

Table 2.2 Summary of thyroid cancer from environmental exposures to radio-iodines – other than Chernobyl

Reference	Type of study	Country/ Region Exposure	Number of cases (ascertainment period)	Number of controls/ size of study population	Type of thyroid dose	ERR at 1 Gy (95% CI)
(Takahashi <i>et al.</i> , 1999;Takahashi <i>et al.</i> , 2001)	Screened cohort, Adult and children residents of Marshall Islands at time of BRAVO or EOT tests	Marshall Islands US atmospheric nuclear weapons tests 1946–1958	63 (1993–1997) 50 (Bravo cohort only)	4766 3376	Radioiodines, including very high doses of short lived iodines	Age and sex adjusted prevalence ratio by distance from Bikini atoll: < 400 km 1.00 11 cases 400–599 1.01 (0.45,2.28) 12 cases 600–799 0.85 (0.39,1.84) 15 cases 800+ 0.54 (0.24,1.19) 13 cases p for trend 0.09 Dose proxy 1 < 0.01 1.00 41 0.10–0.19 0.90 (0.22,3.79) 2 0.20+ 5.55 (2.56, 12.1) 7 p for trend 0.002 Dose proxy 2 < 0.01 1.00 37 0.10–0.19 0.73 (0.18,3.03) 2 0.20+ 2.26 (1.15,4.45) 11 p for trend 0.05

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(Lyon <i>et al.</i> , 2006)	Screened cohort of schoolchildren aged 12 to 18 in 1965–66	USA: 3 counties in Utah, Nevada and Arizona Nevada atmospheric nuclear weapons tests 1946–1958	Benign + malignant: 20 Malignant only: 8 (screening 1985–86)	2496	Individual reconstruction of doses from ¹³¹ I, ¹³³ I, external exposure from deposited nuclides, with uncertainties - mean 120 mGy - median 174 mGy	Benign + malignant: 13.02 (2.7–68.7) Malignant only: 0.8 (0.0–14.9)
(Davis <i>et al.</i> , 2004),	Screened retrospective cohort of a sample of births from 1940 to 1946 to mother's residing in 7 counties in Eastern Washington state	Hanford, USA ¹³¹ I released into the atmosphere during Pu production at Hanford, 1944–1957	19 (up to 1997)	3440	Individual reconstruction of doses from ¹³¹ I - median 97 mGy	0.002 (–0.001–0.017)