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# Cumulative Trauma Disorders in Maine 1995

Maine Department of Labor

Maine Bureau of Labor Standards

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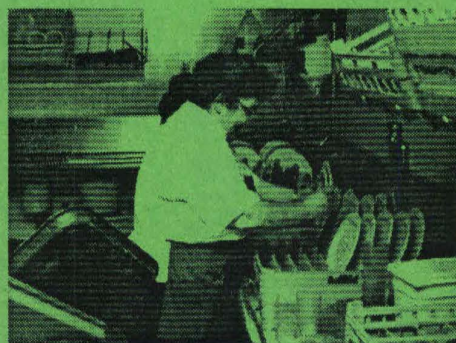
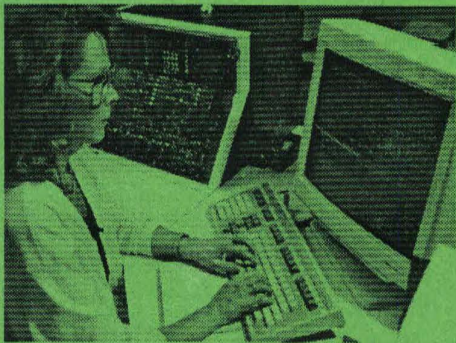
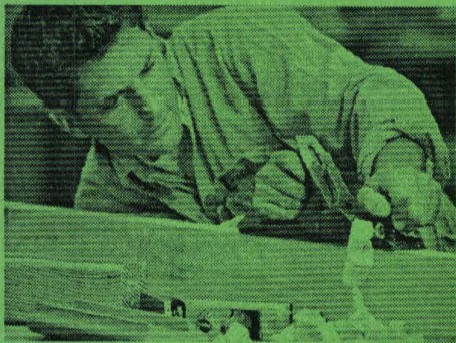
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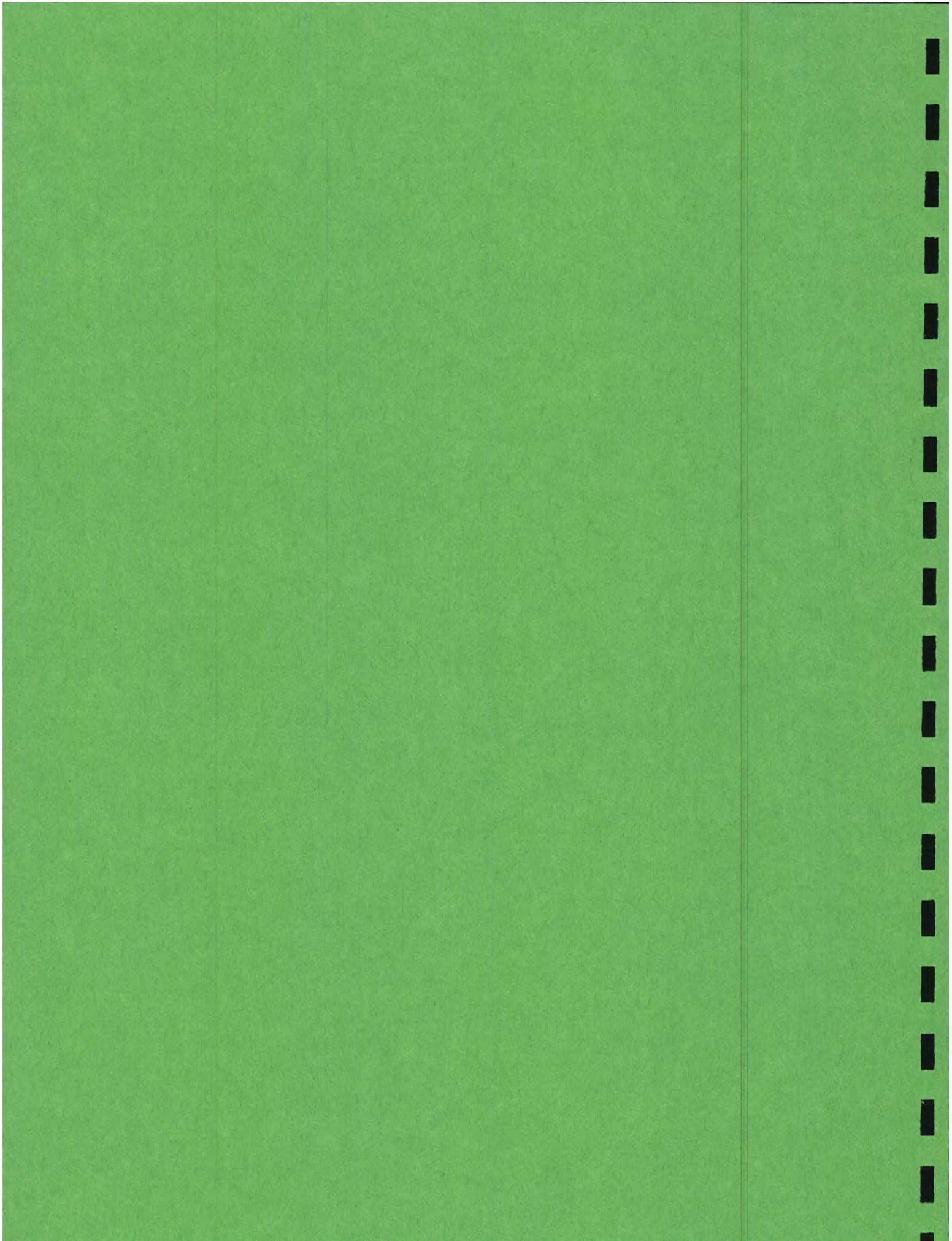
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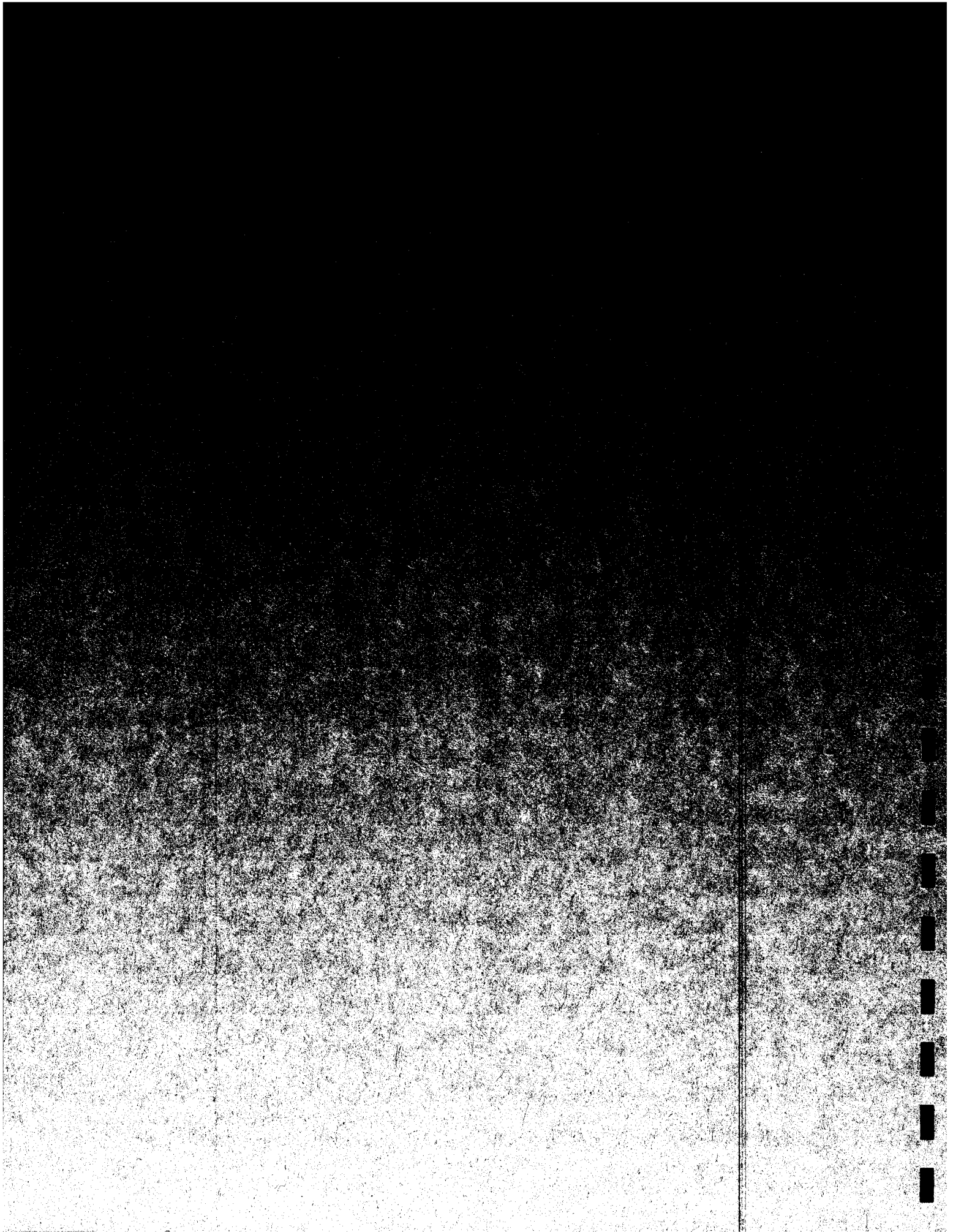
**A Report  
on Cumulative  
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in Maine  
1995**







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June 1997



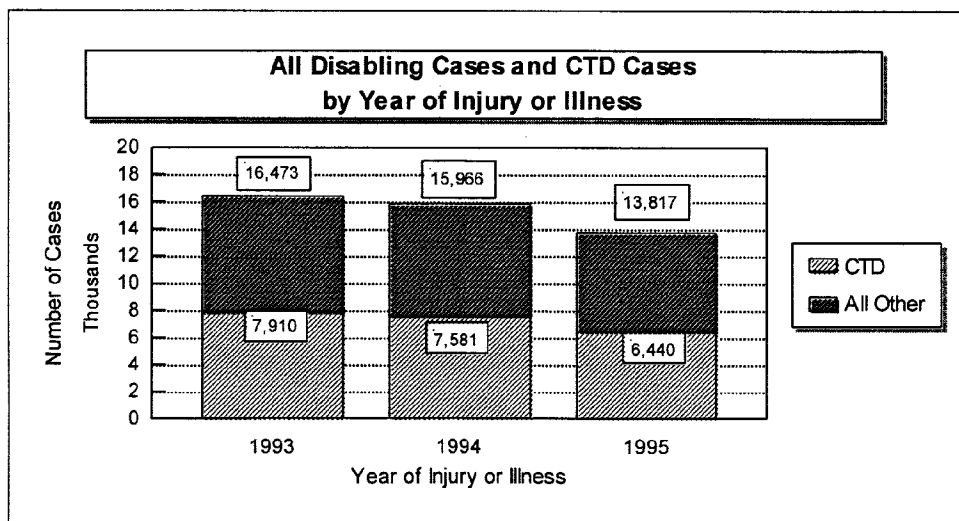
## 1995 Highlights

Of the 13,817 disabling injury and illness cases filed with the Workers' Compensation Board for 1995 on **First Reports of Occupational Injury or Disease**, 6,440 (43%) were Cumulative Trauma Disorders (CTD) cases. Of these CTD cases:

- 51% were sprains, strains, or tears
- 43% were to the back
- 38% were because of free bodily movement of the person injured such as sitting, standing, reaching, twisting
- 33% were because of overexertion in lifting
- 34% were in the 30-39 year-old age group
- 61% were male workers
- 44% had less than two years of employment with their current employer
- 20% were in the occupational group of Service Workers such as nurses aides, kitchen workers, cooks, janitors, etc.
- 49% were in Manufacturing and Services Industries

The chart below shows that not only have the CTD cases declined over this three-year period, but All Disabling Cases have declined as well. Percentage of CTD cases to All Disabling Cases have gone from 48% in 1993 to 46% in 1995.

is





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**A Report on**  
**Cumulative Trauma Disorders**  
**in Maine**  
**1995**

A publication developed by Janet M. Austin, Statistician III  
Technical Services Division

June 1997

Augusta, Maine

*Credits*

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# Introduction to Cumulative Trauma Disorders

## WHAT ARE CUMULATIVE TRAUMA DISORDERS?

Cumulative trauma disorders (CTDs), also called repetitive motion injuries, comprise more than 100 types of job-induced injuries and illnesses and are one of the fastest growing categories of workplace injuries. CTDs result from wear and tear on the body and may occur when the physical requirements of the job outweigh the physical capacity of the worker. Risk factors causing CTDs include repetitive motion, force, awkward posture, and heavy lifting. The severity of CTDs may inhibit a worker's ability to continue to work or even do simple household tasks.

In Maine, CTDs-

- Account for 47% of all lost-time injuries and illnesses reported.
- Receive one in every three workers' compensation dollars.
- Average \$8,000 per insurance claim (double the average claim for other injuries).

## PREVENTING CTDs

Training employees to protect themselves from cumulative trauma hazards and redesigning the workplace will prevent many CTDs. For example, simple and inexpensive remedies include:

- Use of curved handle knives by poultry workers to avoid unnatural wrist bends
- Stretching and frequent breaks to rest muscles
- Use of lifting equipment by nursing home workers to avoid back strain
- Varying tasks to break up the routine.

## USING THIS PUBLICATION

The information in this publication highlights the CTD problem in Maine. Drawing from the data, employers, public and occupational health professionals, and employees can identify potentially dangerous occupations and activities and design strategies to prevent CTDs.

## SOURCES OF HELP

**Maine Department of Labor** at (207) 624-6400

- Provides free training and on-site consultation
- Publishes free information, such as [Feeling Good in My Job: A guide to protect computer users from repetitive motion injuries.](#)

**Occupational Safety and Health Administration (OSHA)**

web page at <http://www.osha-slc.gov/ergo/>

**Insurance companies, private consultants, and health care providers.**

Table 1 shows the breakdown of the nature of disabling CTDs for 1993-1995. Sprains, strains, and tears accounted for 3,269 (50.8%) of the 6,440 CTD cases in 1995. Another 1,222 (19%) complained of soreness, pain or hurt (nature code used when the First Report has a vague description).

Table 1. Cumulative Trauma Disorders  
Nature of Illness, Disabling Cases  
Maine, 1993-1995

Nature of Illness	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Traumatic Injury & Disorders	6,783	85.8	6,514	85.9	5,688	88.3
Sprains, strains, tears	3,865	48.9	3,529	46.6	3,269	50.8
Soreness, pain, hurt, except the back	1,385	17.5	1,485	19.6	1,222	19.0
Back pain, hurt back	1,329	16.8	1,266	16.7	1,064	16.5
Dislocations	125	1.6	119	1.6	72	1.1
Multiple nonspecified injuries/disorder	53	0.7	115	1.5	60	0.9
Nonspecified injuries & disorders, NEC	26	0.3	0	0	1	0.0
Systemic Diseases & Disorders	964	12.2	839	11.1	598	9.3
Tendonitis	429	5.4	315	4.2	213	3.3
Hernia	207	2.6	214	2.8	168	2.6
Carpal tunnel syndrome	222	2.8	168	2.2	129	2.0
Bursitis	29	0.4	31	0.4	25	0.4
Other disorders of nervous system, NEC	17	0.2	23	0.3	19	0.3
Rheumatism, except the back, NEC	27	0.3	32	0.4	18	0.3
Ganglion/cystic tumor	16	0.2	22	0.3	12	0.2
Rheumatism, except the back, UNS	10	0.1	23	0.3	11	0.2
Tenosynovitis	4	0.1	10	0.1	3	0.0
Disorders of nervous system, UNS	2	0.0	1	0.0	0	0
Inflammation & toxic neuropathy	1	0.0	0	0	0	0
Nonclassifiable	163	2.1	228	3.0	154	2.4

UNS Unspecified. First Report of Occupational Injury or Disease did not have details of the injury or illness.

NEC Not Elsewhere Classified. First Report did have details but no specific code exists for the problem.

Nonclassifiable. First Report was so vague and lacked adequate information.

Table 2 shows the part of the body affected by CTD. Back injuries are the largest category (2,792 (43.4%) of the 6,440 cases in 1995).

Table 2. Cumulative Trauma Disorders  
Part of Body, Disabling Cases  
Maine, 1993-1995

Part of Body	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Trunk	4,718	59.6	4,402	58.1	3,875	60.2
Back, including spine, spinal cord	3,333	42.1	3,124	41.2	2,792	43.4
Shoulder, including clavicle, scapula	637	8.1	604	8.0	472	7.3
Pelvic region	342	4.3	293	3.9	286	4.4
Abdomen	101	1.3	108	1.4	103	1.6
Chest, including ribs, internal organs	110	1.4	110	1.5	97	1.5
Multiple trunk locations	112	1.4	70	0.9	63	1.0
Trunk, UNS	79	1.0	78	1.0	44	0.7
Trunk, NEC	4	0.1	15	0.2	18	0.3
Upper Extremities	1,435	18.1	1,251	16.5	942	14.6
Wrist(s)	622	7.9	527	7.0	367	5.7
Multiple upper extremities locations	275	3.5	236	3.1	196	3.0
Elbow(s)	142	1.8	154	2.0	86	1.3
Arm(s), UNS	126	1.6	86	1.1	81	1.3
Hand(s), except finger(s)	91	1.2	83	1.1	63	1.0
Finger(s), fingernail(s)	77	1.0	62	0.8	57	0.9
Forearm(s)	48	0.6	47	0.6	42	0.7
Multiple arm(s) locations	24	0.3	27	0.4	29	0.5
Upper arm(s)	20	0.3	21	0.3	18	0.3
Arm(s), NEC	1	0.0	0	0	1	0.0
Upper extremities, UNS	2	0.0	7	0.1	2	0.0
Upper extremities, NEC	7	0.1	1	0.0	0	0
Lower Extremities	976	12.3	1,036	13.7	861	13.4
Knee(s)	490	6.2	512	6.8	434	6.7
Ankle(s)	294	3.7	305	4.0	249	3.9
Foot(feet), except toe(s)	68	0.9	92	1.2	73	1.1
Leg(s), UNS	42	0.5	41	0.5	28	0.4
Lower leg(s)	29	0.4	35	0.5	22	0.3
Thigh(s)	21	0.3	23	0.3	19	0.3
Multiple lower extremities locations	22	0.3	16	0.2	18	0.3
Multiple leg(s) locations	4	0.1	7	0.1	12	0.2
Toe(s), toenail(s)	3	0.0	4	0.1	4	0.1
Lower extremities, UNS	1	0.0	0	0	1	0.0
Leg(s), NEC	0	0	1	0.0	1	0.0
Lower extremities, NEC	2	0.0	0	0	0	0
Multiple Body Parts	579	7.3	691	9.1	592	9.2
Neck, Including Throat	163	2.1	172	2.3	148	2.3
Other Body Parts and Nonclassifiable	39	0.5	29	0.4	20	0.3

The "source of injury or illness" identifies the object, substance, bodily motion or exposure which directly produced or inflicted the injury or illness. The person injured is coded as the "source" when the illness resulted solely from the stress or strain induced by the free movement of the body or its parts or from a strained or unnatural body position. As shown in Table 3, 2,444 (38%) of the cases in 1995 fell in this category.

Table 3. Cumulative Trauma Disorders  
Source of Illness, Disabling Cases  
Maine, 1993-1995

Source of Illness	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Persons, Plants, Animals, and Minerals	3,783	47.8	3,759	49.6	3,107	48.2
Person--injured or ill worker	2,927	37.0	2,975	39.2	2,444	38.0
Person--other than injured or ill worker	758	9.6	677	8.9	578	9.0
Plants, trees, vegetation--not processed	40	0.5	40	0.5	42	0.7
Nonmetallic minerals, except fuel	19	0.2	23	0.3	22	0.3
Animals and animal products	26	0.3	36	0.5	14	0.2
Food products--fresh or processed	13	0.2	8	0.1	7	0.1
Containers	1,603	20.3	1,560	20.6	1,261	19.6
Containers--nonpressurized	1,217	15.4	1,173	15.5	925	14.4
Containers--variable restraint	183	2.3	190	2.5	159	2.5
Containers--pressurized	69	0.9	66	0.9	55	0.9
Skids, pallets	68	0.9	56	0.7	51	0.8
Containers, UNS	47	0.6	34	0.4	36	0.6
Containers, NEC	5	0.1	25	0.3	13	0.2
Dishes, drinking cups, beverage glasses	7	0.1	9	0.1	11	0.2
Luggage, handbags	7	0.1	7	0.1	11	0.2
Parts and Materials	549	6.9	555	7.3	491	7.6
Building materials--solid elements	292	3.7	267	3.5	269	4.2
Vehicle and mobile equipment parts	107	1.4	135	1.8	95	1.5
Machine, tool, and electric parts	85	1.1	119	1.6	77	1.2
Fasteners, connectors, ropes, ties	24	0.3	15	0.2	25	0.4
Parts and materials, UNS	23	0.3	11	0.1	12	0.2
Parts and materials, NEC	11	0.1	3	0.0	7	0.1
Tarps and sheeting--nonmetal	4	0.1	4	0.1	5	0.1
Tars/sealants/caulking/insulating material	0	0	1	0.0	1	0.0
Metal materials--nonstructural	2	0.0	0	0	0	0
Hoisting accessories	1	0.0	0	0	0	0
Other Sources and Nonclassifiable	587	7.4	486	6.4	487	7.5
Nonclassifiable	219	2.8	168	2.2	248	3.9
Other sources, NEC	281	3.6	226	3.0	173	2.7
Apparel and textiles	50	0.6	50	0.7	25	0.4
Paper, books, magazines	26	0.3	32	0.4	22	0.3
Scrap, waste, debris	9	0.1	9	0.1	18	0.3
Atmospheric and environmental conditions	1	0.0	1	0.0	0	0
Steam, vapors, liquids, NEC	1	0.0	0	0	0	0

Table 3. Source of Illness-Cont.

Source of Illness	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Tools, Instruments, and Equipment	456	5.8	395	5.2	333	5.2
Handtools--nonpowered	224	2.8	189	2.5	153	2.4
Handtools--powered	65	0.8	72	0.9	63	1.0
Ladders	24	0.3	18	0.2	20	0.3
Recreation and athletic equipment	21	0.3	14	0.2	17	0.3
Other tools, instruments, and equipment	75	0.9	65	0.9	57	0.9
Tools, instruments, and equipment, UNS	25	0.3	26	0.3	12	0.2
Handtools--power not determined	17	0.2	6	0.1	7	0.1
Protective equipment, except clothing	1	0.0	3	0.0	3	0.0
Photographic equipment	4	0.1	2	0.0	1	0.0
Vehicles	286	3.6	239	3.2	233	3.6
Plant/industrial vehicle-nonpowered	154	1.9	164	2.2	128	2.0
Highway vehicle, motorized	103	1.3	56	0.7	73	1.1
Plant/industrial powered vehicles tractors	19	0.2	10	0.1	13	0.2
Water vehicle	4	0.1	4	0.1	10	0.2
Off road vehicle, non industrial	3	0.0	2	0.0	6	0.1
Highway vehicle, nonmotorized	3	0.0	1	0.0	1	0.0
Rail vehicle	0	0	1	0.0	1	0.0
Air vehicle	0	0	0	0	1	0.0
Vehicle, UNS	0	0	1	0.0	0	0
Furniture and Fixtures	243	3.1	236	3.1	224	3.5
Furniture	139	1.8	133	1.8	138	2.1
Cases, cabinets, racks, shelves	77	1.0	69	0.9	63	1.0
Furniture and fixtures, UNS	15	0.2	10	0.1	7	0.1
Floor, wall, window coverings	3	0.0	11	0.1	7	0.1
Other fixtures	7	0.1	9	0.1	6	0.1
Furniture and fixtures, NEC	2	0.0	4	0.1	3	0.0
Machinery	272	3.4	224	3.0	185	2.9
Heating/cooling/cleaning machine/appliance	68	0.9	53	0.7	54	0.8
Special process machinery	41	0.5	32	0.4	26	0.4
Miscellaneous machinery	53	0.7	43	0.6	24	0.4
Material handling machinery	20	0.3	24	0.3	20	0.3
Machinery, UNS	25	0.3	16	0.2	19	0.3
Office and business machinery	21	0.3	18	0.2	12	0.2
Agricultural and garden machinery	12	0.2	17	0.2	11	0.2
Construction, logging, and mining machine	17	0.2	9	0.1	11	0.2
Metal, woodworking, special material mach	15	0.2	12	0.2	8	0.1
Structures and Surfaces	131	1.7	127	1.7	119	1.8
Floors, walkways, ground surfaces	31	0.4	19	0.3	35	0.5
Other structural elements	80	1.0	84	1.1	72	1.1
Structures	19	0.2	24	0.3	12	0.2
Structures and surfaces, NEC	1	0.0	0	0	0	0

The event or exposure describes the manner in which the injury or illness was produced or inflicted by the source of injury or illness. Of the 6,440 disabling CTD illnesses in 1995, 2,120 (32.9%) were due to overexertion while lifting as shown in Table 4 below.

Table 4. Cumulative Trauma Disorders  
Event or Exposure, Disabling Cases  
Maine, 1993-1995

Event or Exposure	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Contact with Objects and Equipment	57	0.7	23	0.3	50	0.8
Rubbed, abraded or jarred by vibration	41	0.5	12	0.2	26	0.4
Rubbed or abraded by friction or pressure	16	0.2	11	0.1	24	0.4
Bodily Reaction and Exertion	7,853	99.3	7,558	99.7	6,390	99.2
Overexertion in lifting	2,577	32.6	2,585	34.1	2,120	32.9
Overexertion in pulling or pushing objects	660	8.3	685	9.0	563	8.7
Slip, trip, loss of balance-without fall	645	8.2	570	7.5	548	8.5
Bending/climbing/crawling/reaching/twisting	554	7.0	601	7.9	541	8.4
Overexertion, NEC	745	9.4	670	8.8	466	7.2
Repetitive motion, UNS	268	3.4	381	5.0	384	6.0
Overexertion holding/carrying/turning object	398	5.0	384	5.1	354	5.5
Bodily reaction, NEC	238	3.0	444	5.9	301	4.7
Overexertion, UNS	507	6.4	205	2.7	275	4.3
Repetitive placing/grasping object exc. tool	221	2.8	285	3.8	186	2.9
Repetitive motion, NEC	491	6.2	282	3.7	114	1.8
Typing or key entry	183	2.3	136	1.8	101	1.6
Walking--without other incident	134	1.7	88	1.2	86	1.3
Repetitive use of tools	108	1.4	97	1.3	82	1.3
Bodily reaction, UNS	13	0.2	22	0.3	38	0.6
Standing	23	0.3	30	0.4	32	0.5
Overexertion in throwing objects	16	0.2	9	0.1	29	0.5
Sitting	12	0.2	18	0.2	17	0.3
Bodily conditions, NEC	15	0.2	7	0.1	12	0.2
Running without other incident	14	0.2	20	0.3	9	0.1
Sudden reaction when surprised or frightened	5	0.1	2	0.0	3	0.0



Nearly half of all disabling CTD cases in 1995 occurred to employees between 30 and 44 years old.

Table 5. Cumulative Trauma Disorders  
Age of Ill Worker, Disabling Cases  
Maine, 1993-1995

Age of Ill Worker	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Under 20 Years Old	259	3.3	220	2.9	208	3.2
20-24 Years Old	959	12.1	843	11.1	740	11.5
25-29 Years Old	1,203	15.2	1,108	14.6	845	13.1
30-34 Years Old	1,312	16.6	1,305	17.2	1,093	17.0
35-39 Years Old	1,243	15.7	1,218	16.1	1,109	17.2
40-44 Years Old	1,020	12.9	916	12.1	870	13.5
45-49 Years Old	754	9.5	783	10.3	636	9.9
50-54 Years Old	514	6.5	538	7.1	442	6.9
55-59 Years Old	342	4.3	372	4.9	303	4.7
60-64 Years Old	182	2.3	175	2.3	132	2.0
65-69 Years Old	30	0.4	24	0.3	22	0.3
70-74 Years Old	13	0.2	14	0.2	12	0.2
Unknown	79	1.0	65	0.9	28	0.4

Figure 1 below presents Table 5 data in a bar chart. Disabling CTD illnesses were highest in the 30-34 age group for this 3-year period with 3,710 (17%) disabling cases.

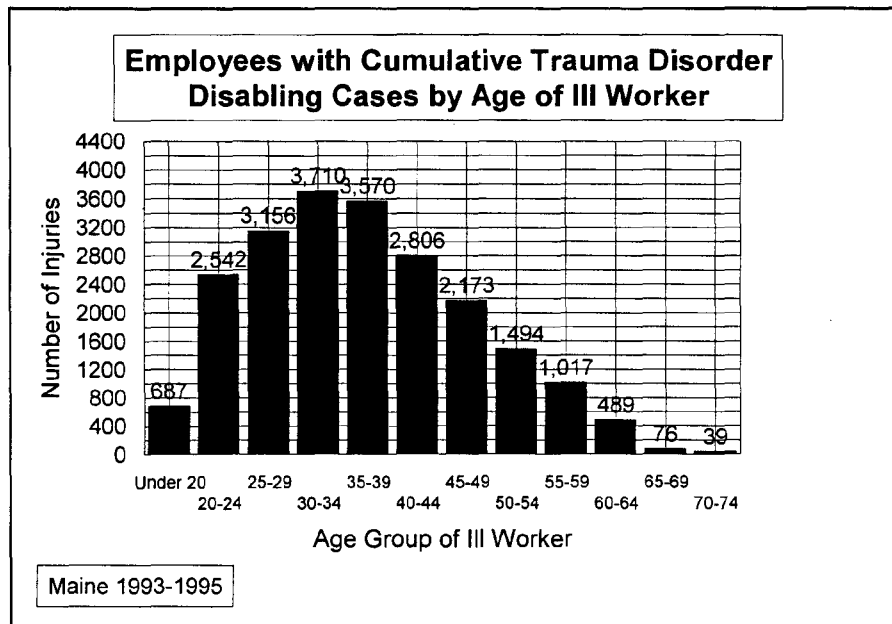


Table 6 shows that the male/female ratio for disabling CTD cases has remained consistent over this three-year period at 60/40.

Table 6.

Cumulative Trauma Disorders  
Gender of Ill Worker, Disabling Cases  
Maine, 1993-1995

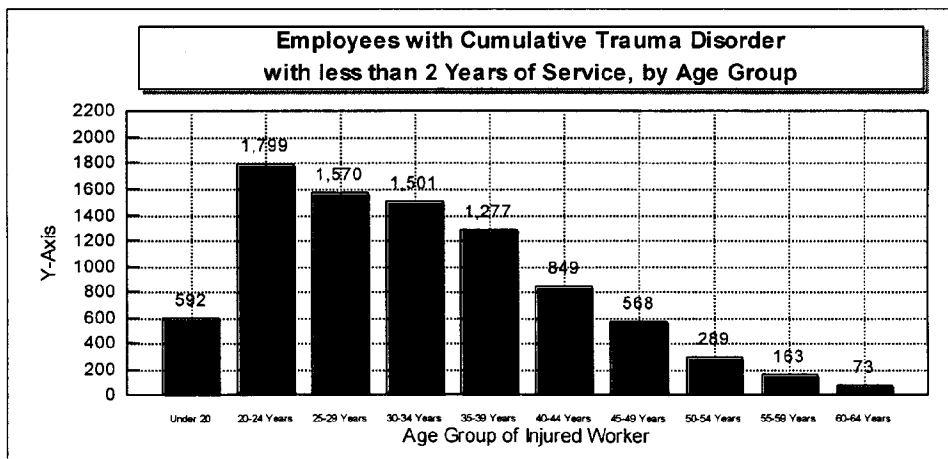
Gender of Ill Worker	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Male	4,667	59.0	4,543	59.9	3,919	60.9
Female	3,243	41.0	3,038	40.1	2,521	39.1

Length of service is the amount of time an employee has worked for his or her employer. Table 7 shows that 2,830 (44%) of disabling CTD cases reported in 1995 happened within the first two years of service.

Table 7. **Cumulative Trauma Disorders  
Length of Service of Ill Worker, Disabling Cases  
Maine, 1993-1995**

Length of Service of Ill Worker	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Under 2 Years	2,981	37.7	2,993	39.5	2,830	43.9
2-3 Years	1,196	15.1	958	12.6	796	12.4
4-5 Years	1,132	14.3	933	12.3	575	8.9
6-7 Years	583	7.4	724	9.6	573	8.9
8-9 Years	320	4.0	375	4.9	382	5.9
10-11 Years	257	3.2	248	3.3	250	3.9
12-13 Years	247	3.1	215	2.8	154	2.4
14-15 Years	252	3.2	219	2.9	161	2.5
16-17 Years	149	1.9	163	2.2	150	2.3
18-19 Years	116	1.5	113	1.5	98	1.5
20-21 Years	94	1.2	109	1.4	76	1.2
22-23 Years	60	0.8	65	0.9	69	1.1
24-25 Years	60	0.8	64	0.8	54	0.8
26-27 Years	38	0.5	42	0.6	26	0.4
28-29 Years	24	0.3	27	0.4	33	0.5
30 and More	66	0.8	73	1.0	106	1.6
Unknown	335	4.2	260	3.4	107	1.7

The graph below shows only cases from the above table with a length of service under two years. Over 20% of these cases involved employees who were 20-24 years old. Nearly 35% involved employees between the ages of 25 and 34. Not all employees reporting CTDs are new to the workforce, some may have changed jobs and are with a new employer.



During the three year period, August consistently recorded the highest number of disabling CTD cases.

Table 8. Cumulative Trauma Disorders  
Month of Illness, Disabling Cases  
Maine 1993-1995

Month of Illness	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
January	736	9.3	682	9.0	615	9.5
February	645	8.2	581	7.7	524	8.1
March	687	8.7	678	8.9	577	9.0
April	623	7.9	626	8.3	524	8.1
May	625	7.9	659	8.7	571	8.9
June	650	8.2	653	8.6	554	8.6
July	699	8.8	583	7.7	569	8.8
August	784	9.9	769	10.1	631	9.8
September	629	8.0	618	8.2	505	7.8
October	672	8.5	687	9.1	523	8.1
November	619	7.8	522	6.9	457	7.1
December	541	6.8	523	6.9	390	6.1

The graph below illustrates the percent of all disabling cases and disabling CTD cases by month. The peak for both types of cases was in August.

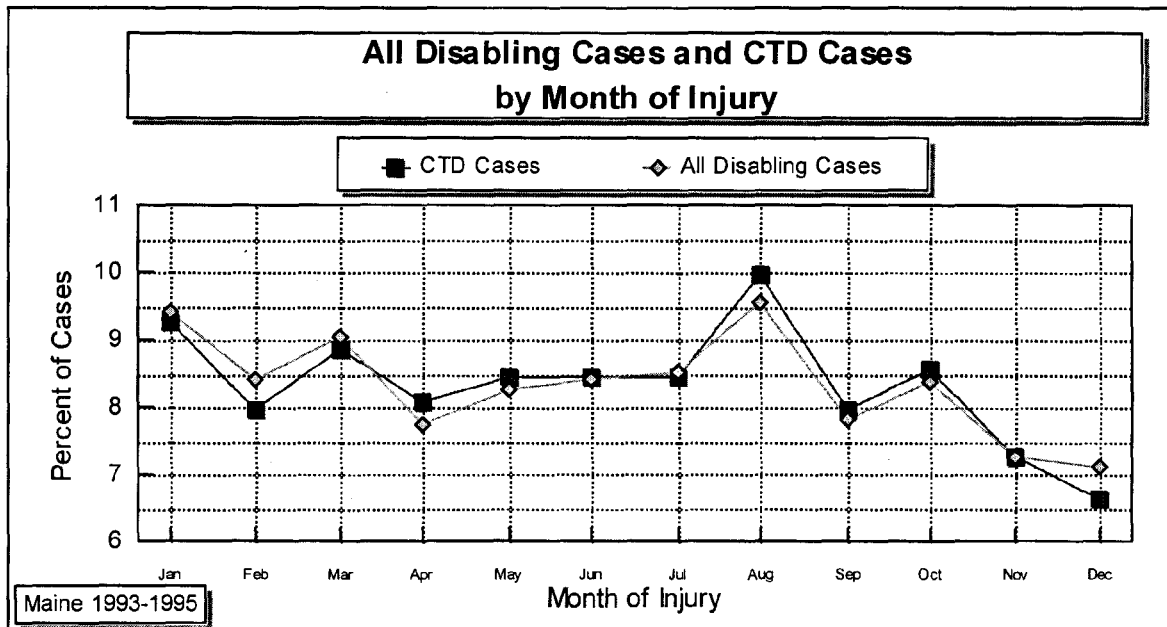


Table 9 calculates the ratio of cases reports to employment. A ratio of 1.00 indicates that the number of injury reports is in even proportion to the number of employees in the county. Hi ratios reveal a concentration of hazardous industries.

Cumberland, Kennebec, Penobscot, and York Counties reported the greatest number of disabling CTD cases. These counties were also the top in average employment. However, Sagadahoc is the only county having a ratio well over 1.00 in all three years.

Table 9. **Cumulative Trauma Disorders**  
Percent of Employment\*, Percent of Reports,  
and Ratio by County  
Maine 1993-1995

County of Illness	Disabling Cases								
	1993			1994			1995		
	Percent Emplymt	Percent Reports	Ratio	Percent Emplymt	Percent Reports	Ratio	Percent Emplymt	Percent Reports	Ratio
Total	100.0	100.0	1.00	100.0	100.0	1.00	100.0	100.0	1.00
Androscoggin	8.2	8.8	1.07	8.3	8.1	0.98	8.2	7.3	0.89
Aroostook	5.7	5.6	0.98	5.6	5.4	0.96	5.5	4.7	0.85
Cumberland	27.1	26.4	0.97	27.4	29.2	1.07	27.7	30.2	1.09
Franklin	2.4	1.8	0.75	2.3	2.0	0.89	2.3	1.5	0.65
Hancock	3.7	3.5	0.95	3.7	3.3	0.89	3.7	3.8	1.03
Kennebec	10.5	10.1	0.96	10.4	9.1	0.88	10.3	8.6	0.83
Knox	2.9	2.8	0.97	3.0	2.7	0.90	3.2	3.0	0.94
Lincoln	1.9	1.4	0.74	1.8	1.2	0.67	1.9	1.5	0.79
Oxford	3.3	2.9	0.88	3.2	2.8	0.88	3.2	3.0	0.94
Penobscot	12.4	11.2	0.98	12.1	11.2	0.93	12.0	11.0	0.92
Piscataquis	1.1	1.2	1.09	1.1	0.9	0.82	1.1	1.2	1.09
Sagadahoc	3.1	6.2	2.00	3.1	5.0	1.61	2.9	5.1	1.76
Somerset	3.3	3.4	1.03	3.4	3.8	1.12	3.3	3.2	0.97
Waldo	1.3	0.9	0.69	1.4	0.9	0.64	1.4	1.3	0.93
Washington	2.2	2.3	1.05	2.1	2.4	1.14	2.1	2.7	1.29
York	9.8	9.9	1.01	9.9	10.2	1.03	10.0	10.3	1.03

\*Source: Percentages for employment were calculated from data provided by the Labor Market Information Services, Maine Department of Labor

In 1995, Service Workers, including nursing aids, janitors, kitchen workers, maids, and cooks accounted for nearly 20% of all disabling CTD illnesses.

Table 10. Cumulative Trauma Disorders  
Occupation of Ill Worker, Disabling Cases  
Maine, 1993-1995

Occupation of Ill Worker	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
Service Worker	1,577	19.9	1,496	19.7	1,279	19.9
Nursing aides, orderlies, and attendants	664	8.4	623	8.2	481	7.5
Janitors and cleaners	263	3.3	255	3.4	256	4.0
Kitchen workers, food preparation	150	1.9	159	2.1	129	2.0
Maids and housemen	144	1.8	131	1.7	112	1.7
Cooks	110	1.4	107	1.4	85	1.3
Handler, Equipment Cleaner, or Laborer	1,231	15.6	1,189	15.7	1,034	16.1
Laborers-except construction	561	7.1	593	7.8	526	8.2
Stock handlers and baggers	194	2.5	153	2.0	140	2.2
Construction laborers	176	2.2	145	1.9	131	2.0
Freight, stock or material handlers, NEC	121	1.5	122	1.6	97	1.5
Precision Production, Craft or Repair	1,188	15.0	1,117	14.7	1,057	16.4
Carpenters	115	1.5	116	1.5	129	2.0
Plumber, pipefitter, and steamfitter	84	1.1	91	1.2	83	1.3
Automobile mechanics	75	0.9	78	1.0	76	1.2
Electricians	77	1.0	70	0.9	52	0.8
Assemblers	72	0.9	68	0.9	57	0.9
Welders and cutters	73	0.9	63	0.8	47	0.7
Machine Operator, Assembler or Inspector	1,195	15.1	1,153	15.2	782	12.1
Miscellaneous machine operators, NEC	255	3.2	261	3.4	174	2.7
Shoe machine operators	197	2.5	199	2.6	99	1.5
Transportation or Material Handler	680	8.6	677	8.9	548	8.5
Truck drivers	453	5.7	462	6.1	366	5.7
Driver-sales workers	93	1.2	71	0.9	59	0.9
Administration Support-Clerical	557	7.0	518	6.8	422	6.6
Traffic, shipping, and receiving clerks	103	1.3	87	1.1	76	1.2
Sales Occupation	464	5.9	467	6.2	425	6.6
Cashiers	198	2.5	176	2.3	147	2.3
Supervisors/proprietors-sales occupation	113	1.4	81	1.1	86	1.3
Professional Specialty	303	3.8	280	3.4	288	4.5
Registered nurses	137	1.7	106	1.4	122	1.9
Executive Administrative or Managerial	191	2.4	166	2.2	138	2.1
Managers and administrators, NEC	104	1.3	78	1.0	62	1.0
Protective Service	160	2.0	170	2.2	152	2.4
Firefighting occupations	62	0.8	63	0.8	54	0.8
Police and detectives, public service	48	0.6	46	0.6	46	0.7
Technician or Support Occupation	167	2.1	157	2.1	138	2.1
Health technologists/technicians, NEC	61	0.8	51	0.7	56	0.9
Licensed practical nurses	53	0.7	52	0.7	35	0.5
Farming, Fishing, or Forestry Occupation	144	1.8	162	2.1	134	2.1
Groundskeepers & gardeners, except farm	55	0.7	63	0.8	46	0.7
Other and Unknown	53	0.6	49	0.6	43	0.6

Table 11 reports injuries by industrial classification. The Manufacturing and Services Industries accounted for nearly half of all disabling CTD cases.

Table 11. Cumulative Trauma Disorders  
SIC of Ill Worker, Disabling Cases  
Maine, 1993-1995

SIC by Industry Division	Disabling Cases					
	1993		1994		1995	
	Number	Percent	Number	Percent	Number	Percent
Total	7,910	100.0	7,581	100.0	6,440	100.0
01-09 Agricultural/Fishing/Forestry	110	1.4	102	1.3	107	1.7
0782 Lawn & garden services	13	0.2	16	0.2	19	0.3
0252 Chicken eggs	20	0.3	7	0.1	12	0.2
15-17 Construction	436	5.5	469	6.2	420	6.5
1611 Highway & street construction	162	2.0	140	1.8	140	2.2
1521 Single-family house construction	57	0.7	79	1.0	74	1.1
20-39 Manufacturing	2,211	28.0	2,029	26.8	1,484	23.0
3731 Ship building & repairing	412	5.2	287	3.8	247	3.8
2621 Paper mills	245	3.1	275	3.6	185	2.9
3143 Mends footwear, exc athletic	132	1.7	111	1.5	52	0.8
3111 Leather tanning & finishing	55	0.7	85	1.1	46	0.7
3144 Women's footwear, exc athletic	65	0.8	74	1.0	41	0.6
2499 Wood products NEC	56	0.7	67	0.9	47	0.7
40-49 Transportation & Public Utilities	447	5.7	440	5.8	392	6.1
4213 Trucking, except local	105	1.3	87	1.1	89	1.4
4215 Courier services except by air	92	1.2	104	1.4	78	1.2
4911 Electric services	65	0.8	55	0.7	50	0.8
50-51 Wholesale Trade	546	6.9	524	6.9	396	6.1
5141 Groceries, general line	137	1.7	135	1.8	65	1.0
52-59 Retail Trade	1,345	17.0	1,324	17.5	1,222	19.0
5411 Grocery stores	472	6.0	415	5.5	365	5.7
5812 Eating places	214	2.7	210	2.8	189	2.9
5311 Department stores	161	2.0	162	2.1	163	2.5
60-67 Finance/Insur./Real Estate	140	1.8	117	1.5	88	1.4
6411 Insurance agents, brokers & service	21	0.3	19	0.3	10	0.2
70-89 Services	1,776	22.5	1,712	22.6	1,550	24.1
8062 General medical/surgical hospital	415	5.2	376	5.0	323	5.0
8051 Skilled nursing care facilities	455	5.8	352	4.6	237	3.7
8211 Elementary & secondary schools	234	3.0	236	3.1	214	3.3
8361 Residential care	92	1.2	109	1.4	105	1.6
7011 Hotels & motels	89	1.1	99	1.3	93	1.4
8082 Home health care service	68	0.9	78	1.0	77	1.2
Public Sector	896	11.3	861	11.4	769	11.9
9224 Fire protection	69	0.9	78	1.0	64	1.0
9221 Police protection	71	0.9	66	0.9	64	1.0
Other & Unknown	294	3.7	285	3.8	266	4.1

A large majority of the sprains, strains or tears during 1993-1995, occurred to the back (50%) and lower extremities (20%).

Table 12.

**Cumulative Trauma Disorders  
Nature of Illness, Disabling Cases  
by Part of Body  
Maine, 1993-1995**

Nature of Illness	Total	Part by Major Groups								
		Back	Trunk except Back	Upper Extre- mities	Lower Extre- mities	Multi- ple Body Parts	Neck Throat	Other	Head	Body Syste- ms
Total	21,931	9,249	3,745	3,628	2,873	1,861	483	85	3	2
Sprains, strains, tears	10,663	5,198	1,717	753	2,127	550	293	25	0	0
Soreness, pain, hurt, except the back	4,090	0	1,020	1,395	570	969	132	4	0	0
Back pain, hurt back	3,661	3,661	0	0	0	0	0	0	0	0
Tendonitis	957	6	150	684	43	58	0	16	0	0
Hernia	589	1	588	0	0	0	0	0	0	0
Nonclassifiable	545	173	60	111	72	80	11	35	2	1
Carpal tunnel syndrome	519	0	0	519	0	0	0	0	0	0
Dislocations	316	203	45	12	32	2	21	1	0	0
Multiple nonspecified inj. & disorders	228	0	62	4	0	159	0	3	0	0
Bursitis	85	0	58	12	10	4	0	1	0	0
Rheumatism, except the back, NEC	77	0	13	27	13	18	6	0	0	0
Other disorder periph. nervous sys NEC	59	7	10	15	4	2	19	0	1	1
Ganglion or cystic tumor	50	0	0	49	1	0	0	0	0	0
Rheumatism, except the back, UNS	44	0	8	31	0	4	1	0	0	0
All other CTD natures	48	0	14	18	1	15	0	0	0	0



As shown in Table 13, 7,090 (32%) of sprains, strains, tears, were caused by overexertion. Another 3,206 (36%) were due to bodily reaction. Overexertion is coded when excessive physical effort is applied. Bodily reaction is coded when the execution of personal movement was the source of injury or illness.

Table 13.

**Cumulative Trauma Disorders  
Nature of Illness, Disabling Cases  
by Event or Exposure  
Maine, 1993-1995**

Nature of Illness	Total	Event by Major Groups						
		Overexertion	Bodily reaction*	Repetitive motion	Bodily reaction and exertion, UNS	Rubbed/abraded/jarred by vibration	Rubbed/abraded by friction/pressure	Bodily conditions, NEC
Total	21,931	13,248	5,008	3,319	192	79	51	34
Sprains, strains, tears	10,663	7,090	3,206	274	64	18	11	0
Soreness, pain, hurt, except the back	4,092	2,013	714	1,241	64	14	30	16
Back pain, hurt back	3,659	2,756	753	85	30	33	1	1
Tendonitis	957	99	25	821	9	3	0	0
Hernia	589	534	23	22	8	0	0	2
Nonclassifiable	545	283	136	99	6	2	6	13
Carpal tunnel syndrome	519	11	0	507	1	0	0	0
Dislocations	316	204	82	20	5	5	0	0
Multiple nonspecified inj. & disorders	228	157	37	33	0	1	0	0
Bursitis	85	27	2	51	1	2	2	0
Rheumatism, except the back, NEC	77	24	12	39	1	0	1	0
Other disorder periph. nervous sys NEC	59	23	12	22	1	0	0	1
Ganglion/cystic tumor	50	1	0	47	2	0	0	0
Rheumatism, except the back, UNS	44	3	1	40	0	0	0	0
All other CTD natures	48	23	5	18	0	1	0	1

Bodily reaction includes cases resulting from free bodily motion which imposed stress or strain upon some part of the body. Free bodily motion include bending, climbing, crawling, reaching, running, sitting, slipping without falling, standing and walking without other incident. Table 14 shows the most common nature/source combination for disabling CTD cases for 1993-1995 was sprains, strains, tears by person, plant, animal or mineral (4,788 (21.8%) of the total 21,931). The same source category was named in another 2,301 (10.5%) cases where the nature was a non-specific pain, sore, or hurt except to back.

Table 14.

**Cumulative Trauma Disorders  
Nature of Illness, Disabling Cases  
by Source of Illness  
Maine, 1993-1995**

Nature of Illness	Total	Source by Major Groups								
		Person Plant Animl Min	Conta- iners	Parts- /Mate- rial	Other	Tool Equip Instr- ument	Vehic- le	Furni- ture Fixtu- re	Machi- nery	Struc- ture Surfa- ce
Total	21,931	10,649	4,424	1,595	1,560	1,184	758	703	681	377
Sprains, strains, tears	10,663	4,788	2,413	891	653	608	399	386	334	191
Soreness, pain, hurt, except the back	4,092	2,301	598	180	374	231	142	84	117	65
Back pain, hurt back	3,659	1,347	977	314	274	221	148	172	142	64
Tendonitis	957	852	29	9	31	16	5	4	7	4
Hernia	589	63	184	111	116	30	18	21	29	17
Nonclassifiable	545	296	83	34	40	27	19	11	17	18
Carpal tunnel syndrome	519	507	3	2	4	1	0	0	2	0
Dislocations	316	114	62	27	25	26	15	17	17	13
Multiple nonspecified inj. & disorders	228	112	39	19	24	14	5	4	9	2
Bursitis	85	61	11	2	2	5	1	1	0	2
Rheumatism, except the back, NEC	77	53	4	4	7	3	2	0	3	1
Other disorder periph. nervous sys NEC	59	38	10	0	5	0	2	2	2	0
Ganglion/cystic tumor	50	48	0	0	2	0	0	0	0	0
Rheumatism, except the back, UNS	44	42	1	0	1	0	0	0	0	0
All other CTD natures	48	28	13	5	3	2	3	2	3	0