

EPA Radiogenic Cancer Risk Models and Projections for the U.S. Population, April 2011, 402-R-11-001

ERRATA

The EPA has made several corrections in this report, summarized in the table below. This errata sheet corrects a misinterpretation of a publication by Nekolla *et al.* (2000), in addition to correcting additional typographical errors and unclear word choices. The original text of this report was not altered; users of this document are encouraged to reference the corrections in the table below for the respective text locations in the report.

Text Location	Current Text, Corrected Text, and Reason for Correction
Section 5.1.2, Pg. 111, Para. 2	<p>Current Text: Second, Nekolla <i>et al.</i> adopted the ratio of 9 for endosteal to skeletal dose published by Spiess and Mays; we employ the updated estimate of 7.5. The effect of this change is to increase the coefficient α in the model above by a factor of 1.2 ($= 9 / 7.5$).</p> <p>Corrected Text: <i>Delete</i></p> <p>Reason for Correction: The linear coefficient, α, measuring the unit increase in excess relative risk per Gy for bone cancer, had been multiplied by a skeletal-to-endosteal adjustment factor of 1.2 in error. This multiplicative factor was applied based on an incorrect assumption that the dose estimates used by Nekolla <i>et al.</i> (2000) were obtained by converting the mean skeletal dose reported in Spiess and Mays (1970) to a bone surface dose. Rather, Nekolla <i>et al.</i> (2000) relied on the revised dosimetry by Henricks <i>et al.</i> (1995) which did not merit this correction factor.</p> <p>Future revisions to the EPA bone risk model will address this error as well as more recent changes in how the target tissue of relevance for radiogenic bone cancer is defined.</p> <p>References:</p> <ol style="list-style-type: none"> 1. Nekolla EA, Kreisheimer M, Kellerer AM, et al. Induction of Malignant Bone Tumors in Radium-224 Patients: Risk Estimates Based on the Improved Dosimetry. <i>Radiat Res</i> 2000;153:93–103. 2. Spiess H & Mays CW. Bone Cancers Induced by 224Ra (Th X) in Children and Adults. <i>Health Phys</i> 1970;19(6):713–729. 3. Henricks K, Bogner L, Nekolla D, et al. Extended dosimetry for studies with Radium-224 patients. In <i>Health Effects of Internally Deposited Radionuclides: Emphasis on Radium and Thorium</i> (van Kaick G, Karaoglou A, and Keller AM, Eds.), pp. 33–38. World Scientific, Singapore, 1995.

Text Location	Current Text, Corrected Text, and Reason for Correction
Section 4.3, Pg. 77, Para. 2, Line 5	<p>Current Text: At γ near -0.5, radiogenic risk would be almost 3 times as large at age 0 as at age 30</p> <p>Corrected Text: At γ near -0.5, radiogenic risk would be almost <u>5</u> times as large at age 0 as at age 30</p> <p>Reason for Correction: Typographical error</p>
Section 4.5, Pg. 99, Para. 1, Lines 5-9	<p>Current Text: The mean of the uncertainty distribution for female bladder cancer is greater than the EPA estimate because it “averages” observed risks for prostate cancer with the larger observed risks for other cancer sites.</p> <p>Corrected Text: The mean of the uncertainty distribution for female bladder cancer is <u>smaller</u> than the EPA estimate because it “averages” observed risks for <u>bladder</u> cancer with the <u>smaller</u> observed risks for other cancer sites.</p> <p>Reason for Correction: Incorrect word choice</p>
Section 3.4, Pg. 33, Table 3-6	<p>Current Text: ¹From NCRP (2009)</p> <p>Corrected Text: ¹From NCRP (<u>2008</u>)</p> <p>Reason for Correction: Typographical error</p>