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TABLE 1

Sex, age and diagnostic classification of 201 cases of malignant mesothelioma and 19 other pleural tumors diagnosed in Connecticut, 1955-1977

Diagnosis[a]	Males	Females	Total	Mean Age
Pleural mesothelioma	100	37	137	63
Pleural tumor (other than mesothelioma)	11	8	19	63
Peritoneal mesothelioma	18	11	29	59
Mesothelioma at other sites & at unknown sites	21	14	35	54
Total	150	70	220	61

[a]WHO (1976)

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PLAINTIFF'S EXHIBIT UC-1296
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Table 2

Demographic Comparability of Study Subjects[1]

	Cases	Controls
Mean year of death or diagnosis	1969	1966
Mean Age at death or diagnosis	64	68
Birth Cohort Distribution (%)		
1870 - 1889	8	(32) ← some lat.
1890 - 1909	56	49
1910 - 1929	33	18
1930 - 1949	3	1
	100	100
LMA Distribution (%)		
LMA 1	20	12
LMA 2	3	6
LMA 3	18	20
LMA 4	13	15
LMA 5	4	5
LMA 6	7	6
LMA 7	9	9 ✓ comparable
LMA 8	26	29
	100	102[2]

[1] Males over 30 years old at death or diagnosis, born after 1879

[2] Total unequal to 100 due to rounding

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Table 3

for cases & controls,

Completeness of Occupational Data from Death certificates & City Directories

Source	Percent with Job Title[1]		Percent with Industry Title		Percent with Employer Name	
	cases	controls	cases	controls	Cases	controls
DC	92[2]	96	73[2]	85	59[2]	41
CD	76	69	69	67	71	53
1 yr. prior to Dx	46	26	45	23	47	17
10 yr prior to Dx	53	42	43	40	45	28
20 yr prior to Dx	46	45	39	45	40	29
25 yr prior to Dx	41	39	36	39	34	27
30 yr prior to Dx	30	35	30	36	31	25
40 yr prior to Dx[3]	26	24	19	23	19	15
50 yr prior to Dx[3]	10	18	8	14	3	8
DC & CD	98	99	89	94	NA	NA
1-4 job titles	71	72	—	—	—	
5-8 job titles	27	27	—	—	—	

[1] Uninformative titles such as retired, student excluded

[2] When 7 living cases are excluded from the denominator, percentages become 96, 76, 62

[3] Cases less than 20 yrs of age at search year excluded from denominator

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Table 4

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Mesothelioma Cases from
Shipyard Labor Market Area
Diagnosed 1955 to 1977

	Sex	Yr. of Dx	Site	Slide Review	Occupation
1.	F	1966	pleura	NA	at-home/spouse-attorney
2.	M	1971	peritoneum	positively	clothing merchant
3.	M	1976	pleura	probably not	safety nuclear engineer, shipyard
4.	M	1977	pleura	positively	architect, engineer
5.	F	1977	pleura	NA	housewife/spouse-truck driver, paper and board company
6.	M	1975	pleura	probably	painter-glazer, sub-base
7.	M	1968	pleura	possibly	shipyard superintendent, machinist
8.	M	1976	pleura	probably	rigger, erector in shipyard/stevedore, railway

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Table 5

Relative Risk of Mesothelioma Associated with Selected Job Categories

Job Title	RR	95% CI	N[1]
Engineers	2.72	(.85, 8.68)	11
Brickmasons & Stonemasons	2.15	(.37, 12.50)	5
Cabinetmakers & Carpenters	2.25*	(1.13, 4.48)	35
Electricians	1.29	(.39, 4.24)	14
Foremen	1.57	(.84, 2.94)	50
Painters, Construction, & maintenance	1.39	(.52, 3.71)	20
Plumbers & Pipefitters	3.87*	(1.38, 10.82)	13

*$p < .05$

[1]N = number of male cases and controls over 30 years old at death or diagnosis, born after 1875 who 'ever worked' in the category. Total N for each independently calculated RR was 611 (147 cases, 464 controls).

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Table 6

Relative Risk of Mesothelioma Associated with Selected Industry Categories

Industry Title	RR	95% CI	N[1]
Construction	1.21	(.60, 2.45)	45
Misc. non-metallic mineral & stone products	1.64	(.15, 18.06)	3
Electrical machinery equipment, & supplies	2.79	(.86, 6.67)	20
Aircraft & parts	1.03	(.43, 2.49)	25
Ship & boatbuilding	1.09	(.35, 3.42)	16
Yarn, thread & fabric mills	.57	(.17, 1.92)	20
Rubber Product	5.08**	(1.60, 16.11)	10
Automobile repair & related service	.65	(.08, 5.53)	6[2]

(145 ?)

**p < .01

[1]N = number of male cases and controls over 30 years old at death or diagnosis, born after 1875, who 'ever worked' in the category. Total N for each independently calculated RR was 611 (147 cases, 464 controls).

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Table 7

Mesothelioma Cases[1] Ever Employed in Jobs Associated with Asbestos Exposure by Connecticut Labor Market Area

	No. ever exposed	Percent	RR
LMA1	21	70	1.27
LMA2	1	25	.36
LMA3	17	65	2.16
LMA4	14	74	2.49
LMA5	4	67	2.89
LMA6	6	60	1.61
LMA7	8	62	1.02
LMA8	26	72	1.66
Total	97	67	1.63*

*$p < .01$

[1] Males over 30 years old at death or diagnosis, born after 1874

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Table 8

Mesothelioma Cases[1] Ever Employed in Industries Associated with Asbestos Exposure by Connecticut Labor Market Area

	No. ever exposed	Percent	RR
LMA1	26	90	3.75*
LMA2	1	33	.83
LMA3	15	58	1.43
LMA4	13	76	1.47
LMA5	5	100	+
LMA6	4	50	1.17
LMA7	7	54	.40
LMA8	17	53	1.13
Total	88	66	1.36*

*$p < .10$

\+ odds ratio not computed because of zero cells

[1] Males over 30 years old at death or diagnosis, born after 1879

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Table 9

Relative Risk of Mesothelioma Associated with Level of Occupational Asbestos Exposure by Age

AGE Group	Level of Occupational Asbestos Exposure 0	1	2	3	4	N
30 - 49	1.00	.39	.47	1.17	∞	66
50 - 69	1.00	1.11	1.59	1.60	1.67	257
70 - 89	1.00	2.19	1.78	4.59***	5.35***	272
All Ages[2]	1.00	1.19	1.34	2.20**	2.73***	611

N should have

Level 3 = exposure scores 3 or 4; level 4 = exposure score 5 to 16

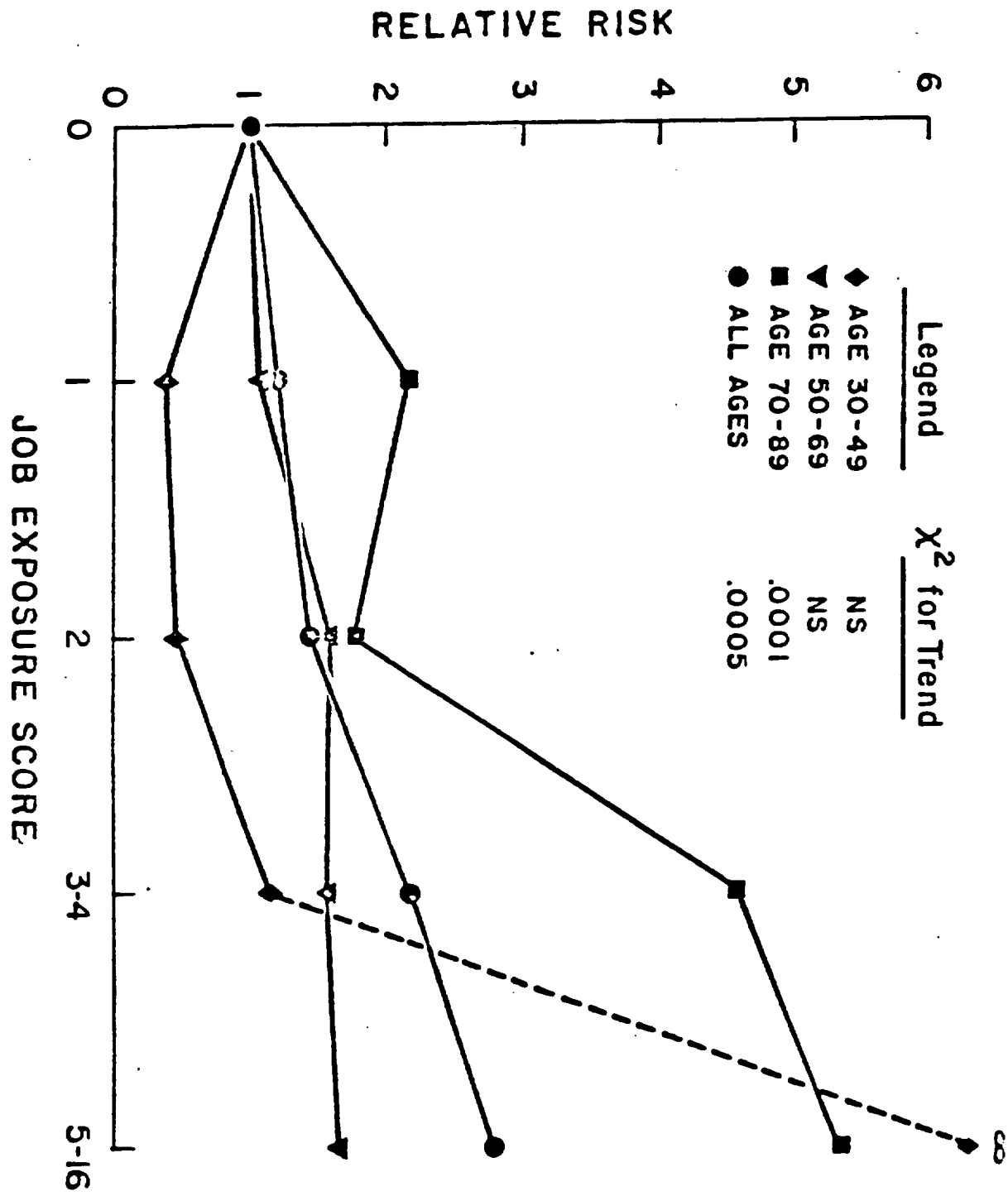
[2] Age-adjusted relative risks

** $p < .005$

*** $p < .001$

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DOSE-RESPONSE RELATIONSHIP OF MESOTHELIOMA AND OCCUPATIONAL ASBESTOS EXPOSURE BY AGE GROUP



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~~Method of H.C. Lewinsohn~~

Appendix A

Asbestos Exposure By Job Code

Probable Code	Probable Job Description	Possible Code	Possible Job Description
		006	Aeronautical, astronautical eng.
		011	Civil engineers
+012	Electrical & electronic engineers		
013	Industrial engineers		
014	Mechanical engineer		
		022	Sales engineer
		023	Engineers, nec.
		056	Personal & labor relations worker
		140	Teacher, college and University
		142	Elementary school teachers
		+151	Chemical technicians
		152	Draftsman
		173	Technician
		190	Painters and sculptors
		216	Managers & superintendents, building
		221	Officers, pilots, pursers, ship
		326	Insurance, adjuster, examines, investigator
		403	Blacksmith
		410	Brick masons & stone masons
404	Boilermaker	413	Cabinet makers
		415	Carfuelers pipefitters
		424	Cranemen, derrick men, hoistmen
		+430	Electricians
		+433	Electric power linesmen & cablemen
		436	Excavating, road grading
		441	Foremen, n.e.c.
		442	Forgemen & hammermen
		446	Heat amnealers, temfevers, treaters
		454	Job & die setters, metal
		+455	Locomotive engineers
		461	Machinist
		471	Mechanic, aircraft
		+473	Mechanic, automobile
		481	Heavy equipment mechanic
		482	Household appliance and accessory installers & mechanics
		483	Loom fixer
+486	Railroad & car shop	492	Misc. mechanics & repairmen
		495	Not specified mechanics & repairmen
		502	Millwrights
		+510	Painters, constr & maintenance
		514	Pattern & mold makers
+522	Plumbers & pipejutter		
+534	Roofers & slaters		
+525	Power Station operator		
		545	Stationary engineer
		550	Structural metal craftsmen
		552	Telephone installers & repairmen
		561	Tool & die makers
+[illegible]	Asbestos & insulation workers	503	Molders, metal

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Probable		Possible	
Code	Description	Code	Description
		610	Checkers, inspectors, examiners, mfg.
		611	Clothing ironers & pressers
615	Dry wall installers & lathers		
		621	Filers, sanders, polishers, buffer
622	~~Furnacemen~~, smeltemen, powers		
		+ 623	Garage worker & gas station
		641	Mixing operatives
		695	Paper mfg.
		650	Drill press operatives
		651	Grinding machine operatives
		661	Sailors and deckhands
		662	Sawyers
		*670	Carding, lapping & combing operatives
		*672	Spinners, twisters & winders
		*673	Weavers
		*674	Textile operatives, n.e.c.
		*680	Welders and flamewitters
		*681	Winding operatives, n.e.c.
		690	Machine operatives, misc. specifie
		692	Machine operatives, not specified
		+694	Miscellaneous operatives
		695	Not specified operatives
		710	Motormen, mine, factory, logging camp, etc.
+751	Construction Laborers, esecl. ~~caufeuters~~ helpers		
		753	Freight & material handlers
		+760	Longshoremen & stevedores
		944	Hairdressers & cosmetologists

+: An occupation identified in reference sources as having potential for asbestos exposure or actually described in conjunction with a case in the literature.

*: Occupations in textile factories which need further investigation to determine whether asbestos textiles were involved as distinct from cotton, wool or man-made fibers.

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Appendix B
~~Method of H.C. Lewinsohn~~

Asbestos Exposure by Industry Code

Probable

Code

057 Mining & quarrying non-metallic minerals
067 Building construction
068 Construction other than building
069 Construction-special trade

138 Cut Stone, abrasive & asbestos
139 Blast furnaces, steel works
147 Iron steel foundries
148 Primary & secondary aluminum production
149 Primary non-ferrous metals

168 Metal cans, heating apparatus, plumbing
177 Engines & turbines
199 Electrical household appliances
207 Radio & T.V. & communication equipment
208 Electrical Transmission & industrial equipment
209 Not specified electrical equipment
227 Aircraft & parts
228 Ship, boat, building, and repairing
229 Railroad equipment
239 Engineering & lab equipment
258 Ordnance & accessories

Possible

Code

127 Cement, concrete, gypsum
128 Structured clay products

158 Fabricated structural metal product

289 Beverages, liquor, beer, wine
318 Misc. textile goods
328 Pulp, paper, paperboard mills
337 Paperboard containers & boxes
348 Plastics & synthetic resins
379 Rubber products
407 Railroad Transportation
417 Trucking-and maintenance
419 Water transportation

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Probable

Code

467 Electric companies and systems
477 Water supply
529 Wholesale-electrical goods
539 "Machinery, equipment
558 "Petroleum and petroleum products

568 Wholesale-paper and paper products
569 "Lumber and construction products
607 Retail - lumber and building materials
639 Motor vehicles dealers-new and used
647 Tire, battery and accessory dealers
668 Household appliance stores
757 Automobile repair shops
779 Laundries

917 Federal government
927 State government
937 Local government

Possible

Code

427 Air Transportation

567 Wholesale-beer, liquor

609 Mailorder houses and dept. stores
627 Misc. general merchandise stores

648 Gasoline service stations
649 Misc. Aircraft, marine, and automotive dealers

758 Electrical repair shops
759 Misc. Repair Services
857 Elementary and secondary schools
858 Colleges & universities
867 Vocational schools
888 Engineering and architectural services

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