

Table 2.1 Cohort studies of workers in the rubber industry and bladder cancer

Reference, location, name of study	Cohort description	Exposure assessment	Organ site (ICD code)	Exposure categories	No. of cases/deaths	Relative risk (95% CI)*	Adjustment factors	Comments
Szeszenia-Dabrowska <i>et al.</i> (1991), Szeszenia-Dabrowska <i>et al.</i> (1995), Szymczak <i>et al.</i> (2003), Poland	11342 workers (5472 men, 5870 women) employed >1 year during 1945-85 in a rubber footwear plant; mortality follow up until 1997	Occupational history from company records	Bladder	Men Women	16 4	SMR 1.3 (0.7-2.1) 1.4 (0.4-3.5)		National reference
Straughan & Sorahan (2000); Dost <i>et al.</i> (2007), United Kingdom, BRMA health research project II	8651 workers of 41 rubber manufacturing plants (7561 men, 1090 women) employed >1 year during 1982-1991, office workers were excluded; mortality and incidence follow-up 1983-2004; vital status 98%	Workers considered exposed if employed in rubber manufacture; period from hire as surrogate for cumulative exposure	Bladder	Men Women Men Women	3 0 12 2	SMR 1.3 (0.3-3.8) 0 SRR 1.3 (0.7-2.2) 3.1 (0.4-11.1)	Stratification by industry sector (tire manufacture or general rubber goods)	Local reference

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Wilczyńska et al. (2001), de Vocht et al. (2009), Poland	17636 workers (11582 men, 6054 women) employed >3 months during 1950-95 in a rubber tire plant; mortality follow-up 1950-2001; vital status 97%; cause of death 88%	JEM for exposure to aromatic amines, inhalable aerosols and rubber fumes from a database of exposure data for the European rubber industry	Bladder	<i>Men</i>		SMR	5-year lagging, sex-specific analyses	Aromatic amine exposure associated with increased risk of prostate cancer in men and digestive and breast cancers in women
				Overall	6	0.6 (0.2-1.3)		
				Material preparation department	3	1.3 (0.3-3.8)		
				<i>Quartiles</i>	12	RR		
				Aromatic amines				
I		1.0						
II		0.0						
III		7.3 (1.1-51.0)						
IV		8.3 (1.0-66.3)						

JEM-job-exposure matrix, SMR-standardized mortality ratio, RR-relative risk