

**CY 2009 Publications**  
**Department of Radiation Physics**

1. Anderson JF, Swanson DA, Levy LB, Kuban DA, Lee AK, Kudchadker R, Phan J, Bruno T, Frank SJ. Urinary side effects and complications following prostate brachytherapy: The M. D. Anderson Cancer Center experience. *Urology*. E-Pub 7/2009.
2. Arjomandy B, Sahoo N, Zhu XR, Zullo JR, Wu RY, Zhu M, Ding X, Martin C, Ciangaru G, Gillin M. An overview of the comprehensive proton therapy machine quality assurance procedures implemented at The University of Texas M. D. Anderson Cancer Center Proton Therapy Center-Houston. *Med Phys* 36(6):2269-82, 2009.
3. Arjomandy B, Sahoo, N, Cox J, Lee A, Gillin M. Comparison of surface doses from spot scanning and passively scattered proton therapy beams. *Phys Med Biol* 54(14):N295-302, 2009.
4. Beadle BM, Jhingran A, Salehpour M, Sam M, Iyer RB, Eifel PJ. Cervix Regression and Motion During the Course of External Beam Chemoradiation for Cervical Cancer. *Int J Radiat Oncol Biol Phys* 73(1):235-241, 2009.
5. Beddar S, Archambault L, Sahoo N, Poenisch F, Chen GT, Gillin MT, and Mohan R. Exploration of the potential of liquid scintillators for real-time 3D dosimetry of intensity modulated proton beams. *Med Phys* 36:1736-1743, 2009.
6. Bouchard M, Amos RA, Briere TM, Beddar S\*, and Crane CH\*, (\* equal senior authors). Dose escalation with proton or photon radiation treatment for pancreatic cancer. *Radiother Oncol* 92(2):238-43, 2009.
7. Briere TM, Beddar AS, Balter P, Murthy R, Gupta S, Nelson C, Starkschall G, Gillin MT, and Krishnan S. Respiratory gating with EPID-based verification: the MDACC experience. *Phys Med Biol* 54:3379-3391, 2009.
8. Britton KR, Starkschall G, Liu H, Chang JY, Bilton S, Ezhil M, John-Baptiste S, Kantor M, Cox JD, Komaki R, Mohan R. Consequences of anatomic changes and respiratory motion on radiation dose distributions in conformal radiotherapy for locally advanced non-small-cell lung cancer. *International Journal of Radiation Oncology Biology Physics* 73(1):94-102, 1/2009.
9. Burgett EA, Hertel NE, Howell RM. Energy response and angular dependence of a bonner sphere. *IEEE Transactions on Nuclear Science* 56(3):1325-1328, 2009.
10. Cao J, Roeske J, Chmura SJ, Salama JK, Shoushtari AN, Boyer AL, Martel MK. Calculation and prediction of the effect of respiratory motion on whole breast radiation therapy dose distributions. *Medical Dosimetry* 34(2):126-132, 2009.

11. Du W, Yang JN. A robust Hough transform algorithm for determining the radiation field centers of circular and rectangular fields with subpixel accuracy. *Phys Med Biol* 54:555-567, 2/2009.
12. Ezhil M, Vedam S, Balter P, Choi B, Mirkovic D, Starkschall G, Chang JY. Determination of patient-specific internal gross tumor volumes for lung cancer using four-dimensional computed tomography. *Radiat Oncol* 4:4, 2009. PMID: PMC2645420.
13. Fontenot JD, Lee A, Newhauser WD. Risk of secondary malignant neoplasms following proton therapy and intensity modulated x-ray therapy for prostate cancer. *Int J Radiat Oncol Biol Phys* 74(2):616-22, 2009.
14. Fontenot JD, Taddei P, Zheng Y, Mirkovic D, Newhauser WD. Ambient dose equivalent versus effective dose for quantifying stray radiation exposures to a patient receiving proton therapy for cancer of the prostate. *Nucl Technol* 168:173-177, 10/2009.
15. Frank SJ, Levy LB, Kuban DA, Lee AK, Kudchadker RJ, van Vulpen M, Swanson DA. Proctogram-predicted brachytherapy outcomes may not be universally accurate: An analysis based on the M.D. Anderson Cancer Center experience with Iodine-125 brachytherapy. *J Urol* 181(4). e-Pub 2/23/2009.
16. Garcia MK, Chiang JS, Cohen L, Liu M, Palmer JL, Rosenthal DI, Shihming Tung, Wang C, Rahlfs T, Chamber M. Acupuncture for Radiation-induced Xerostomia in Cancer Patients: A Pilot Study. *Head & Neck* 31(5):576-582, 2009.
17. Garg AK, Frija EK, Sun TL, Strom EA, Perkins GH, Oh JL, Yu TK, Woodward WA, Tereffe WA, Salehpour M, Buchholz TA. Effects of Variable Placement of Superior Tangential/Supraclavicular Match Line on Dosimetric Coverage of Level III Axilla/Axillary Apex in Patients Treated with Breast and Supraclavicular Radiotherapy. *Int J Radiat Oncol Biol Phys* 73(2):370-374, 2009.
18. Gerbi BJ, Antolak JA, Deibel FC, Followill DS, Herman MG, Higgins PD, Huq MS, Mihailidis DN, Yorke ED, Hogstrom KR, Khan FM. Recommendations for Clinical Electron Beam Dosimetry: Supplement to the Recommendations of Task Group 25. *Med Phys* 36:3239-79, 7/2009.
19. Giebeler A, Fontenot J, Balter P, Ciangaru G, Zhu R, Newhauser W. Dose perturbations from implanted helical gold markers in proton therapy of prostate cancer. *J Appl Clin Med Phys* 10(1):63-70, 2009.
20. Hartfort AC, Palisca MG, Eichler TJ, Beyer DC, Devineni VR, Ibbott GS, Kavanagh B, Kent JS, Rosenthal SA, Schultz CJ, Tripuraneni P, Gaspar LE. American Society for Therapeutic Radiology and Oncology (ASTRO) and American College of Radiology (ACR) Practice Guidelines for Intensity-Modulated Radiation Therapy (IMRT). *Int J Radiat Oncol Biol Phys* 73(1):9-14, 1/2009.
21. Howell RM, Kry SF, Burgett E, Followill D, Hertel NE. Effects of tertiary MLC configuration on secondary neutron spectra from 18 MV x-ray beams for the Varian 21EX linear accelerator. *Med Phys* 36(9):4039-46, 2009.

22. Howell RM, Kry SF, Burgett E, Hertel NE, Followill D. Secondary neutron spectra from modern Varian, Siemens, and Elekta linacs with multileaf collimators. *Med Phys* 36(9): 4027-38.
23. Howell RM, Kry SF, Followill D, Burgett EA, Hertel NE. Effects of tertiary mlc configuration on secondary neutron spectra from 18-mv x-ray beams for the Varian 21EX linear accelerator. *Med Phys* 36(9):4039-4046, 2009.
24. Inskip PD, Robison LL, Stovall M, Smith SA, Hammond S, Mertens AC, Whitton JA, Diller LR, Kenney L, Donaldson SS, Meadows AT, Neglia JP. Radiation dose and breast cancer risk in the Childhood Cancer Survivor Study. *J Clin Oncol* 27(24):3901-7, 2009.
25. Jin, H., Tucker, S.L., Liu, H.H., Wei, X., Yom, S.S., Wang, S., Komaki, R., Chen, Y., Martel, M.K., Mohan, R., Cox, J.D., Liao, Z. Dose-volume thresholds and smoking status for the risk of treatment-related pneumonitis in inoperable non-small cell lung cancer treated with definitive radiotherapy. *Radiother Oncol* 91(3):427-32, 2009.
26. Klein EE, Hanley J, Bayouth J, Yin FF, Simon W, Dresser S, Serago C, Aguirre F, Ma L, Arjomandy B, Liu C, Sandin C, Holmes T. Task Group 142 Report: Quality Assurance of Medical Accelerators. *Med Phys* 36(9):4197-4212, 2009.
27. Kry SF, Howell RM, Polf JC, Mohan R, Vassiliev ON. Treatment vault shielding for a flattening filter free medical linear accelerator. *Phys Med Biol* 54(5):1265-1273, 2/2009.
28. Kry SF, Howell RM, Salehpour M, Followill DS. Neutron spectra and dose equivalents calculated in tissue for high-energy radiation therapy. *Med Phys* 36(4):1244-1247, 4/2009.
29. Kry SF, Howell RM, Titt U, Salehpour M, Mohan R, Vassiliev ON. Establishing Action Levels for EPID-based QZ for IMRT. *J Appl Clin Med Phys*. 9(3):2721, 2009.
30. Kry SF, Price M, Wang Z, Mourtada F, Salehpour M. Investigation into the use of a MOSFET dosimeter as an implantable fiducial marker. *J Appl Clin Med Phys* 10(1):2893, 2009.
31. Kry SF, Salehpour M, Titt U, White RA, Stovall M, Followill D. Monte Carlo study shows no significant difference in second cancer risk between 6- and 18-MV intensity-modulated radiation therapy. *Radiother Oncol* 91(1):132-7, 4/2009.
32. Kry, SF Howell RM, Salehpour M, Followill D. Neutron spectra and dose equivalents calculated in tissue for high-energy radiation therapy. *Med Phys* 36(4):1244-50, 2009.
33. Kudchadker RJ, Lee AK, Yu ZH, Johnson JL, Zhang L, Zhang Y, Amos RA, Nakanishi H, Ochiai A, Dong L. The effectiveness of using fewer implanted fiducial markers for prostate target alignment. *Int J Radiat Oncol Biol Phys* 74(4):1283–1289, 2009.

34. Laverdiere C, Liu Q, Yasui Y, Nathan PC, Gurney JG, Stovall M, Diller LR, Cheung N-K, Wolden S, Robison LL, Sklar CA. Long-term outcomes in survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 101(16): 1131-1140.
35. Li H, OS, Zhu XR, and Zheng Y. Blind Deblurring Reconstruction Technique with Applications in PET Imaging. *Int J Biomed Imag* (78157):1-6, 2009.
36. Liu R, Prado K, Gillin M. Simplified "on-couch" daily quality assurance procedure for CT simulators. *J Appl Clin Med Phys* 10( 3): 49-55, 2009.
37. Mettler F, Chatfield M, Gilley D, McCrohan J, Thomadsen B, Mahesh M, Yoshizumi T, Ibbott G, Faulkner K, Gray J, Stabin M. Radiology and nuclear medicine in the U.S. and worldwide: Frequency, dose and comparison to other radiation sources: 1950-2006. *Radiology* 523(2): 520-31, 2009.
38. Newhauser WD, Fontenot JD, Mahajan A, Kornguth D, Stovall M, Zheng Y, Taddei PJ, Mirkovic D, Mohan R, Cox JD, Woo S. The risk of developing a second cancer after receiving craniospinal proton irradiation. *Phys Med Biol* 54(8):2277-91, 4/2009.
39. Newhauser WD, Fontenot JD, Taddei JD, Mirkovic D, Giebeler A, Zhang A, Mahajan A, Kornguth D, Stovall M, Yepes P, Woo S, Mohan R. Contemporary proton therapy systems adequately protect patients from exposure to stray radiation. *AIP Proc* 1099:450-455, 2009.
40. Newhauser WD. Book Review: International Commission on Radiation Units and Measurements Report 78: Prescribing, Recording, and Reporting Proton-Beam Therapy. *Radiat Prot Dosim* 133(1):60-62, 1/2009.
41. Newhauser WD, Fontenot JD, Taddei PJ, Mirkovic D, Giebeler A, Zhang R, Mahajan A, Kornguth D, Stovall M, Yepes P, Woo S, Mohan R. Contemporary Proton Therapy Systems Adequately Protect Patients from Exposure to Stray Radiation. *AIP Conference Proceedings CAARI 2008: 20th International Conference on the Application of Accelerators in Research and Industry* 1099:450-455, 3/2009.
42. Pan X, Zhang X, Li Y, Mohan R, Liao Z. Impact of Using Different Four-Dimensional Computed Tomography Data Sets to Design Proton Treatment Plans for Distal Esophageal Cancer. *Int J Radiat Oncol Biol Phys* 73(2):601-09, 2/2009.
43. Perez-Andujar A, Newhauser WD, DeLuca PM. Neutron production from beam-modifying devices in a modern double scattering proton therapy beam delivery system. *Phys Med Biol* 54(4):993-1008, 2/2009.
44. Peterson SW, Polf J, Bues M, Ciangaru G, Archambault L, Beddar S, Smith A. Experimental validation of a Monte Carlo proton therapy nozzle model incorporating magnetically steered protons. *Phys Med Biol* 54(10):3217-29, 5/21/2009. e-Pub 5/6/2009.
45. Peterson SW, Polf JC, Ciangaru C, Frank SJ, Bues M, Smith AR. Variations in proton scanned beam dose delivery due to uncertainties in magnetic beam steering. *Med. Phys.* 36(8):3693-3702, 7/2009.

46. Phan J, Swanson DA, Levy LB, Kudchadker RJ, Bruno TL, Frank SJ. Late Rectal Complications after prostate brachytherapy for localized prostate cancer: Incidence and Management. *Cancer* 115(9):1827-1839, 2009.
47. Poenisch F, Archambault L, Briere TM, Sahoo N, R. Mohan, Beddar S, and Gillin MT. Liquid scintillator for 2D dosimetry for high-energy photon beams. *Med. Phys.* 36(5):1478-1485, 4/2009.
48. Polf JC, Peterson S, Ciangaru G, Gillin M, Beddar A. Prompt gamma-ray emission from biological tissues during proton irradiation: a preliminary study. *Phys Med Biol* 54(3):731-743, 1/2009. e-Pub 1/2009.
49. Hodges JC, Das P, Eng C, Reish AG, Beddar AS, Delclos ME, Krishnan S, Crane CH. Intensity-modulated radiation therapy for the treatment of squamous cell anal cancer with para-aortic nodal involvement. *Int J Radiat Oncol Biol Phys.* 75(3):791-794,2009
50. Riegel AC, Chang JY, Vedam SS, Johnson V, Chi PC, Pan T. Cine Computed Tomography Without Respiratory Surrogate in Planning Stereotactic Radiotherapy for Non-Small-Cell Lung Cancer. *Int J Radiat Oncol Biol Phys.* 73(2):433-41. 2/2009
51. Sakhalkar HS, Adamovics J, Ibbott G, Oldham M. A comprehensive evaluation of the PRESAGE/optical-CT 3D dosimetry system. *Med Phys* 36(1):71-82, 1/2009.
52. Salama JK, Haddad RI, Kies MS, Busse PM, Dong L, Brizel DM, Eisbruch A, Tishler RB, Trotti AM, Garden AS. Clinical Practice Guidance for Radiotherapy Planning After Induction Chemotherapy in Locoregionally Advanced Head-and-Neck Cancer. *Int J Radiat Oncol Biol Phys* (in press). e-Pub 4/2009.
53. Sejpal SV, Amos RA, Bluett JB, Levy LB, Kudchadker RJ, Johnson JL, Choi S, Lee AK. Dosimetric changes resulting from patient rotational setup errors in proton therapy prostate plans. *Int J Radiat Oncol Biol Phys.* 75(1):40-48,2009
54. Starkschall G, Britton K, McAleer MF, Jeter MD, Kaus MR, Bzdusek K, Mohan R, Cox JD. Potential dosimetric benefits of four-dimensional radiation treatment planning. *International Journal of Radiation Oncology Biology Physics* 73(5):1560-1565, 4/2009.
55. Taddei PJ , Krishnan S, Mirkovic D, Yepes P, Newhauser WD. Effective Dose from Stray Radiation for a Patient Receiving Proton Therapy for Liver Cancer. *AIP Conference Proceedings of CAARI 2008: 20th International Conference on the Application of Accelerators in Research and Industry* 1099:445-449, 3/2009.
56. Taddei PJ, Mirkovic D, Fontenot JD, Giebeler A, Zheng Y, Kornguth D, Mohan R, Newhauser WD. Stray radiation dose and second cancer risk for a pediatric patient receiving craniospinal irradiation with proton beams. *Phys Med Biol* 54(8):2259-2275, 4/2009.

57. Vassiliev ON, Kry SF, Chang JY, Balter PA, Titt U, Mohan R. Stereotactic radiotherapy for lung cancer using a flattening filter free Clinac. *J Appl Clin Med Phys* 10(1):2880, 2009.
58. Wang XC, Yu, TK, Salehpour M, Zhang XS, Sun TL, Buchholz TA. Breast Cancer Regional Radiation Fields for Supraclavicular And Axillary Lymph Nodes Treatment: Is A Posterior Anillary Boost Field Technique Optimal? *Int. J. Radiat. oncol. Bio. Phys.* In Press.
59. Weinberg R, Antolak JA, Starkschall G, Kudchadker RJ, White RA and Hogstrom KR. Influence of source parameters on large-field electron beam profiles calculated using Monte Carlo methods. *Phys Med Biol* 54(1):105-116, 1/2009.
60. Winther, J.F., Boice Jr., J.D., Frederiksen, K., Bautz, A., Mulvihill, J.J., Stovall, M., Olsen, J.H. Radiotherapy for childhood cancer and risk for congenital malformations in offspring: A population-based cohort study. *Clinical Genetics*, 75(1):50-56, 2009
61. Yepes P, Randeniya S, Taddei PJ, Newhauser WD. Monte Carlo Fast Dose Calculator for proton radiotherapy: application to a voxelized geometry representing a patient with prostate cancer. *Phys Med Biol* 54:N21-N28, 2009.
62. Zhang R, Newhauser WD. Calculation of water equivalence of materials of arbitrary density, elemental composition and thickness in proton beam irradiation. *Phys Med Biol* 54:1383-1395, 2009.

#### Book Chapters

1. Followill DS,. Chapter 8: Clinical Implementation of the TG-51 Calibration Protocol. In: *Clinical Dosimetry Measurements in Radiotherapy*. Medical Physics Publishing, 2009.
2. Gillin, MT. Special Procedures. In: *Principles and Practice of Radiation Therapy*, Third. Mosby Elsevier: St. Louis, Missouri, 316-327, 2009.
3. Ibbott GS. Radiation Physics. In: *Handbook of Radiation Oncology*. Ed(s) Haffty BG, Wilson LD. Jones & Bartlett: Sudbury, 1-40, 2009.
4. Prado KL, Prado CM. Photon-Beam Dose Distributions and Treatment Planning. In: *Principles and Practice of Radiation Therapy*, 3rd. Ed. CM Washington and DT Leaver, Eds. Mosby, Inc.: St. Louis, 2009.
5. Sahoo N. Introduction to Radiation Therapy Physics. In: *Principles and Practice of Radiation Therapy*, 3rd. Ed(s) CM Washington, D Leaver. Elsevier: St. Louis, Missouri, USA, 2009