 454	51	22
37	Transportation equipment	1279	1111 , 1447	65	26
38	Instruments and related products	184	149 , 219	38	15
39	Misc. manufacturing industries	92	65 , 119	59	23
	Transportation, Communications, Electric, Gas, and Sanitary Services				
41	Local and interurban passenger transit	54	27 , 81	72	33
42	Trucking and warehousing	1539	1148 , 1930	51	23
44	Water transportation	88	52 , 124	64	40
45	Transportation by air	848	667 , 1029	61	32
47	Transportation services	74	48 , 100	58	30
48	Communications	134	89 , 179	36	17
49	Electric, gas, and sanitary services	240	182 , 298	57	24
	Wholesale Trade				
50	Wholesale trade—durable goods	1700	1401 , 1999	49	18
51	Wholesale trade—nondurable goods	1171	961 , 1381	58	25
	Retail Trade				
52	Building materials and garden supplies	314	206 , 422	30	7
53	General merchandise stores	498	359 , 637	55	25
54	Food stores	611	418 , 804	58	26
55	Automotive dealers and service stations	1021	794 , 1248	36	15
56	Apparel and accessory stores	155	109 , 201	95	79
57	Furniture and home furnishings stores	293	202 , 384	52	22
59	Misc. retail	265	191 , 339	33	11
	Finance, Insurance, and Real Estate				
60	Depository institutions	28	8 , 48	23	9
61	Nondepository institutions	14	1 , 28	0	8
63	Insurance carriers	15	4 , 26	30	6
65	Real estate	254	173 , 335	74	42
	Services				
70	Hotels and other lodging places	332	208 , 456	69	32
72	Personal services	104	56 , 152	70	31
73	Business services	533	382 , 684	72	34
75	Auto repair, services, and parking	470	282 , 658	56	30
76	Misc. repair services	135	68 , 202	38	15
79	Amusement and recreation services	295	196 , 394	29	12
80	Health services	744	601 , 887	30	15
82	Educational services	106	73 , 139	60	33
83	Social services	812	629 , 995	98	24
86	Membership organizations	133	73 , 193	71	25
87	Engineering and management services	77	39 , 115	62	24

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Indicates no relative standard error available.

Table 33. Incidence rate (IR) of hernia by industry in males, 1994

SIC code	Industry	Male Workers	Hernia cases	I.R.
1-9	Agriculture	1,370,000	516	3.8
10-14	Mining	549,000	271	4.9
15-17	Construction	4,908,000	4,129	8.4
20-39	Manufacturing	13,337,000	11,810	8.9
40-49	Transportation	4,745,000	2,391	5.0
50-51	Wholesale Trade	3,074,000	3,294	10.7
52-59	Retail Trade	9,379,000	4,681	5.0
60-66	Finance and Insurance	2,819,000	620	2.2
70-87	Service	11,047,000	3,080	2.8

Source: Current Population Survey, 1994

Table 34. Number of cases, days away from work for hernia in males by occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
	All private industry	27,928	22,058 , 23,748	56	24
	Executive, Administrative, and Managerial Occupations				
013	Managers, marketing, advertising, public relations	17	1 , 36	6	4
022	Managers and administrators,*	355	269 , 441	15	10
	Professional Specialty Occupations				
095	Registered nurses	19	1 , 39	57	22
103	Physical therapists	285	208 , 362	0	15
199	Athletes	18	1 , 37	0	12
	Technicians and Related Support Occupations				
208	Health technologists,*	56	22 , 90	72	30
213	Electrical, electronic technicians	196	132 , 260	5	3
216	Engineering technicians,*	37	9 , 65	96	26
235	Technicians,*	94	50 , 138	35	15
	Sales Occupations				
243	Supervisors and proprietors, sales occupations	415	322 , 508	40	10
259	Sales representatives, mining, manufacturing, wholesale	171	112 , 230	38	8
263	Sales representatives, motor vehicles and boats	37	9 , 65	74	21
265	Sales workers, shoes	139	85 , 193	100	79
268	Sales workers, hardware and building supplies	88	45 , 131	32	8
274	Sales workers, other commodities	217	150 , 284	89	65
276	Cashiers	95	51 , 139	77	30
	Administrative Support Occupations, Including Clerical				
307	Supervisors, clerks, distribution and adjusting	18	1 , 37	28	17
357	Messengers	18	1 , 37	36	20
359	Dispatchers	38	10 , 66	31	6
363	Production coordinators	42	12 , 72	47	16
364	Shipping and receiving clerks	423	329 , 517	62	30
365	Stock and inventory clerks	222	154 , 290	48	15
373	Expeditors	15	1 , 32	67	30
389	Administrative support,*	42	13 , 71	29	15

Table 34. Number of cases, days away from work for hernia in males by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
Protective Service Occupations					
426	Guards and police, except public	84	42 , 126	63	34
Service Occupations, Except Protective Service and Household					
435	Waiters and waitresses	65	28 , 102	84	25
436	Cooks	43	13 , 73	47	15
444	Misc. food preparation	44	14 , 74	33	10
446	Health aides, except nursing	775	648 , 902	100	24
447	Nursing aides, orderlies	113	65 , 161	54	25
449	Maids and housemen	119	69 , 169	84	32
453	Janitors and cleaners	914	776 , 1052	65	30
456	Supervisors, personal service	18	1 , 37	100	34
464	Baggage porters and bellhops	53	20 , 86	29	20
469	Personal service,*	48	16 , 80	87	27
Farming, Forestry, and Fishing Occupations					
479	Farm workers	157	100 , 214	52	30
485	Supervisors, related agricultural	135	82 , 188	94	26
486	Groundskeepers and gardeners, except farm	244	173 , 315	35	20
Precision Production, Craft, and Repair Occupations					
503	Supervisors, mechanics, repairers	56	22 , 90	36	20
505	Mechanics, automobile	688	568 , 808	48	18
507	Mechanics, bus, truck, stationary engine	287	210 , 364	84	36
514	Repairers, automobile body	101	55 , 147	36	20
516	Mechanics, heavy equipment	317	236 , 398	15	16
517	Mechanics, farm equipment	46	15 , 77	0	8
518	Repairers, industrial machinery	292	214 , 370	66	25
519	Machinery maintenance	44	14 , 74	71	24
523	Repairers, electronic, communication equipment	42	12 , 72	82	35
526	Repairers, household appliances, power tools	51	19 , 83	63	79
529	Telephone installers, repairers	54	21 , 87	36	19
533	Repairers, misc. electrical, electronic	91	48 , 134	61	32
534	Mechanics, heating, air conditioning	75	36 , 114	54	21
539	Repairers, mechanical controls, valves	36	9 , 63	97	60
544	Millwrights	61	26 , 96	59	27
547	Specified mechanics, repairers,*	352	267 , 437	68	35
549	Mechanics, repairers, not specified	511	408 , 614	49	20
558	Supervisors,*	147	92 , 202	62	30
563	Brickmasons and stonemasons	96	52 , 140	52	23
565	Tile setters, hard and soft	74	35 , 113	4	15
566	Carpet installers	46	15 , 77	10	7
567	Carpenters	531	426 , 636	48	20
573	Drywall installers	95	51 , 139	35	8
575	Electricians	410	318 , 502	52	23
576	Apprentices, electrician	152	96 , 208	13	8
577	Electrical power installers, repairers	43	13 , 73	80	30
579	Painters	127	76 , 178	36	20
584	Plasterers	37	9 , 65	97	32

Table 34. Number of cases, days away from work for hernia in males by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
585	Plumbers and pipefitters	274	199 , 349	56	28
587	Apprentices, plumber, pipefitter	38	10 , 66	100	41
589	Glaziers	37	9 , 65	23	15
593	Insulation workers	36	9 , 63	91	27
595	Roofers	64	28 , 100	29	12
597	Structural metal workers	75	36 , 114	39	14
614	Drillers, oil well	19	1 , 39	57	25
617	Mining occupations,*	17	1 , 36	100	51
628	Supervisors, production workers	335	252 , 418	31	15
634	Tool and die makers	144	89 , 199	44	17
637	Machinists	574	465 , 683	56	25
653	Sheet metal workers	53	20 , 86	74	26
657	Cabinet makers, bench carpenters	57	23 , 91	81	25
683	Assemblers, electrical, electronic	59	24 , 94	32	19
684	Misc. precision workers,*	39	11 , 67	25	17
686	Butchers and meat cutters	238	168 , 308	36	12
687	Bakers	53	20 , 86	95	30
689	Inspectors, testers, graders	66	29 , 103	28	10
	Machine Operators, Assemblers, and Inspectors				
706	Punching and stamping machine operators	127	76 , 178	73	28
709	Grinding and polishing machine operators	123	73 , 173	70	30
714	Numerical control machine operators	42	13 , 71	25	15
717	Fabricating machine operators,*	50	18 , 82	42	20
719	Molding and casting machine operators	152	96 , 208	63	28
723	Metal plating machine operators	49	17 , 81	35	10
727	Sawing machine operators	69	31 , 107	44	20
733	Misc. woodworking machine operators	42	13 , 71	71	22
734	Printing press operators	89	46 , 132	57	24
749	Misc. textile machine operators	17	1 , 36	100	29
754	Packaging, filling machine operators	233	164 , 302	77	37
755	Extruding and forming machine operators	62	26 , 98	62	23
756	Mixing and blending machine operators	153	97 , 209	53	22
757	Separating, filtering, clarifying machine operators	66	29 , 103	67	45
759	Painting and paint spraying machine operators	152	96 , 208	64	25
766	Furnace, kiln, and oven operators, except food	40	11 , 69	64	27
768	Crushing and grinding machine operators	57	23 , 91	41	19
769	Slicing and cutting machine operators	158	101 , 215	68	28
777	Misc. machine operators,*	1295	1130 , 1460	65	26
779	Machine operators, not specified	322	240 , 404	74	41
783	Welders and cutters	631	516 , 746	54	21
785	Assemblers	716	594 , 838	68	29
796	Production inspectors	63	27 , 99	67	24
797	Production testers	19	1 , 39	87	31
799	Graders, sorters, except farm	50	18 , 82	28	11
803	Supervisors, motor vehicle operators	41	12 , 70	55	30

Table 34. Number of cases, days away from work for hernia in males by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
Transportation and Material Moving Occupations					
804	Truck drivers	2209	1993 , 2425	61	28
806	Driver-sales workers	447	351 , 543	59	25
828	Ship captains, mates, except fishing	15	1 , 33	77	41
829	Sailors and deckhands	16	1 , 34	100	40
844	Operating engineers	37	9 , 65	81	30
856	Industrial truck operators	173	113 , 233	61	25
859	Misc. moving equipment operators	121	71 , 171	51	23
Handlers, Equipment Cleaners, Helpers, Laborers					
865	Helpers, mechanics and repairers	19	1 , 39	74	35
866	Helpers, construction trades	176	116 , 236	80	29
869	Construction laborers	620	507 , 733	67	30
874	Helpers, production	160	102 , 218	81	38
877	Stock handlers and baggers	412	320 , 504	39	18
878	Machine feeders and offbearers	150	94 , 206	69	23
883	Freight, stock, material handlers,*	1479	1303 , 1655	49	19
885	Garages, service stations	197	133 , 261	20	17
887	Vehicle washers and cleaners	76	36 , 116	71	37
888	Hand packers and packagers	56	22 , 90	59	27
889	Laborers, nonconstruction	1879	1680 , 2078	56	25
Non-classifiable					
999	Non-classifiable	302	223 , 381	68	28

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 35. Number of cases, days away from work for hernia in males by major occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
01	Executive, administrative, and managerial occupations	434	339 , 529	16	10
02	Professional specialty occupations	478	378 , 578	9	15
03	Technicians and related support occupations	456	359 , 553	29	15
04	Sales occupations	1211	1052 , 1370	58	24
05	Administrative support occupations, including clerical	1015	870 , 1160	50	21
07	Protective service occupations	88	45 , 131	61	27
08	Service occupations, exc. protective and household	2340	2118 , 2562	75	24
09	Farming, forestry, and fishing occupations	615	502 , 728	52	24
10	Mechanics and repairers	3162	2902 , 3422	53	22
11	Construction trades	2422	2196 , 2648	48	20
12	Extractive occupations	60	25 , 95	87	31
13	Precision production occupations	1741	1550 , 1932	46	19
14	Machine operators and tenders, except precision	3634	3355 , 3913	63	27
15	Fabricators, assemblers, and handworking occupations	1409	1237 , 1581	60	26
16	Production inspectors, testers, samplers and weighers	159	102 , 216	62	24
17	Transportation and material moving occupations	3157	2897 , 3417	61	28
18	Handlers, equipment cleaners, helpers and laborers	5246	4908 , 5584	55	23
21	Nonclassifiable	302	223 , 381	68	28

Source: Bureau of Labor Statistics, U.S. Department of Labor

Table 36. Top 18 occupations for hernia in males, 1996

BOC code	Occupation	Total cases	Median days away from work
804	Truck drivers	2209	28
889	Laborers, nonconstruction	1879	25
883	Freight, stock, material handlers,*	1479	19
777	Misc. machine operators,*	1295	26
453	Janitors and cleaners	914	30
446	Health aides, except nursing	775	24
785	Assemblers	716	29
505	Mechanics, automobile	688	18
783	Welders and cutters	631	21
869	Construction laborers	620	30
637	Machinists	574	25
567	Carpenters	531	20
549	Mechanics, repairers, not specified	511	20
806	Driver-sales workers	447	25
364	Shipping and receiving clerks	423	30
243	Supervisors and proprietors	415	10
877	Stock handlers and baggers	412	18
575	Electricians	410	23

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 37. Number of cases and days away from work for hernia in males by causal event, 1996

Event code	Event	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
012	Struck against stationary object	48	16 , 80	79	30
021	Struck by falling object	47	16 , 78	86	29
023	Struck by swinging or slipping object	50	18 , 82	63	27
061	Rubbed, abraded, or jarred by vehicle or mobile equipment vibration	16	1 , 34	0	15
111	Fall down stairs or steps	18	1 , 37	95	44
119	Fall to lower level,*	34	8 , 60	13	1
131	Fall to floor, walkway, or other surface	99	54 , 144	54	22
132	Fall onto or against objects	58	23 , 93	26	3
20	Bodily reaction and exertion, unspecified	197	133 , 261	43	20
210	Bodily reaction, unspecified	201	137 , 265	87	79
211	Bending, climbing, crawling, reaching, twisting	645	529 , 761	58	24
212	Sudden reaction when surprised, frightened, startled	17	1 , 36	94	21
215	Slip, trip, loss of balance—without fall	327	245 , 409	55	24
219	Bodily reaction,*	223	155 , 291	85	41
220	Overexertion, unspecified	1150	995 , 1305	63	29
221	Overexertion in lifting	16865	16220 , 17510	55	24
222	Overexertion in pulling or pushing objects	3804	3518 , 4090	59	24
223	Overexertion in holding, carrying, turning, or welding objects	1648	1462 , 1834	42	18
229	Overexertion,*	918	780 , 1056	47	17
230	Repetitive motion, unspecified	92	48 , 136	73	36
232	Repetitive use of tools	20	1 , 40	19	17
233	Repetitive placing, grasping, or moving objects, except tools	162	104 , 220	79	29
239	Repetitive motion,*	47	16 , 78	56	25
29	Bodily reaction and exertion,*	105	58 , 152	44	15
999	Nonclassifiable	839	707 , 971	61	28

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 38. Number of cases, rates, and days away from work for dermatitis by industry, 1996

SIC code	Industry	Total cases	95% CI	Rate	95% CI for rate	Cases involving >20 days (%)	Median days away from work
	All private industry	6,884	6508 , 7260	.80	.76 , .84	6	3
	Agriculture, Forestry, and Fishing						
018	Horticultural specialties	19	1 , 40	1.42	0.0 , 3.0	0	4
078	Landscape and horticultural services	207	120 , 294	5.90	3.4 , 8.4	0	2
	Construction						
152	Residential building construction	61	14 , 108	1.08	0.2 , 2.0	0	4
162	Heavy construction, except highway	44	12 , 76	0.84	0.2 , 1.4	9	2
171	Plumbing, heating, and air-conditioning	96	36 , 156	1.33	0.4 , 2.2	0	1
176	Roofing, siding, and sheet metal work	18	1 , 38	0.98	0.0 , 2.0	0	1
177	Concrete work	45	15 , 75	1.98	0.6 , 3.2	0	4
	Manufacturing						
201	Meat products	49	21 , 77	1.00	0.4 , 1.6	6	2
203	Preserved fruits and vegetables	25	7 , 43	1.08	0.2 , 1.8	0	3
204	Grain mill products	17	1 , 35	1.25	0.0 , 2.6	0	7
205	Bakery products	13	2 , 24	0.63	0.0 , 1.2	18	4
209	Misc. food and kindred products	28	10 , 46	1.59	0.6 , 2.6	0	2
227	Carpets and rugs	16	1 , 31	2.66	0.2 , 5.2	22	1
228	Yarn and thread mills	12	1 , 23	1.41	0.0 , 2.8	0	4
229	Misc. textile goods	13	3 , 23	2.45	0.6 , 4.2	0	1
231	Men's and boys' suits and coats	10	2 , 18	3.25	0.8 , 5.8	0	3
232	Men's and boys furnishings	41	23 , 59	1.97	1.2 , 2.8	14	2
236	Girls' and children's outerwear	12	3 , 21	3.47	0.8 , 6.0	0	2
239	Misc. fabricated textile products	40	18 , 62	1.89	0.8 , 3.0	25	3
251	Household furniture	10	1 , 20	0.35	0.0 , 0.8	0	1
262	Paper mills	20	7 , 33	1.17	0.4 , 2.0	0	4
267	Misc. converted paper products	21	7 , 35	0.86	0.2 , 1.4	88	34
272	Periodicals	8	1 , 16	0.68	0.0 , 1.4	0	4
275	Commercial Printing	31	15 , 47	0.57	0.2 , 0.8	10	2
279	Service Industries for printing trade	8	1 , 17	1.61	0.0 , 3.4	0	2
283	Drugs	21	9 , 33	0.82	0.4 , 1.2	40	5
286	Industrial organic chemicals	11	2 , 20	0.72	0.2 , 1.4	0	3
289	Misc. chemical products	14	1 , 29	1.49	0.0 , 3.0	88	33
305	Hose and belting and gaskets	27	8 , 46	3.94	1.2 , 6.6	32	3
306	Fabricated rubber products,*	12	1 , 24	1.03	0.0 , 2.0	28	5
308	Misc. plastics products,*	159	108 , 210	2.20	1.4 , 3.0	6	2
314	Footwear, except rubber	9	3 , 15	2.12	0.8 , 3.4	0	3
323	Products of purchased glass	7	1 , 14	1.20	0.0 , 2.4	0	4
331	Blast furnace and basic steel products	14	1 , 27	0.57	0.0 , 1.2	21	10
332	Iron and steel foundries	34	15 , 53	2.54	1.2 , 4.0	6	1
333	Primary nonferrous metals	6	1 , 12	1.49	0.0 , 3.0	0	3
335	Nonferrous rolling and drawing	8	1 , 16	0.47	0.0 , 1.0	24	1
342	Cutlery, handtools, and hardware	20	7 , 33	1.62	0.6 , 2.6	22	10
343	Plumbing and heating, except electric	11	1 , 22	1.90	0.0 , 3.8	0	4
345	Screw machine products, bolts, etc	41	16 , 66	4.00	1.6 , 6.4	6	4
347	Metal services,*	16	1 , 31	1.21	0.0 , 2.4	18	4
348	Ordnance and accessories,*	8	2 , 14	1.61	0.4 , 2.8	0	2

Table 38. Number of cases, rates, and days away from work for dermatitis by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate	95% CI for rate	Cases involving >20 days (%)	Median days away from work
349	Misc. fabricated metal products	57	30 , 84	2.20	1.2 , 3.2	26	4
351	Engines and turbines	27	9 , 45	3.20	1.0 , 5.4	0	5
352	Farm and garden machinery	7	1 , 15	0.69	0.0 , 1.6	58	24
353	Construction and related machinery	57	30 , 84	2.35	1.2 , 3.4	0	9
354	Metalworking machinery	54	27 , 81	1.51	0.8 , 2.2	0	3
355	Special industry machinery	40	17 , 63	2.19	1.0 , 3.4	0	2
356	General industrial machinery	59	34 , 84	2.26	1.4 , 3.2	4	2
358	Refrigeration and service machinery	25	9 , 41	1.17	0.4 , 2.0	0	10
359	Industrial machinery,*	57	30 , 84	1.61	0.8 , 2.4	7	4
361	Electric distribution equipment	8	1 , 17	0.93	0.0 , 2.0	0	17
362	Electrical industrial apparatus	36	19 , 53	2.32	1.2 , 3.4	7	3
364	Electric lighting and wiring equipment	14	3 , 25	0.78	0.2 , 1.4	36	8
366	Communications equipment	5	1 , 10	0.20	0.0 , 0.4	0	5
367	Electronic components and accessories	111	79 , 143	1.79	1.2 , 2.4	2	3
369	Misc. electrical equipment and supplies	13	3 , 23	0.85	0.2 , 1.6	0	3
371	Motor vehicles and equipment	172	110 , 234	1.73	1.2 , 2.4	15	4
372	Aircraft and parts	47	18 , 76	1.00	0.4 , 1.6	21	5
379	Misc. transportation equipment	9	1 , 17	1.83	0.2 , 3.6	0	2
382	Measuring and controlling devices	21	10 , 32	0.73	0.4 , 1.2	14	3
384	Medical instruments and supplies	15	7 , 23	0.57	0.2 , 0.8	0	2
385	Ophthalmic goods	45	18 , 72	13.10	5.2 , 21.0	0	1
393	Musical instruments	8	1 , 16	5.53	0.2 , 10.8	0	5
394	Toys and sporting goods	13	4 , 22	1.18	0.4 , 2.0	20	3
399	Misc. manufactures	13	2 , 24	0.90	0.2 , 1.6	0	2
	Transportation, Communications, Electric, Gas, and Sanitary Services						
411	Local and suburban transportation	16	1 , 32	0.95	0.0 , 2.0	27	8
481	Telephone communications	62	30 , 94	0.69	0.4 , 1.0	0	3
484	Cable and other pay television services	29	10 , 48	1.80	0.6 , 3.0	0	2
491	Electric services	51	25 , 77	1.33	0.6 , 2.0	0	1
492	Gas production and distribution	16	5 , 27	1.10	0.4 , 1.8	0	1
493	Combination utility services	14	4 , 24	0.88	0.2 , 1.6	0	3
	Wholesale Trade						
504	Professional and commercial equipment	334	191 , 477	4.25	2.4 , 6.0	0	2
	Retail Trade						
531	Department stores	129	55 , 203	0.73	0.4 , 1.2	7	5
541	Grocery stores	179	75 , 283	0.82	0.4 , 1.2	4	7
591	Drug stores and proprietary stores	41	16 , 66	0.94	0.4 , 1.6	0	5
	Finance, Insurance, and Real Estate Services						
653	Real estate agents and managers	39	10 , 68	0.69	0.2 , 1.2	0	2
	Services						
701	Hotels and motels	120	48 , 192	0.90	0.4 , 1.4	2	2
734	Services to buildings	367	231 , 503	5.61	3.6 , 7.6	0	2
794	Commercial sports	7	1 , 14	0.98	0.0 , 2.0	0	6
799	Misc. amusement, recreation services	123	56 , 190	1.66	0.8 , 2.6	0	3
801	Offices and clinics of medical doctors	15	1 , 31	0.11	0.0 , 0.2	13	4

Table 38. Number of cases, rates, and days away from work for dermatitis by industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Rate	95% CI for rate	Cases involving >20 days (%)	Median days away from work
805	Nursing and personal care facilities	644	412 , 876	4.71	3.0 , 6.4	7	4
806	Hospitals	452	366 , 538	1.51	1.2 , 1.8	11	2
807	Medical and dental laboratories	7	1 , 15	0.42	0.0 , 0.8	38	7
808	Home health care services	53	16 , 90	1.11	0.4 , 1.8	0	2
822	Colleges and universities	35	20 , 50	0.59	0.4 , 0.8	0	6
832	Individual and family services	20	1 , 43	0.38	0.0 , 0.8	0	1
873	Research and testing services	10	1 , 21	0.19	0.0 , 0.4	16	1
874	Management and public relations	20	1 , 39	0.24	0.0 , 0.4	0	1

Source: Bureau of Labor Statistics, U.S. Department of Labor.

*Not classified elsewhere.

Table 39. Top manufacturing and nonmanufacturing industries by rate* for dermatitis, 1996

SIC code	Industry	Rate per 10,000 workers	Total cases*	Median days away from work
Manufacturing				
353	Construction and related machinery	2.4	57	9
356	General industrial machinery	2.3	59	2
308	Misc. plastics products,**	2.2	159	2
349	Misc. fabricated metal products	2.2	57	4
367	Electronic components and accessories	1.8	111	3
371	Motor vehicles and equipment	1.7	172	4
359	Industrial machinery,**	1.6	57	4
354	Metalworking machinery	1.5	54	3
Nonmanufacturing				
078	Landscape and horticultural services	5.9	207	2
734	Services to buildings	5.6	367	2
805	Nursing and personal care facilities	4.7	644	4
504	Professional and commercial equipment, wholesale trade	4.3	334	2
799	Misc. amusement, recreation services	1.7	123	3
806	Hospitals	1.5	452	2

Source: Bureau of Labor Statistics, U.S. Department of Labor

*N > 50; Rate > 1.5/10,000

**Not elsewhere classified

Table 40. Number of cases, days away from work for dermatitis by source, 1996

Source Code	Source	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
00	Chemicals and chemical products, unspecified	638	523 , 753	7	3
021	Calcium hydroxides, calcium oxides	42	13 , 71	20	7
031	Alcohols	195	132 , 258	4	4
036	Ketones	17	1 , 36	0	3
042	Chlorine and chlorine compounds	59	24 , 94	0	2
056	Other metallics and compounds	19	1 , 39	0	14
065	Insecticides	48	17 , 79	0	3
069	Agricultural and horticultural chemicals,*	17	1 , 36	0	1
070	Chemical products, unspecified	208	142 , 274	14	2
071	Adhesives, glues,*	34	8 , 60	51	67
072	Beauty preparations, cosmetics,*	46	15 , 77	0	14
073	Cleaning and polishing agents, disinfectants,*	901	764 , 1038	4	2
074	Drugs, alcohol, medicines	55	21 , 89	0	2
076	Paint, lacquer, shellac, varnish,*	43	13 , 73	27	2
077	Solvents, degreasers,*	69	31 , 107	23	5
079	Other chemical products	174	114 , 234	9	2
084	Petroleum fuels, distillates, and products,*	134	81 , 187	4	2
095	Plastics, resins	153	97 , 209	13	3
099	Chemicals and chemical products,*	178	117 , 239	10	3
415	Wood, lumber	16	1 , 34	0	2
460	Tars, sealants, caulking, insulating materials, unspecified	18	1 , 38	0	11
462	Fiberglass insulation	57	23 , 91	5	1
524	Fruits, nuts, vegetables	330	247 , 413	0	7
526	Meat, poultry	131	79 , 183	0	7
541	Metal ores—nonradiating	18	1 , 38	0	9
580	Plants, trees, vegetation—not processed, unspecified	80	39 , 121	0	1
585	Poison ivy, oak, sumac	810	680 , 940	0	3
921	Clothing and shoes	580	470 , 690	8	3
923	Textile products	44	14 , 74	18	3
951	Chips, particles, splinters	181	120 , 242	3	2
999	Nonclassifiable	927	788 , 1066	3	2

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 41. Number of cases, days away from work for industries by source of dermatitis, 1996

SIC code	Industry	Source	Count	Days away from work
50	Wholesale trade—durable goods	Non-classifiable	332	2
80	Health services	Clothing and shoes	324	4
01	Agricultural production—crops	Fruits, nuts, vegetables	306	7
73	Business services	Cleaning and polishing agents, disinfectants,*	302	2
80	Health services	Cleaning and polishing agents, disinfectants,*	268	2
07	Agricultural services	Poison ivy, oak, sumac	172	2
80	Health services	Non-classifiable	167	3
73	Business services	Poison ivy, oak, sumac	151	3
54	Food stores	Meat, poultry	119	7
35	Industrial machinery and equipment	Alcohols	116	5
17	Special trade contractors	Poison ivy, oak, sumac	101	1
80	Health services	Chemicals and chemical products, unspecified	100	1
79	Amusement and recreation services	Clothing and shoes	89	3
80	Health services	Other chemical products	78	3
48	Communications	Poison ivy, oak, sumac	68	3
37	Transportation equipment	Chemicals and chemical products, unspecified	64	2
34	Fabricated metal products	Chemicals and chemical products, unspecified	55	2
35	Industrial machinery and equipment	Petroleum fuels, distillates, and products,*	51	2

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 42. Number of cases, days away from work for dermatitis by occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
	All private industry	6,884	6508 , 7260	6	3
	Professional Specialty Occupations				
095	Registered nurses	144	89 , 199	14	2
	Technicians and Related Support Occupations				
203	Clinical laboratory technologists	17	1 , 36	27	9
207	Licensed practical nurses	41	12 , 70	64	30
208	Health technologists,*	44	14 , 74	16	4
213	Electrical, electronic technicians	36	9 , 63	0	3
216	Engineering technicians,*	46	15 , 77	0	1
235	Technicians,*	37	9 , 65	4	1
	Sales Occupations				
243	Supervisors and proprietors, sales occupations	36	9 , 63	4	5
259	Sales representatives, mining, manufacturing, wholesale	329	246 , 412	0	2
264	Sales workers, Apparel	44	14 , 74	20	11
276	Cashiers	53	20 , 86	14	3
	Administrative Support Occupations, Including Clerical				
319	Receptionists	17	1 , 36	0	4
347	Office machine operators,*	20	1 , 40	0	2
389	Administrative support,*	17	1 , 36	0	5
	Service Occupations, Except Protective and Household				
436	Cooks	61	26 , 96	0	5
439	Kitchen workers	18	1 , 37	0	10
444	Misc. food preparation	273	198 , 348	2	10
446	Health aides, except nursing	161	103 , 219	2	4

Table 42. Number of cases, days away from work for dermatitis by occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
447	Nursing aides, orderlies	540	434 , 646	7	3
449	Maids and housemen	167	108 , 226	1	2
453	Janitors and cleaners	472	373 , 571	2	2
459	Attendants, amusement, recreation	43	13 , 73	0	1
465	Welfare service aides	16	1 , 34	0	12
Farming, Forestry, and Fishing Occupations					
479	Farm workers	118	69 , 167	3	2
484	Nursery workers	43	13 , 73	0	1
486	Groundskeepers and gardeners, except farm	315	234 , 396	0	2
488	Graders and sorters, farm products	322	240 , 404	0	7
Precision Production, Craft, and Repair Occupations					
505	Mechanics, automobile	76	36 , 116	0	2
518	Repairers, industrial machinery	16	1 , 34	19	3
534	Mechanics, heating, air conditioning	38	10 , 66	0	1
547	Specified mechanics, repairers,*	20	1 , 41	8	2
567	Carpenters	51	19 , 83	19	4
575	Electricians	19	1 , 39	0	2
583	Paperhangers	100	55 , 145	0	3
585	Plumbers and pipefitters	104	58 , 150	0	1
599	Construction trades,*	16	1 , 34	0	5
628	Supervisors, production workers	47	16 , 78	8	4
637	Machinists	85	43 , 127	15	2
683	Assemblers, electrical, electronic	49	17 , 81	5	10
686	Butchers and meat cutters	16	1 , 34	0	2
Machine Operators, Assemblers, and Inspectors					
709	Grinding and polishing machine operators	48	17 , 79	0	1
734	Printing press operators	51	19 , 83	39	6
744	Textile sewing machine operators	65	28 , 102	30	9
748	Laundry, dry cleaning machine operators	37	9 , 65	0	2
766	Furnace, kiln, and oven operators, except food	19	1 , 39	0	5
777	Misc. machine operators,*	419	326 , 512	8	4
779	Machine operators, not specified	108	61 , 155	4	2
783	Welders and cutters	38	10 , 66	0	4
785	Assemblers	235	165 , 305	15	3
796	Production inspectors	43	13 , 73	23	4
799	Graders, sorters, except farm	17	1 , 36	18	3
Transportation and Material Moving Occupations					
804	Truck drivers	38	10 , 66	0	3
Handlers, Equipment Cleaners, Helpers, and Laborers					
869	Construction laborers	98	53 , 143	6	3
878	Machine feeders and offbearers	18	1 , 38	0	2
883	Freight, stock, material handlers,*	85	43 , 127	9	5
887	Vehicle washers and cleaners	44	14 , 74	0	2
888	Hand packers and packagers	176	116 , 236	0	7
889	Laborers, nonconstruction	269	194 , 344	2	3
Non-classifiable					
999	Non-classifiable	41	12 , 70	21	1

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 43. Occupations with more than 50 cases of dermatitis, 1996

BOC code	Occupation	Total cases	Median days away from work
447	Nursing aides, orderlies	540	3
453	Janitors and cleaners	472	2
777	Misc. machine operators,*	419	4
259	Mining, manufacturing, wholesale	329	2
488	Graders and sorters, farm products	322	7
486	Groundskeepers and gardeners, except farm	315	2
444	Misc. food preparation	273	10
889	Laborers, nonconstruction	269	3
785	Assemblers	235	3
888	Hand packers and packagers	176	7
449	Maids and housemen	167	2
446	Health aides, except nursing	161	4
095	Registered nurses	144	2
479	Farm workers	118	2
779	Machine operators, not specified	108	2
585	Plumbers and pipefitters	104	1
583	Paperhangers	100	3
869	Construction laborers	98	3
637	Machinists	85	2
883	Freight, stock, material handlers,*	85	5
505	Mechanics, automobile	76	2
744	Textile sewing machine operators	65	9
436	Cooks	61	5
276	Cashiers	53	3
734	Printing press operators	51	6
567	Carpenters	51	4

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 44. Number of cases, days away from work for anxiety, stress, and neurotic disorders by sex and industry, 1996

SIC code	Industry	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
<i>Female</i>					
Agriculture, Forestry, and Fishing					
025	Poultry and eggs	23	7 , 39	0	4
Manufacturing					
203	Preserved fruits and vegetables	12	1 , 24	100	44
271	Newspapers	13	2 , 24	92	58
272	Periodicals	7	1 , 14	0	10
273	Books	10	2 , 18	100	39
275	Commercial Printing	23	10 , 36	10	10
286	Industrial organic chemicals	6	1 , 12	100	26
348	Ordinance and accessories, nec	5	1 , 9	50	4
357	Computer and office equipment	16	6 , 26	74	53
367	Electronic components and accessories	33	17 , 49	70	41
371	Motor vehicles and equipment	105	57 , 153	37	12
372	Aircraft and parts	14	1 , 29	62	50
382	Measuring and controlling devices	8	1 , 15	77	76
Transportation, Communications, Electric, Gas, and Sanitary Services					
411	Local and suburban transportation	19	2 , 36	15	7
414	Bus charter service	7	1 , 15	100	210
415	School buses	8	1 , 16	100	75
451	Air transportation, scheduled	109	45 , 173	58	61
473	Freight transportation arrangement	13	3 , 23	26	9
481	Telephone communications	53	24 , 82	67	45
483	Radio and television broadcasting	9	1 , 19	0	13
484	Cable and other pay television services	14	1 , 27	72	23
493	Combination utility services	14	4 , 24	100	22
Retail Trade					
531	Department stores	90	28 , 152	36	16
541	Grocery stores	111	29 , 193	61	35
562	Women's clothing stores	15	2 , 28	100	50
565	Family clothing stores	20	7 , 33	41	19
Finance, Insurance, and Real Estate					
602	Commercial banks	212	150 , 274	66	77
603	Savings institutions	84	42 , 126	99	60
615	Business credit institutions	31	8 , 54	92	27
631	Life insurance	36	18 , 54	55	22
632	Medical service and health insurance	31	15 , 47	58	26
633	Fire, marine, and casualty insurance	25	10 , 40	60	28
641	Insurance agents, brokers, and service	219	131 , 307	9	1
Services					
737	Computer and data processing services	67	36 , 98	73	138
783	Motion picture theaters	148	53 , 243	9	1
801	Offices and clinics of medical doctors	254	130 , 378	11	1
806	Hospitals	167	115 , 219	44	18
807	Medical and dental laboratories	11	1 , 21	75	48

Table 44. Number of cases, days away from work for anxiety, stress, and neurotic disorders by sex and industry, 1996, cont.

SIC code	Industry	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
808	Home health care services	61	21 , 101	56	34
811	Legal services	53	18 , 88	55	65
822	Colleges and universities	24	12 , 36	47	19
832	Individual and family services	189	113 , 265	84	101
836	Residential care	92	31 , 153	53	29
873	Research and testing services	11	1 , 22	0	4
	<i>Male</i>				
	Construction				
179	Misc. special trade contractors	110	49 , 171	0	1
	Manufacturing				
201	Meat products	13	1 , 27	0	2
205	Bakery products	17	4 , 30	56	78
208	Beverages	10	1 , 21	68	25
251	Household furniture	8	1 , 17	0	14
271	Newspapers	42	22 , 62	9	6
291	Petroleum refining	17	8 , 26	52	24
331	Blast furnace and basic steel products	12	1 , 24	100	32
335	Nonferrous rolling and drawing	18	6 , 30	22	16
357	Computer and office equipment	5	1 , 10	28	20
366	Communications equipment	17	7 , 27	0	3
371	Motor vehicles and equipment	214	144 , 284	66	29
	Transportation, Communications, Electric, Gas, and Sanitary Services				
411	Local and suburban transportation	12	1 , 25	48	15
414	Bus charter service	19	4 , 34	9	7
451	Air transportation, scheduled	64	15 , 113	17	12
481	Telephone communications	38	13 , 63	41	20
	Retail Trade				
553	Auto and home supply stores	599	415 , 783	1	6
573	Radio, television, and computer stores	38	16 , 60	96	49
	Finance, Insurance, and Real Estate				
601	Central reserve depositories	6	2 , 10	80	42
631	Life insurance	28	12 , 44	84	90
633	Fire, marine, and casualty insurance	28	11 , 45	71	76
641	Insurance agents, brokers, and service	15	1 , 32	86	37
672	Investment offices	11	4 , 18	92	77
	Services				
737	Computer and data processing services	8	1 , 17	81	171
738	Misc. business services	62	22 , 102	93	118
806	Hospitals	50	21 , 79	39	20
832	Individual and family services	19	1 , 41	100	80

Source: Bureau of Labor Statistics, U.S. Department of Labor

Table 45. Number of cases, days away from work for events that resulted in anxiety, stress, and neurotic disorders by sex, 1996

Event	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
<i>Female</i>				
Bodily conditions,*	1882	1683 , 2081	50	21
Bodily reaction and exertion,*	98	53 , 143	30	12
Exposure to traumatic or stressful event,*	785	657 , 913	39	10
Assaults and violent acts by person(s)	431	336 , 526	28	4
Assaults by animals	53	20 , 86	100	61
Nonclassifiable	34	7 , 61	82	27
<i>Male</i>				
Bodily conditions,*	1335	1168 , 1502	19	6
Bodily reaction and exertion,*	105	59 , 151	79	35
Exposure to traumatic or stressful event,*	467	369 , 565	53	23
Nonhighway incident, except rail, air, water	16	1 , 34	0	2
Assaults and violent acts by person(s)	197	133 , 261	48	19

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Table 46. Number of cases, days away from work for anxiety, stress, and neurotic disorders by sex and major occupation groups, 1996

Occupation	Total cases	Median days away from work
<i>Female</i>		
Administrative support occupations, including clerical	903	30
Executive, administrative, and managerial occupations	789	10
Sales occupations	479	3
Service occupations, except protective and household	370	5
Professional specialty occupations	217	13
Technicians and related support occupations	145	1
Machine operators and tenders, except precision	119	13
Handlers, equipment cleaners, helpers, and laborers	97	61
Fabricators, assemblers, and handworking occupations	68	23
Precision production occupations	39	20
Transportation and material moving occupations	34	45
<i>Male</i>		
Sales occupations	807	6
Transportation and material moving occupations	211	29
Executive, administrative, and managerial occupations	164	35
Precision production occupations	149	6
Construction trades	145	1
Administrative support occupations, including clerical	122	14
Service occupations, except protective and household	121	13
Fabricators, assemblers, and handworking occupations	96	24
Professional specialty occupations	86	20
Machine operators and tenders, except precision	65	11
Mechanics and repairers	63	20
Handlers, equipment cleaners, helpers, and laborers	60	15
Protective service occupations	37	23

Source: Bureau of Labor Statistics, U.S. Department of Labor

Table 47. Number of cases, days away from work for anxiety, stress, and neurotic disorders by sex and detailed occupation, 1996

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
<i>Female</i>					
Executive, Administrative, and Managerial Occupations					
007	Financial managers	17	1 , 36	29	15
017	Managers, food and lodging	178	117 , 239	8	1
021	Managers, service organizations,*	187	125 , 249	89	91
022	Managers and administrators,*	198	134 , 262	19	1
025	Other financial officers	108	61 , 155	78	60
Professional Specialty Occupations					
095	Registered nurses	98	53 , 143	44	11
163	Counselors, educational, vocational	18	1 , 37	0	7
Technicians and Related Support Occupations					
207	Licensed practical nurses	86	44 , 128	8	1
208	Health technologists,*	18	1 , 37	81	52
Sales Occupations					
243	Supervisors and proprietors, sales occupations	234	164 , 304	15	1
274	Other commodities, sales occupations	86	44 , 128	21	16
276	Cashiers	89	46 , 132	75	35
Administrative Support Occupations, Including Clerical					
308	Computer operators	98	53 , 143	100	77
313	Secretaries	89	46 , 132	50	15
348	Telephone operators	39	11 , 67	85	82
356	Mail clerks, except postal service	48	17 , 79	92	38
359	Dispatchers	17	1 , 36	52	22
365	Stock and inventory clerks	18	1 , 37	68	30
375	Insurance investigators, adjusters	39	11 , 67	77	59
376	Investigators, adjusters, except insurance	74	35 , 113	66	47
379	General office clerks	52	19 , 85	28	16
383	Bank tellers	44	14 , 74	28	14
385	Data-entry keyers	38	10 , 66	11	5
389	Administrative support,*	69	31 , 107	62	84
Service Occupations, Except Protective and Household					
439	Kitchen workers	40	11 , 69	0	9
446	Health aides, except nursing	90	47 , 133	0	1
447	Nursing aides, orderlies	102	56 , 148	39	9
449	Maids and housemen	20	1 , 41	80	21
463	Attendants, public transportation	35	8 , 62	0	4
Machine Operators, Assemblers, and Inspectors					
774	Photographic process machine operators	18	1 , 37	100	44
777	Misc. machine operators,*	15	1 , 32	38	13
785	Assemblers	65	28 , 102	62	23
Handlers, Equipment Cleaners, Helpers, and Laborers					
877	Stock handlers and baggers	19	1 , 39	100	27
883	Freight, stock, material handlers,*	56	22 , 90	95	61
889	Laborers, nonconstruction	19	1 , 39	84	21

Table 47. Number of cases, days away from work for anxiety, stress, and neurotic disorders by sex and detailed occupation, 1996, cont.

BOC code	Occupation	Total cases	95% CI	Cases involving >20 days (%)	Median days away from work
<i>Male</i>					
	Executive, Administrative, and Managerial Occupations				
022	Managers and administrators,*	98	53 , 143	86	37
	Professional Specialty Occupations				
176	Clergy	17	1 , 36	100	43
	Technicians and Related Support Occupations				
213	Electrical, electronic technicians	15	1 , 33	71	23
	Sales Occupations				
243	Supervisors and proprietors, sales occupations	691	571 , 811	12	6
276	Cashiers	74	35 , 113	17	7
	Administrative Support Occupations, Including Clerical				
318	Ticket agents, transportation	39	10 , 68	8	12
376	Investigators, adjusters, except insurance	20	1 , 40	23	2
	Service Occupations, Except Protective and Household				
436	Cooks	18	1 , 37	92	48
453	Janitors and cleaners	54	21 , 87	13	13
	Precision Production, Craft, and Repair Occupations				
567	Carpenters	109	62 , 156	0	1
579	Painters	17	1 , 36	0	3
628	Supervisors, production workers	47	16 , 78	82	29
689	Inspectors, testers, graders	38	10 , 66	0	4
	Machine Operators, Assemblers, and Inspectors				
783	Welders and cutters	40	11 , 69	21	2
785	Assemblers	56	22 , 90	91	40
	Transportation and Material Moving Occupations				
804	Truck drivers	114	65 , 163	62	18
	Handlers, Equipment Cleaners, Helpers, and Laborers				
883	Freight, stock, material handlers,*	35	8 , 62	3	10

Source: Bureau of Labor Statistics, U.S. Department of Labor

*Not elsewhere classified.

Discussion

This document has summarized data from the 1996 annual Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses to define the magnitude of selected worker health problems and to identify populations at risk by examining case patterns by industry, occupation, and demographic and exposure groups. By presenting more detailed descriptive information about the workplace factors from which these cases arise, we hope to stimulate targeted intervention efforts and, as necessary, to spawn more detailed surveillance initiatives within high-risk segments.

A disproportionate number of musculoskeletal disorder cases caused by overexertion and repetitive motion were found to occur for the back (52%). Twenty-six percent occurred in the upper extremities (including the shoulder) and 4% in the lower extremities. The industries, occupations, and exposure sources associated with the highest rates of musculoskeletal disorders arising from overexertion and repetitive motion are identified in this report for each of these three regions of the body. The exposure sources "health care patient" and "boxes, crates and cartons," presumably during manual handling procedures, accounted for the majority of back cases. Nursing aids/orderlies, truck drivers, nonconstruction

laborers, and freight/stock/materials handlers were the occupational groups having the highest number of back cases. The exposure source "bodily motion" accounted for the majority of upper extremity cases among segments of the apparel, food processing, automotive, wood products, and electric equipment industries. Nursing aids/orderlies, nonconstruction laborers, assemblers, and truck drivers were the occupational groups having the highest number of upper extremity cases. Assemblers, machine operators, cashiers and secretaries were included among the occupational groups having the highest number of carpal tunnel syndrome cases. For the lower extremities, "health care patient" was an exposure source that accounted for a large proportion of cases.

The lists of the top industry sectors associated with the highest rates of musculoskeletal cases contained within this report are different from the lists published by BLS to identify the top 25 industries having the highest rates of disorders associated with repeated trauma. There are a number of reasons for these differences: First, the category of disorders associated with repeated trauma is a health condition collected only in the first stage of the survey, which reports all injuries and illnesses. In this document, disorders produced by repetitive motion and by overexertion, outcomes found only in the second stage of the survey describing cases with at least one day away from work, were combined to identify musculoskeletal cases by body region. Repetitive motion is contained within the disorders associated with repeated trauma health condition, along with other conditions. Cases due to overexertion should not be reported as disorders associated with repeated trauma. Secondly, the industry lists contained in this document were generated by region of body where the case condition developed. It is not possible to identify the body region in the repeated trauma cases. Thirdly, to identify industries most in need of intervention programs, i.e., those with both the highest rates and the most cases, we required a minimum number of cases for inclusion in the lists generated. Finally, whereas the BLS list does not distinguish manufacturing and other

sectors, in this document we sought to identify the top industry groups within both the manufacturing and nonmanufacturing sectors. Despite these differences, many of the industries having high rates of repeated trauma disorders are included in the lists of industries in this report.

The case and demographic data collected by BLS are obtained only for a sample of cases resulting in at least one day away from work. Days away from work is often used as a marker of severity of occupational health conditions. Median days away from work due to musculoskeletal disorders were found to vary greatly by industry and occupational group. In addition to severity or degree of functional impairment, other factors can potentially influence the number of days away from work, such as the availability of restricted duty assignments, the feasibility of job modifications (or accommodations), and medical management practices within work sites (GAO, 1997). It is possible that industry sectors having worksite ergonomic programs or other human resource practices that reduce lost work time would not be fully represented in the data summaries presented in this document. In addition, contingent workers (i.e., "temps," and seasonal) are most likely not adequately represented in the Bureau of Labor Statistics data set used to compile these descriptive summaries.

Hernia is a defect of the anterior/inferior abdominal cavity. Obesity, advanced age, and heavy lifting have been reported as causes. Authorities do not agree that occupation is a factor in the development or aggravation of hernia (Kang, 1999). Despite this, hernia is frequently reported in the BLS survey of work-related conditions. It is a major cause of days away from work, with a median of 24 days, compared to a median of five for all injuries and illnesses. Truck drivers; nonconstruction laborers; miscellaneous freight, stock, and material handlers; and miscellaneous machine operators have the largest number of cases. Overexertion in lifting is the most frequently reported cause. Men who develop hernias while engaged in

jobs involving lifting or other strenuous activities are probably more likely to have the hernia reported as work-related than men in sedentary jobs.

Skin diseases and disorders rank in number of cases after diseases and disorders of the nervous system and sense organs (mostly carpal tunnel syndrome), the musculoskeletal system and connective tissue, and the digestive system (mostly hernia), and, since the beginning of the survey in 1972, have been among the most common illnesses reported. Nursing aides/orderlies, janitors and cleaners, miscellaneous machine operators, and workers in the wholesale trade of mining and manufacturing report the most cases of dermatitis. Cleaning and polishing agents are the most common source, followed by unspecified chemicals and poison ivy, oak, or sumac. From other surveys we know that work-related dermatitis is underreported. A national household survey in 1988 with self-reported work-related dermatitis estimated 1.7 cases/100 workers (Behrens et al., 1994), compared with the BLS estimate of 0.8 cases/10,000 workers. The survey also found that few people reported the dermatitis to their employers as related to an exposure at work (Burnett, 1998).

More women than men report anxiety, stress, and neurotic disorders. For women the most cases were in administrative support occupations while for men the occupational group with the most cases was sales occupations. For both men and women, bodily condi-

tions, such as heart attack and stroke caused the most cases, followed by exposure to traumatic or stressful events. Although the reporting of anxiety, stress, and neurotic disorders has increased in recent years, they are probably underreported (Hurrell and Murphy, 1992). In the state workers' compensation systems, the definition of disorders of this nature varies from state to state. Psychological disorders arise from interactions among biological, psychological, and social factors. It is difficult to attribute a specific cause, such as a workplace exposure, to these cases. The impact of these disorders is great, both in terms of monetary cost and of effect on the life of the worker and his/her family, and there is a need to better understand the relationship of workplace stresses and outside factors.

Under Reporting

The data summaries contained in this document provide detailed information about workplace factors associated with case status for six of the most common occupational health problems in the United States. Musculoskeletal disorders are defined in a manner not available from BLS documents or Web tables. The tables give examples of the types of cross tabulations that can be done with these data. This detailed information should be useful to occupational health researchers as background information and to stimulate new research. The information will also be useful to policy makers, unions, and companies to see where problems lie, and what the causes may be.

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List of Abbreviations

National Institute for Occupational Safety and Health	NIOSH
Survey of Occupational Injuries and Illnesses	SOII
Bureau of Labor Statistics	BLS
Musculoskeletal Disorders	MSDs
National Occupational Research Agenda	NORA
Standard Industrial Classification	SIC
Bureau of Census	BOC
Occupational Injury and Illness Classification Structure	OIICS
Days Away from Work	DAFW
Confidence Interval	CI
Not Elsewhere Classified	NEC
Government Accounting Office	GAO

Glossary of Terms

Lost workday cases: are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving days away from work: are those cases which result in days away from work, or a combination of days away from work and days of restricted work activity.

Lost workday cases involving restricted work activity: are those cases which result in restricted work activity only.

Occupational skin diseases or disorders: includes contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; chrome ulcers; chemical burns or inflammations.

Dust diseases of the lungs (pneumoconiosis): include silicosis, asbestosis and other asbestos-related diseases, coal worker's pneumoconiosis, byssinosis, siderosis, and other pneumoconiosis.

Respiratory condition due to toxic agents: illnesses in this category would include pneumonitis, pharyngitis, rhinitis or acute congestion due to chemicals, dusts, gases, or fumes; farmer's lung.

Poisoning: includes poisoning caused by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide, or other gases; poisoning by benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays such as parathion and lead arsenate; poisoning by other chemicals such as formaldehyde, plastics, and resins.

Disorders due to physical agents: would encompass conditions caused by heatstroke, sunstroke, heat exhaustion, and other effects of environmental heat; freezing, frostbite, and effects of ionizing radiation (isotopes, X-rays, radium); effects of non-ionizing radiation (welding flash, ultraviolet rays, microwaves, sunburn).

Disorders associated with repeated trauma: includes conditions due to repeated motion, vibration, or pressure, such as carpal tunnel syndrome; noise-induced hearing loss; synovitis, tenosynovitis, and bursitis, and Raynaud's phenomena.

All other occupational illnesses: includes conditions such as, but not limited to anthrax, brucellosis, infectious hepatitis, malignant and benign tumors, food poisoning, histoplasmosis, coccidioidomycosis.

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**Publications Dissemination, EID
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