

**Table 2.10. Case-control studies of second-hand tobacco smoke and cancer of the urinary bladder**

Reference, study location and period	Organ site (ICD code)	Characteristics of cases	Characteristics of controls	Exposure assessment	Exposure categories	(# Case/# Control) Relative risk (95% CI)*	Adjustment for potential confounders	Comments
Samanic <i>et al.</i> (2006) Spain	Bladder (Transitional cell carcinoma of the bladder ICD-9 code 1 880–1889; carcinoma in situ ICD-9 code 2 337	1219 cases; hospital based; 18 hospitals in particular regions of Spain; 21–80 yrs at time of diagnosis; Resided in catchment area; No previous diagnosis of lower urinary tract cancer. No bladder tumours related to secondary malignancies	1271 controls; Hospital based; Matched on age, sex, race/ethnicity, and hospital; Selected from patients admitted to same hospital around same time as cases for diseases and conditions unrelated to smoking	Computer assisted personal interview Questionnaire	<i>Cumulative Occupational Exposure to second-hand tobacco smoke among non-smokers</i>	<p><b>Males</b></p> <p>(13/31) 1.0 (ref.)                      (14/57) 0.6 (0.2–1.6)                      (9/67) 0.2 (0.1–0.7)                      (19/72) 0.6 (0.2–1.4)                      P = 0.58</p> <p><b>Females</b></p> <p>(62/97) 1.0                      (18/22) 1.7 (0.7–4.0)                      (13/13) 1.7 (0.6–4.4)                      (13/8) 3.3 (1.1–9.5)                      P = 0.03</p>	Adjusted for age, hospital region, fruit/vegetable consumption, and high-risk occupation	Residential second-hand tobacco smoke exposure among nonsmokers did not seem to increase risk, although occupational second-hand tobacco smoke exposure in female nonsmokers did confer some risk and deserves further attention.

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Jiang <i>et al.</i> (2007) USA	Bladder	148 cases; 1987–1999; Los Angeles County; Non Asians; 25–64 yrs; histologically confirmed cancer of the urinary bladder	292 controls; Matched by sex, date of birth, race, and neighbourhood of residence at time of cancer diagnosis; Selected by defining a sequence of houses on specified neighbourhood blocks	In person interviews Questionnaire Los Angeles County Cancer Surveillance Program	Second-hand tobacco smoke exp among never smokers <i>Cumulative index of second-hand tobacco smoke exposure</i> 0 (low) 1–3 (intermediate) 4–8 (high)  0 (low) 1–3 (intermediate) 4–8 (high)  0 (low) 1–3 (intermediate) 4–8 (high)  <i>Childhood</i> No Yes 1 smoker > 1 smoker	<b>II subjects</b> (14/38) 1.00 (85/146) 1.61 (49/108) 1.28 <i>P</i> = 0.95 <b>Males</b> (12/26) 1.00 (66/100) 1.42 (28/74) 0.82 <i>P</i> = 0.25 <b>Females</b> (2/12) 1.00 (19/46) 3.34 (21/34) 5.48 <i>P</i> = 0.03  <b>Females</b> (11/34) 1.00 (30/58) 1.64 (12/38) 0.99 (18/19) 3.08 <i>P</i> = 0.02	Adjusted: age, gender, race/ethnicity, and level of education	Second-hand tobacco smoke is a risk factor for bladder cancer in women who were lifelong nonusers of any tobacco product.