

Table 2.2. Cohort studies of asbestos exposed populations and lung cancer and mesothelioma

Study Population	Lung Cancer			Mesothelioma			Citation
	Obs	SMR	95% CI	Obs	SMR	95% CI	
Patients with Asbestos-related Disease							
1. Italy- 631 Women compensated for asbestosis	16	4.8	2.7–7.8	14	64.0	35.0–107	Germani et al. (1999)
2. Finland-		SIR			SIR		
a. 1 376 asbestosis patients	127 M	6.7 19.8	5.6–7.9	9 M	31.6	14.4–60.0	Karjalainen et al. (1999)
	6 F		7.3–43.1	1 F	95.7	2.4–533	
b. 4 887 patients with pleural disease	44 M 0 F	1.3	1.0–1.8	4 M 0 F	5.5	1.5–14.1	
3. Poland-		SMR			SMR		
a. 907 men with asbestosis	39	1.68	1.20–2.30	3	26.8	5.5–78.3	Szeszenia-Dabrowska et al. (2002)
b. 490 women with asbestosis	13	6.21	3.31–10.62	3	72.1	10.3–146	
4. US clinical Trial 1 839 asbestos exposed workers.				-	-	-	Cullen et al. (2005)
886 with a pleural abnormality	94	1.4	1.2–1.8				
Mining							
5. Wittenoon Gorge, Western Australia		SMR					Armstrong et al. (1988) {mortality through 1980}
6505 men	91 M	1.60	1.31–1.97	32			
a. 6 493 Men				235			Berry et al. (2004) [incidence through 2000]
b. 415 Women				7			
6. Quebec, Canada- Asbestos and Thetford Mines	646	1.37		38			Liddell et al. (1997) [1950–1992]
7. Finland-Paakkila and Maljasalmi Mines	76M 1F	2.88 2.22	2.27–3.60 0.06–12.4	4M	45.6	12.2–115	Meurman et al. 1994
8. Balangero, Italy - Miners	22	1.1		2	6.7		Piolatto et al. (1990)
Balangero, Italy				6	4.0	(<i>p</i> < 0.01)	Mirabelli et al. (2008)
9. Northern Transvaal, South Africa-North West Cape Blue and Penge Mines	63	1.72	1.32–2.21	16			Sluis-Cremer et al. (1992)
10. Libby, MT, US							
a. NIOSH Study	89	1.7	1.4–2.1	6	20.0	7.3–43.5	Sullivan (2007)
b. McGill Study	21			2			McDonald et al. (1986)

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	Obs	RR	95% CI	Obs	RR	95% CI	
Insulation Manufacture/Insulators							
11. Canada/US-17 800 male asbestos insulation union members in 1967	1168	4.35	$P < 0.001$	173			Selikoff and Seidman (1991)
12. Uxbridge, United Kingdom-Cape [insulation] Boards Plant	57	2.0		5			Acheson et al. (1984)
13. East London, United Kingdom-1,400 male ladders (a)	38	3.6		13			Berry et al. (2000)
14. Tyler, TX, US-753 white male asbestos pipe-insulation plant workers	35	2.77	1.93–3.85	4	28.8	7.9–73.8	Levin et al. (1998)
Asbestos Textile Workers							
15. Italy—889 male and 1 077 female textile workers	76	2.82	2.22–3.54	37	27.8	19.6–38.6	Pira et al. (2005)
16. Rochdale, Northern England	132	1.31	$p < 0.01$	11			Peto et al. (1985)
17. Charleston, SC, US-546 black and 1 247 white male and 1 229 white female asbestos textile workers	198	1.95	1.68–2.24	3			Hein et al. (2007)
18. North Carolina, US-5770 workers (3 975 male & 1 795 female) employed in 4 asbestos textile plants.	277	1.96	1.73–2.20	4	10.9	2.98–27.96	Loomis et al. (2009)
Asbestos Cement							
19. Denmark-Danish Eternit Ltd Cement factory {incidence through 1984}	162	1.80	1.54–2.10	10	5.46	2.62–10.1	Raffin et al. (1989)
{incidence through 1990}		1.63	1.26–2.08				Raffin et al. (1996)
20. Emilia Romagna, Italy-10 cement factories – ci = 90%	33	1.24	.91–1.66	6	4.11		Giaroli et al. (1994)
21. Casale Monferrato, Italy-asbestos cement production	110 M 7 F	2.71 3.96	2.23–3.27 1.59–8.16				Botta et al. (1991)
22. Lithuania-Daugeliai and Akmene Factories	29 M 1 F	0.9 0.7	(0.7–1.3) (0.1–4.6)	0 M 1 F			Smailyte et al. (2004a)
23. Southern Sweden-asbestos cement plant	35	1.8	0.90–3.7	13	7.2	.97–54	Albin et al. (1990)
24. Tamworth, England, United Kingdom-TAC Construction Materials LTD	35M 6F	9 1.4	0.6–1.3 0.5–3.1	1M 0F			Gardner et al. (1986)
25. New Orleans, LA, US-workers at two asbestos cement plants	154	1.34		1			Hughes et al. (1987)

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Friction Materials						
26. Ontario, Canada-two automotive parts factories	11	1.40		Included with Lung		Finkelstein (1989a)
27. Ferodo, United Kingdom-friction materials factory	229 M 12 F	1.03 0.57	(0.9–1.18) (0.29–0.99)	11 M 0 F		Berry (1994)
28. USSR	1M 1F	0.14 0.33				Kogan et al. (1993)
29. New York, US-friction products manufacture	15	0.95				Parnes (1990)
Generic “Asbestos Workers”	Obs	RR	95% CI	Obs	RR	95% CI
30. China – 8 asbestos factories	67	4.2	($p < 0.01$)			Zhu and Wang (1993)
31. Qingdao, China-asbestos plant	3 M 6 F	5.1 6.8	($p < 0.01$) ($p < 0.01$)			Pang et al. (1997)
32. Federal Republic of Germany-asbestos-related workers from national register	a. 26 b. 12	1.70 4.62	($p < 0.05$) ($p < 0.05$)	a. 6 b. 4		Woitowitz et al. (1986)
33. East London, United Kingdom-3,000 Male (a) and 700 female (b) asbestos factory workers	a. 157 b. 37	2.55 7.46		a. 60 b. 25		Berry et al. (2000)
34. Lancashire, United Kingdom-gas mask manufacture. Women only.	22	2.00		3		Acheson et al. (1982)
35. England and Wales, United Kingdom-national survey of asbestos workers	157	1.30	($p < 0.01$)	34		Hodgson and Jones (1986)
36. US-asbestos industry retirees	77	2.71	($p < 0.01$)	Included with Lung		Enterline et al. (1987)
Other Occupations with substantial Asbestos Exposure	Obs	RR	95% CI	Obs	RR	95% CI
37. Ontario, Canada-members of plumbers’ and pipefitters’ union	393	1.27	1.13–1.42	8		Finkelstein and Verma (2004)
38. Finland-7,775 male shipyard workers	227	1.18	1.03–1.35	1	1.3-	Tola et al. (1988) {incidence}
	<i>For all 7 775 shipyard workers</i>			<i>In a machinist, not pipefitter</i>		
39. Tuscany, Italy-railway carriage construction and repair	26	1.24	.87–1.72 90%CI	5	13.27 5.23–27.9 {90% CI}	Battista et al. (1999)
40. Genoa, Italy-ship repair, refitting, and construction	298	1.77	1.57–1.98	60	5.24	Puntoni et al. (2001)
41. Gothenburg, Sweden-shipyard workers	11	1.12	0.56–2.0	4		Sandén and Järholm (1987)