

Table 3. Some significant published studies of internal radiation risks for cancer in humans where the contamination is inferred and doses are not known.

Study and Isotope	Natural or man-made	Note
Pu-239 Mayak [17,18]	Man-made, high LET, high atomic number	Uncertain and wide range of Plutonium exposures. Very high levels of external exposure >1 Gy. Concern over accuracy of data and/or bias in Soviet Union studies.
Pu-239 Sellafield workers [19]	Man-made, high LET, high atomic number	Uncertainty on exposures to Plutonium. No control for smoking. Concern over accuracy of data and/or bias in nuclear industry data. Significant increases in pleura, breast, liver, intestine cancer relative to national data, in most cancer if healthy worker effect applied. Mixed doses only.
Chernobyl thyroid. I-131, I132/Tl-132 [18]	Man-made low LET, low atomic number	Thyroid cancer. Shows much larger yield than ICRP predicts
UKAEA prostate cancer [19,22,23]	Man-made, low LET, low atomic number	'internal fission products' : Prostate cancer. Implicit error in ICRP of 1000X.
Wales prostate, bone and all cancer following fallout [22,26]	Man-made, low LET, low atomic number	Regression on all malignancies in adults gives error in ICRP model of 300X based on cumulative Sr-90 from fallout.
Nordic leukemia [20,22]	Man-made, low LET, low atomic number	'internal fission products' childhood leukemia. Data suspect. True data shows significant large error in ICRP risk factor[22,23,24] (up to 1000X)
Chernobyl infants [21] and <i>loc.cit</i>	Man-made, low LET, low atomic number	Internal; fission products' infant leukemia shows significant large error in ICRP risk factor (100-500X)
Infant mortality and weapons fallout [26]	Man-made, low LET, low atomic number	Internal; 'fission products' Infant mortality risk not modelled by ICRP
Childhood cancers and nuclear sites. [26]	Man-made, low LET	'internal; fission products' Dispute over cause but implicit error of 300-1000X in ICRP risk model.

References [Note: this table is taken from a larger paper, Busby C. *Comparing the Health effects of artificial and natural radioactivity*; Green Audit Report 03/04 2003 February 2003. The following list contains all the studies cited in that paper]

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