

## **In vivo Measurement of Unattached Radon Progeny Deposited in the Human Respiratory Tract**

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Seven nose breathing and seven mouth breathing volunteers were exposed to atmospheres enriched with unattached radon progeny (<sup>218</sup>Po, <sup>214</sup>Pb and <sup>214</sup>Bi). The activity of these radionuclides deposited in the respiratory track was measured in vivo after the exposures. The results of these measurements are in agreement with predictions calculated with the ICRP Publication 66 Human Respiratory Tract Model. Temporal analysis of the activity deposited in the heads of the volunteers leads to the conclusion that a significant amount of the deposited activity associated with particle diameters of about 1 nm is not subject to a fast transport to the gastrointestinal tract as generally reported for larger aerosol particles.

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