

Andrew Keller, MD

Department of Radiation Oncology
UPMC Shadyside
5230 Centre Ave
Pittsburgh, PA, 15232
Email: keller2@upmc.edu

EDUCATION

University of Central Florida College of Medicine (August 2013 – May 2017)
Doctor of Medicine
Orlando, FL

University of Florida (August 2009 – May 2013)
Bachelor of Science in Biology
Gainesville, FL

MEDICAL RESIDENCY TRAINING

Radiation Oncology (July 2018-present)
UPMC Hillman Cancer Center, Department of Radiation Oncology
Pittsburgh, PA
Program Directors: Dr. Sushil Beriwal and Dr. Ryan P. Smith
Anticipated Graduation: June 2022

Transitional Year Internship (July 2017-June 2018)
Oak Hill Hospital
Brooksville, FL

CERTIFICATIONS, LICENSURE, AND PROFESSIONAL DEVELOPMENT

American Board of Radiology Qualifying Examination (2021)
Passed Medical Physics & Radiation and Cancer Biology examinations

UPMC Radiation Oncology e-Rounds, (2020-present)
Facilitate weekly web-based educational conference across UPMC Department of Radiation Oncology by organizing sessions, selecting cases for presentation, and preparing relevant SA-CME questions

Quality Oversight Committee, UPMC Department of Radiation Oncology (2020-2021)
Review and discuss solutions for radiation therapy medical events

UPMC Graduate Medical Education Committee (2019-present)
Review and discuss topics related to operation of residency training programs across UPMC

SRS/SABR Training Course (2019)
Department of Radiation Oncology, UPMC Hillman Cancer Center
Pittsburgh, PA

Gamma Knife Radiosurgery Course (2018)
Department of Neurological Surgery, University of Pittsburgh School of Medicine
Pittsburgh, PA

United States Medical Licensing Examination (2015-2017)
Passed Step 1, Step 2 CS, Step 2 CK, & Step 3 examinations

Pennsylvania Graduate Medical Training License (2018-present)

Florida Graduate Medical Training License (2017-2018, 2020-present)

American Heart Association Advanced Cardiac Life Support (2015-present)

American Heart Association Basic Life Support (2015-present)

PUBLICATIONS

Kim H, **Keller A**, Beriwal S, Smith KJ, Vargo JA. Cost-Effectiveness of Prophylactic Cranial Irradiation versus MRI Surveillance for Extensive Stage Small Cell Lung Cancer. *Int J Radiat Oncol Biol Phys*. 2021 May 10:S0360-3016(21)00477-6. doi: 10.1016/j.ijrobp.2021.04.049. Epub ahead of print. PMID: 33984410.

Ghanta S, **Keller A**, Rodríguez-López JL, Patel A, Beriwal S. Utility of Prophylactic Cranial Irradiation for Limited Stage Small Cell Lung Cancer in the Modern Era with Magnetic Resonance Imaging Surveillance. *Clin Oncol (R Coll Radiol)*. 2021 Apr 19:S0936-6555(21)00141-2. doi: 10.1016/j.clon.2021.03.018. Epub ahead of print. PMID: 33888381.

Hafeez N, Musunuru HB, **Keller A**, Beriwal S. Feasibility of breast radiation therapy in a Fanconi Anemia patient diagnosed with breast cancer: A case report and review of literature. *Clin Transl Radiat Oncol*. 2021 Apr 9;28:129-132. doi: 10.1016/j.ctro.2021.04.001. PMID: 33981866; PMCID: PMC8085781.

Keller A, Ghanta S, Rodríguez-López JL, Patel A, Beriwal S. Utility of Prophylactic Cranial Irradiation for Extensive-Stage Small-Cell Lung Cancer in the MRI Screening Era. *Clin Lung Cancer*. 2021 Mar 26:S1525-7304(21)00063-2. doi: 10.1016/j.clcc.2021.03.009. Epub ahead of print. PMID: 33966983.

Musunuru HB, **Keller A**, Pifer P, Beriwal S. In regard to Hall et al and Small et al. *Int J Radiat Oncol Biol Phys*. 2021 March 15; P1125-1126. <https://doi.org/10.1016/j.ijrobp.2020.11.043>.

Hathout L, Wang Y, Wang Q, Vergalasova I, Elshaikh MA, Dimitrova I, Damast S, Li JY, Fields EC, Beriwal S, **Keller A**, Kidd EA, Usov M, Jolly S, Jaworski E, Leung EW, Donovan E, Taunk NK, Chino J, Natesan D, Russo AL, Lea JS, Albuquerque KV, Lee LJ. A Multi-Institutional Analysis of Adjuvant Chemotherapy and Radiation Sequence in Women With Stage IIIC Endometrial Cancer. *Int J Radiat Oncol Biol Phys*. 2021 Mar 5:S0360-3016(21)00240-6. doi: 10.1016/j.ijrobp.2021.02.055. Epub ahead of print. PMID: 33677053.

Richman AH, Patel AK, Rodríguez-López JL, **Keller A**, Vargo JA, Kim H, Sukumvanich P, Berger JL, Boisen MM, Edwards RP, Taylor SE, Courtney-Brooks MB, Orr BC, Olawaiye AB, Lesnock JL, Beriwal S. Do air gaps with image-guided vaginal cuff brachytherapy impact failure rates in patients with high-intermediate risk FIGO Stage I endometrial cancer? *Brachytherapy* 2020 Dec 29;S1538-4721(20)30256-7. doi: 10.1016/j.brachy.2020.11.012.

Rodríguez-López JL, Ling DC, **Keller A**, Kim H, Mojica-Márquez AE, Glaser SM, Beriwal S. Ureteral stenosis after 3D MRI-based brachytherapy for cervical cancer - Have we identified all the risk factors? *Radiother Oncol*. 2020 Oct 14; 155:86-92. doi: 10.1016/j.radonc.2020.10.010.

Keller A, Rodríguez-López JL, Patel AK, Vargo JA, Kim H, Houser CJ, Sukumvanich P, Berger JL, Boisen MM, Edwards RP, Taylor SE, Courtney-Brooks MB, Orr BC, Olawaiye AB, Beriwal S. Early outcomes after definitive chemoradiation therapy with Vienna/Venezia hybrid HDR brachytherapy applicators for cervical cancer: A single institution experience. *Brachytherapy* 2020 Sep 17; S1538-4721(20)30181-1. doi: 10.1016/j.brachy.2020.08.006.

Sim AJ, Ahmed KA, **Keller A**, Figura NB, Oliver DE, Sarangkasiri S, Robinson TJ, Johnstone PA, Yu HM, Naghavi AO. "Outcomes and the Role of Primary Histology Following LINAC-based Stereotactic Radiation for Sarcoma Brain Metastases." *Am J Clin Oncol*. 2020 May;43(5):356-361. PMID: 32217854

Saigal K, All S, Potrebko P, Feranec N, **Keller A**, Lizaso M, Warner C, Nguyen N, Jain A, Biagioli, M. Incorporating Routine Magnetic Resonance Imaging-based Planning for the Delivery of High-dose-rate Brachytherapy for Prostate Cancer: An Evaluation of Clinical Feasibility and Dosimetric Outcomes (2019). *Cureus* 11(2): e4085. DOI 10.7759/cureus.4085.

Potrebko PS, **Keller A**, All S, Sejpal S, Pepe J, Saigal K, Kandula S, Sensakovic WF, Shridhar R, Poleszczuk J, Biagioli M. GammaKnife versus VMAT radiosurgery plan quality for many brain metastases. *J Appl Clin Med Phys*. 2018;19(6):159-165. doi:10.1002/acm2.12471

Keller A, Harvey ME, Kameh DS, Haughey B, Ho H, Magnuson S, Akhtar A, Mekhail T, Zehngebot L, Rao NG (2017) De-escalation of radiotherapy for the treatment of HPV-associated head and neck cancer: A case report, *Acta Oto-Laryngologica Case Reports*, 2:1, 29-33, DOI: 10.1080/23772484.2017.1292399

Keller A, Ismail R, Potrebko P S, Pepe J, Wu M, Saigal K, Biagioli M, Shridhar R, Holloway R, Field M, Rao NG. (2016) Role of Gamma Knife® Radiosurgery for the Treatment of Brain Metastases from Gynecological Cancers. *Cureus* 8(12): e947. doi:10.7759/cureus.947

PRESENTATIONS

Musunuru HB, **Keller A**, Celebrezze J, Beriwal S. Wait and Watch Approach for Patients with Rectal Cancer following Neoadjuvant Therapy. Poster Presentation, American Society for Radiation Oncology, Chicago, IL, October 24, 2021.

Keller A, Kim H, Beriwal S, Smith K, Vargo JA. Cost-Effectiveness of Prophylactic Cranial Irradiation versus MRI Surveillance for Extensive Stage Small Cell Lung Cancer. Poster Presentation, American Society for Radiation Oncology, Chicago, IL, October 24, 2021.

Koerner S, Baig T, Kim H, Rodriguez-Lopez JL, **Keller A**, Beriwal S. Can we avoid Ureters as organs at risk with MRI-based brachytherapy for cervical cancer? A dosimetric feasibility study. Poster Presentation, American Society for Radiation Oncology, Chicago, IL, October 24, 2021.

Donovan E, Albuquerque K, Mantz C, Beriwal S, **Keller A**, Chen H, Lo S, Leung E. The role of Stereotactic body radiotherapy (SBRT) in oligometastatic and oligoprogressive gynecologic malignancies: A multi-institutional pooled analysis, Quick Pitch Oral Presentation, American Society for Radiation Oncology, Chicago, IL, October 24, 2021.

Lalonde R, **Keller A**, Huq S. Dosimetric Parameters Related to Local Control and Rate of Distant Metastases in NSCLC SBRT Patients. Poster Presentation, American Society for Radiation Oncology, Chicago, IL, October 24, 2021.

Keller A, Mulherkar R, Abdelhakiem M, Ghanta S, Benoit R, Smith RP, Beriwal S. Effect of Short-Term Corticosteroid Usage on Acute Urinary Toxicity Following Cs-131 Prostate Brachytherapy, Snap Oral Presentation, American Brachytherapy Society, Online Congress, June 25, 2021.

Keller A, Richman AH, Musunuru HB, Kim H, Vargo JA, Beriwal S. Methodology and Efficacy of Weekly Web-Based Radiation Oncology Educational Conference. Asynchronous Oral Presentation, Radiation Oncology Education Collaborative Study Group, Chicago, IL, May 14, 2021.

Keller A, Kim H, Houser C, Rodríguez-López JL, Patel AK, Sukumvanich P, Berger J, Boisen M, Edwards R, Taylor S, Courtney-Brooks M, Olawaiye A, Orr B, Beriwal S. Feasibility and Outcomes for Cervical Cancer Patients Treated with Hybrid Brachytherapy Applicators. Poster Presentation. World Congress of Brachytherapy, Online Congress, May 6, 2021.

Keller A, Rodriguez-Lopez JL, Beriwal S. Utilization of prophylactic cranial irradiation for extensive stage small cell lung cancer—is there a benefit in the MRI screening era? Poster Presentation. American Society for Radiation Oncology, Miami, FL, October 24, 2020.

Hathout L, Wang Y, Elshaikh M, Dimitrova I, Damast S, Li J, Fields E, Beriwal S, **Keller A**, Kidd E, Usos M, Jolly S, Jaworski E, Leung E, Donovan E, Taunk N, Russo A, Lea J, Albuquerque K, Lee L. Does sequencing of adjuvant therapy influence outcome for stage IIIC endometrial carcinoma? A multi-institutional analysis. Oral Presentation. American Society for Radiation Oncology, Miami, FL, October 24, 2020.

Keller A, Orr B, Ling D, Sukumvanich P, Berger J, Boisen M, Edwards R, Taylor S, Courtney-Brooks M, Olawaiye A, Beriwal S. Outcomes of Patients with Stage IIIC Endometrial Cancer Treated with Adjuvant Sequential Chemotherapy followed by Marrow-Sparing IMRT- A Single Institution Experience. Poster Presentation. American College of Radiation Oncology, Fort Lauderdale, FL, February 27, 2020.

Keller A, Ling D, Beriwal S. Bone-Marrow Sparing IMRT in the Adjuvant Setting in Patients with Endometrial Cancer Treated with Sequential Chemoradiation Therapy. Poster Presentation. American Society for Radiation Oncology, Chicago, IL, September 17, 2019.

Keller A, Kim H, Houser C, Beriwal S. Feasibility and Early Outcomes for Cervical and Endometrial Cancer Patients Treated with HDR Brachytherapy Boost Utilizing Venezia Applicator. Poster Presentation. American Brachytherapy Society, Miami, FL, June 15, 2019.

Keller A, Patel H, Nguyen S, All S, Pearson L, Ramakrishna NR. Distant brain failure following stereotactic radiosurgery for brain metastases from non-small cell lung cancer. Poster Presentation. Society for Neuro-Oncology, New Orleans, LA, November 17, 2018.

Keller A, Patel H, Nguyen S, All S, Pearson L, Ramakrishna NR, Distant Brain Failure Following Stereotactic Radiosurgery for Brain Metastases from Breast Cancer. Poster Presentation. Society for Neuro-Oncology, New Orleans, LA, November 17, 2018.

Keller A, Ramakrishna N. Results of Hypofractionated Stereotactic Radiotherapy (HSRT) for Large Brain Metastases and Resection Cavities. Poster Presentation, American Society for Radiation Oncology, San Antonio, TX. October 22, 2018.

Keller A, Patel H, Nguyen S, All S, Pearson L, Ramakrishna N. HER2 Status and Long-Term Local Control Following SRS for Breast Cancer Brain Metastases. Poster Presentation, American Society for Radiation Oncology, San Antonio, TX. October 22, 2018.

Pearson L, Nguyen S, **Keller A**, All S, Patel H, Ramakrishna N. The Effect of Immunotherapy Treatment on Local Control for Melanoma Brain Metastases Treated with Stereotactic Radiosurgery. Poster Presentation, Society for Neuro-Oncology, San Francisco, CA. November 18, 2017.

Nguyen S, Pearson L, **Keller A**, All S, Patel H, Ramakrishna N. Overall Survival of Melanoma Brain Metastasis Patient Cohorts Treated with Stereotactic Radiosurgery with or without Immunotherapy. Oral Presentation, Society for Neuro-Oncology, San Francisco, CA. November 18, 2017.

Potrebko PS, **Keller A**, All S, Rao NG, Pepe J, Sensakovic WF, Thannoo D, Saigal K, Warner CJ, Nguyen N, Saini A, Biagioli MC, Harrell S, Gandhi R. Comparison of Plan Quality Between Stereotactic and Volumetric Modulated Arc Therapy Radiosurgery for Many Brain Metastases. Poster Presentation, American Society for Radiation Oncology, San Diego, CA. September 26, 2017.

All S, Patel H, **Keller A**, Ramakrishna NR. Initial Volumetric Response and Local Control Following Stereotactic Radiosurgery for Melanoma Brain Metastases. Poster Presentation, American Society for Radiation Oncology, San Diego, CA. September 26, 2017.

Keller A, All S, Patel H, Ramakrishna NR. The Initial Volumetric Response and Local Control of NSCLC Brain Metastases Following Stereotactic Radiosurgery. Poster Presentation, American Society for Radiation Oncology, San Diego, CA. September 26, 2017.

Ahmed KA, **Keller A**, Naghavi AO, Abuodeh Y, Kim S, Perez BA, Khushalani NI, Harrison LB, Caudell JJ. Extracranial Melanoma Metastases Treated with Stereotactic Body Radiation Therapy and Immune Checkpoint Inhibitors. Poster Presentation, American Society for Radiation Oncology, San Diego, CA. September 26, 2017.

Keller A, Yu M, Naghavi A, Robinson TJ, Sarangkasiri S, Etame AB, Johnstone PA, Ahmed KA. Linac-Based Stereotactic Radiosurgery and Fractionated Radiotherapy for Brain Metastases from Sarcoma. Poster Presentation, American Radium Society, Colorado Springs, CO. May 6, 2017.

Keller A, Bhattal G, Ismail R, Kailas S, Kim E, Buntinx-Krieg T, Do T, Dajac J, Pavlovic Z, Babb J, Sarparast A, Ramakrishna N. A Comparative Evaluation of Post-Radiosurgery Distant Brain Failure for Lung, Breast, and Melanoma Brain Metastases. Poster presentation, American Association of Neurological Surgeons, Chicago, IL. April 30, 2016.

Bhattal G, **Keller A**, Dajac J, Pavlovic Z, Ismail R, Kailas S, Babb J, Buntinx-Krieg T, Do T, Kim E, Sarparast A, Ramakrishna N. Evaluation of distant brain failure among patients undergoing SRS for lung brain metastases. Poster presentation, European Society for Radiotherapy and Oncology (ESTRO), Turin, Italy. April 30, 2016.

Dajac J, Bhattal G, **Keller A**, Pavlovic Z, Babb J, Buntinx-Krieg T, Do T, Ismail R, Kailas S, Kim E, Sarparast A, Ramakrishna N. Evaluation of Overall Survival Following Stereotactic Radiosurgery (SRS) for Non-Small Cell Lung Cancer Brain Metastases. Poster presentation, American Society for Radiation Oncology, Boston, MA. September 25, 2016.

AWARDS

Junior Brachytherapy Travel Grant, 2020 World Congress of Brachytherapy.
Roentgen Resident/Fellow Research Award, UPMC Hillman Cancer Center, 2021

PROFESSIONAL MEMBERSHIPS

American Society of Clinical Oncology, 2016– present
American Society for Radiation Oncology, 2018-present
American Brachytherapy Society, 2019-present