

Table 2.9. Cohort studies of second-hand tobacco smoke and cancer of the urinary bladder

Reference, location, name of study	Cohort description	Exposure assessment	Organ site (ICD code)	No. of cases/deaths	Exposure categories	(No of cases/person years) Relative risk (95% CI)	Adjustment for potential confounders	Comments
Bjerregaard et al. (2006) 10 countries in Europe	European Prospective Investigation into Cancer and Nutrition (EPIC); 23 centres from Denmark, France, Germany, Greece, Italy, the Netherlands, Norway, Spain, Sweden. United Kingdom 429 906 persons; 25–70 yrs; Study entry 1991–2000 & follow-up 2000–2004	Lifestyle questionnaires Cancer/mortality registries	Bladder (ICD-10 code C67)	633 cases	Second-hand tobacco smoke exposure <i>In adulthood</i> (exposed vs not exposed as adult) Never-smokers <i>In childhood</i> (exposed vs not exposed as child) Total Never-smokers	(cases exposed/non-exposed) (29/18) 0.82 (0.46–1.48) (272/48) 1.38 (1.00–1.90) (39/8) 2.02 (0.91–4.35)	Adjusted: intake of fruit and vegetables, current smoking intensity, time since quitting, age at start and mutually adjusted for exposure to second-hand tobacco smoke in childhood and adulthood	Exposure to second-hand tobacco smoke might increase risk of cancer of the urinary bladder for those exposed in childhood, but not for those exposed as adults which is concordant with the results of the three previous studies that have explored second-hand tobacco smoke exposure during childhood and as adult.

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Alberg et al. (2007) USA	2 cohorts established from private censuses; Washington County, MD; 1963 (<i>n</i> = 45 749; 93 cases; 1963–1978) and 1975 (<i>n</i> = 48 172; 172 cases; 1975–1994); Exclusion criteria: < 25 yrs at time of census, prior cancer diagnosis, pipe or cigar smokers only, or were missing info on age, gender or smoking status.	Questionnaires Washington County Cancer Registry	Bladder (ICD 188)	See under cohort description	<p><i>Current second-hand tobacco smoke exposure only</i></p> <p>Active cigarette smoking status</p> <p>Never active smokers</p> <p><i>Current & former second-hand tobacco smoke exposure v. never second-hand tobacco smoke exposure</i></p> <p>Never</p> <p>Former</p> <p>Current</p> <p>Never</p> <p>Former</p> <p>Current</p> <p><i>Source of second-hand tobacco smoke exposure</i></p> <p>Spouse only</p> <p>Other household member only</p> <p>Spouse only</p> <p>Other household member only</p>	<p>1963 Cohort (14/84 119) 1.4 (0.7–2.7)</p> <p>1975 Cohort (8/73 183) 0.8 (0.4–1.7)</p> <p>1963 Cohort (13/73 506) 2.3 (1.0–5.4)</p> <p>1975 Cohort (6/61194) 0.9 (0.4–2.3)</p> <p>1963 Cohort (9/66576) 1.0</p> <p>(1/30645) 0.3 (0.1–2.5)</p> <p>(13/73506) 2.2 (0.9–5.2)</p> <p>1975 Cohort (17/107375) 1.0</p> <p>(7/54756) 0.8 (0.3–2.0)</p> <p>(6/61194) 0.9 (0.3–2.2)</p> <p>1963 Cohort (5/45318) 1.1 (0.3–3.8)</p> <p>(8/19682) 3.0 (1.2–7.9)</p> <p>1975 Cohort (5/40369) 1.2 (0.4–3.6)</p> <p>(1/15603) 0.4 (0.1–3.3)</p>	Adjusted: Age, education, and marital status	Study confirms causal role of active smoking in bladder cancer. Results for second-hand tobacco smoke exposure smoke are mixed (1963 gives evidence but 1975 nullifies it) and so association is left as open question.