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# Back Injuries Associated With Lifting



U.S. Department of Labor  
Bureau of Labor Statistics  
August 1982

INDUSTRY AND SCIENCE

Bulletin 2144

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Bureau of Labor Statistics  
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August 1982

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# Preface

This bulletin summarizes the results of a survey of workers in blue-collar occupations who injured their backs while lifting, placing, lowering, carrying, or holding objects. The findings of this survey, which was conducted by the Bureau of Labor Statistics during 1980, will assist the Occupational Safety and Health Administration (OSHA) in developing safety standards, compliance strategy, and training programs for reducing work-related injuries.

The survey was conducted by the Bureau's Office of Occupational Safety and Health Statistics, William Mead, Acting Assistant Commissioner, in cooperation with 22 States: Arizona, Arkansas, California, Colorado, Delaware, Hawaii, Idaho, Indiana, Iowa, Kentucky, Maine, Massachusetts, Michigan, Missouri, Montana, Nebraska, Ohio, Tennessee, Utah, Virginia, Washington, and Wisconsin. The BLS regional offices coordinated State operations. The Offices of Compliance, Standards Development, Statistical Studies and Analysis, and Training of OSHA and the Office of Safety Research of the National Institute for Occupational Safety and Health contributed to the planning and development of the survey. Lyn Pearson developed the computer programs, and Maryrose Cline-Buso and Debera Solis, under the supervision of Helen McDonald, planned the survey and edited the question-

naires. Herbert Schaffer prepared the bulletin.

The user should exercise caution in extrapolating survey data to population estimates because of limitations of the survey. The data were not intended to be statistically representative of the population studied. States participating in data collection may not represent the country as a whole; reporting requirements for workers' compensation reports, which are the source for selecting injuries for study, vary among States; and the 2-month collection period is not intended to represent the entire year. Because of the exclusion of white-collar and service workers, industries dominated by these occupations are underrepresented. However, the data represent injured workers in selected occupations in the States surveyed during the period studied and are, therefore, valid for identifying injury patterns on a relative basis.

For analytical purposes, the incidence of back injuries associated with lifting was not generated nor can it be inferred from the data because information on hours of work are not available. See appendix A for scope and methodology of the survey.

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# Back Injuries Associated with Lifting

## Summary of Survey Results

Injuries to the back are one of the more common and costly types of work-related injuries. Based on estimates derived from the Bureau of Labor Statistics' Annual Survey of Injuries and Illnesses and the Supplementary Data System, about 1 million workers suffered back injuries in 1980, accounting for almost 1 out of every 5 injuries and illnesses in the workplace. In eight States which provided information on workers' compensation indemnity payments, almost one-fourth of the expenditures were for claims involving back injuries.

This survey focused on back injuries sustained by workers in blue-collar jobs while lifting, placing, carrying, holding, or lowering objects. Of the approximately 900 workers responding to the survey questionnaire, more than three-fourths indicated that they were lifting at the time they injured their backs. Four-fifths of the workers studied were in craft, operative, and laborer occupations, equally divided among these. Truck drivers and other transport equipment operatives accounted for about one-tenth of the workers. Almost three-fourths were from 20 to 44 years old, and one-third were concentrated in the 25-34 year age group. Manufacturers employed about two-fifths of the workers studied in selected occupations, who were, for the most part, widely dispersed among the component industries. Retail, wholesale, transportation, and construction firms each accounted for from 10 to 15 percent of the workers within the scope of the survey.

Weight of the object was cited by the injured workers more frequently than any other factor contributing to back injuries associated with lifting. More than one-half of the workers studied reported lifting objects weighing at least 60 pounds and about three-tenths, 100 or more pounds. Moreover, about three-fourths of the workers indicated that they had lifted without any assistance. Focusing on workers lifting alone, the following tabulation shows that seven-tenths were injured while lifting objects weighing at least the same as the heaviest weight normally lifted on the job, and almost one-half of these workers were lifting objects heavier than they normally lift.

<i>Weight lifted at time of injury compared to heaviest weight normally lifted</i>	<i>Percent of workers lifting without assistance</i>
Lighter .....	29
Same .....	36
Heavier .....	34
Total .....	100

A related contributing factor frequently cited was the bulkiness of the object. Boxes and containers were identified as the source of injury in 43 percent of the cases studied, metal objects in 18 percent, and wood objects in 7 percent. Workers described most of the objects as hard or rigid in construction, of which 42 percent were square or rectangular; 24 percent, cylindrical; 17 percent, flat; and the remaining shapes, mixed. Size of the objects varied widely.

Material-handling equipment to lift and transport the objects was, reportedly, not available in 61 percent of the cases studied. Even where workers had access to such equipment, 58 percent found it impractical to use.

Next to weight, the injured workers claimed that body movement contributed to their injury. Bending followed by twisting and turning, frequently in combination, were the more commonly cited movements. Tracing the lifting-placing patterns, about one-half of the workers reported lifting from floor level and most of the remaining workers, from no higher than the waist. Placement of the object varied widely. Nearly one-fourth set it down about waist high; about three-tenths placed the object on the floor or no higher than knee high; and almost one-fifth placed it at least chest high. More than one-fifth of the workers dropped the object before completing the pattern because of back pains.

The amount of time and distance required to lift and place the object was relatively short. Two-thirds of the workers reported that they held or carried the object less than 1 minute. Nearly one-half claimed that they did not move the object any distance, and more than one-fourth carried the object less than 5 feet.

Another important contributing factor identified by the workers studied was the large number of lifts made during the day of the injury. Yet, about one-fifth of the

workers felt back pains when they made their initial lift, and another one-fifth made fewer than five lifts. Moreover, as indicated below, well over one-half of the workers reported making fewer lifts prior to being injured than they normally made in a day.

<i>Number of lifts prior to injury compared to number of lifts normally made in a day</i>	<i>Percent of workers</i>
Less .....	56
Same .....	28
More .....	15
 Total .....	 100

Other, but less significant factors cited, were confined workspace, recent exposure to abnormal strenuous activity, underestimate of object's weight, poor lifting technique, change in usual lifting position, and previous back problem. Forty-eight percent of the workers reported a history of back problems.

The survey revealed that about one-half of the workers received information on proper lifting techniques, primarily on how to lift to avoid injury and, to a much lesser extent, on how to use lifting equipment. Information was disseminated in the form of posters or written handouts, as well as through lectures, demon-

strations, film, or as part of on-the-job training. Of those workers who indicated that they received such information, more than one-half reported exposure during the year, and about one-third, within the last 6 months. Fewer than one-fifth of these workers felt that this information would have been useful for preventing their back injury. After the injury, relatively few of the workers studied reported any change in company training related to safe lifting techniques.

Thirty-five percent of the workers who were surveyed indicated that medical examinations were part of the screening process for hiring job applicants. Sixteen percent were requested to provide medical histories, and 6 percent were required to take a lower back X-ray. Seventeen percent were of the opinion that strength was a consideration in performing their work. Seventy percent reported that they had not followed any exercise program to minimize injuries to the back.

The vast majority of the back injuries were, reportedly, diagnosed as a muscle strain or sprain. About three-fourths of the workers surveyed lost from 1 to 5 workdays and a similar proportion lost from 6 to 15 workdays. Those losing time averaged 14 days away from work. More than two-fifths of the workers who had returned to work were given light duties.

**Table 1. Industry: Back injuries associated with lifting, selected States, November-December 1980**

Industry	Workers	Percent
Total .....	906	100
Agriculture, forestry, and fishing .....	26	3
Mining <sup>1</sup> .....	1	( <sup>2</sup> )
Construction .....	139	15
Manufacturing .....	378	42
Transportation and public utilities .....	94	10
Wholesale trade .....	103	11
Retail trade .....	90	10
Finance, insurance, and real estate .....	10	1
Services .....	53	6
Other industries, not elsewhere classified .....	12	1

<sup>1</sup> Limited to oil and gas extraction.

<sup>2</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occu-

pations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

**Table 2. Source of injury: Back injuries associated with lifting, selected States, November-December 1980**

Source of injury	Workers	Percent
Total .....	906	100
Animal products .....	1	( <sup>1</sup> )
Bodily motion .....	5	1
Boilers, pressure vessels .....	4	( <sup>1</sup> )
Boxes, barrels, containers, .....	389	43
Boxes, barrels, containers, unspecified .....	4	( <sup>1</sup> )
Barrels, kegs, drums .....	34	4
Boxes, crates, cartons .....	194	21
Bottles, jugs, flasks .....	4	( <sup>1</sup> )
Bundles, bales .....	20	2
Reels, rolls .....	23	3
Tanks, bins .....	14	2
Containers, not elsewhere classified .....	96	11
Buildings and structures .....	13	1
Ceramic items .....	4	( <sup>1</sup> )
Clothing .....	1	( <sup>1</sup> )
Coal and petroleum products .....	2	( <sup>1</sup> )
Conveyors .....	2	( <sup>1</sup> )
Electric apparatus .....	20	2
Food products .....	10	1
Furniture, fixtures, etc .....	47	5
Glass items, not elsewhere classified .....	5	1
Hand tools, not powered .....	12	1
Hand tools, powered .....	9	1
Heating equipment (nonelectric), not elsewhere classified .....	5	1
Hoisting apparatus .....	7	1
Ladders .....	2	( <sup>1</sup> )
Machines .....	20	2
Mechanical power transmission apparatus .....	5	1
Metal items .....	160	18
Metal items, unspecified .....	15	2
Automobile parts .....	20	2
Beams, bars .....	12	1
Molds .....	5	1
Pipe .....	14	2
Metal items, not elsewhere classified .....	94	10
Mineral items, nonmetallic, not elsewhere classified .....	16	2
Paper and pulp .....	3	( <sup>1</sup> )
Plants, trees, vegetation .....	6	1
Plastic items, not elsewhere classified .....	4	( <sup>1</sup> )
Pumps and prime movers .....	10	1
Scrap, debris, waste materials, not elsewhere classified .....	2	( <sup>1</sup> )
Textile items, not elsewhere classified .....	1	( <sup>1</sup> )
Vehicles .....	22	2
Wood items .....	60	7
Wood items, unspecified .....	6	1
Logs .....	6	1
Lumber .....	21	2
Skids, pallets .....	14	2
Wood items, not elsewhere classified .....	13	1
Working surfaces .....	4	( <sup>1</sup> )
Rubber products .....	14	2
Miscellaneous, not elsewhere classified .....	35	4
Nonclassifiable .....	6	1

<sup>1</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the

survey.

SOURCE: State workers' compensation reports.

**Table 3. Age of worker: Back injuries associated with lifting, selected States, November-December 1980**

Age	Workers	Percent
Total .....	906	100
15 years or less .....	1	( <sup>1</sup> )
16—19 years .....	41	5
20—24 years .....	186	21
25—34 years .....	303	33
35—44 years .....	179	20
45—54 years .....	96	11
55—64 years .....	73	8
65 years or more .....	3	( <sup>1</sup> )
Not available .....	24	3

<sup>1</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the

survey.

SOURCE: State workers' compensation reports.

**Table 4. Sex of worker: Back injuries associated with lifting, selected States, November-December 1980**

Sex	Workers	Percent
Total .....	906	100
Men .....	777	86
Women .....	129	14

NOTE: See appendix A for occupations and types of injuries included in the survey.

SOURCE: State workers' compensation reports.

**Table 5. Selected occupations: Back injuries associated with lifting, selected States, November-December 1980**

Occupation	Workers	Percent
Total .....	906	100
<b>Clerical and kindred workers .....</b>	<b>38</b>	<b>4</b>
Shipping, receiving clerks .....	20	2
Stock clerks and storekeepers .....	18	2
<b>Craft and kindred workers .....</b>	<b>246</b>	<b>27</b>
Bakers .....	3	( )
Boilermakers .....	1	( )
Bookbinders .....	1	( )
Brickmasons and stonemasons .....	13	1
Cabinetmakers .....	4	( )
Carpenters .....	16	2
Carpet installers .....	4	( )
Cement and concrete finishers .....	1	( )
Crane, derrick, and hoist operators .....	1	( )
Electricians .....	15	2
Electric power line and cable installers and repairers .....	1	( )
Excavating, grading, and road machine operators, excluding bulldozers .....	4	( )
Blue-collar worker supervisors, not elsewhere classified .....	27	3
Furniture and wood finishers .....	3	( )
Glaziers .....	5	1
Heat treaters, annealers, temperers .....	1	( )
Inspectors, not elsewhere classified .....	2	( )
Machinists .....	16	2
Machinist apprentices .....	2	( )
Mechanics and repairers .....	63	7
Air conditioning, heating and refrigeration .....	3	( )
Aircraft mechanics .....	1	( )
Automobile mechanics .....	14	2
Automobile mechanic apprentices .....	1	( )
Farm implement mechanics .....	1	( )
Heavy equipment mechanics .....	12	1
Household appliance and accessory installers and mechanics .....	2	( )
Office machine repairers .....	1	( )
Radio and television repairers .....	2	( )
Miscellaneous mechanics and repairers .....	19	2
Mechanics and repairers, not specified .....	7	1
Millers; grain, flour, feed .....	1	( )
Millwrights .....	5	1
Molders, metal .....	3	( )
Opticians, lens grinders, polishers .....	1	( )
Painters, construction and maintenance .....	2	( )
Pattern and model makers, excluding paper .....	1	( )
Plumbers and pipefitters .....	8	1
Printing press operators .....	4	( )
Printing press apprentices .....	1	( )
Roofers and slaters .....	4	( )
Sheetmetal workers and tinsmiths .....	13	1
Stationary engineers .....	3	( )
Structural metal workers .....	5	1
Telephone installers and repairers .....	1	( )
Telephone line installers and repairers .....	2	( )
Tool-and-die makers .....	1	( )
Tool-and-die maker apprentices .....	1	( )
Upholsterers .....	1	( )
Specified craft apprentices, not elsewhere classified .....	3	( )
Craft and kindred workers, not elsewhere classified .....	3	( )
<b>Operatives, excluding transport .....</b>	<b>246</b>	<b>27</b>
Asbestos and insulation workers .....	1	( )
Assemblers .....	25	3
Blasters .....	1	( )
Checkers, examiners, inspectors; manufacturing .....	10	1
Clothing ironers and pressers .....	1	( )
Cutting operatives, not elsewhere classified .....	7	1
Dressmakers, excluding factory .....	1	( )
Drywall installers and lathers .....	6	1

See footnotes at end of table.

**Table 5. Selected occupations: Back injuries associated with lifting, selected States, November-December 1980—Continued**

Occupation	Workers	Percent
<b>Operatives, excluding transport—Continued</b>		
Filers, polishers, sanders, buffers .....	3	( <sup>1</sup> )
Furnace tenders, smelters, and pourers; metal .....	1	( <sup>1</sup> )
Garage workers and gas station attendants .....	4	( <sup>1</sup> )
Laundry and dry cleaning operatives, not elsewhere classified ..	3	( <sup>1</sup> )
Meat cutters and butchers, excluding manufacturing .....	5	1
Meat cutters and butchers, manufacturing .....	4	( <sup>1</sup> )
Meat wrappers, retail trade .....	2	( <sup>1</sup> )
Metal platers .....	2	( <sup>1</sup> )
Mixing operatives .....	4	( <sup>1</sup> )
Packers and wrappers, excluding retail .....	20	2
Painters, manufactured articles .....	4	( <sup>1</sup> )
Photographic process workers .....	1	( <sup>1</sup> )
Drill press operatives .....	1	( <sup>1</sup> )
Grinding machine operatives .....	3	( <sup>1</sup> )
Lathe and milling machine operatives .....	3	( <sup>1</sup> )
Precision machine operatives, not elsewhere classified .....	2	( <sup>1</sup> )
Punch and stamping press operatives .....	6	1
Riveters and fasteners .....	1	( <sup>1</sup> )
Sawyers .....	1	( <sup>1</sup> )
Sewers and stitchers .....	1	( <sup>1</sup> )
Shoemaking machine operatives .....	1	( <sup>1</sup> )
Welders and flame cutters .....	15	2
Winding operatives, not elsewhere classified .....	1	( <sup>1</sup> )
Machine operatives, miscellaneous specified .....	33	4
Machine operatives, not specified .....	7	1
Miscellaneous operatives .....	33	4
Operatives, not specified .....	33	4
<b>Transport equipment operatives .....</b>	<b>102</b>	<b>11</b>
Bus drivers .....	1	( <sup>1</sup> )
Delivery and route workers .....	23	3
Forklift and tow motor operatives .....	8	1
Truck drivers .....	70	8
<b>Laborers, excluding farm .....</b>	<b>246</b>	<b>27</b>
Construction laborers, excluding carpenter helpers .....	31	3
Freight, material handlers .....	48	5
Garbage collectors .....	7	1
Gardeners and groundskeepers, excluding farm .....	11	1
Timber cutting and logging workers .....	2	( <sup>1</sup> )
Stock handlers .....	14	2
Vehicle and equipment cleaners .....	1	( <sup>1</sup> )
Warehouse laborers, not elsewhere classified .....	37	4
Miscellaneous laborers .....	62	7
Laborers, not specified .....	33	4
<b>Farm laborers and farm laborer supervisors .....</b>	<b>16</b>	<b>2</b>
<b>Nonclassifiable .....</b>	<b>12</b>	<b>1</b>

<sup>1</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the

survey.

SOURCE: State workers' compensation reports.

**Table 6. Description of injury: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>Indicate the nature of your back injury.</b>		
Total <sup>1</sup> .....	906	( <sup>1</sup> )
Muscle strain/sprain .....	799	88
Dislocated or herniated disc (slipped disc) .....	84	9
Dislocated vertebrae .....	52	6
Misaligned vertebrae (subluxation) .....	88	10
Inflammation of joint .....	57	6
Pinched nerve .....	162	18
Other .....	13	1
<b>Did you first feel the pain in your back while you were lifting/holding the object that caused your injury?</b>		
Total .....	906	100
Yes—first felt pain as I was lifting/holding the object .....	580	64
No—felt pain shortly after lifting/holding .....	206	23
No—felt pain several hours later .....	56	6
No—felt pain next day .....	56	6
Other .....	8	1
<b>Which items do you feel contributed to your injury?</b>		
Total <sup>1</sup> .....	871	( <sup>1</sup> )
Object too heavy .....	313	36
Object too bulky .....	205	24
Small confined workspace .....	136	16
Had been doing a lot of lifting that day .....	192	22
Had lifted heavy object earlier that day .....	74	8
Body movement or motion contributed to injury .....	296	34
Underestimated weight of object before lifting .....	123	14
Changed usual lifting position .....	105	12
Previous back problems .....	111	13
Poor physical condition .....	13	1
Poor or careless lifting techniques .....	83	10
Attempted to lift or place object while walking or running .....	19	2
Other .....	46	5
Don't know .....	63	7

<sup>1</sup> Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

NOTE: Due to rounding, percentages may

not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 7. Body position<sup>1</sup> at time of injury: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>If you felt pain as you were lifting/holding, indicate the position closest to that of your arms, back, and legs at the moment of injury.</b>		
<b>Position of arms</b>		
Total .....	553	100
Extended down .....	254	46
Bent at elbow .....	181	33
Extended out at shoulder .....	72	13
Extended over head .....	32	6
Other .....	10	2
Don't know .....	4	1
<b>Position of back</b>		
Total .....	572	100
Straight .....	87	15
Slightly bent .....	334	58
Very bent .....	142	25
Other .....	7	1
Don't know .....	2	( <sup>2</sup> )
<b>Position of legs</b>		
Total .....	569	100
Straight .....	155	27
Slightly bent .....	313	55
Squatting .....	83	15
Other .....	8	1
Don't know .....	10	2
<b>How far apart were your feet at the moment of injury?</b>		
Total .....	566	100
Less than 12 inches apart .....	162	29
12 or more inches apart .....	249	44
Don't know .....	155	27

<sup>1</sup> See appendix C for pictures of body positions used in questionnaire.

<sup>2</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occu-

pations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 8. Workers' activity: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>What were you doing when you injured your back?</b>		
Total <sup>1</sup> .....	903	( <sup>1</sup> )
Carrying .....	133	15
Catching/throwing .....	13	1
Holding .....	96	11
Lifting .....	692	77
Lowering object .....	107	12
Placing object .....	145	16
Pulling .....	65	7
Pushing .....	39	4
Shoveling .....	14	2
Other .....	3	( <sup>2</sup> )
Don't know moment of injury .....	9	1
<b>What movements were you making when you injured your back?</b>		
Total <sup>1</sup> .....	894	( <sup>1</sup> )
Bending .....	505	56
Climbing .....	16	2
Sitting .....	3	( <sup>2</sup> )
Slipping, tripping, or falling .....	9	1
Squatting .....	107	12
Standing .....	243	27
Stretching .....	141	16
Suddenly changing body position .....	159	18
Twisting/turning .....	299	33
Walking or running .....	72	8
Other .....	7	1
Don't know .....	16	2
<b>Within 48 hours before your injury, was your activity at work or at home more strenuous than normal?</b>		
Total <sup>1</sup> .....	870	( <sup>1</sup> )
Yes—lifting more objects than normal .....	60	7
Yes—lifting heavier objects than normal .....	42	5
Yes—involved in strenuous outside activity (sports, work at home, etc.) .....	14	2
No .....	769	88

<sup>1</sup> Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

<sup>2</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 9. Description of object lifted<sup>1</sup>: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>Describe the specific object you were handling when you injured your back.<sup>2</sup></b>		
Total .....	784	100
<b>Rigid</b>		
Square or rectangular .....	295	38
Cylinder .....	169	22
Flat .....	119	15
Other .....	123	16
<b>Flexible</b>		
Square or rectangular .....	41	5
Cylinder .....	26	3
Flat .....	5	1
Other .....	6	1
<b>What was the approximate weight of the object?</b>		
Total .....	826	100
Less than 20 pounds .....	40	5
20 to 40 pounds .....	123	15
40 to 60 pounds .....	158	19
60 to 80 pounds .....	91	11
80 to 100 pounds .....	105	13
100 or more pounds .....	257	31
Don't know .....	52	6
<b>Were you holding the object by yourself?</b>		
Total .....	824	100
No <sup>3</sup> .....	199	24
Yes .....	625	76
<b>How far did you carry the object?</b>		
Total .....	833	100
Did not carry object any distance .....	388	47
Carried object less than 5 feet .....	234	28
Carried object 5 to 20 feet .....	130	16
Carried object more than 20 feet .....	70	8
Other .....	3	( <sup>4</sup> )
Don't know .....	8	1
<b>How long were you holding or carrying the object?</b>		
Total .....	818	100
Less than 1 minute .....	537	66
1 to 2 minutes .....	145	18
2 minutes or more .....	87	11
Don't know .....	49	6

See footnotes at end of table.

**Table 9. Description of object lifted<sup>1</sup>: Back injuries associated with lifting, selected States, November-December 1980—Continued**

Item	Workers	Percent
<b>What level was the object on before you attempted to lift it?</b>		
Total .....	820	100
Floor level .....	427	52
Ankle height .....	72	9
Knee height .....	104	13
Waist height .....	137	17
Chest height .....	36	4
Shoulder height .....	12	1
Head height .....	7	1
Over head .....	17	2
Other .....	8	1
<b>Where did you put the object?</b>		
Total .....	799	100
Dropped object when felt pain .....	176	22
Dropped object before feeling pain .....	21	3
Floor level .....	135	17
Ankle height .....	43	5
Knee height .....	67	8
Waist height .....	184	23
Chest height .....	66	8
Shoulder height .....	38	5
Head height .....	10	1
Over head .....	38	5
Other .....	21	3
<b>Was that where you intended to put the object?</b>		
Total .....	810	100
No .....	209	26
Yes .....	601	74
<b>Was lifting/moving equipment available to help you move the object? If available, why wasn't it used?</b>		
Total .....	708	100
Equipment not available .....	434	61
Equipment available but not used because:		
Did not think it was necessary .....	61	9
It was not practical to use .....	121	17
It was in bad condition or not working .....	11	2
It takes too long .....	16	2
Injury occurred while using lifting/moving equipment .....	41	6
Other .....	12	2
Don't know if lifting/moving equipment was available .....	12	2
<b>About how many objects had you lifted before you were injured?</b>		
Total .....	784	100
None .....	145	18
1 to 4 .....	155	20
5 to 9 .....	90	11
10 to 24 .....	102	13
25 to 49 .....	73	9
50 to 99 .....	69	9
100 or more .....	150	19

<sup>1</sup> Limited to workers able to identify the specific object they handled at the time of injury.

<sup>2</sup> The worker's written description was classified according to the object's shape and flexibility.

<sup>3</sup> Includes those who were assisted by co-worker(s) or who were handling objects partially supported by other means.

<sup>4</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 10. Work experience and training: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>How often do you normally lift in your job?</b>		
Total .....	860	100
Seldom (less than 5 times a day) .....	129	15
5 to 9 times a day .....	78	9
10 to 24 times a day .....	146	17
25 to 49 times a day .....	126	15
50 to 99 times a day .....	111	13
100 or more times a day .....	270	31
<b>What is the weight of the heaviest object you normally lift in your job without the help of a co-worker or lifting equipment?</b>		
Total .....	866	100
Less than 20 pounds .....	30	3
20 to 40 pounds .....	106	12
40 to 60 pounds .....	148	17
60 to 80 pounds .....	132	15
80 to 100 pounds .....	165	19
100 or more pounds .....	120	14
Seldom lift objects .....	129	15
Don't know .....	36	4
<b>Is your lifting work usually spread evenly throughout your work hours?</b>		
Total .....	856	100
No .....	209	24
Yes .....	518	61
Seldom lift objects .....	129	15
<b>What information were you given on proper lifting/moving procedures before your injury?</b>		
Total <sup>1</sup> .....	836	( <sup>1</sup> )
How to lift to avoid injury .....	364	44
Use of equipment to lift/move loads (e.g., forklift, pulley, crane/hoist, rope, lever, hand cart, dolly) .....	111	13
Use of wrist or knee braces, work shoes, work gloves .....	58	7
Combine lifting with rest breaks or light tasks .....	32	4
Maximum weight I should lift .....	52	6
Benefit of exercise to avoid back injury .....	47	6
Other .....	3	( <sup>2</sup> )
No information on lifting/moving provided .....	430	51
<b>Who provided the information on lifting/moving procedures?</b>		
Total <sup>1</sup> .....	346	( <sup>1</sup> )
Supervisor .....	203	59
Safety representative .....	77	22
Co-worker .....	56	16
Union representative .....	18	5
Other .....	51	15

See footnotes at end of table.

**Table 10. Work experience and training: Back injuries associated with lifting, selected States, November-December 1980—Continued**

Item	Workers	Percent
<b>How was the information on lifting/moving procedures provided?</b>		
Total <sup>1</sup> .....	380	( <sup>1</sup> )
Lecture .....	122	32
Demonstration .....	94	25
Film .....	80	21
Written material or posters .....	181	48
On the job .....	132	35
Other .....	3	1
<b>When was the last time you received information on how to lift/move?</b>		
Total .....	382	100
Less than 6 months ago .....	128	34
6 months to 1 year ago .....	81	21
1 to 2 years ago .....	37	10
2 or more years ago .....	60	16
Don't know .....	76	20
<b>Do you feel you would have prevented your back injury by using this information?</b>		
Total .....	381	100
No .....	190	50
Yes .....	71	19
Don't know .....	120	31
<b>What actions, if any, did your employer take after your injury to prevent back injuries from happening to others?</b>		
Total <sup>1</sup> .....	851	( <sup>1</sup> )
Conducted training on how to lift/move .....	48	6
Provided lifting/moving equipment (e.g., pulley, dolly, etc.) .....	16	2
Required use of lifting/moving equipment .....	18	2
Provided exercise program (classes), equipment or facilities .....	3	( <sup>2</sup> )
Mixed lighter work with lifting .....	26	3
Reduced maximum weights to be lifted .....	41	5
Other action .....	28	3
Employer took no action .....	337	40
Don't know .....	361	42

<sup>1</sup> Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

<sup>2</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 11. History and care of back problems: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>Have you ever had any back problems before this injury?</b>		
Total .....	881	100
Yes—had previous back problem(s) but did not obtain medical or chiropractic treatment .....	57	6
Yes—had back problems which were treated by a physician or chiropractor .....	364	41
No .....	460	52
<b>Did you do situps or other exercises which strengthen your stomach before your injury?</b>		
Total .....	890	100
No .....	626	70
Yes—regularly .....	76	9
Yes—sometimes .....	188	21

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.  
SOURCE: Survey questionnaire.

**Table 12. Weight and height of worker: Back injuries associated with lifting, selected States, November-December 1980**

Weight	Height											
	Total	5'5" or less	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"	6'	6'1"	6'2"	6'3" or more
<b>Men</b>												
Total .....	762	46	39	44	87	87	105	94	109	58	53	40
Less than 140 pounds .....	49	18	4	10	10	4	3	-	-	-	-	-
140—149 pounds .....	60	7	11	9	8	8	8	5	4	-	-	-
150—159 pounds .....	86	7	6	5	10	13	17	7	14	2	5	-
160—169 pounds .....	129	8	10	7	16	20	27	15	11	10	3	2
170—179 pounds .....	119	2	7	4	16	10	18	20	18	12	4	8
180—189 pounds .....	100	1	0	2	13	12	14	18	20	8	10	2
190—199 pounds .....	75	0	1	5	9	7	9	13	9	10	9	3
200—209 pounds .....	44	1	0	2	1	3	2	7	8	5	7	8
210—219 pounds .....	36	1	0	-	3	5	2	2	13	5	4	1
220—229 pounds .....	19	1	-	0	-	2	4	2	4	1	2	3
230 pounds or more .....	45	-	-	-	1	3	1	5	8	5	9	13
	Total	5' or less	5'1"	5'2"	5'3"	5'4"	5'5"	5'6"	5'7"	5'8"	5'9"	5'10" or more
<b>Women</b>												
Total .....	124	8	4	13	19	9	14	23	18	7	6	3
Less than 110 pounds .....	8	3	1	-	2	-	1	1	-	-	-	-
110—119 pounds .....	13	1	1	3	5	2	-	-	1	-	-	-
120—129 pounds .....	20	2	1	3	2	1	3	6	1	0	1	-
130—139 pounds .....	21	1	-	3	3	0	1	4	5	2	2	0
140—149 pounds .....	17	-	-	2	4	4	1	1	3	2	0	0
150—159 pounds .....	9	1	1	-	0	1	2	1	2	1	0	0
160—169 pounds .....	12	-	-	1	1	0	2	4	1	1	1	1
170—179 pounds .....	5	-	-	0	0	-	2	2	0	0	0	1
180—189 pounds .....	8	-	-	-	1	-	0	2	3	1	1	0
190—199 pounds .....	2	-	-	-	-	1	1	0	0	0	0	0
200 pounds or more .....	9	-	-	1	1	-	1	2	2	0	1	1

NOTE: See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.  
SOURCE: Survey questionnaire.

**Table 13. Pre-employment screening: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>When you applied for your job were you required to:</b>		
Total <sup>1</sup> .....	875	( <sup>1</sup> )
Take a medical exam .....	304	35
Have a lower back X-ray .....	52	6
Provide a medical history .....	136	16
Take strength or lifting tests, e.g., do situps, lift weights, etc. ....	5	1
Other .....	4	( <sup>2</sup> )
None of the above .....	520	59
<b>Was your strength a consideration in the job tasks you were given?</b>		
Total .....	869	100
No .....	474	55
Yes .....	144	17
Don't know .....	251	29

<sup>1</sup> Because more than one response is possible, the sum of the responses and percentages may not equal the total. Percentages are calculated by dividing each response by the total number of persons who answered the question.

<sup>2</sup> Less than 0.5 percent.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

**Table 14. Estimated lost workdays: Back injuries associated with lifting, selected States, November-December 1980**

Item	Workers	Percent
<b>How many workdays did you (or do you expect to) lose due to your injury? (NOTE: Do not count the day of injury, days on light-duty work, normal days off or holidays.)</b>		
Total <sup>1</sup> .....	868	100
No time lost .....	106	12
1 to 5 workdays lost .....	255	29
6 to 10 workdays lost .....	154	18
11 to 15 workdays lost .....	85	10
16 to 20 workdays lost .....	30	3
21 to 25 workdays lost .....	22	3
26 to 30 workdays lost .....	37	4
31 to 40 workdays lost .....	20	2
41 to 60 workdays lost .....	32	4
More than 60 workdays lost .....	14	2
Number of workdays lost not estimated .....	113	13
Average days lost per lost workday case .....		14
<b>If you have returned to work: Indicate the number of workdays your job duties were changed or restricted (light duty) due to your back injury.</b>		
Total .....	629	100
No days of restricted activity .....	358	57
1 to 5 days of restricted activity .....	115	18
6 to 10 days of restricted activity .....	55	9
11 to 15 days of restricted activity .....	32	5
16 to 20 days of restricted activity .....	12	2
21 to 25 days of restricted activity .....	10	2
26 to 30 days of restricted activity .....	12	2
31 to 40 days of restricted activity .....	4	1
41 to 60 days of restricted activity .....	7	1
More than 60 days of restricted activity .....	4	1
Employee still on restricted activity .....	20	3

<sup>1</sup> Excludes nine workers who retired, were laid off or put on permanent disability.

NOTE: Due to rounding, percentages may not add to 100. See appendix A for occupations and types of injuries included in the

survey. Because incomplete questionnaires were used, the total number of responses may vary by question.

SOURCE: Survey questionnaire.

## Appendix A. Survey Explanatory Note

The survey was designed to develop information on back injuries incurred by workers injured while lifting objects, materials, and animals. Excluded were workers injured while lifting humans. The scope of the survey included overexertion injuries to the back associated with lifting, placing, lowering, carrying, and holding. Excluded were back cases not usually associated with lifting such as pulling, pushing, throwing, catching, falling, etc. The scope of the survey covered injured workers in the following occupations: Shipping, receiving, and stock clerks; craft workers; operatives; transport operatives; and laborers and farm laborers. Excluded were workers in white-collar and service occupations. Although all industries were surveyed except coal and metallic and nonmetallic mining, those in which service and white-collar workers dominate employment were underrepresented in the survey. Cases were excluded from the survey if the injury resulted in a fatality or if more than 120 days had elapsed between the time of the injury and the beginning of the survey.

To identify back injury cases within the scope of the survey, participating State agency staff reviewed employers' reports of injuries required by State workers' compensation laws and mailed questionnaires to injured workers selected for the study. They requested cooperation on a voluntary basis. During the survey period, November-December 1980, 22 State agencies reviewed injury reports and mailed about 1,900 questionnaires. About one-half of the workers selected as within the scope of the study responded to the mail questionnaire.

Although data were aggregated for 22 States, it

should be noted that the workers' compensation cases selected for study reflect differences in State reporting requirements. For example, some participating States require reporting of workers' compensation cases involving medical treatment regardless of lost time, while others limit reporting to cases involving lost time ranging from 1 to 8 days.

In addition, no attempt was made to estimate back injuries associated with lifting for the occupations studied. Although participating States provided a broad geographical and industrial mix, they were not selected statistically to represent the country as a whole. Moreover, data collection was terminated when responses exceeded 750 cases.

Characteristics of the injury and the person injured were classified and tabulated for all respondents within the scope of the survey based on information furnished by the employer in the workers' compensation report.

Questionnaires returned by the injured worker were reviewed for completeness and reliability. Responses to the question on nature of injury (IA) may not necessarily be based on medical diagnosis. Also, respondents may have experienced difficulty in recalling precise body positions and movements immediately before they felt back pains. All usable responses of incomplete questionnaires were used in the tabulations. Consequently, response rates among questions vary. No attempt was made to adjust the data for nonresponses.

Numerical values shown in the tables were actual counts while percentages were rounded to the nearest whole number.

## Appendix B. Participating State Agencies

Arizona Industrial Commission  
Arkansas Department of Labor  
California Department of Industrial Relations  
Colorado Department of Labor and Employment  
Delaware Department of Labor  
Hawaii Department of Labor and Industrial Relations  
Idaho Industrial Commission  
Indiana Division of Labor  
Iowa Bureau of Labor  
Kentucky Department of Labor  
Maine Department of Manpower Affairs  
Massachusetts Department of Labor and Industries

Michigan Department of Labor  
Missouri Department of Labor and Industrial Relations  
Montana Department of Labor and Industry  
Nebraska Workmen's Compensation Court  
Ohio Industrial Commission  
Tennessee Department of Labor  
Utah Industrial Commission  
Virginia Department of Labor and Industry  
Washington Department of Labor and Industries  
Wisconsin Department of Industry, Labor and Human Relations

# Appendix C. Survey Questionnaire

Bureau of Labor Statistics  
Work Injury Report  
Back Injuries Associated With Lifting

U.S. Department of Labor



The information collected on this form by the Bureau of Labor Statistics and the State Agencies cooperating in its statistical program will be held in confidence and will be used for statistical purposes only.

This report is authorized by law 29 U.S.C. 2. Your voluntary cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

Form Approved  
O.M.B. No. 44R-1614

State   Case Number         Date of Accident

- I.**
- A. Indicate the nature of your back injury. (Check all that apply.)
1.  Muscle strain/sprain
  2.  Dislocated or herniated disc (slipped disc)
  3.  Dislocated vertebrae
  4.  Misaligned vertebrae (subluxation)
  5.  Inflammation of joint
  6.  Pinched nerve
  7.  Other (Describe) \_\_\_\_\_
  8.  Don't know
- B. Did you first feel the pain in your back while you were lifting/holding the object that caused your injury? (Check one.)
1.  Yes—first felt pain as I was lifting/holding the object
  2.  No—felt pain before lifting/holding
  3.  No—felt pain shortly after lifting/holding
  4.  No—felt pain several hours later
  5.  No—felt pain next day
  6.  Other (Explain) \_\_\_\_\_
- C. If you answered "Yes—first felt pain as I was lifting/holding the object," check the position closest to that of your arms, back, and legs at the moment of injury.
- a. Position of arms at moment of injury. (Check one.)
- 
1.  Extended down
  2.  Bent at elbow
  3.  Extended out at shoulder
  4.  Extended over head
  5.  Other (Explain) \_\_\_\_\_
  6.  Don't know
- b. Position of back at moment of injury. (Check one.)
- 
1.  Straight
  2.  Slightly bent
  3.  Very bent
  4.  Other (Explain) \_\_\_\_\_
  5.  Don't Know
- c. Position of legs at moment of injury. (Check one.)
- 
1.  Straight
  2.  Slightly bent
  3.  Squatting
  4.  Other (Explain) \_\_\_\_\_
  5.  Don't know
- D. How far apart were your feet at the moment of injury? (Check one.)
1.  Less than 12 inches apart
  2.  12 or more inches apart
  3.  Don't know

**IF YOU KNOW THE OBJECT THAT CAUSED YOUR BACK INJURY, COMPLETE SECTION II.**

**IF NOT, CONTINUE WITH SECTION III, ON REVERSE SIDE.**

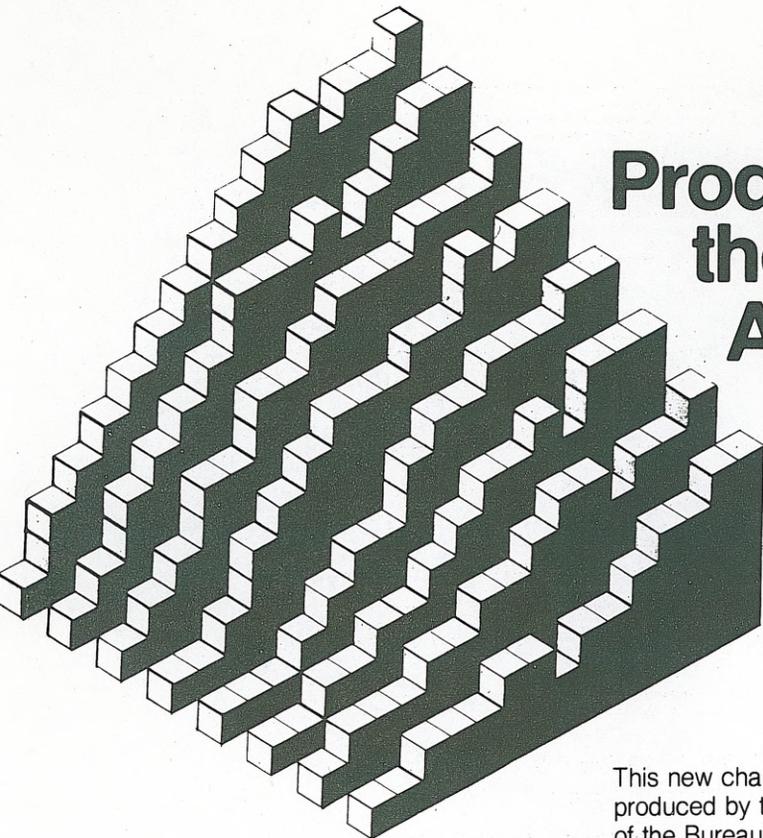
- II. COMPLETE THIS SECTION ONLY IF YOU KNOW THE SPECIFIC OBJECT THAT CAUSED YOUR BACK INJURY.**
- A. Describe the specific object you were handling when you injured your back.
- \_\_\_\_\_
- B. What was the approximate weight of the object? (Check one.)
1.  Less than 20 pounds
  2.  20 to 40 pounds
  3.  40 to 60 pounds
  4.  60 to 80 pounds
  5.  80 to 100 pounds
  6.  100 or more pounds
  7.  Don't know
- C. Estimate the size of the object.
1. Height—\_\_\_\_ feet, \_\_\_\_ inches
  2. Width—\_\_\_\_ feet, \_\_\_\_ inches
  3. Length—\_\_\_\_ feet, \_\_\_\_ inches
  4.  Other (Explain) \_\_\_\_\_
  5.  Don't know
- D. Were you holding the object by yourself?
1.  No—had help from co-worker(s)
  2.  Yes
- E. How far did you carry the object? (Check one.)
1.  Did not carry object any distance
  2.  Carried object less than 5 feet
  3.  Carried object 5 to 20 feet
  4.  Carried object more than 20 feet
  5.  Other (Explain) \_\_\_\_\_
  6.  Don't know
- F. How long were you holding or carrying the object? (Check one.)
1.  Less than 1 minute
  2.  1 to 2 minutes
  3.  2 or more minutes
  4.  Don't know
- G. Check the level the object was on before you attempted to lift it. (Check one.)
1.  Floor level
  2.  Ankle height
  3.  Knee height
  4.  Waist height
  5.  Chest height
  6.  Shoulder height
  7.  Head height
  8.  Over head
  9.  Other (Explain) \_\_\_\_\_
- H. Where did you put the object? (Check one.)
1.  Dropped object when felt pain
  2.  Dropped object before feeling pain
  3.  Floor level
  4.  Ankle height
  5.  Knee height
  6.  Waist height
  7.  Chest height
  8.  Shoulder height
  9.  Head height
  10.  Over head
  11.  Other (Explain) \_\_\_\_\_
- I. Was that where you intended to put the object?
1.  No
  2.  Yes
- J. Was lifting/moving equipment available to help you move the object? If it was, why was it not used? (Check one.)
1.  Equipment not available
  2.  Available but did not think it was necessary
  3.  Available but not practical to use
  4.  Available but in bad condition or not working
  5.  Available but takes too long
  6.  Injury occurred while using lifting/moving equipment
  7.  Other (Explain) \_\_\_\_\_
  8.  Don't know if lifting/moving equipment was available
- K. About how many objects had you lifted before you were injured? (Check one.)
1.  None
  2.  1 to 4
  3.  5 to 9
  4.  10 to 24
  5.  25 to 49
  6.  50 to 99
  7.  100 or more

- III.**
- A. What were you doing when you injured your back? (Check all that apply.)**
- |   |  |
|---|--|
| 1. <input type="checkbox"/> Carrying          | 7. <input type="checkbox"/> Pulling                      |
| 2. <input type="checkbox"/> Catching/throwing | 8. <input type="checkbox"/> Pushing                      |
| 3. <input type="checkbox"/> Holding           | 9. <input type="checkbox"/> Shoveling                    |
| 4. <input type="checkbox"/> Lifting           | 10. <input type="checkbox"/> Other (Describe) _____      |
| 5. <input type="checkbox"/> Lowering object   | 11. <input type="checkbox"/> Don't know moment of injury |
| 6. <input type="checkbox"/> Placing object    |  |
- B. What movements were you making when you injured your back? (Check all that apply.)**
- |   |   |
|---|---|
| 1. <input type="checkbox"/> Bending                       | 7. <input type="checkbox"/> Stretching                      |
| 2. <input type="checkbox"/> Climbing                      | 8. <input type="checkbox"/> Suddenly changing body position |
| 3. <input type="checkbox"/> Sitting                       | 9. <input type="checkbox"/> Twisting/turning                |
| 4. <input type="checkbox"/> Slipping, tripping or falling | 10. <input type="checkbox"/> Walking or running             |
| 5. <input type="checkbox"/> Squatting                     | 11. <input type="checkbox"/> Other (Describe) _____         |
| 6. <input type="checkbox"/> Standing                      | 12. <input type="checkbox"/> Don't know                     |
- C. Within 48 hours before your injury, was your activity at work or at home more strenuous than normal? (Check all that apply.)**
1.  Yes—lifting more objects than normal
2.  Yes—lifting heavier objects than normal
3.  Yes—involved in strenuous outside activity (sports, work at home, etc.) (Describe) \_\_\_\_\_
4.  No
- D. Check those items which you feel contributed to your injury. (Check all that apply.)**
- Object too heavy
  - Object too bulky
  - Small confined workspace
  - Had been doing a lot of lifting that day
  - Had lifted heavy object earlier that day
  - Body movement or motion contributed to injury
  - Underestimated weight of object before lifting
  - Changed usual lifting position
  - Previous back problems
  - Poor physical condition
  - Poor or careless lifting techniques
  - Attempted to lift or place object while walking or running
  - Other (Describe) \_\_\_\_\_
  - Don't know

- IV.**
- A. What information were you given on proper lifting/moving procedures before your injury? (Check all that apply.)**
- How to lift to avoid injury
  - Use of equipment to lift/move loads (e.g., forklift, pulley, crane/hoist, rope, lever, hand cart, dolly)
  - Use of wrist or knee braces, work shoes, work gloves
  - Combine lifting with rest breaks or light tasks
  - Maximum weight I should lift
  - Benefit of exercise to avoid back injury
  - Other (Describe) \_\_\_\_\_
  - No information on lifting/moving provided
- IF YOU CHECKED 1-7 ABOVE, ANSWER B, C, D AND E BELOW.**
- B. Who provided the information on lifting/moving procedures? (Check all that apply.)**
- Supervisor
  - Safety representative
  - Co-worker
  - Union representative
  - Other (Describe) \_\_\_\_\_
- C. How was the information on lifting/moving procedures provided? (Check all that apply.)**
- Lecture
  - Demonstration
  - Film
  - Written material or posters
  - On-the-job
  - Other (Explain) \_\_\_\_\_
- D. When was the last time you received information on how to lift/move? (Check one.)**
- |  |   |
|--|---|
| 1. <input type="checkbox"/> Less than 6 months ago | 4. <input type="checkbox"/> 2 or more years ago |
| 2. <input type="checkbox"/> 6 months to 1 year ago | 5. <input type="checkbox"/> Don't know          |
| 3. <input type="checkbox"/> 1 to 2 years ago       |   |
- E. Do you feel you would have prevented your back injury by using this information?**
- No (Explain) \_\_\_\_\_
  - Yes
  - Don't know

- V.**
- A. How often do you normally lift in your job? (Check one.)**
- Seldom (less than 5 times a day)
  - 5 to 9 times a day
  - 10 to 24 times a day
  - 25 to 49 times a day
  - 50 to 99 times a day
  - 100 or more times a day
- B. Is your lifting work usually spread evenly throughout your work hours?**
1.  No 2.  Yes 3.  Seldom lift objects
- C. What is the weight of the heaviest object you normally lift in your job without the help of a co-worker or lifting equipment? (Check one.)**
- |   |   |
|---|---|
| 1. <input type="checkbox"/> Less than 20 pounds | 5. <input type="checkbox"/> 80 to 100 pounds    |
| 2. <input type="checkbox"/> 20 to 40 pounds     | 6. <input type="checkbox"/> 100 or more pounds  |
| 3. <input type="checkbox"/> 40 to 60 pounds     | 7. <input type="checkbox"/> Seldom lift objects |
| 4. <input type="checkbox"/> 60 to 80 pounds     | 8. <input type="checkbox"/> Don't know          |
- VI.**
- A. When you applied for your job were you required to: (Check all that apply.)**
- Take a medical exam
  - Have a lower back x-ray
  - Provide a medical history
  - Take strength or lifting tests, e.g., do situps, lift weights, etc.
- (Describe) \_\_\_\_\_
5.  Other (Describe) \_\_\_\_\_
6.  None of the above
- B. Was your strength a consideration in the job tasks you were given?**
1.  No 2.  Yes 3.  Don't know
- C. 1. What is your height? \_\_\_\_\_ feet \_\_\_\_\_ inches**
- 2. What is your weight? \_\_\_\_\_ pounds**
- D. Did you do situps or other exercises which strengthen your stomach before your injury?**
1.  No 2.  Yes—regularly 3.  Yes—sometimes
- E. How many workdays did you (or do you expect to) lose due to your injury? (NOTE: Do not count the day of injury, days on light duty work, normal days off or holidays.)**
- \_\_\_\_\_ Workdays
- F. If you have returned to work: Indicate the number of workdays your job duties were changed or restricted (light duty) due to your back injury.**
- \_\_\_\_\_ Workdays
- G. Have you ever had any back problems before this injury? (Check one.)**
- Yes—had previous back problem(s) but did not obtain medical or chiropractic treatment
  - Yes—had back problems which were treated by a physician or chiropractor
  - No
- H. What actions, if any, did your employer take after your injury to prevent back injuries from happening to others? (Check all that apply.)**
- Conducted training on how to lift/move
  - Provided lifting/moving equipment (e.g., pulley, dolly, etc.)
  - Required use of lifting/moving equipment
  - Provided exercise program (classes), equipment or facilities
  - Mixed lighter work with lifting
  - Reduced maximum weights to be lifted
  - Other action (Describe) \_\_\_\_\_
  - Employer took no action
  - Don't know

**71. Describe in as much detail as possible what you were doing at the time of the injury. If you don't know what caused your injury, then describe the lifting (or other activity) that you did which may have caused your injury.**



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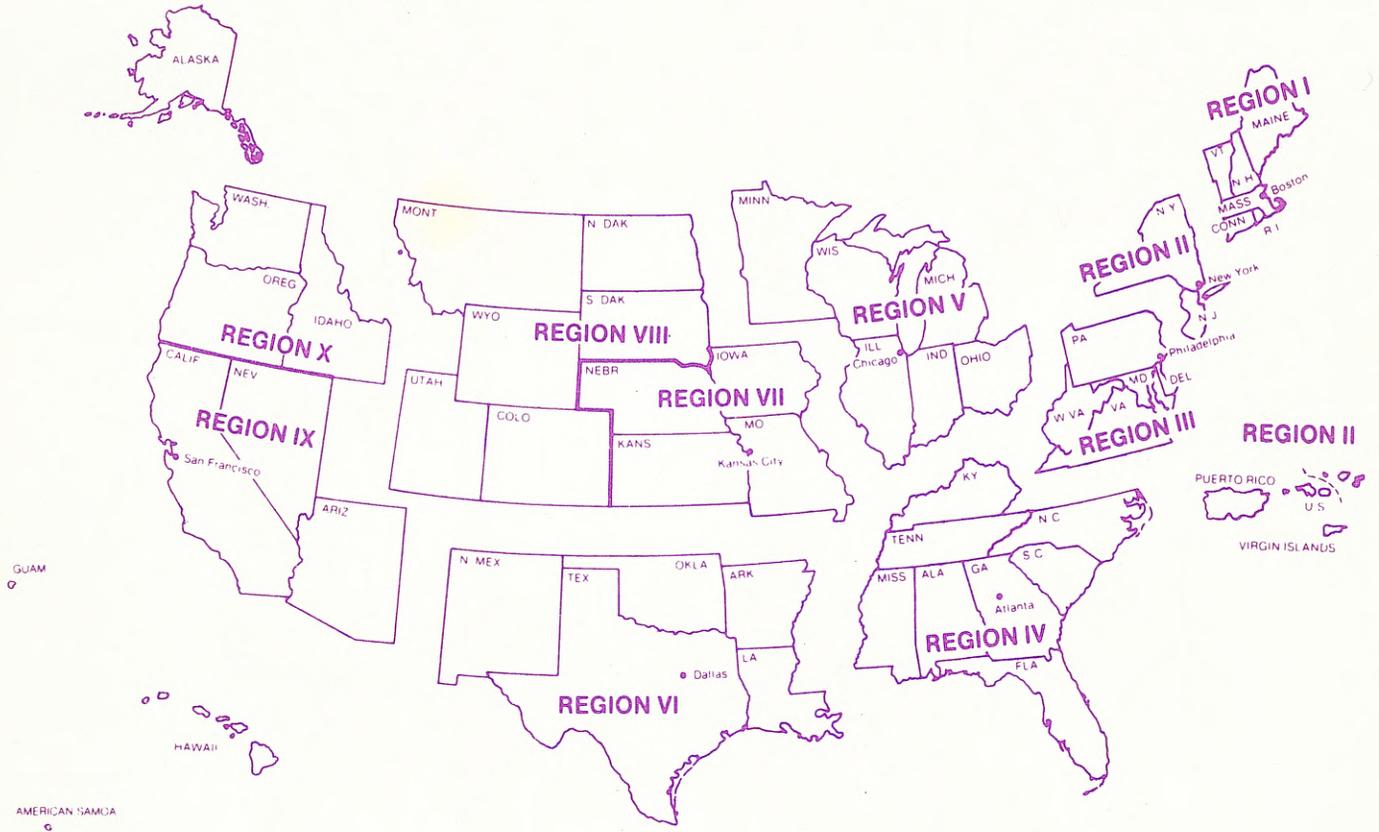
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