

## **Analysis of Lung Tumor Risks in Rats Exposed to Radon**

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Using data on 3117 rats exposed by inhalation to radon, radon progeny and uranium ore dust, the hazard function (or age-specific risk for lung tumor incidence was modeled as a function of exposure, exposure rate and other factors. The overall estimate of lifetime risk was 237 cases per  $10^6$  rats per WLM (237 per  $10^6$  WLM) were consistent with linearity with positive excess risks was limited to exposures of 80 WLM or greater. Evidence for an inverse exposure –rate effect was limited primarily to cumulative exposures exceeding 1000 WLM (1280-10,240 WLM) and to comparison of results at 100 and 1000 WL. Even at these levels, the possibility that the effect might be explained by time since last exposure or by heterogeneity across experiments could not be entirely exclude.

The inverse exposure-rate effect was strongest for epidermoid and adenosquamous tumors, and the only indication of such an effect at exposures below 1000 WLM was modest evidence ( $P=0.024$ ) in analyses limited to these tumors. When all lung tumors, or all malignant lung tumors, were included, there was no evidence of such and effect below 1000 WLM. These data support the viewpoint that the inverse exposure-rate effect is primarily a high-dose phenomenon.

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