

Joseph H. Syh, Ph.D., DABR

Medical Physicist Staff

EDUCATION AND TRAINING

Medical Physics Resident, 1989 - 1993

Post Doc and Instructor

University of Nebraska Medical Center, Department of Radiation Oncology, University of Nebraska MC Hospital
Omaha, Nebraska

Ph.D. Nuclear Engineering and Radiological Science, 1989

North Carolina State University, Raleigh, North Carolina

EMPLOYMENT

Medical Physics staff , 2010-Present

Willis-Knighton Cancer Center, Shreveport, Louisiana

Assistant Professor, 2002 -2010

Case Western Reserve University, Cleveland, Ohio

Assistant Professor, 1998 -2002

Albany Medical College, Albany, New York

Radiation Oncology Physicist, 1993 -1998

James H. Quillen Medical Center, Johnson City, Tennessee

CERTIFICATIONS

Therapeutic Radiological Physics, American Board of Radiology, 1994

PUBLICATIONS

1. A microcomputer-based system for measurement of ultrasound imaging. Syh J, Chu WK. Biomed Science Instrumentation. 1990; 26:41-43.
2. Brachytherapy: a viable alternative in the management of basal meningiomas. Kumar PP, Patil AA, Leibrock LG, Chu WK, Syh J, McCaul GF, Reeves MA. Neurosurgery. 1991 Nov;29(5):676-80.
3. An image analysis on MR imaging of the brain for hepatic encephalopathy. Syh J, Chu WK, Mar N, McConnell JR. Biomed Science Instrumentation. 1991;27:29-33.
4. Estimation of the mean effective organ doses for total body irradiation from Rando phantom measurements.

- Syh J, Chu WK, Kumar PP, Goede MR, Smith CL, Reeves MA, McCaul G. *Med Dosim.* 1992;17(2):103-6.
5. Continuous low dose rate brachytherapy with high activity iodine-125 seeds in the management of meningiomas.
Kumar PP, Patil AA, Leibrock LG, Chu WK, Syh J, McCaul GF, Reeves MA. *Int J Radiat Oncol Biol Phys.* 1993 Jan 15;25(2):325-8.
6. Role of brachytherapy in the management of the skull base meningioma. Treatment of skull base meningiomas.
Kumar PP, Patil AA, Syh J, Chu WK, Reeves MA. *Cancer.* 1993 Jun 1;71(11):3726-31.
7. Overview of dosimetry for Systemic Targeted Radionuclide Therapy (STaRT). Wessels BW, Syh J, Meredith RF. *Int J Radiat Oncol Biol Phys.* 2006;66(2 Suppl):S39-45. Review.
8. A Study of Effectiveness of Stereotactic Head Frame Distortion On the Gamma Knife Automatic Positioning System by Stress of Screw Fixation. J Syh, B White, K Pillai, V Colussi, J Sohn, Y Zheng, D Einstein, R Maciunas and B Wessels. *Med. Phys.* 33, 2063 (2006); <http://dx.doi.org/10.1118/1.2240990>.
9. A Machine Independent Threshold Method for PET Target Delineation. Y Zheng, J Syh, JF Greskovich, C Kunos and BW Wessels. *Med. Phys.* 34, 2351 (2007); <http://dx.doi.org/10.1118/1.2760436>.
10. An automatic method for PET target segmentation using a lookup table based on volume and concentration ratio. Zheng Y, Syh J, Yao M, Wessels B. *Technol Cancer Res Treat.* 2010 Jun; 9(3):243-52.
11. A Computed Tomography Dose Index (CTDI) Study on Megavoltage Tomotherapy Imaging System. J Syh, J R Syh and H Wu. *Med. Phys.* 38, 3441 (2011); <http://dx.doi.org/10.1118/1.3611769>.
12. Investigation Study of Tomotherapy Optimization Plan with Selections of Pitch, Modulation and the Avoidance in Lung Radiosurgery Cases. J Syh, H Wu and J R Syh. *Med. Phys.* 38, 3637 (2011); <http://dx.doi.org/10.1118/1.3612604>.
13. Comparison of TomoScanner™ 2D Water Phantom versus IBA Helix for Tomotherapy Profile Measurements.
B Patel, J Syh, M Durci, L Rosen, S Katz and H Wu. *Med. Phys.* 39, 3734 (2012); <http://dx.doi.org/10.1118/1.4735194>.
14. An Optimizing Study of a New MultiChannel Virginal Cylinder Applicator in Brachytherapy. B Patel, J Syh, H Wu and L Rosen. *Med. Phys.* 39, 3737 (2012); <http://dx.doi.org/10.1118/1.4735206>.
15. Investigation of Commercial-Grade Flatbed Scanners and a Medical- Grade Scanner for Radiochromic EBT Film Dosimetry. J Syh, B Patel, J R Syh, H Wu, L Rosen, M Durci, S Katz and C Sibata. *Med. Phys.* 39, 3734 (2012); <http://dx.doi.org/10.1118/1.4735193>.
16. An Optimized Dosimetry Study Comparing a Multichannel Cylinder versus Single Channel Cylinder in the Treatment of the Vaginal Cuff or Vagina with High Dose Rate Brachytherapy. L Rosen, J R Syh, B Patel, J Syh and H Wu. *Med. Phys.* 39, 3774 (2012); <http://dx.doi.org/10.1118/1.4735392>.

17. Comparison of 5-Channel Versus Single and 9-Channel Vaginal Cylinder Treatment Plans. M White, J Syh, L Rosen, B Patel, J R Syh and H Wu. *Med. Phys.* 40, 365 (2013); <http://dx.doi.org/10.1118/1.4815118>.
18. An Optimized Dosimetric Study of a Multi-Channel Vaginal Cylindrical Applicator in Brachytherapy. J Syh, J R Syh, H Wu, M White, B Patel and L Rosen. *Med. Phys.* 40, 284 (2013); <http://dx.doi.org/10.1118/1.4814783>.
19. Helical image-guided stereotactic body radiotherapy (SBRT) for the treatment of early-stage lung cancer: a single-institution experience at the Willis-Knighton Cancer Center. Rosen LR, Fischer-Valuck BW, Katz SR, Durci M, Wu HT, Syh J, Patel B. *Tumori.* 2014 Jan-Feb;100(1):42-8. doi: 10.1700/1430.15814.
20. Dosimetric Advantages in Critical Structure Dose Sparing by Using a Multichannel Cylinder in High Dose Rate Brachytherapy to Treat Vaginal Cuff Cancer. J Syh, J R Syh, B Patel, J Zhang, H Wu and L Rosen. *Med. Phys.* 41, 388 (2014); <http://dx.doi.org/10.1118/1.4889029>.
21. Radiation Transmission Measurements and Evaluation of Diagnostic Lead-Based and Lead-Free Aprons. J Syh, B Patel, J R Syh, L Rosen. *Med. Phys.* 41, 128 (2014); <http://dx.doi.org/10.1118/1.4887947>
22. IBA ProteusOne Compact Proton Therapy System Radiation Survey Results. J Zhang, J Syh, J R Syh, M White, B Patel, X Song and H Wu. *Med. Phys.* 41, 269 (2014); <http://dx.doi.org/10.1118/1.4888530>.
23. A Phantom Design to Assist Patient Position Verification System in Daily Image-Guided RT and Comprehensive QA Measurements. J Syh and H Wu. *Med. Phys.* 42, 3275 (2015); <http://dx.doi.org/10.1118/1.4924140>.
24. Neutron Dose Cloud Map for Compact ProteusONE Proton Therapy. J Syh, B Patel, J R Syh, L Rosen and H Wu. *Med. Phys.* 42, 3466 (2015); <http://dx.doi.org/10.1118/1.4924928>.
25. A Clinical Implementation and Optimized Dosimetry Study of Freiberg Flap Skin Surface Treatment in High Dose Rate Brachytherapy. J Syh, J R Syh, B Patel, H Wu and M Durci. *Med. Phys.* 42, 3332 (2015); <http://dx.doi.org/10.1118/1.4924370>.
26. Diagnostic Lead Apron Radiation Exposure Comparison Between Manufacture-Stated and Measurements. J Syh, B Patel, J R Syh, X Song, D Freund, X Ding and H Wu. *Med. Phys.* 42, 3254 (2015); <http://dx.doi.org/10.1118/1.4924053>.
27. A Clinical Implementation and the Dosimetric Evidence in High Dose Rate Vaginal Multichannel Applicator Brachytherapy. J Syh, J R Syh, B Patel, J Zhang, H Wu and L Rosen. *Med. Phys.* 42, 3332 (2015); <http://dx.doi.org/10.1118/1.4924371>.
28. ProteusONE Machine QA Procedure and Stability Study: Half Year Clinical Operation. D Freund, X Ding, H Wu, J Zhang, J Syh, J R Syh, B Patel and X Song. *Med. Phys.* 42, 3482 (2015); <http://dx.doi.org/10.1118/1.4924999>.
29. Quick and Efficient Daily QA for Compact PBS Proton Therapy Machine. B Patel, J Syh, X Ding, J R Syh, X Song, D Freund and H Wu. *Med. Phys.* 42, 3488 (2015); <http://dx.doi.org/10.1118/1.4925025>.

30. An Investigation On Monitor Unit Threshold and Effects On IMPT Delivery in Proton Pencil Beam Planning System. J Syh, X Ding, J R Syh, B Patel, L Rosen and H Wu. Med. Phys. 42, 3356 (2015); <http://dx.doi.org/10.1118/1.4924471>.
31. Dose Evaluation in Using CT Density Versus Relative Stopping Power for Pencil Beam Planning and Treating IROC Proton Phantom. J Syh, X Ding, L Rosen and H Wu. Med. Phys. 42, 3397 (2015); <http://dx.doi.org/10.1118/1.4924642>.
32. Commission of World 1st Commercial Compact PBS Proton System. X Ding, B Patel, X Song, J Syh, J R Syh, J Zhang, D Freund, L Rosen and H Wu. Med. Phys. 42, 3375 (2015); <http://dx.doi.org/10.1118/1.4924549>.