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RadOnc Student Scan

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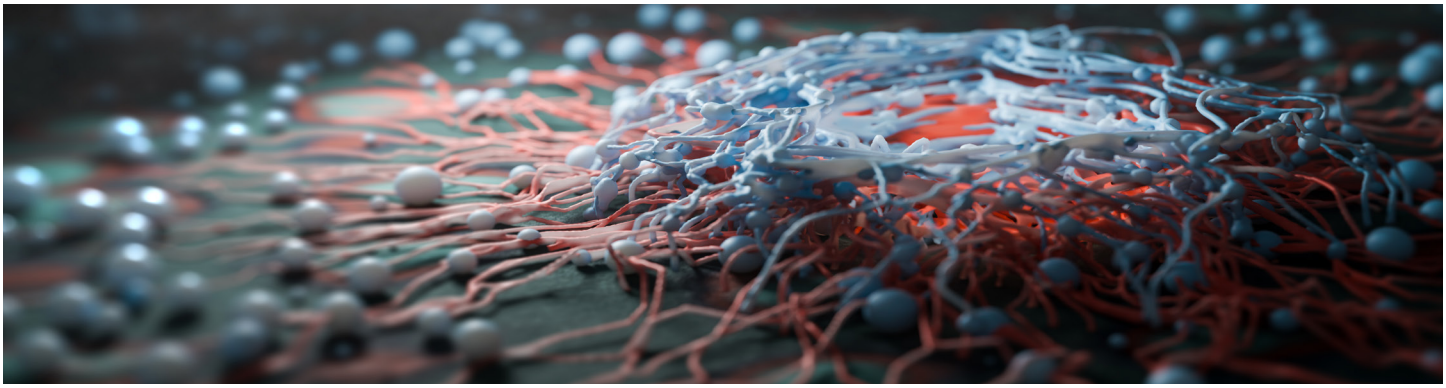

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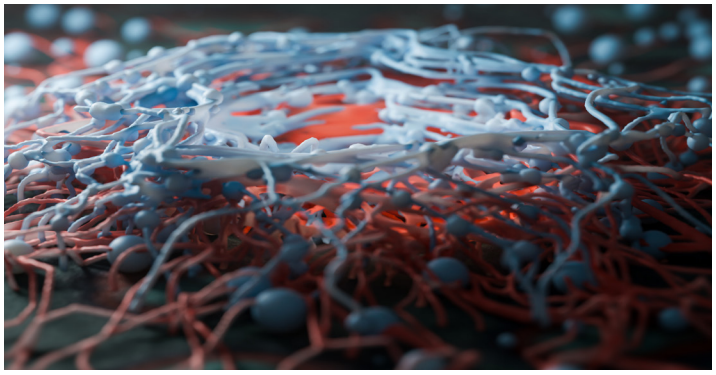
Introduction



The Role of Radiation in Palliative Care

Radiation therapy is often regarded as a curative treatment, one that will shrink or eliminate a tumor for a patient to live tumor-free. Although this is one aim of radiation therapy, there are many other wide-ranging applications. One lies in palliative care, where radiotherapy can be used to benefit patient quality of life in the face of a serious and complex diagnosis.[1]

Well-tolerated by most patients, palliative radiotherapy (PRT) can be used broadly in patients with symptomatic disease or where local control of the disease process would be beneficial.[1] It can rapidly alleviate a variety of symptoms, including pain from bone metastases, improved neurologic function from brain or spinal cord metastases, and obstructions caused by tumors in vital organs.[2] Palliative radiotherapy can even prolong survival in some cases of poor prognosis.[1] Overall, PRT offers a better quality of life in patients receiving multidisciplinary palliative care.

Whereas the goal of standard RT is generally to cure the disease, PRT focuses on improving quality of life for patients with advanced cancers, particularly those with limited life expectancy, and involves fewer fractions of radiation than standard RT. In comparison, standard RT selects patients with potentially curable cancer or those with an extended life expectancy, making long-term disease progression a primary focus.[2] However, the potential side effects and disruption to one's daily life caused by traveling for treatment may outweigh the benefits of PRT to patients in their final weeks of life; thus, emphasizing the need for holistic approaches to palliative care.[3]

One of the challenges facing the widespread use of PRT is under-referral.[2] The mismatch between PRT benefit and standard RT is evident in hospice patients. Although cancer patients comprise approximately half of those in hospice care, only about 3% of these patients receive PRT.[4] Many barriers prevent patients from receiving PRT; these include lack of transportation, limited reimbursement and short life expectancy, among others. Inadequate physician education on the availability and use of PRT is another significant barrier.[2] This presents an opportunity to raise awareness of and increase access to PRT, ultimately leading to improvement in quality of life for more patients.

Are Benign Conditions Treatable with Radiotherapy?

Rooted in a commitment to precision and innovation, radiation therapy has dramatically reshaped the landscape of cancer treatment. Yet, there is a growing recognition within the medical community that sophisticated techniques such as intensity-modulated radiation therapy (IMRT) and stereotactic body radiation therapy (SBRT) can prove valuable beyond oncology. This broadening scope underscores the adaptability of radiation therapy and points to its potential to enhance patient outcomes across diverse medical specialties and conditions.

For instance, this versatility is evident in orthopedics and dermatology, where radiation therapy is playing a growing role in the management of non-malignant conditions such as heterotopic ossification and keloids. In the former, where bone forms abnormally in soft tissue following surgery or trauma, a single, precisely administered dose of radiation can curb and alleviate the discomfort of condition, thereby preserving patients' mobility and quality of life.[5,6] In dermatology, targeted radiotherapy has shown promise in suppressing fibroblast activity within scar tissue, offering improved results for individuals grappling with recurrent keloids.[7,8]

Radiation therapy is also finding unexpected usefulness in cardiology. A striking example is the development of stereotactic arrhythmia radioablation (STAR), a noninvasive approach that induces controlled fibrosis in the heart, correcting aberrant electrical pathways linked to ventricular tachycardia. This method's precision enables focused treatment with minimal disruption to adjacent tissue and further demonstrates radiation therapy's capacity to innovate patient management beyond oncology.[9,10]

Indeed, a wide array of applications for radiation therapy are being explored and refined, holding much promise to improve patient outcomes across a wide range of conditions and diseases.

Interviews With Radiation Oncologists

Why Radiation Oncology? A Program Director's Perspective

Sarah McAvoy, MD, is an assistant professor of radiation oncology, vice chair of education, and the residency program director at the University of Maryland School of Medicine. Dr. McAvoy also served as chief resident at the University of Texas MD Anderson Cancer Center in Houston, Texas. She treats all types of cancer and is especially interested in treating breast and gynecological cancers. Additionally, she is passionate about providing world-class resident education.

When were you first exposed to radiation oncology, and what were your initial impressions?

I took an elective in radiation oncology at the end of my third year of medical school. I had always really liked working with oncology patients and found the biology of cancer to be interesting. At the time, I was convinced that I was going to pursue medical oncology and took the elective primarily to gain some understanding of what would happen to my patients in the basement. Once I saw all the facets of radiation oncology, I was sold and made a late decision to switch. I was blown away by how many interactions I had with patients and how well I got to know them. The range of care, from curative to palliative and everything in between, was fulfilling, and frankly, I found the application of science and technology fascinating.

What do you appreciate most about your career?

I value helping patients along the entire spectrum of care, from the education involved in a new diagnosis all the way through end-of-life care.. I feel incredibly privileged to accompany patients and their families through this journey. I gravitated toward the anatomic aspects of radiation and found I liked putting together the complex puzzle of every individual tumor and thinking about how to achieve the best plan. I also really love the multidisciplinary care aspect of radiation oncology. All of oncology is multidisciplinary, but with rad onc, you are also leading a team within your own department, and that collaborative nature is very rewarding. Another I aspect that I appreciate is the variety—the combination of patient visits, technical planning, tumor boards, brachytherapy procedures, and research, makes every workday unique.

What advice do you have for medical students considering radiation oncology as a specialty?

Get to know the field! It is worth doing a clinical elective and spending time during the rotation familiarizing yourself with what a "day in the life" is like, from clinic visits to contouring. I highly recommend thinking critically about yourself and how you like to work, as well. For instance, you must work well in a team, and communication skills are imperative. I also recommend students take some time to look at some of the other phenomenal resources that are available online now to learn more about radiation oncology. There are some outstanding education and mentoring opportunities available through organizations like ASTRO, ACRO, ARS, SWRO, and ASCO. I love the ROVER and ROECSG material for medical students as well. They have some amazing programming. My final piece of advice is that it's never too late to consider radiation oncology. We are a field that a lot of students stumble upon late in their medical school years. If you are enthusiastic about patient care, have a strong clinical foundation, excellent communication skills, and a genuine interest in radiation, you don't have to have done years of research in the field to be a good resident applicant.

In your view, what skills or traits make someone an effective radiation oncologist?

Genuine interest in patients and their stories, along with empathy and compassion, are key. I think communication skills are the bedrock of everything we do as radiation oncologists. You must be good at communicating on a lot of different levels, from breaking down complex information to your patients to troubleshooting highly technical details with your physicist for a challenging plan. Another crucial skill is the ability to think spatially and translate physical exam findings and cross-sectional radiology imaging into treatment planning. Finally, in a field that is always changing and evolving, intellectual curiosity and the willingness to keep learning new things are key.

Why did you become a program director? What do you enjoy most about the role?

I've always loved education and thinking about ways to help people learn. I've had some incredible teachers and mentors who have helped me get to where I am today and was motivated to try to give back by investing in residents. I truly enjoy thinking of ways to make the program better—everything from curriculum to supporting residents trying to balance their personal and professional commitments. Being an advocate for the residents at our program is a top priority for me. Whether that means pointing them in the direction of good educational opportunities, connecting them with research mentors, helping them find their dream job, or just being available to chat about the ups and downs of their days, I want them to know that they have my full support. Among the most rewarding parts of being a PD is seeing how a positively supported resident results in better care for the patients they help.

What are your hopes for your residents, and how do you measure the success of your residency program?

Honestly, I hope that all the residents I help train remember that patients are at the heart of what we do.

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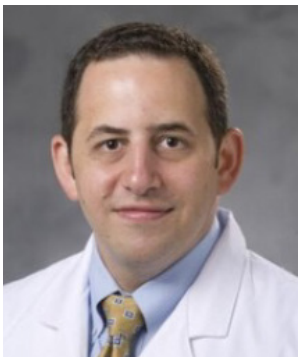
Interviews With Radiation Oncologists

Why Radiation Oncology? A Program Director's Perspective *continued*

It is always worth taking an extra minute to make sure they understand something or help take away a little of their burden in trying to get through a tough diagnosis. Measuring the success of a residency program is surprisingly hard. There are all sorts of metrics, like test scores, et cetera, that we look at, but at the end of the day, one of the most meaningful things is hearing from the practices that my residents join after graduation. When I hear that a resident who trained at our program transitioned smoothly into practice, is practicing great medicine, is a great team member, and has elevated some aspect of care at the center they are at, I feel like we've been successful as a program.

Bringing Cancer Care to Those Who Served: A Conversation with Joseph Salama, MD



Joseph Salama, MD, is a professor of radiation oncology and the program director of Duke University's radiation oncology program. Dr. Salama also serves as the chief of radiation oncology at the Durham Veterans Affairs (VA) Medical Center, where he provides high-quality cancer care to U.S. military veterans.

What inspired you to pursue a career in radiation oncology?

I am so lucky I found radiation oncology, as it was the only specialty I really wanted to make a career out of in medical school. I was introduced to the field by a friend whose father was a radiation oncologist. Then, like now, radiation oncology was a hidden gem. I was drawn to the ability to use many different skills I had learned in medical school, including image analysis, knowledge of pathology, and the natural history of cancer, in order to provide evidence-based care, have meaningful patient interactions, and help patients at all phases of their cancer journey. Once I started my first rotation, I knew I had found the speciality for me.

How does caring for veterans at the Durham VA Medical Center shape your approach to radiation oncology? Are there specific challenges or considerations when treating this patient population?

I am fortunate to be able to care for patients who served our country. It is very rewarding for me and for my team to provide the highest quality care to veterans. One of the common challenges we face is geography. As the only Veterans Administration hospital in North Carolina with a radiation oncology treatment center, we are able to take advantage of a number of programs for veterans. [These include] providing transportation supplements as well as lodging and meals that make care with us possible for veterans from all over North Carolina, as well as parts of Tennessee, Virginia, South Carolina, and occasionally West Virginia. Beyond this, we have adapted our clinical footprint to include telehealth, as many patients are not able to travel to Durham. Despite this, we are able to meet the patients where they are and coordinate labs and studies locally to continue our ability to care for them. We are fortunate for these and other resources that consistently allow us to provide high quality care that we strive to be the equal of our academic affiliate at Duke.

What aspects of being a radiation oncologist do you find most rewarding and motivating?

For me, the interactions with patients and learners are so rewarding. As radiation oncologists, we are fortunate to be able to help patients live longer, better, or both. Helping someone feel better when they thought there wasn't another option or reaching a life milestone that they thought they might not achieve is special. Equally special is the ability to pass along skills and knowledge to future generations of radiation oncologists.

What ongoing studies or recent findings excite you the most, and how do you see them translating into clinical practice?

There are so many, and our field continues to expand. The increased consideration of radiation treatments for benign diseases, including osteoarthritis, is one area where I think radiation oncology could have a large impact. For patients with cancer, the ability to precisely localize, deliver and adapt radiation will continue to enhance the customization of treatment, leading to potentially improved outcomes with less side effects. Additionally, the incorporation of new imaging techniques, more and more biomarkers and targeted therapies, as well as further incorporation of artificial intelligence is so exciting, allowing for the identification of cancer where we could not see it before and enhancing personalized management strategies.

What skills or qualities do you think are most important to succeed in radiation oncology?

I think the key qualities for someone interested in radiation oncology include being dedicated to patient care, attuned to details, curious, and a team player. Those are

the hallmarks of the great physicians I work with. While radiation oncology is a technical field, I don't think that technical skills or a knowledge of physics are required. For medical students, gaining exposure to all the medical disciplines that aid in the diagnosis and treatment of cancer patients is helpful. [These include] pathology, surgical specialties (neurosurgery, otolaryngology, urology, surgical oncology and others), radiology, and medical oncology. [Exposure to] interventional pulmonology and gastroenterology are also helpful experiences.

Bridging Innovation and Patient Care: A Q&A with Sophia Kamran, MD, on the Future of Radiation Oncology

Sophia C. Kamran, MD, is a radiation oncologist specializing in treating genitourinary cancers at Massachusetts General Hospital Cancer Center and an Assistant Professor at Harvard Medical School. Dr. Kamran's research focuses on computational genomics to explore tumor evolution, radiation resistance, and the development of personalized, high-precision therapies. Her work has earned her several prestigious awards, including the ASTRO Basic/Translational Science Research Award and the MGH William Shipley Research Award. Beyond her clinical and research roles, she holds leadership positions in e ASTRO and ASCO, where she leads efforts to advance patient care and innovation in radiation oncology.

How did you first learn about radiation oncology, and when did you decide to pursue it as a career?

As an engineer by training (I attended MIT for undergraduate studies), I was drawn to the new technologies, imaging, and radiation physics of the field. I was also interested in oncology based on my experiences with my mother, who unfortunately had several bouts of cancer and passed away recently from pancreatic cancer. My early experiences as a young girl interacting with her oncology team were both comforting and inspiring – I knew I wanted to have a career that had a focus on cancer. I found radiation oncology specifically from my time on my oncology rotation as a medical student – several of the patients I followed were receiving palliative radiotherapy. Once I learned more, I realized that radiation oncology was the best fit that combined all my interests. I also knew that I wanted to push the field forward through research, and with all the exciting advances that are being discovered daily, we can use research and technology to continuously strive to improve outcomes for our patients.

What areas of research or technology do you think will have the most profound impact on the field in the coming years?

I would say artificial intelligence will have a significant impact on our field in terms of how we plan and deliver our treatments. We are already seeing some early changes, with AI-based contouring and delivery of treatments using AI planning. I also think we are going to get better about how to select appropriate patients for the right treatment; we will incorporate more use of biomarkers and other selection parameters beyond just standard clinicopathologic tools to determine the course of care for a specific individual. It really is an exciting time for our field!

What advice would you give students who are starting to explore radiation oncology?

It would be important to shadow radiation oncologists, participate in formal radiation oncology rotations, talk to several radiation oncologists and trainees about their experiences, and get involved in research opportunities. Shadowing and formal rotations will allow you to get a feel for the day-to-day, gain insight into patient care, and understand how radiation fits into an overall cancer treatment plan. You will also gain exposure to advancing technology. Seeking guidance from current radiation oncologists and trainees will be helpful, as they can share their personal experiences and provide career advice. Finally, participating in research would be beneficial for you to gain a comprehensive understanding of an important topic within radiation oncology and allow you to contribute to the growing knowledge of the field.

Could you describe a typical day in your life as a radiation oncologist and how you balance your clinical duties, research, and teaching?

Every day is different, which is what I love about the specialty. I have a mix of clinical and academic research days, so each day brings a change and fresh challenges. Check out this ASCO spotlight, which I participated in last year: https://x.com/ASCO/status/1806764600878055588

What is your advice to students who want to integrate research while maintaining a strong clinical presence?

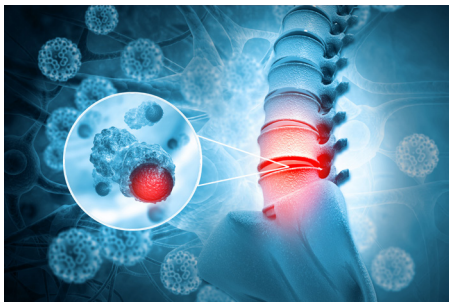
I think getting involved early is instrumental in maintaining a focus in research throughout your career. The more research you do as a trainee, even small projects, the more skills you gain to better identify good research questions to pursue. I also think that once you are clinically busy, the better you are at asking interesting and clinically relevant research questions, so the two naturally go hand in hand. The more clinically busy I am, the better I understand our existing gaps in knowledge and the needs that are critical to be addressed. Thus, I can formulate a good research question based on my clinical experiences. Early in your training, it is important to find strong mentors to help guide your research career, as these individuals can help you along the way.

Hot Topics in Radiation Oncology

Radiomics and Deep Learning in Lung Cancer[11]

Avanzo M, Stancanello J, Pirrone G, et al. *Strahlentherapie und Onkologie*

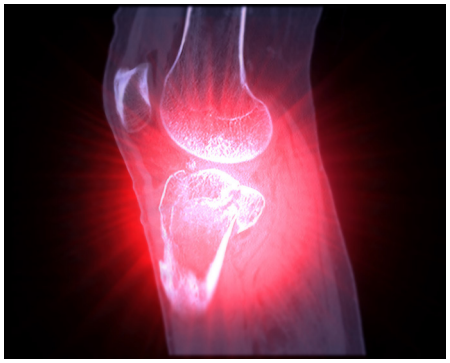
This review article explores how radiomics and deep learn tecnologies are transforming lung cancer care. By analyzing detailed features from CT and PET scans, researchers can now better detect lung nodules, distinguish between benign and malignant lesions, and predict how patients will respond to treatment. These technologies also help identify candidates for targeted therapies and predict potential side effects. The integration of these imaging techniques with clinical and genetic data promises to revolutionize lung cancer diagnosis, treatment, and follow-up, making patient care more personalized and effective. The article highlights the importance of collaborative, multicenter studies and the development of user-friendly AI models to bring these innovations into everyday clinical practice.



Stereotactic Radiosurgery for Benign Spinal Tumors[12]

Meola A, Soltys S, Schmitt A, et al. *Neurosurgery Clinics of North America*

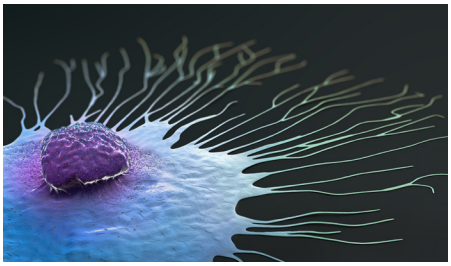
This article focuses on the treatment of benign spinal tumors such as schwannomas, meningiomas, and neurofibromas, particularly those located in the intradural, extramedullary region of the spine. While surgery is the primary treatment, stereotactic radiosurgery (SRS) is presented as a safe and effective alternative for select patients, particularly those with medical comorbidities, high-grade tumors, or tumors in challenging locations. Stereotactic radiosurgery involves delivering a precise, high-dose radiation to the tumor while minimizing exposure to surrounding tissues. The article emphasizes that SRS can achieve excellent tumor control rates, with studies showing local control rates between 76% and 100%. It also stresses the importance of careful planning to avoid complications such as radiation-induced myelopathy. Overall, SRS is a valuable option for managing benign spinal tumors, either as a standalone treatment or as an adjunct to surgery.



Is it time to redefine the role of low-dose radiotherapy for benign disease?[13]

Montero A, Sabater S, Rodel F, et al. *Annals of the Rheumatic Diseases*

This article highlights the potential of low-dose radiotherapy (LD-RT) in managing osteoarthritis (OA) in adults, especially those over 60. Despite various conservative treatments and medications, there is no definitive cure for OA, and many treatments come with significant side effects. LD-RT has shown promise in alleviating pain and improving joint functionality, owing to its anti-inflammatory effects and low toxicity profile. However, recent well-designed studies have questioned its effectiveness, particularly in chronic OA of the knee and hand, suggesting that LD-RT may be more beneficial for other osteoarticular conditions like enthesopathies (disorders affecting bones, tendons and ligaments where they articulate). The article emphasizes the need for further research to identify the patients who might benefit most from LD-RT and to refine treatment protocols, including the possibility of repeated treatment and long-term follow-up.



National Trends in Radiation Treatment for Small Cell Lung Cancer Brain Metastases in the Modern Era[14]

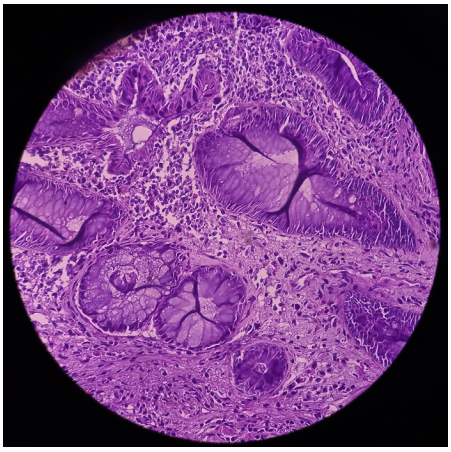
Desai J, Rajkumar S, Shepard MJ, Wegner RE. *Advances in Radiation Oncology*

Traditionally, whole brain radiation therapy (WBRT) has been is the treatment of choice for brain metastases of small cell lung cancer (SCLC), as it targets multiple lesions while reducing the risk of developing new lesions. However, to reduce the neurocognitive side effects of WBRT, providers have also incorporated two more localized techniques, Hippocampal-Avoidance Whole Brain Radiation Therapy (HA-WBRT) and Stereotactic Radiosurgery (SRS), into treatment. HA-WBRT, as the name suggests, delivers radiation to the entire brain while sparing the hippocampus to minimize damage and preserve function of the area. In contrast, SRS precisely targets individual lesions, minimizing exposure to surrounding healthy tissue. The article emphasizes how HA-WBRT and SRS are being used with increasing frequency and highlights barriers to their adoption and additional considerations for treatment.

A 5-Year, Multi-Institutional Mentorship Program in Radiation Oncology: The Society for Women in Radiation Oncology Experience[15]

Hsieh K, Yu C, Corriher T J, et al. *International Journal of Radiation Oncology, Biology, Physics*

Within radiation oncology, mentorship can be difficult to find for many medical students, particularly those who identify as female. This lack of female mentors can influence their career ambitions and affect the course of their professional lives. In 2018, the Society for Women in Radiation Oncology (SWRO) created the SWRO Mentorship Program for women, gender minorities, and those with intersecting marginalized identities. To date it remains the largest multi-institutional mentorship program using a traditional dyad system in radiation oncology. Over the five years up to 2023, 296 individuals participated, forming 225 mentor-mentee pairs. Of these, 244 participants were based in the US and on the physician track. Of those who completed residency, 82.1% accepted a first job in academia, a significantly higher proportion than expected. Of the US-based medical students who participated in the program, 36.7% entered radiation oncology; however, it is unclear how the program might have influenced their decision. Most mentees expressed their interest in learning about research opportunities (35.8%), leadership (24.5%), and building geographic or institutional ties (19.2%). Future areas of study include researching the reasons why medical students choose radiation oncology in order to better tailor the mentorship program to their needs.



Clinical Outcomes, Patterns of Failure, and Salvage Therapies of a Large Modern Cohort of Patients With Anal Squamous Cell Carcinoma Treated With Definitive-Intent Intensity-Modulated Radiation Therapy[16]

Roth O'Brien D A, Hristidis V C, Chakrani Z, et al. *International Journal of Radiation Oncology, Biology, Physics*

This study examined recurrence patterns and salvage treatments for anal squamous cell carcinoma (ASCC) after intensity-modulated radiation therapy (IMRT) with chemotherapy in 375 patients treated from 2005 to 2019, with a median follow-up of six years. The six-year rates of locoregional failure (LRF), distant failure, progression-free survival, colostomy-free survival, and overall survival (OS) were 12%, 13%, 73%, 76%, and 80%, respectively. Of the 74 cases of recurrence, 45 had LRF, mostly in the anorectum (87%), while isolated nodal failures were rare (9%). Patients with LRF had worse survival (44% vs 86%). About 30% of those receiving salvage therapy lived 10+ years, but none survived with or supportive care or chemotherapy alone. While IMRT provided strong disease control, recurrence led to poor outcomes despite aggressive salvage therapy. This study highlights the need for improved salvage strategies to improve survival for patients with recurrent ASCC.

Virtual Rounds: Unique Cases in Radiation Oncology

This section is a recent addition to the Student Scan newsletter in which we highlight recent case studies that offer valuable insights into radiation oncology. These cases integrate medical school curriculum with real-world applications of radiation oncology.

Portal Vein Stenosis Following Neoadjuvant Therapy With MRgART and Surgery for Pancreatic Cancer: A Case Report

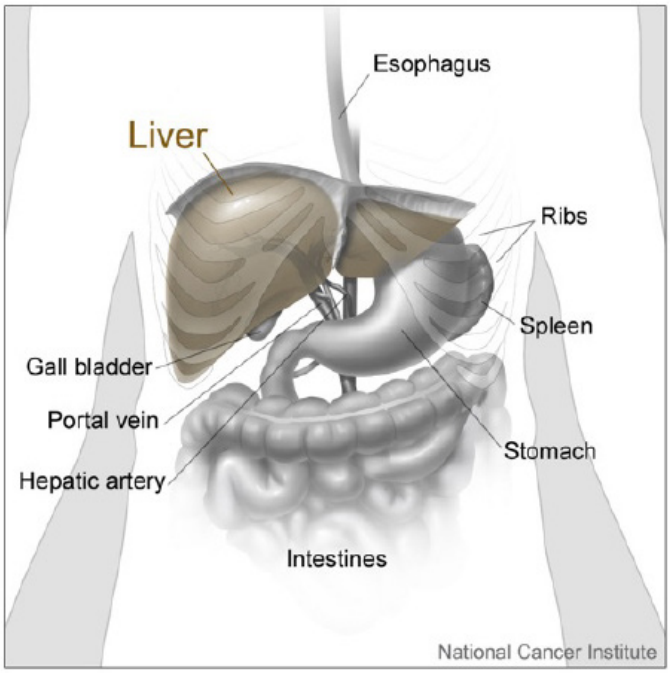


Figure 1. Liver and Nearby Organs.[17]

A 63-year-old man treated for pancreatic adenocarcinoma developed portal vein stenosis (PVS), a known complication of radiation therapy. This patient had a history of colon adenocarcinoma status post-definitive sigmoidectomy, alcohol use disorder, and chronic pancreatitis. The stage IIb pancreatic adenocarcinoma was diagnosed by biopsy after he presented to the emergency department with pancreatitis with obstructive-pattern jaundice (typically diagnosed with an elevated direct bilirubin). In addition, a mass was seen on imaging.

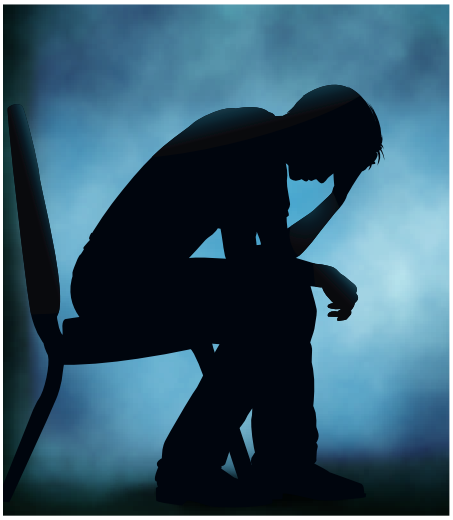
The patient was treated with neoadjuvant chemoradiation which included FOLFIRINOX (fluorouracil, irinotecan and oxaliplatin) and MRI-guided adaptive radiation therapy (MRgART) of 50 Gy in five fractions, followed by a pancreatoduodenectomy (Whipple procedure) and superior mesenteric vein (SMV) resection and primary anastomosis. This patient's treatment was monitored using CA-19-9, a serum marker often used to track treatment efficacy. Marker serum levels dropped significantly after chemoradiation, demonstrating treatment success. Several months after surgery, the patient developed symptomatic ascites, excess fluid in the abdominal compartment that often causes discomfort due to distention.

Further imaging demonstrated severe stenosis of the portal vein, which carries blood from the stomach, intestines and the spleen into the liver. When blood flow to the liver is impeded, increased hydrostatic pressure in the venous system can cause varices and ascites. To diagnose the cause and treat the symptoms of the ascites, a paracentesis was performed with cytology that revealed no infectious or malignant source. This confirmed PVS as the most likely cause. Venous angioplasty relieved the obstruction. Subsequent endoscopy confirmed variceal bleeding, which was successfully treated with embolization.

As the case study details, this patient had several risk factors for PVS. First, surgery and portovenous resection is a significant risk factor due to the inflammation produced in the healing process. Second, chemotherapy and the malignancy itself may have increased the risk. Finally, radiation may have been a significant contributing factor. Though isolating the exact contribution of each of these factors to the development of PVS is not possible, the case highlights methods of diagnosing and treating portal hypertension secondary to portovenous stenosis.[18]

Industry Insights

The Impact of Depression on Outcomes in Cancer Patients: Implications for Radiation Oncology



Depression is the only psychological condition that cancer patients are more likely to experience than the general population. Radiation oncologists are uniquely positioned to detect depressive symptoms early and implement effective interventions through their intensive and prolonged interactions with patients, making depression awareness and diagnosis critically important.[19] Depression screening requires a multidimensional approach. Signs of emotional distress are assessed using tools like the Distress Thermometer, which measures distress on a 10-point Likert scale with checkboxes for physical, emotional, spiritual, family, and practical issues. Anxiety and depression are commonly measured using questionnaires including the Hospital Anxiety and Depression Scale, Patient Health Questionnaire, and the Beck Depression Inventory. The Addenbrooke's Cognitive Assessment and EURO-Qol-5 are often used to identify cognitive disorders and measure patient quality of life, respectively.[21] According to a 2009 meta-analysis by Satin et al, cancer patients experiencing depressive symptoms had up to a 25% higher mortality risk, which increased to 39% with official diagnosis of major or minor depressive disorder, even after adjusting for clinical prognostic factors.[21] This data demonstrates that depression is an independent contributor to poor patient outcomes rather than only a reflection of cancer severity.

Radiation oncologists can employ a variety of measures, such as dignity-conserving therapy, depression screening, and referrals to mental health professionals for supportive and/or meaning-centered therapy, and referrals for further treatment. Adding these treatments to standard oncology treatment plans benefits the patient in many ways, including improving treatment adherence and emotional well-being, optimizing overall patient care, and improving overall quality of life.

2025 Medicare Physician Fee Schedule

The Centers for Medicare and Medicaid Services (CMS) recently published the 2025 Medicare Physician Fee Schedule Final Rule. While no direct payment reductions were applied to radiation oncology services, reimbursement rates will decline due to existing policies, including reductions in conversion factors and adjustments to clinical labor pricing.

At first glance, it appears that CMS made no changes to the payment structure in radiation oncology; however, there is still a 2.8% conversion factor cut, indicating lower reimbursements for many radiation oncology services. Medicare pay-per-service dropped from $33.29 to $32.35, meaning lower reimbursement for the same labor. Furthermore, reduction in clinical labor pricing adjustments will also cause additional downstream reductions. This includes payments for services requiring radiation therapists, dosimetrists, and physicists, even though wages for these roles have increased. Since 2011, radiation oncology payments have declined by 23% and these new cuts make it difficult for private practitioners to maintain profitability. ASTRO has been lobbying Congress to pass the Radiation Oncology Case Rate (ROCR) Act, which aims to stabilize long-term payments and improve quality of care.

Other major changes happening this year: CMS has decided to provisionally keep CPT 77427 on telehealth visits for treatment management. Virtual supervision will continue through December 31, 2025, but CMS is considering making virtual supervision permanent for several services. ASTRO believes that in-person exams are essential for patient safety and exceptional quality of care. For this reason, continuing telehealth visits post-COVID can be burdensome to patient health.

There are also new codes for Biology-Guided Radiation Therapy. This is good news, as it will replace prior hospital-only codes, allowing for broader reimbursement in different practice settings. Finally, CMS is implementing a new cost-tracking measure for prostate cancer treatment; however, ASTRO is concerned that this will penalize radiation oncologists for variations in treatment options, complications, and overall treatment costs.

Although CMS did not implement direct cuts to radiation oncology services, the combination of decreased conversion factors and changes in labor pricing can result in 2-6% in payment cuts. ASTRO and other advocacy groups continue to push for policy changes to protect reimbursement rates and ensure high-quality care remains sustainable.[22]

Career Development Opportunities

Radiation Oncology Education Collaborative Study Group (ROECSG)
Focus: Enhancing education in radiation oncology for students, residents, and faculty.
Offerings:
- Comprehensive Educational Program: Covers undergraduate, graduate, and continuing medical education, as well as patient and interprofessional education.
- Annual Symposia: Regular meetings on advancements and topics in radiation oncology.
- Extensive Online Resources: Information on global health, clinical practices, and study materials.
- Social Media Engagement: Active knowledge sharing and community interaction.
- Publications and Reports: Updated reports are available on the website.

Website: www.roecsg.org

Radiation Oncology Virtual Education Rotation (ROVER)
Focus: Online educational platform for medical students interested in radiation oncology.
Offerings:
- Networking Opportunities: Connect with radiation oncologists across the country.
- Membership Resources: Information on joining professional organizations such as ASTRO and AROA.
- Educational Content: Videos and articles on radiation oncology practices.

Website: www.radoncvirtual.com

American Radium Society ROCKET Program
Focus: Support for early-career professionals and residents in radiation oncology.
Offerings:
- Webinars: Topics include residency applications, away rotations, and oncology career pathways.
- Legal Guidance: Insights into legal considerations in oncology practice and job applications.

Website: www.americanradiumsociety.org/rocket

Funded Radiation Oncology Electives
Focus: Stipends for medical students completing visiting electives in radiation oncology
Offerings: Funding availability and eligibility vary by institution
Website: https://roecsg.org/funded-electives/

Upcoming Conferences

ESTRO 2025 – European Society for Radiotherapy and Oncology
May 2-6, 2025 | Vienna, Austria
www.estro.org/Congresses/ESTRO-2025

2025 Annual ROECSG Spring Symposium
May 16, 2025 | Houston, TX
https://roecsg.org/symposium2025/

International Conference on Advances in Radiation Oncology
June 2-5, 2025 | Vienna, Austria
https://www.iaea.org/events/icaro-4

2025 Annual Conference of American Brachytherapy Society
June 18-21, 2025 | Nashville, TN
https://www.americanbrachytherapy.org/meetings-events/future-meetings/

ASTRO Annual Meeting 2025
September 28 - October 1, 2025 | San Francisco, CA
https://www.astro.org/meetings-and-education/micro-sites/2025/annual-meeting

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