

Table 2.4 Case-control studies of workers in the rubber industry and lung cancer

Reference, study location and period	Organ site (ICD code)	Characteristics of cases	Characteristics of controls	Exposure assessment	Exposure categories	Relative risk (95% CI)	Adjustment factors	Comments
Jöckel <i>et al.</i> (1998), Germany, 1988-93	Lung	1004 (839 men, 165 women) from hospitals in study areas; 13 worked in rubber/plastics manufacture; 100% histologically confirmed	1004 population-based controls (839 men, 165 women) frequency-matched by region, gender, age within 5 years; 24 worked in rubber and plastics; response rate 68%	Face-to-face interview with questionnaire on demographics, smoking and detailed occupational history with 33 job-specific questionnaires	<i>Ever worked in rubber and plastics industry</i> Men Women	2.3 (1.0–5.0) 3.3 (CI not provided)	Smoking, asbestos exposure	
Pohlabein <i>et al.</i> (2000), 12-center study in Germany, Italy, Portugal, Sweden, United Kingdom, France and Spain, 1988-94	Lung	650 non-smoking (<400 lifetime cigarettes) cases (141 men, 509 women), aged <75 years; response rate ranged from 55-95% for cases and controls; 97% histologically confirmed	1542 non-smoking (<400 lifetime cigarettes) controls without smoking-related diseases (population-based in 6 centres, hospital-based in 5 centers and both population- and hospital-based in 1 centre) (531 men, 1011 women)	Face-to-face interview with questionnaire on demographics, diet, lifetime second hand smoke exposure, occasional smoking and lifelong occupational history including job title and branch of industry	<i>Various occupations in rubber manufacture</i> Women	2.9 (1.0–8.2)	Age, study centre	
Rachtan (2002) Cracow, Poland, 1991-1997	Lung	242 women with primary carcinoma admitted to M. Sklodowska-Curie Memorial Institute; 100% histologically verified	352 women, next-of-kin of other patients (without tobacco related cancer) hospitalized at the same time	Interview with questionnaire on demographics, smoking, occupational history including questions about occupational exposure to certain dusts, fumes, chemicals	<i>Ever exposed to materials used for rubber making</i>	18.4 (2.6-128.7)	Age, smoking, second hand smoke, sibling cancer, coal dust, acid fumes, vodka, margarine, carrots, other vegetables	Cases three times as likely as controls to have had occupational exposure.

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Zeka <i>et al.</i> (2006), 16-center study in Czech Republic, Hungary, Poland, Romania, Russia, Slovakia, United Kingdom, 1998-2002	Lung	223 non-smoking (<100 lifetime cigarettes) cases (48 men, 175 women) from clinical and pathology departments in each center, aged 20-74 years	1039 non-smoking (<100 lifetime cigarettes) controls without malignant or smoking-related diseases (population-based in 2 centers, hospital-based in 14 centers) (534 men, 505 women)	Face-to-face interview with lifestyle and occupational questionnaires; work history included job title, job description, years employed, type of activity	<i>Employment in the rubber industry</i> Women	2.6 (0.8-8.4)	Age, study centre	No association with occupation was observed for men

BMI-body mass index, CAPI-computer assisted personal interview, CI-confidence interval