Anderson Cancer Center, [4]Oregon Health and Science University Knight Cancer Institute

Purpose: We aim to (1) characterize disclosed financial conflicts of interests (FCOIs) within radiation oncology and compare disclosed FCOIs between academic and non-academic radiation oncologists; and (2) explore the potential correlation between FCOIs and academic productivity, receipt of governmental research funding, gender, or PhD degree.
Methods: The CMS database was used to extract 2015 FCOIs, including "general," "research," and "investment" payments. For academic radiation oncologists, research productivity was characterized by h- and m-indices; receipt of NIH funding was obtained. The two endpoints were binary variables examining private fees: research and general payments. Binomial models were used to determine whether publication metrics (m-index, h-index) and other study characteristics such as gender, PhD status, and NIH institution funding status were associated with endpoints. Chi-squared analyses were used for categorical variables.
Results: A total of 22,543 payments totaling $22,912,885 to 2,995 radiation oncologists were included; among oncologists, 1,189 were affiliated with an academic institution and 1,106 were not. For academic radiation oncologists, the median payment was $10,632 (interquartile range [IQR]: 0, 167; max: $1,237,606); that from general payments was $2,049 (IQR: 0, 135; max: $865,033); that from research payment was $8,021 (IQR: 0, 0; max: $1,219,564); that from investment was $561 (IQR: 0, 0; max: $320,331). The median h-index was 9 (IQR: 4, 19; range 0, 86); median m-index was 0.67 (IQR: 0.33, 1.1; range: 0, 4.1). On multivariable regression, the m-index (OR 2.60; 95% CI: 1.70-4.01) and receiving a general payment (OR 2.26; 95% CI: 1.31-4.00) were associated with receiving research funding. In the model substituting the h-index for the m-index, the h-index (OR 1.03; 95%CI: 1.01-1.05) showed a similar relationship to receiving research funding, as did receipt of a general payment (OR 2.46; 95% CI: 1.43-4.36).
Conclusion: There is a significant relationship between disclosed FCOI and increased individual research productivity metrics.

(PO95) Assessing Changes in the Activity Levels of Breast Cancer Patients During Radiation Therapy

Colin E. Champ,[1] Nitin Ohri, MD,[2] Matthew Cantor,[3] Rainer J. Klement, PhD,[4] and Ryan P. Smith[1]; *[1]Department of Radiation Oncology, University of Pittsburgh Medical Center, [2]Department of Radiation Oncology, Montefiore Medical Center and Albert Einstein College of Medicine, Bronx, NY, [3]Koneksa Health Inc, New York City, NY, [4]Department of Radiation Oncology, Leopoldina Hospital, Schweinfurt, Germany*

Background: Radiation therapy (RT) is often implemented in the treatment of breast cancer (BC). While a common side effect of RT is fatigue, the exact effect on energy levels and sleep is unknown. This study analyzed the change in activity levels and sleep before, during, and after RT for women with early stage BC and ductal carcinoma in situ (DCIS) undergoing adjuvant RT.
Methods: After IRB approval, 10 women undergoing RT for early stage BC or DCIS after lumpectomy were fitted with activity trackers (Misfit Inc., Richardson, TX) during RT planning and removed approximately 4 weeks after completion of RT. Compliance was tracked weekly during RT. Activity levels were quantified before, during, and after RT with measurements of steps, miles walked, time in activity, and calories burned. Sleep metrics were also assessed. All data was uploaded to a secure database (Koneksa Health Inc., New York, NY). Statistical analysis was performed with ANOVA using Matlab (MathWorks Inc, Natick, MA).
Results: All patients wore their activity trackers throughout the study. Average steps were 6131 per day (range 2741-15,508) and distance traveled was 2.1 miles per day (range 0.9 − 5.3). While activity between patients varied greatly, overall step count decreased by an average 21 steps during RT ($p<0.001$), which was not clinically relevant. There was no statistically significant change in miles walked, total time of daily activity, calories burned (average calories 1910, range 1461 - 2712), or sleep metrics (average sleep 7.0 hours per night, range 5.5 − 8.3) before, during, or after RT.
Conclusion: RT has minimal impact on activity levels or sleep patterns in women undergoing treatment for early stage BC or DCIS. Activity levels varied greatly between patients in a homogeneous population of women. Further studies are needed to evaluate attempts to increase physical activity both during and after RT.

(PO96) Delineation of Fields for Prophylactic Radiation Therapy to Prevent Heterotopic Ossification Surrounding the Sciatic Nerve

William T. Turchan, BS, Neil C. Estabrook, MD, and Kevin P. McMullen, MD; *Indiana University School of Medicine*

Purpose: Although relatively rare, heterotopic ossification surrounding the sciatic nerve after traumatic posterior acetabular fracture is a potentially devastating phenomenon that can be prevented with prophylactic radiation therapy. This case study aims to define the fields that should be irradiated to prevent heterotopic ossification surrounding the sciatic nerve.
Materials and Methods: In order to perform this case study, the pelvic CT and MRI of a patient treated at our institution were utilized. The contours of the sciatic nerve and contributing spinal nerves were drawn and then added to a diagram of traditional fields utilized for the prevention of heterotopic ossification. The coverage of the sciatic nerve as it runs posterior to the acetabulum based upon these fields was then compared to the coverage of the sciatic nerve in this area with traditionally employed field designs.
Results: Some traditional fields suggested for the prevention of heterotopic ossification fail to adequately cover a significant portion of the sciatic nerve as it runs posterior to the acetabulum. Our suggested alternative fields provide a field design to adequately cover the sciatic nerve as it passes posterior to the acetabulum in its entirety.
Conclusions: The results of this study provide guidelines for the fields that should be utilized when giving prophylactic radiation therapy for the prevention of heterotopic ossification surrounding the sciatic nerve after traumatic posterior acetabular fracture. By decreasing the likelihood of heterotopic ossification surrounding the sciatic nerve, the use of this field design can decrease the incidence of sciatic nerve palsy, which can be associated with significant morbidity.

(PO97) Two-and-a-Half Year Clinical Experience With Magnetic Resonance Image Guided Radiation Therapy

Benjamin W. Fischer-Valuck, MD,[1] Lauren Henke, MD,[1] Rojano Kashani, PhD,[1] Olga Green, PhD,[1] Jeffrey Olsen, MD,[2] Parag Parikh, MD,[1] Cliff Robinson, MD,[1] Jeff Bradley, MD,[1] Maria Thomas, MD, PhD,[1] Michael Roach, MD,[1] Imran Zoberi, MD,[1] Thomas Mazur, PhD,[1] Jiayi Huang, MD,[1] Hiram Gay, MD,[1] Vivian Rodriguez, PhD,[1] Sasa Mutic, PhD,[1] and Jeff M. Michalski, MD, MBA[1]; *[1]Washington University in St. Louis, [2]University of Colorado*

Background: Magnetic resonance image-guided radiation therapy (MR-IGRT) has been implemented at our institution since 2014. We report on the two-and-a-half year clinical experience in treating patients utilizing the world's first commercially available MR-IGRT system.
Methods: Patients selected for MR-IGRT were enrolled on an IRB-approved prospective registry between January 2014 and June 2016. Patients were treated with a variety of RT techniques, including IMRT and SBRT, using a MR-IGRT system which consists of a split 0.35T MR scanner straddling a ring gantry with 3 MLC-equipped 60Co heads. When applicable, online or offline adaptation was performed and exception gating on sagittal 2D cine MR was utilized. The charts of patients treated with MR-IGRT were reviewed to report clinical and treatment parameters of initial patients treated with this novel technique.