

Primary and Secondary References for the Basic Science Qualifying Examinations (With Links)

MEDICAL PHYSICS FOR RADIATION ONCOLOGY

[Link to ABR/ASTRO Primary & Secondary References for Medical Physics for Radiation Oncology](#)

Primary References:

1. Podgorsak EB. Radiation Oncology Physics: A Handbook for Teachers and Students. Vienna, Austria: International Atomic Energy Agency; 2005. [Note: Click here for lecture slides that correspond to this handbook.](#)
2. Hendee WR, Ibbott GS, and Hendee EG. Radiation Therapy Physics (4th Edition) Hoboken, NJ: Wiley-Liss; 2016.
3. Khan FM and Gibbons JP. The Physics of Radiation Therapy. Philadelphia, PA: Lippincott Williams & Wilkins; 2014.
4. McDermott, P and Orton, C. The Physics and Technology of Radiation Therapy. Madison, WI: Medical Physics Publishing; 2019.

Secondary References:

1. Dieterich S, Ford E, Pavord D, and Zeng J. Practical Radiation Oncology Physics, A Companion to Gunderson Tempper's Clinical Radiation Oncology. Philadelphia, PA: Elsevier; 2015.
2. Metcalfe P, Kron T, and Hoban P. Physics of Radiotherapy X-Rays and Electrons. 2nd edition. WI: Medical Physics Publishing; 2007.
3. Van Dyk J. The Modern Technology of Radiation Oncology. Volume 1. Medical Physics Publishing; 1999.
4. Van Dyk J. The Modern Technology of Radiation Oncology. Volume 2. Medical Physics Publishing; 2005.
5. Van Dyk J. The Modern Technology of Radiation Oncology. Volume 3. Medical Physics Publishing; 2013.

Additional References (with links)

1. [Nath, R. et al. \(1995\), Dosimetry of interstitial brachytherapy sources: Recommendations of the AAPM Radiation Therapy Committee Task Group No. 43. Med. Phys., 22: 209-234. doi:10.1118/1.597458 2.](#)
2. [Almond, P.R. et al. \(1999\), AAPM's TG-51 protocol for clinical reference dosimetry of high-energy photon and electron beams. Med. Phys., 26: 1847-1870. doi:10.1118/1.5986913.](#)
3. [Huq, M.S. et al. \(2016\), The report of Task Group 100 of the AAPM: Application of risk analysis methods to radiation therapy quality management. Med. Phys., 43: 4209-4262. doi:10.1118/1.4947547.](#)
4. [Benedict, S. H. et al. \(2010\), Stereotactic body radiation therapy: The report of AAPM Task Group 101. Med. Phys., 37: 4078-4101. doi:10.1118/1.3438081](#)
5. [Klein, E.E. et al. \(2009\), Task Group 142 report: Quality assurance of medical accelerators. Med. Phys., 36: 4197-4212. doi:10.1118/1.3190392](#)
6. [NRC Part 20: Standards for Protection Against Radiation \(United States Code of Federal Regulations, Title 10, Chapter 1 – Nuclear Regulatory Commission, Part 20\)](#)
7. [NRC Part 35: Medical Use of Byproduct Material \(United States Code of Federal Regulations, Title 10, Chapter 1 – Nuclear Regulatory Commission, Part 35\).](#)

RADIATION AND CANCER BIOLOGY

[Link to ABR/ASTRO Primary and Secondary References for Radiation and Cancer Biology](#)

Primary References:

1. Hall EJ & Giaccia AJ. Radiobiology for the Radiologist, 8th Edition, 2018, Lippincott Williams & Wilkins, Phila., Pa
2. Joiner MC & van der Kogel, AJ, Basic Clinical Radiobiology, 5th Edition, 2018, CRC Press

Secondary References (with links):

1. [Eriksson, D. and T. Stigbrand, Radiation-induced cell death mechanisms. Tumour Biol, 2010. 31\(4\):p. 363-72.](#)
2. [Good, J.S. and K.J. Harrington, The hallmarks of cancer and the radiation oncologist: updating the 5Rs of radiobiology. Clin Oncol \(R Coll Radiol\), 2013. 25\(10\): p. 569-77.](#)
3. [Barker, H.E., et al., The tumour microenvironment after radiotherapy: mechanisms of resistance and recurrence. Nat Rev Cancer, 2015. 15\(7\): p. 409-25.](#)
4. [Bristow, R.G. and R.P. Hill, Hypoxia and metabolism. Hypoxia, DNA repair and genetic instability. Nat Rev Cancer, 2008 Mar;8 \(3\):180-92.](#)
5. [Hanahan, D. and R.A. Weinberg, Hallmarks of cancer: the next generation. Cell, 2011. 144\(5\): p. 646-74.](#)
6. [Whitfield, M. L., et al. Common markers of proliferation. Nat Rev Cancer, 2006. 6\(2\): p. 99-106.](#)
7. [Schaue, D. and W.H. McBride, Opportunities and challenges of radiotherapy for treating cancer. Nat Rev Clin Oncol, 2015. 2\(9\): p. 527-540.](#)
8. [Pajonk, F., et al, Radiation resistance of cancer stem cells: the 4 R's of radiobiology revisited. Stem Cells, 2012. 28\(4\): 639-648.](#)
9. [Otto, T. and P. Sicinski, Cell cycle proteins as promising targets in cancer therapy. Nat Rev Cancer, 2017. 17\(2\): 93-115.](#)
10. [Huang, M., et al. Molecularly targeted cancer therapy: some lessons from the past decade." Trends Pharmacol Sci, 2014. 35\(1\): 41-50.](#)
11. [Demaria, S., et al. Role of Local Radiation Therapy in Cancer Immunotherapy. JAMA Oncol, 2015. 1\(9\): p. 1325-32.](#)
12. [Weinberg, RA., The Biology of Cancer, 2nd Edition, 2013, Garland Science, New York, NY](#)