

ERRATUM

Joseph John Bevelacqua
Contemporary Health Physics
2nd, updated and enlarged edition

Page XXIII, Contents, Solutions for Chapter 7

Add the entry: “Scenario 7.4 504”

Page 14, 2nd Line, Scenario 1.14, Item 1

“14-mg/m²” should read “14-mg/cm²”

Page 19, Scenario 1.20, Paragraph 2, Line 1

“neutron” should read “photon”

Page 65, left-hand side of Equation 2.25

“ $K_s(0)$ ” should read “ $K_{sec}(0)$ ”

Page 65, right-hand side of Equation 2.25

“ K_s^1 ” should read “ K_{sec}^1 ”

Page 67, line before Eq. 2.35

“factor (B)” should read “factor (B_{pri})”

Page 75, Question 2.19, Line 5

“day 3” should read “day 2”

Page 90, Section 3.1.6 Cf-252, Line 4

“ μg ” should read “mg”

Page 114, Scenario 3.10, Question 3.54

“mSv/h” should read “mSv/hr”

Page 202, Table 6.2, 1st Column

“Bi-212” should read “Bi-212^a”

Page 232, Scenario 6.8, First table, Line 4

“Rh-106” should read “Ru-106”

Page 268, Scenario 7.8, 3rd Line after 1st Equation

“Gy/min” should read “Gy-m²/min”

Page 301, Scenario 8.5, 1st Table, Footnote a

“ C_A is defined above” should read “ C_A is defined on the previous page”

Page 303, Table, Header

“Wavelength (n/m)” should read “Wavelength (nm)”

Page 312, last A_b equation:

This equation should read:

$$A_b = (0.95)(0.876) \left[(1000 \text{ mCi}) \left(\frac{1.155 \times 10^{-1}}{\text{hr}} \right) / \left(\frac{1.155 \times 10^{-1}}{\text{hr}} - 1.034 \times 10^{-2} / \text{hr} \right) \right] \\ \times \left[\exp(-1.034 \times 10^{-2} / \text{hr} \times 48 \text{ hr}) - \exp(-1.155 \times 10^{-1} / \text{hr} \times 48 \text{ hr}) \right] = 553 \text{ mCi}$$

Page 313, A_b Equation, 1st line

“{0.876}” should read “{(0.876)}”

Page 338, Question 1.84, next to last equation

“4.0 · 10⁷ dis/s” should read “4.0 x 10⁷ dis/s”

Page 374, list following 1st equation, “D_i (AMAD) =” line

“ICRP lung” should read “ICRP-30 lung”

Page 374, list following 1st equation, “f_j =” line

“ICRP-26 lung” should read “ICRP-30 lung”

Page 393, 1st Equation, 2nd line

“7.0 x 10⁴ g” should read “7.0 x 10⁴”

Page 406, Question 3.10, HTO paragraph, 1st and 2nd line

“inhalation, ingestion, and skin absorption in approximately equal amounts.” should read “inhalation, ingestion, and skin absorption.”

Page 412, Question 3.26, 3rd line

“mSV” should read “mSv”

Page 426, 1st line

“A =” should read “A_i =”

Page 426, 2nd line of “λ =” equation

“24 h/d” should read “24 hr/d”

Page 435, last line

“10⁻³ μCi” should read “10⁻¹ μCi”

Page 464, Question 5.31, Last Equation

“100 mR/hr” should read “1000 mR/hr”

Page 469, last equation, last line, Question 5.45

“) x [1-exp(” should read “) [1-exp(”

Page 470, Question 5.46, 1st paragraph, 4th line

“are approximately” should read “are approximately met”

Page 474, list after 1st equation, “DAC_i =” 2nd line

“DAC_i = 5.0” should read “DAC₁ = 5.0”

Page 504, Question 7.23, 2nd equation, 2nd line

In the exponential, “1 min(60 s)” should read “1 min/60 s”

Page 511, Question 7.38, 4th Line of term definitions after the equation

“maximum permissible dose equivalent rate” should read “absorbed dose index rate”

Page 518, Question 7.44, item a, 3rd line after table

“in elastic scattering dominates” should read “inelastic scattering dominates”

Page 536, Question 8.27, first equation, Line 1

“/4]^{1/2}” should read “/4]”

Page 536, Question 8.27, first equation, Line 1

“0.757” should read “0.573”

Page 536, Question 8.27, first equation, Line 2

“8.41” should read “11.1”

Page 536, Question 8.27, NOTE, Line 1

“0.757” should read “0.573”

Page 536, Question 8.27, NOTE, Line 1

“2.38” should read “1.80”

Page 536, Question 8.27, NOTE, Line 2

“0.870” should read “0.757”

Page 536, Question 8.27, NOTE, Line 2

“1.74” should read “1.51”

Page 536, Question 8.27, last equation, Line 1

“8.41” should read “11.1”

Page 536, Question 8.27, last equation, Line 1

“7.23” should read “7.35”

Page 561, 2nd paragraph, last line

“and X is the decay constant” should read “and λ is the decay constant”

Page 561, Equation I.4, 2nd line

“ $\exp(\lambda_{dt})$ ” should read “ $\exp(-\lambda_{dt})$ ”

Page 561, Equation I.7

“ $(\lambda_c - \lambda_d)$ ” should read “ $(\lambda_c - \lambda_a)$ ”

Page 562, 2nd paragraph, 2nd line

“In general, the activity” should read “In general, the initial activity”

Page 566, Eq. II.4

“ U_{en}^j ” should read “ u_{en}^j ”

Page 568, paragraph above Figure II.2

“Scenario 60 ■” should read “Scenario 5.4”

Page 569, 1st item in list below Eq. II.8

“at point Z an the axis” should read “at point Z on the axis”

Page 570, equation II.10

“E, z” should read “E, Z”

Page 571, last reference

“WAPD-M-1453” should read “WAPD-TM-1453”

Page 574, Table III.1, Header, 5th column

“Gammas/Decay” should read “(Gammas/Decay)”

Page 575, Table III.2, Header, 5th column

“Gammas/Capture” should read “(Gammas/Capture)”

Page 575, last paragraph, 4th line

“short-fived” should read “short-lived”

Page 576, Table III.3, Header, 3rd column

“Gammas/Fission” should read “(Gammas/Fission)”

Page 577, 1st paragraph, 4th line

“including inhalation,” should read “including inhalation, skin absorption,”

Page 577, 3rd paragraph, 2nd line

“shorter than” should read “on the order of”

Page 577, last paragraph, next-to-last line

“initial infernal” should read “initial internal”

Page 578, 2nd paragraph, 1st line

“body by inhalation,” should read “body by inhalation, skin absorption,”

Page 580, line of text above Eq. IV.13

“q(t)” should read “q(t)f₂”

Page 587, 2nd paragraph, 2nd line

“annual limit an intake” should read “annual limit on intake”

Page 587, equation IV.49

“200 hr/year” should read “(2000 hr/year)”

Page 589, Table IV.2, Compartment c row, last column

“0.1” should read “0.01”

Page 593, line below Eq. IV.55

“radioactive daughter j” should read “radioactive daughter j’”

Page 593, Eq. IV.56

Replace equation IV.56 with the following:

$$H_{50,T}(T \leftarrow S)_{j+j'} = 1.6 \times 10^{-10} \left\{ \left[U_S \sum_i SEE(T \leftarrow S)_i \right]_j + \left[U_S \sum_i SEE(T \leftarrow S)_i \right]_{j'} \right\}$$

Page 593, Eq. IV.58 ...”

“ $U_S \sum_j SEE(T \leftarrow S)_i$ ” should read “ $U_S \sum_i SEE(T \leftarrow S)_i$ ”

Page 595, Table IV.6, footnote a, 1st line

“incident an the body” should read “incident on the body”

Page 597, Eq. IV.64

“ $\sum_{t=13}^{22} m_T H_T(50)$ ” should read “ $\sum_{T=13}^{22} m_T H_T(50)$ ”

Page 601, Table IV.8, Header and caption

“Hereditary Effects” should read “Heritable Effects”

Page 612, Table IV.16, 2nd column, Tracheobronchial Region Row Group

“Brochiolar Region (bb)” must be on the same horizontal line as “Bronchioles” (3rd column).

Page 616, Eq. IV.72

“ $k_{PIS}(2,4)$ ” should read “ $k_{PIS}(2,4)$ ”

Page 622, 1st paragraph, 2nd line

“breathing tone” should read “breathing zone”

Page 623, 1st text paragraph after Eq. IV.86 and its associated list, paragraph starting with ‘The maximum dose ...’, 4th line

“to be an the plume” should read “to be on the plume”

Page 628, Table V.1, 2nd row, 1st column, ICRP-26 row

“1976” should read “1977”

Page 628, Table V.1

Add the following entries below the last table entry (1991 ICRP-60 7):

2006 BEIR VII 5^a

2007 ICRP-103 6

^a Excess cancer deaths extracted from BEIR VII data

Page 639, add after “C = Capacitance” entry

Add the following entry to the list: C_L = Activity per unit length

Page 640, first 3 of last 6 lines

“Q = Heat
R = Release Rate
Ideal gas constant”

should read

“Q = Heat
Release Rate

R = Ideal gas constant”

Page 643, last line

“ \vec{a} = An arrow over a variable indicates it is a vector quantity” should read “**a** = A bold variable indicates it is a vector quantity”

Page 644, last equation

Change the following variable in the last equation: “A” should read “ C_L ”

Page 648, Under Constants/Units, Charge entry

“1 C = 1 A/s” should read “1 C = 1 A-s”

Page 648, Constitutive Equations Group, 2nd equation

“ \vec{B} ” should read “**B**”

Page 649, 1st equation, left-hand side

“E = “ should read “e = “

Page 649, Magnetic Force Equations Group, 1st equation

“ $|\vec{v}|$ ” should read “ $|v|$ ”

Page 665, Trigonometry Section, 5th line

“triangular” should read “triangle”

Page 667, Eq. VIII.17

“ A_L ” should read “ C_L ”

Page 669, Example 5, solution, 2nd equation

“ $e^{\lambda t_{irr}} = 1 - \lambda t_{irr}$ ” should read “ $e^{-\lambda t_{irr}} = 1 - \lambda t_{irr}$ ”

Page 669, Example 5, solution, next to last equation

“ $e^{\lambda t_{irr}} = 1 - \lambda t_{irr}$ ” should read “ $e^{-\lambda t_{irr}} = 1 - \lambda t_{irr}$ ”

Page 671, Example 6, Solution equation

Page 674, F-18 row, Half-life column

Page 674, Na-24 row, Half-life column

Page 674, Ar-41 row, Half-life column

“h” should read “hr”

Page 673, C-11 row, Half-life column

Page 673, N-13 row, Half-life column

“m” should read “min”

Page 676, Cs-137 row, Production Modes column:

“Fission pproduct” should read “Fission product”

Page 676, Tl-201 row, Production Modes column

The $^{203}\text{Tl}(p, 3n)^{201}\text{Pb}$ reaction equation should be on the same line as Tl-201 and the other 1st line entries for this row

Page 677, Ra-226 row, Production Modes column

“U-238 Decay sSeries” should read “U-238 Decay series”

Page 677, Pu-239 row, Production Modes column

The $^{238}\text{U} + \text{n}$ reaction equation should be on the same line as Pu-239 and the other 1st line entries for this row.

Page 677, Am-241 row, Production Modes column

The $^{239}\text{Pu} + \text{n}$ reaction equation should be on the same line as Am-241 and the other 1st line entries for this row

For a list of publisher-defined editorial corrections contact the author at bevelresou@aol.com.