SPRING 2016

# ASTROnews

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*ASTROnews* Goes Digital +
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| Best 25 | 20, 25 | Best 15 + $I^{123}$, $In^{111}$, $Ge^{68}/Ga^{68}$ |
| Best 28 Upgradeable | 20, 28 | Best 15 + $I^{123}$, $In^{111}$, $Ge^{68}/Ga^{68}$ |
| Best 35 | 35–15 | Greater production of Best 15, 25 isotopes plus $Tl^{201}$, $Rb^{81}/Kr^{81}$ |
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VOLUME 19 • NUMBER 1

ASTRO news

AMERICAN SOCIETY FOR RADIATION ONCOLOGY

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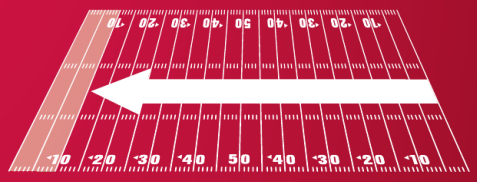

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BY LISA A. KACHNIC, MD, FASTRO

# EDITOR'S*notes*



## CHALLENGES OF NAVIGATING A NEW DIGITAL NETWORK

CURRENTLY I AM BARGAIN HUNTING AT THE GROOVE, a vintage record store in East Nashville with my daughter, who is visiting during her college spring break. We have a limited amount of shopping time as Sam's visit is last minute after her Vegas plans did not materialize and my workday schedule is nonnegotiable, but we still manage to amass about 20 classic albums in less than 45 minutes… imagine, $1.99 for a used Duran Duran classic, priceless.

Records always make me reminisce about my carefree and Internet-free youth, where I was taught penmanship, and communicated to others through actual letter writing and telephone calls. In fact, the majority of my medical school and residency years were also of the hard copy paper kind. On-treatment patient brief notes were scribbled in the "paper" medical chart. Documentation did not take the current three or four hours a day, and definitely did not require typing skills. However, to fulfill the important mission of delivering quality and safe radiation oncology care for our patients, we have rapidly shifted to a digital health world.

As our ASTRO Chair, Bruce D. Minsky, MD, FASTRO, points out on page 7 of this edition of *ASTROnews* (also now a digital-only communication), the digital era has revolutionized radiation oncology treatment, promoted efficiency and enhanced communication for the radiation oncology staff and multidisciplinary management team. From our encrypted desktop and laptop computer we are now able to check our patient treatment images, contour planning volumes, type our patient notes and communicate with members of our department and cancer management team. We can even remotely participate in peer-review chart rounds or teaching sessions through video conferencing and web-based capabilities. The majority of my important ASTRO, and other national society or National Cancer Institute cooperative research group meetings, are also now conducted through digital technology.

*Continued on next page*

Can an "old school" Tweetless radiation oncologist, who received an A+ on all of her penmanship assignments in the seventies, embrace this new technology-driven digital world? Well, I have been able to master the hospital electronic medical record, and the radiation oncology treatment planning and delivery software and sometimes enjoy the 10 hours of weekly Web-based meetings. Yet, with the 50 emails I receive per hour on my hospital account and the additional time it now takes for electronic planning and overall documentation, I just don't have the energy for Facebook, Twitter, LinkedIn or any other form of social media.

However, social media, with its wide variety of online and mobile resources, is now becoming a mainstay in oncology. For radiation oncology professionals, social media may be used for employment networking, education and information sharing, public health messaging and engagement with patients for clinical care or clinical trial activities. For example, Matt Katz, MD, aka @subatomicdoc on Twitter, has created a Twitter-based radiation oncology journal club (for more information, please see page 19). I must ask Dr. Katz if his journal club also offers American Board of Radiology Maintenance of Certification self-assessment CME credits. Perhaps what I find most interesting is that not only are radiation physicians embracing social media, so are our more Internet-savvy patients. Patients and their families are always searching for more treatment options, and social media is becoming much more utilized as a source. I was fascinated to learn that the Association of Residents in Radiation Oncology (ARRO) recently streamlined their website (as ASTRO has done)—read more on pages 23 to 27—and are also developing a "PubMed Commons Project," where summaries of the most seminal articles and breakthrough research findings will be created and posted for both physicians and patients.

Yet one of the most powerful potentials of social media is as a tool for clinical research. Strategies to more efficiently inform and educate the public about clinical trials have been associated with improvements in trial accrual. Collecting real-time patient-reported outcome (PRO) data on a smart phone app could also enhance our compliance with longitudinal PRO studies. This is exactly what Dr. Trister is hypothesizing in his study, "Share the Journey: Mind, Body and Wellness after Breast Cancer," (see page 19). He is using an iPhone app to gather treatment-related acute and late side effects from patients with breast cancer.

While navigating this new digital and social media radiation oncology network might be challenging to Twitter naïve album lovers such as myself, this is the future of our profession, and as such, we must all embrace it. Yet, we must also be very mindful about responsibly using these digital tools. The protection of physicians, their institutions and patients is critical. Social media users must at all times preserve patient privacy laws, respect their institution's social media policies and maintain separation between personal and professional media accounts.

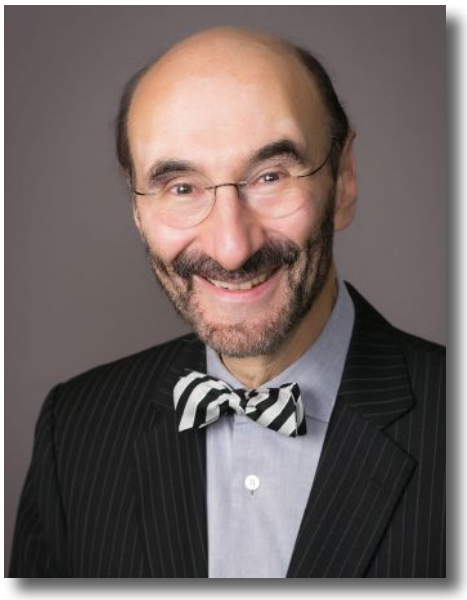
*Dr. Kachnic is professor and chair of the Vanderbilt department of radiation oncology, Vanderbilt University Medical Center. She welcomes comments on her editorial, as well as suggestions for future* ASTROnews *topics, at astronews@astro.org.*






BY BRUCE D. MINSKY, MD, FASTRO

# CHAIR'S*update*



## DIGITAL REVOLUTION HAS FOSTERED IMPROVED COMMUNICATION, EFFICIENCY, TECHNOLOGICAL ADVANCES

IN THIS FIRST DIGITAL-ONLY EDITION OF *ASTRONEWS*, I'm excited to discuss the impact that technology and the digital era have had on radiation oncology. My own practice of medicine is substantially different than it was only a decade ago, reflecting the impact of technology. When I finished my residency over three decades ago, fluoroscopy simulators and wax pencils were state of the art. Although simulation and treatment planning were rapid and simple, they were two dimensional. Radiation oncology has evolved significantly. Our ability to manipulate images, design radiation fields and deliver highly conformal treatment was only a dream at that time.

The evolution to a digital platform has had a significant impact on the practice of radiation oncology. We now have the ability to obtain and review daily imaging. Our treatment planning systems and accelerators allow us to deliver treatments such as intensity-modulated radiation therapy (IMRT) and volumetric arc therapy (VMAT) with relative ease and increased efficiency. Thankfully, the participants in Integrating the Healthcare Enterprise-Radiation Oncology (IHE-RO) work to ensure that these systems are able to transfer data seamlessly. These advancements in efficient software and imaging, combined with technological advancements in treatment devices, have clearly enhanced the ability to deliver safe, accurate and effective radiation.

Digital technology has also improved the job satisfaction of the entire radiation oncology team. Our radiation therapists, dosimetrists, nurses and administrative assistants are able to easily communicate and share information, which ultimately provides better care for our patients. Digital records are not misplaced and can be rapidly accessed.

This technology also fosters research collaborations. Co-investigators in different centers and countries can communicate in real-time by desktop video. We can have conference calls with

*Continued on next page*

colleagues in Europe and Asia without leaving our offices. Global clinical trials can be developed and implemented. The same technology allows us to review challenging cases with our national and international colleagues so we can easily tap their expertise and perspective.

Lastly, these technologies have improved our ability to communicate with our patients. We can answer our patients' questions and concerns any time and from any location. Some would consider this a burden; however, I view this as a valuable and important component of our medical care. It enhances patient satisfaction, quality and safety. Our patients have embraced portals such as MyChart, which allows secure email communication as well as review of selected test results. Although a bit ahead of his time, Francis Bacon understood this in 1597 when he said *scientia potestas est,* which poorly translated from Latin means "knowledge is power."

At the same time, we have to be careful not to substitute electronic communication for personal communication. Digital and personal communications are complementary—not mutually exclusive. There is no substitute for personal interaction with our colleagues, staff and patients. Digital communication should be embraced, but not at the expense of our greatest gift—human interaction. As digital technology continues to evolve, radiation oncology will benefit. Future possibilities, which during my residency were only a dream, might include:

- **Large plan libraries:** Comparison of treatment plans to continuously improve our ability to design treatments.
- **Large outcome databases:** Identify variables to help predict patient outcomes.
- **More mobile communication:** Electronic medical records with improved graphical interfaces: for example, verbal commands rather than "point and click."
- **New treatment delivery technologies:** Selected examples include heavy ions and treatment machines that combine imaging and therapy.

Our field of radiation oncology is uniquely suited to the digital era. We continue to embrace it and incorporate it into our practice. I'm enthusiastically looking forward to seeing what future developments bring to radiation oncology.

*Dr. Minsky is professor of radiation oncology and holds the Frank T. McGraw Memorial Chair at the University of Texas MD Anderson Cancer Center in Houston. He welcomes comments on this column at astronews@astro.org.*


# Advocacy Day 2016

## May 23-24, 2016

### Washington Marriott at Metro Center Washington




**Join your colleagues at ASTRO's 13th Annual Advocacy Day to learn about the important legislative issues facing radiation oncology and advocate on behalf of our specialty! This year's meeting includes sessions involving bipartisan Hill staff, ASTRO leaders and others, with CME credits offered for three of the health care policy and advocacy training sessions.**

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1 AAPM Task Group 176, (2014). Dosimetric effects caused by couch tops and immobilization devices, Medical Physics, Vol. 41, No. 6.

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CIVCO MEDICAL SOLUTIONS
Radiation Oncology

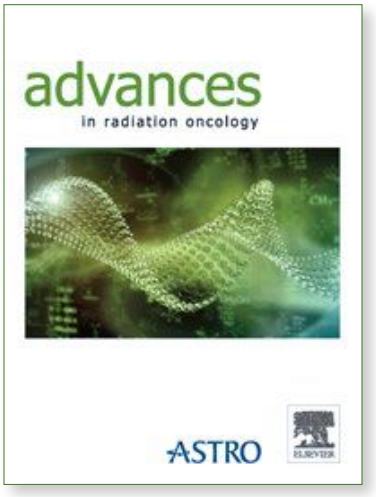
# Innovating Advances in radiation oncology

BY ROBERT C. MILLER, MD, MBA, FASTRO, EDITOR-IN-CHIEF

THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY (ASTRO) is, at its core, a society primed for innovation. It follows that in anticipating the needs of our diverse international community, ASTRO has launched its first entirely open-access journal, *Advances in Radiation Oncology*. Advances is a natural complement to ASTRO's established peer-reviewed journals—the *International Journal of Radiation Oncology • Biology • Physics* (Red Journal) and *Practical Radiation Oncology* (*PRO*).

Advances is an open-access journal, meaning after diligent peer-review and likely revisions, authors pay a fee ranging from $750 to $2,000 to publish their article. These articles will be free forever for readers to view and download rather than to subscribers who pay a fee to receive the content. Through this open-access model, complete access to content published in Advances is available to anyone with Internet access. We endeavor to broaden the scope of our audience by removing financial barriers to access. It will be particularly beneficial in nations where access has previously been limited, to patients and their loved ones looking for treatment information and for our multidisciplinary colleagues who may not read the subscription-based radiation oncology peer-reviewed literature.

Advances aims to round out the editorial scope of the Red Journal and *PRO*. The "Scope of ASTRO's Journals" diagram (Fig. 1) illustrates the relationship among the journals and the flow of content. In addition to teaching cases and prospective and retrospective clinical trials, Advances seeks forward-thinking scientific manuscripts that pose stimulating questions to fuel future research in radiation oncology. Manuscripts exploring practice transformation in radiation oncology secondary to effects of health care reform and changing demographics are encouraged. Reports of the use of informatics and analytics in radiation oncology practice and research are also well-suited for Advances.




We are working closely with *PRO* and the Red Journal to make submitting research as easy as possible. We have intentionally made our instructions to authors as similar to each other as possible to allow authors to quickly submit to the venue that best suits the research without a lot of reformatting. We have also enabled a cascade feature allowing editors of all three journals to recommend that a manuscript be passed along to another ASTRO journal seamlessly (only with author approval, of course).

This way, if the Red Journal receives a paper that the editors think is best suited for Advances, they can transfer it complete with reviews to us—thus saving the authors and the reviewers time. Likewise, if a paper comes to us addressing a quality and safety issue we think best belongs in *PRO*, we have the ability to transfer it. This transfer, however, is only done if the authors' consent.

While traditional print publishing has existed since the 1600s, open-access publishing is a relatively new platform. Where subscription-based scholarly publishing requires significant startup capital and a well-financed constituency of individuals and libraries willing to pay for content, open-access publishing has significantly fewer start-up costs, effectively allowing any interested party to launch a journal. Novelty breeds excitement and fear; as with any progressive approach, it is challenging to be compared to the traditional discourse. However, Advances, with the support of ASTRO, is proof of a specific need in the radiation oncology community that cannot be fulfilled through the conventional methods of publication.

Practice-changing scientific discoveries and clinical experiences will now reach a vast global audience.

The journal of the future continues to evolve, but we know for certain that readers want efficient and fluid access to content seamlessly connected through scientific and social networks. We are also seeing shifts away from older metrics like the Impact Factor, which aim to judge all the articles published within a journal, toward more article-level metrics like Altmetrics that look at the reach of a specific article. Integration of technologies will continue to change our definitions of commonplace objects, activities and actions. Advances is our preparation for that future by creating a journal devoted to the publication of cutting-edge science that will have the flexibility in format to remain responsive to changes over time. Your support is very much appreciated.

To volunteer as a reviewer, or if you have comments, we welcome them at advances@astro.org.

## Scope of ASTRO's Journals

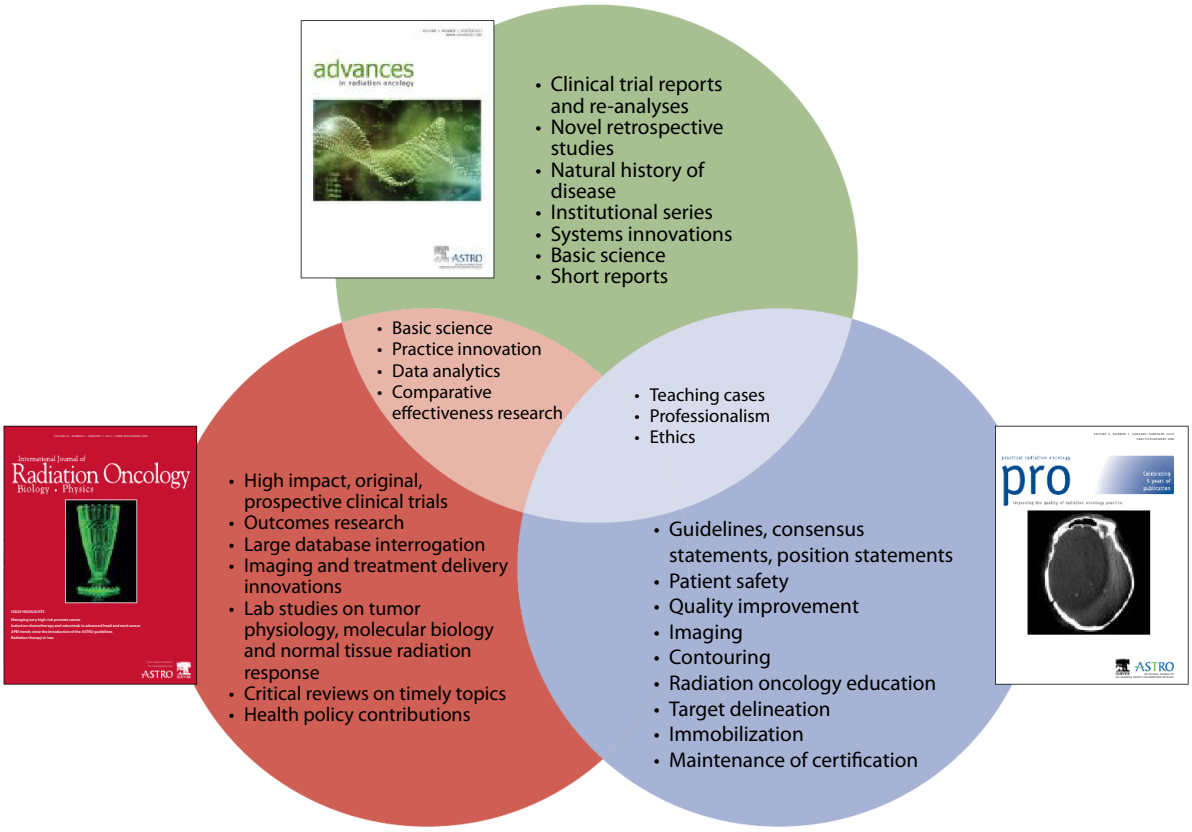



Figure 1

BY LUTHER W. BRADY, MD, FASTRO

SPECIAL*tribute*

# DONN G. MOSSER, MD, FASTRO: PHYSICIAN, ACADEMICIAN, SPORTSMAN

DONN G. MOSSER, MD, FASTRO, was a remarkable physician, a dedicated academician and a widely respected sportsman. He was an expert in skiing, fishing and golf. One of his greatest joys was to spend time at the lakes of Northern Minnesota with his grandchildren.

Dr. Mosser was born in Topeka, Kansas on January 17, 1921. He attended high school in that area where he was a star athlete and a superb student. In 1943, he married Alice Myra Harrington. The marriage lasted 50 years. Following Alice's passing, Dr. Mosser married Janet Hale Havard, who he was married to for 20 years, until his death. He was drafted into the U.S. Army after completing his degree at Kansas University in 1945.

He received the Summerfield Scholarship to Kansas University, graduating Phi Beta Kappa with a Master of Science degree in radiology from that institution in 1945.

He then went to medical school at Kansas University, receiving his MD degree in 1946. He graduated with Alpha Omega Alpha and was the top of his class.

He then accepted a rotating internship at the University of Illinois at Chicago. Subsequently, upon completion of that internship, he served in the Public Health Service in Galveston, Texas and Seattle. In 1949, he accepted a residency in radiology at the University of Minnesota, where he became very interested in radiation oncology. The staff in radiation oncology, which was then a section of the department of radiology, was chaired by Wilhelm Stenstrom, PhD. Dr. Mosser was certified by The American Board of Radiology in 1952 and did a one-year fellowship in 1954 in Europe at radiation oncology centers in England, Sweden, Paris and Copenhagen. On his return to the University of Minnesota, he was made the first chief of radiation oncology in 1956,



a position which he occupied until 1964. At that point he became the radiation oncologist at Abbott Northwestern Hospital in Minneapolis, where he served until 1989.

Upon his retirement from Northwestern Hospital, he worked for locum tenens for several years in many of the states in the U.S.

Dr. Mosser had a fantastic career in radiation oncology, being one of the founding members of The American Club of Therapeutic Radiologists in 1955.

His accomplishments were recognized by the American Society for Radiation Oncology in 2008 at the Annual Meeting in Boston on the occasion of the 50th anniversary of the Society, where he was made a Fellow.

Dr. Mosser died on December 16, 2015 at the age of 94 in Portola Valley, California. His career was




**ABOVE:** The organizational meeting of the American Club of Therapeutic Radiologists at Barney's Market Club in 1955. ***Left to right:*** Simeon Cantril, Bryan Redd, C.J. Ryan, Robert Robbins, Milford Schultz, Manuel Garcia, Juan del Regato, Dale Trout, Milton Friedman, Donn G. Mosser and Gilbert H. Fletcher.

unique in spanning the era of major and significant developments in radiation oncology at all levels, from academic to community hospitals.

It is also important to remember that he was a part of the team that met at Stone House in 1955. The National Cancer Institute sought data for clinical research programs in radiation oncology. At that meeting were Professors Juan del Regado, Harry Garland and Robert Stone, along with distinguished members of the radiation oncology community. The decision at that meeting was for major investigations in radiation oncology. At that point, Dr. del Regado went to the National Cancer Advisory Board and was able to initiate clinical programs for research in radiation oncology.

Dr. Mosser had major and significant influence on the subsequent development in radiation oncology consonant with the recommendations from the meeting at Stone House.

He is well remembered by all of his associates in Minneapolis at the University of Minnesota and at Northwestern Hospital.

*Dr. Brady is an affiliate faculty member in the Department of Radiation Oncology at Drexel University College of Medicine, Philadelphia.*

# *ASTROnews* designer leaves many creative designs behind



BY ERIN L. BOYLE, COMMUNICATIONS MANAGER

KIMBERLY KERIN, THE DESIGN AND PRODUCTION MANAGER AT ASTRO, passed away unexpectedly on February 20, 2016. Among her many responsibilities, Kim was the graphic designer of *ASTROnews* for eight years. She designed the cover and internal layout for each *ASTROnews* edition.

"As design and production manager, Kim developed a consistent brand for ASTRO, including her creative work on *ASTROnews*," said Laura I. Thevenot, ASTRO CEO and publisher of *ASTROnews*. "With each issue, she showed her graphic design prowess and true talent. She took pride in her work on the publication, and she was able to depict the essence of each issue in a creative graphic rendering."

Kim joined ASTRO in June 2007 from the Audubon Education Centers, where she was a designer. Other positions of note in her career were art director of children's publications at the National Wildlife Federation; art director at the American Council of Education; and art director of *Association Management* magazine at the American Society for Association Executives.

She began her work as graphic design manager of *ASTROnews* in the July-September 2007 edition. Soon after she took over the role, she redesigned the look of the publication to its current design.

Her last *ASTROnews* edition was Winter 2015. She was excited about seeing *ASTROnews* transition to digital, and was involved in all parts of the process, including the redesign of the pages from three columns to two for the new digital platform.

"Kim was a talented designer and was always thinking about how to make *ASTROnews* design not only stand out, but also easy to read," said Anna Arnone, vice president of Member Relations and Communications at ASTRO and editorial director of *ASTROnews*. "In addition to her work on *ASTROnews*, Kim was the creative mind behind the look of our Annual Meetings, as well as so many other ASTRO projects, I cannot begin to list them all. I will miss her enthusiasm and creativity."

## *In Memoriam*

ASTRO has learned that the following members have passed away. Our thoughts go out to their family and friends.

**Michael R. Manning, MD**
**Mitchell K. Karten, MD**
**John M. James, MD**
**Jean Pouliot, PhD**

The Radiation Oncology Institute (ROI) graciously accepts gifts in memory of or in tribute to individuals. For more information, call 1-800-962-7876 or visit www.roinstitute.org.



# FOUR COMPANIES ELECTED
## to ASTRO's Corporate Advisory Council

ASTRO'S CORPORATE MEMBERSHIP HAS ELECTED the following companies to serve on the 2016 Corporate Advisory Council: Augmenix and RAD Technology Medical Systems are newly elected, and Revenue Cycle and Elekta have been re-elected for new terms.

Through a synergistic relationship between ASTRO and its corporate members, the Council focuses on issues and initiatives of mutual concern in radiation oncology to increase awareness of radiation therapy and advance the science and practice of cancer treatment and patient care. Together with ASTRO leadership, the Council convenes several times a year via conference call and holds an in-person meeting at ASTRO's Annual Meeting. Discussion topics range from CPT codes and reimbursement activity to the Sunshine Act. Patient safety, MOC and interoperability (IHE-RO) are other important topics.

The Council is a representative group of the corporate membership-at-large, with an appropriate proportional mix from the corporate membership base. Seats on the Council are held by high-level decision makers within the corporations and are equally balanced between large and small corporations to represent a broad cross section of the industry.

All corporate members can nominate their company to serve on the Council. Nominations are accepted every fall, with elections conducted during the winter. For more information about the Council and/or Corporate Membership, please contact Joanne DiCesare at joanne.dicesare@astro.org or 703-839-7398.

| COMPANY | REPRESENTATIVE | TERM EXPIRES |
|---|---|---|
| CIVCO | Nat Geissel | 2016 |
| D3 Radiation Oncology Solutions | Ron Lalonde, PhD | 2016 |
| Vantage Oncology | Michael Fiore | 2016 |
| Sun Nuclear | Jeff Simon | 2016 |
| Standard Imaging, Inc. | Raymond Riddle | 2017 |
| Accuray | Kelly Londy | 2017 |
| Varian Medical Systems | Kolleen Kennedy | 2017 |
| ViewRay, Inc. | Chris Raanes | 2017 |
| Augmenix | Ken Knudson | 2018 |
| Elekta | James Hoey | 2018 |
| RAD Technology Medical Systems | John Lefkus | 2018 |
| Revenue Cycle | Ron DiGiaimo | 2018 |



# MULTIDISCIPLINARY THORACIC CANCERS SYMPOSIUM

## BRINGING PRECISION MEDICINE TO THORACIC CANCER CARE

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"This two-and-a-half day meeting features interactive tumor boards and educational sessions covering new multidisciplinary therapies, new targeted therapies, immunotherapy, supportive care, treatment and screening guidelines."

# THORACIC CANCERS SYMPOSIUM

## to highlight new and practical approaches in multidisciplinary treatment

BY ZHONGXING LIAO, MD

THE 2017 MULTIDISCIPLINARY THORACIC CANCERS SYMPOSIUM will take place March 16-18, 2017 at the San Francisco Marriott Marquis. Co-sponsored by ASTRO, the American Society of Clinical Oncology (ASCO) and the Society of Thoracic Surgeons (STS), this practical and clinically relevant meeting will focus on "Bringing Precision Medicine to Thoracic Cancer Care."

With the advent of targeted therapies, immunotherapy, next generation sequencing and advanced radiation and surgical techniques, oncologists are armed with an unprecedented arsenal of treatment approaches for thoracic malignancies. With advances being reported almost daily, it is increasingly challenging for the clinician to be conversant on the optimal incorporation of these advances into daily practice. Additionally, although these newer approaches demonstrate significant promise, toxicities and adverse interactions are present. This meeting will highlight the relevant strengths and limitations of integration of these cutting-edge approaches into the therapeutic paradigm for thoracic malignancies.

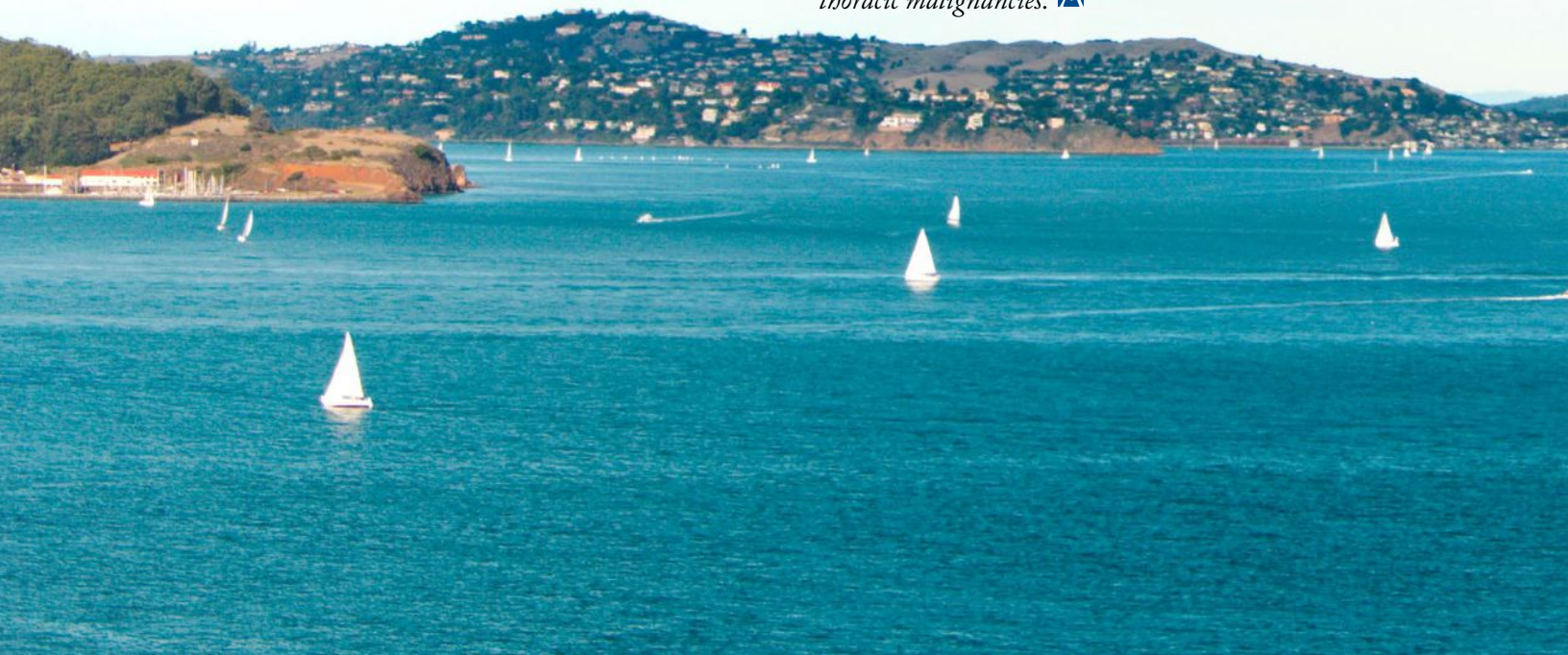
This two-and-a-half day meeting features interactive tumor boards and educational sessions covering new multidisciplinary therapies, new targeted therapies, immunotherapy, supportive care, treatment and screening guidelines. Oral abstract sessions will showcase the most current, evidence-based practices and cutting-edge science in the field.

The multidisciplinary format of the Symposium fosters the continued collaboration of surgical, medical and radiation oncologists to provide the best cancer care for patients. The program is designed for all members of the care team, including medical oncologists, radiation oncologists, surgeons, pulmonologists, diagnostic radiologists, pathologists, physicists and nurses. Symposium attendees are encouraged to take advantage of the opportunity to network and share information with their colleagues in the field, as well as earn continuing education credits.

After participating in the meeting, attendees will be able to discuss the relevance of the precision medicine initiative for clinical practice in thoracic malignancies; explain appropriate integration of targeted and immunotherapy in the daily clinical management of thoracic malignancies; and explain application and limitations of advanced treatment techniques. Practicing physicians will take away how they can apply personalized therapy, and patient selection will also be covered.

The abstract submission site will be open July 6 through October 5, 2016. Registration and housing for the 2017 Multidisciplinary Thoracic Cancers Symposium will open in mid-July. Visit www.thoracicsymposium.org for more information.

*Dr. Liao is a radiation oncologist at the University of Texas MD Anderson Cancer Center, specializing in thoracic malignancies.*



FEATURE



# DIGITAL TECHNOLOGY

## Enhancing the doctor/patient relationship in new ways in radiation oncology

BY BENJAMIN L. KING, MD

DIGITAL TECHNOLOGY HAS TRANSFORMED THE WAY THAT PEOPLE INTERACT in all areas of life, from ordering takeout, to getting a ride to dinner, to wishing someone happy birthday. Medicine, and radiation oncology too, has undergone a metamorphosis over the past 10 years in a similar way. Gone are frustrating searches for lost paper charts, wax pencil port films and scrawling on-treatment-visit notes in clinic rooms. Quantum leaps in computing power have birthed the so-called era of "big data," which promises new perspectives and data analysis to improve patient outcomes.

Some may be wary of new technologies, recalling their first, frustrating interactions with electronic medical records (EMR), and may have concerns that technology will erode the doctor/patient relationship by the sterile distance it can introduce. However, properly refined and implemented technology is inventing new venues to interact longitudinally with our patients, which can profoundly enhance that relationship.

Ideally, our role as doctors is to give scientific, biologic and medical interpretation of data in the context of the patient. The data and analytics may be changing into something new, but knowing the patient and counselling them still remains the heart of the doctor/patient interaction.

Whether or not we embrace it openly and gladly, technology is reshaping radiation oncology, and it behooves us to adapt and utilize its power. As vice-chair of ASTRO's Communications Committee, I'm excited to see *ASTROnews* entering the digital foray itself, and to talk with two colleagues for their perspective on technology's impact on radiation oncology for this inaugural *ASTROnews* digital-only edition.

Andrew Trister, MD, PhD, is an affiliate instructor, department of radiation medicine at Oregon Health and Science University, as well as senior physician at Sage Bionetworks in Seattle, a not-for-profit medical research organization. Dr. Trister is working hard to move our field forward with his research, which lies at the intersection of technology and radiation oncology. Matthew Katz, MD, aka @subatomicdoc on Twitter, has accrued more than 12,000 followers and leads our field in the social media space. His pioneering Twitter-based #radonc journal club and informative tweets increase visibility for radiation oncology to patients, physicians and the public at large. Dr. Katz, who was chair of the Communications Committee from 2010-2012, got me interested in the committee after he gave a talk on social media at a past Annual Meeting.

## ENHANCEMENT OF PRACTICE

As treatment outcomes have improved for many diseases, emphasis is shifting to not only survival but also to patients' quality-of-life in survivorship. Decisions made at the beginning of treatment can impact patients' health years after remission. Long-term follow-up data for patients is often lacking, but digital measurement tools may offer an inviting solution.

Data can be pulled from the devices that so many people have with them at all times, like mobile phones and wearable technology (e.g., the Fitbit, Apple Watch). Information from these devices could enrich patients' quality-of-life post-treatment if we learn what data to collect and how to use it.

"These tools allow access," Dr. Trister said. "It's not yet a dialogue, it's much more data collection. But what we're dealing with right now is this deluge of data that people talk about in general happening in health that is completely under the radar."

He's been working on a study called "Share the Journey: Mind, Body and Wellness After Breast Cancer," which is gathering data from breast cancer patients in full remission through an iPhone app to determine the short- and long-term effects of chemotherapy and radiation. The app measures five symptoms: fatigue, mood and cognitive changes, sleep disturbances and reduction in exercise.

The technology lets patients track their own health subjectively and their use of the phone objectively. This method is useful in symptoms that can't be tested pathologically, Dr. Trister said. There was no test, for instance, that showed that chemotherapy caused chemo brain or fogginess following treatment, but a majority of breast cancer patients have reported this symptom. Now with this app,

*Continued on next page*

## SAFETY IN THE DIGITAL REALM



Remember that everything we do online has staying power—whether it's through our social media posts, sharing of documents or use of technology. Here are Dr. Katz's tips on staying safe in the digital realm:

**#1 Social media policy:** Dr. Katz recommends that physicians check the social media policies of their state medical societies, to learn what policies are in place for where they practice. He recently assisted in the revision of the Massachusetts Medical Society's guidelines. The American Medical Association, Federation of State Medical Boards, as well as government branches, including the Centers for Disease Control and Prevention, all have social media policy guidelines. "Social media have the potential to be powerful in a negative or a positive way," Dr. Katz said.

**#2 Why you should get involved:** "Radiation oncologists are vastly underrepresented in the public domain, and everyone is talking about what we do except us. We are at risk of being forgotten as surgical and medical oncologists share the value of their specialties online and explain how they care for patients. So I think it's something that we are obligated to explain to patients, not just in the office but in a public way about what radiation can do for cancer care."

**#3 His wish list for new technologies:** "My wish is that we can empower radiation oncologists to better critically assess and use technologies to improve cancer care. Our tools are only as good as we are. That's all that technology is—a tool. Let's find new ways to learn from each other and to share best practices."

"here's an example of something that people point to that is actually functional, it's not something that if you give them a standard quantitative measure, it shows up," Dr. Trister said.

The app asks patients "how are you feeling today?" which they answer subjectively, and then objectively monitors their typing correction.

"Sitting on the phone is this vast amount of data," he said.

That data can then be collected with the hypothesis that the functioning component is related to what a patient has described as happening, whether in breast cancer or other disease sites. Thus far, the study has interesting results from the thousands of women taking part.

"It turns out it's very highly correlated," Dr. Trister said. "People know themselves, and these quantitative measures open the door for clinicians to see how people are functioning."

## ACCESS TO CARE

Digital technology can enhance patient access to care in new and exciting ways as well. Patients can find support groups, fellow survivors and research studies to take part in, all online. The Internet has opened the world up to cancer patients, and it can be an empowering part of their experience. However, we as physicians should be cautious about these new forms of communication, because they are often not vetted or science-based.

"But we have to own it, and recognize that our patients are using these devices," Dr. Trister said. "We should be participating. We as a field should take that on. ASTRO has done a really nice job of producing patient videos [answering questions like] what is radiation? Why do I need this treatment? That kind of patient material is useful as patients are navigating through treatment decision-making, and these tools enrich the patient interaction because they come into the office already educated."

Dr. Trister said that the medical community could embrace technology for direct communication with their physicians as a form of patient support too. He's been part of a pilot of a tool that allows head and neck cancer patients to report daily symptoms of pain and other side effects to their physicians through an app, with an endpoint to reduce hospitalizations.

"We see this as a powerful adjunct to the daily therapy visits and weekly physician visit for those patients on treatment," Dr. Trister said. "For those patients who need extra support, apps, secured email and social media could offer another way for patients to reach out to their health professionals." These types of interactions raise new concerns about how the information is incorporated into the medical record and how the time is reimbursed, and that's currently what he and other investigators are examining.

## PATIENT/PHYSICIAN TEAM

As physicians, we need to be aware of how patients are using and viewing technology, and help them use digital offerings to enhance and enrich their treatment at diagnosis and beyond. Dr. Katz pointed out that patients will look at the Internet and discuss health care in social media, whether we want them to or not.

"Radiation oncologists can choose not to participate and everyone will decide what to do for us," he said. "I think we're obligated because that's where people are, and that's where people discuss things in a public setting that are not specific to individual patients, but can help educate the public and our colleagues about all the important things that we do."

One way to foster good patient relationships and digital technology is to acknowledge that the doctor/patient relationship continues to evolve, with the two forming a team. Dr. Trister said patients' use of the Internet can assist them in understanding their diagnosis and treatment options when "curated" by their doctors.

In this way, digital technology can be a form of precision medicine unto itself, educating patients with specific, precise knowledge about their illness. Working together as a treatment team with the patient and other health care professionals can enhance the digital experience.

"You can't replace the doctor/patient relationship, but it is important to work with our colleagues in other fields to figure out, how do you couch all this information and make it digestible for patients, not so they become the expert for their illness, but so that they can make a decision with you, and that's where technology is particularly useful," Dr. Trister said.

*Dr. King is a radiation oncologist at the Brigham and Women's Hospital and clinical instructor in radiation oncology, Harvard Medical School, Boston.*

# ASTRO Corporate Input

## ➢ WHAT IS YOUR COMPANY DOING TO ENHANCE DIGITAL SECURITY? ➣

IN THIS FIRST DIGITAL-ONLY *ASTRONEWS* EDITION with the theme "Going Digital," *ASTROnews* asked ASTRO Corporate Ambassadors and Corporate Advisory Council members for their input on digital security. They were asked the same question: **"What is your company doing to enhance digital security in the radiation oncology space?"** ASTRO was pleased to receive four responses. ASTRO does not endorse these companies, their products or the content published here. The responses have been listed in the order in which they were received:

"**IBA** is a pioneer in the radiation oncology segment, and we are paving the way for proton therapy to become more accessible to patients worldwide. IBA was one of the first players to enter the digital transformation of the radiation oncology industry through the unique myQA® global quality assurance platform. This unique platform, developed by IBA Dosimetry researchers, allows customers full control of treatment safety, critical patient and machine QA data through a Central Database and the Cloud.

One of IBA's highest priorities is safety to patients and operators. Many companies have become increasingly vulnerable to cyberattacks, and it remains crucial for IBA to secure and protect its radiotherapy equipment. IBA actively participates in the establishment of standards of communications between elements of radiotherapy treatments such as IHE-RO and DICOM RT Ion with an emphasis on the digital security exchanged information."
***–IBA***

"We at **RaySearch** constantly work with risk and threat modelling, both during development of specific features in our products and in analyzing how the products fit in the bigger picture. In that work, we have identified the key security risks for customers and patients. As far as possible, we mitigate these risks through a security aware product design.

The current version of our Treatment Planning System, RayStation 5*, supports strong encryption of all electronic protected health information (ePHI) at rest in the database as well as during network transfers. Also, all ePHI access through RayStation 5 is always authenticated and logged to enable access control and auditing."
***–Henrik Friberger, director of development at RaySearch Laboratories AB***

**Pending regulatory approval in some markets*

"**Elekta** takes a comprehensive approach to ensure the security of patient information:

- Technical safeguards. Elekta uses numerous technical safeguards such as encryption and role-based security to ensure only authorized users can access or edit patient information.
- Elekta Cloud Solution customers benefit from Elekta's long experience with security. Our data centers are certified to meet the highest standards of security, reliability and redundancy. Within this secure environment, intrusion prevention algorithms continuously run against all systems, monitoring thresholds, identifying suspicious patterns and blocking unauthorized users.

*Continued on next page*

- Strong internal processes. Elekta trains its employees using ISO 27001 data management standards. Development work only uses de-identified data to minimize risk. Employees can only access identifiable data in encrypted, logged environments.
- Customer training. Elekta teaches its customers how to take a comprehensive approach to securing patient information, including establishing user roles, deploying firewalls and implementing perimeter security. Elekta has worked with many customers to identify and neutralize potential security threats.

Elekta customers can rest assured that their data is secure today, and will be even more secure tomorrow."
*–Jack Challis, PhD, director, BLM Cancer Care Solutions, Elekta*

"Vast amounts of sensitive patient information reside today in the modern healthcare provider network, and these are increasingly targeted by 'bad actors' such as hackers and other criminals who exploit vulnerabilities in these networks. Consequently, cyber security has become a top priority for **Varian**.

To combat this burgeoning threat, Varian convened a summit of information technology (IT) leaders from clinical sites to talk about cybersecurity in the oncology department. It became clear that closer vendor-provider collaboration was needed. As a result, Varian launched a cyber-security program involving tight collaboration with our customers and outside security experts.

Some examples from the program include a two-week assessment of our products by a customer's own ethical hacking team, identification of areas for improvement in how Varian systems are installed and supported and alignment of our security focus with our approach for patient safety. As a result, major security-oriented improvements are being engineered into each element of our product portfolio. We anticipate rolling out the first of these at the ASTRO Annual Meeting this year. Some of the security enhancements will be evident to clinicians, while others may only impact customer IT or be altogether transparent."
*– Ken Khouri, Varian director software support and managed services*

# ADDITIONAL
## ASTRO digital offerings

ASTRO has other digital offerings for members in addition to www.ASTRO.org:

- **ROhub**, for members to meet and discuss topics pertaining to the field
- **RTAnswers**, a site for cancer patients, their families and caregivers to learn more about radiation therapy as a potential treatment for their cancer
- **ASTRO Blog**, which brings information from ASTRO leadership to members

ASTRO is also on social media, on Facebook, Twitter and YouTube. Follow ASTRO on these sites to learn more about the Society.




# ASTRO unveils www.ASTRO.org redesign

## Redesign of the website enhances search functions, mobile responsive design

HAVE YOU BEEN ON THE ASTRO WEBSITE RECENTLY and noticed a change?

That's because www.ASTRO.org is newly redesigned, based on members' feedback and research. The site launched in spring 2016.

The website has a clean look that is easy to navigate, with a robust search function, allowing users to access ASTRO's varied offerings on every page. It also has mobile responsive design functions. Whether accessing www.ASTRO.org from your desktop or mobile device, the site will automatically adjust to the platform it is viewed on.

"This new design was implemented to give our members the best possible user experience," Laura I. Thevenot, ASTRO CEO, said. "We wanted to ensure they could view the site from any device, as well as have the best search function options possible. We're excited about this redesign, and we think that members will benefit from its features."

The website has enhanced filtering to help users locate ASTRO's many offerings, from educational resources, including Online SA-CMEs, webinars and Journal SA-CME, to information on ASTRO's Annual Meeting and specialty meetings. Certifications, guidelines and tools that ASTRO offers for patient education should be easy to find with the redesign. Advocacy efforts will also be featured as part of the Society's ongoing commitment in that area.

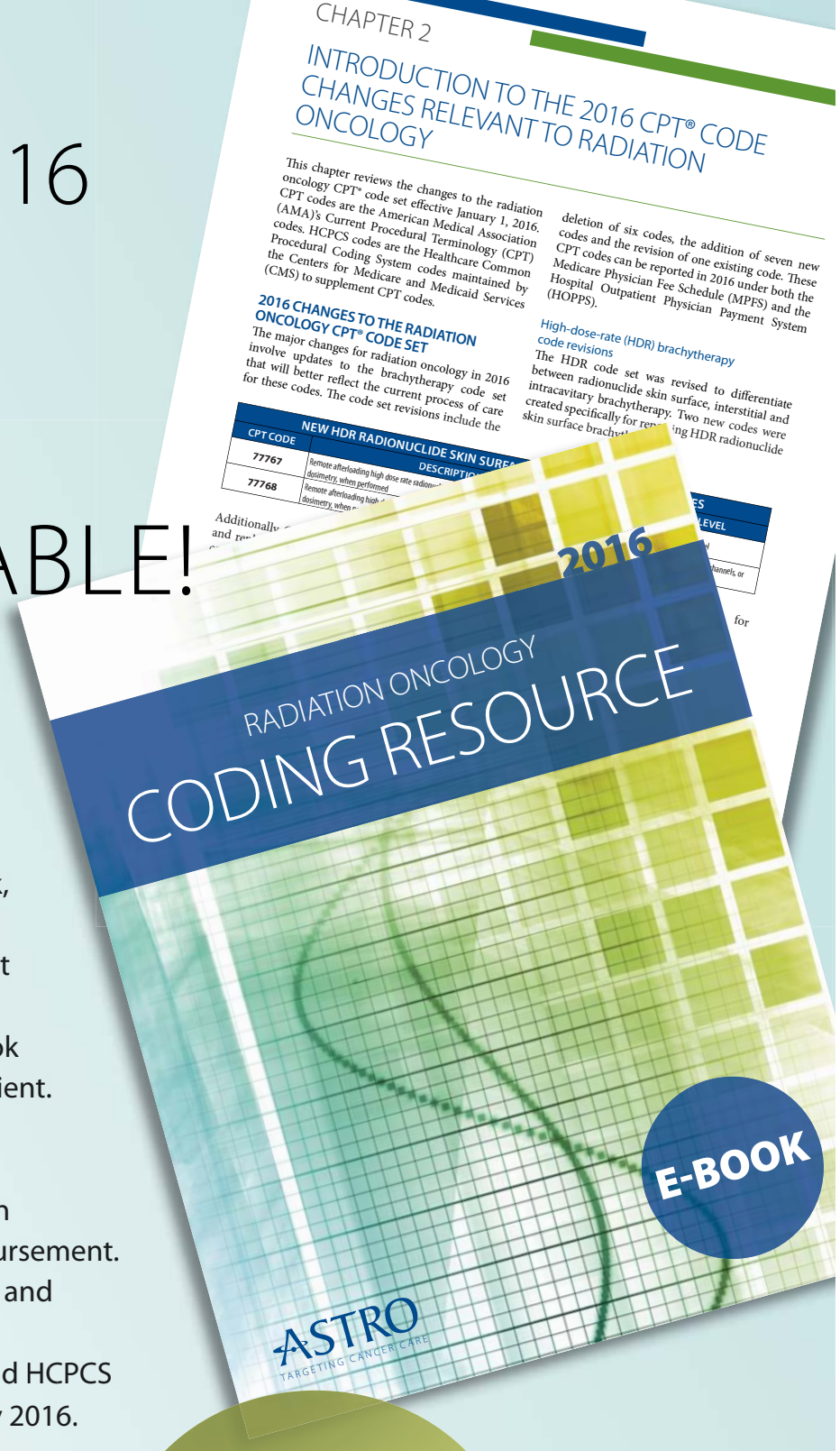
"The ASTRO Communications Committee has been very actively involved from discovery through implementation to ensure the redesigned www.ASTRO.org site reflects member needs," said H. Joseph Barthold, MD, Chair of the ASTRO Communications Committee. "It's been a team effort by everyone involved to enhance the site for our members."

The site's robust search will allow members quick and easy access with the new faceted search option, available in certain areas of the site, including the product catalogue and education area. This search option feature is used by sites such as Amazon, where visitors can dig deep to find the exact product or information that they need. Another new feature is in the shopping cart—users will see related items appear when placing items in the cart, so they will now have access to ASTRO offerings related to what they are already purchasing.

For this latest website redesign starting in November 2014, Hodgson Consulting assisted ASTRO staff in the process, bringing their expertise and knowledge from their base in Kensington, Maryland. An initial discovery process looked at key ASTRO initiatives, aligning them with members' needs. That was followed by a study of analytics, examining what people were searching for on the site.

The redesign will allow for the website to change as the field of radiation oncology rapidly changes. Website changes will no longer be a revolution, but instead an evolution, as the site grows to suit the members' and Society's needs.

# New ASTRO 2016 *Radiation Oncology Coding Resource* NOW AVAILABLE!




**The *ASTRO 2016 Radiation Oncology Coding Resource* is an essential coding reference for every radiation oncology practice – and it's now offered in three versions:**

- Hard copy, spiral-bound printed book, for easy reference.
- Digital *e*Reader – updated throughout the year as coding changes occur.
- Bundle package of both the print book and the *e*Reader – timely and convenient.

***The ASTRO 2016 Coding Resource:***

- Assists physicians and billing offices in submitting accurate claims for reimbursement.
- Contains the most up-to-date coding and reimbursement changes.
- Includes guidance on all new CPT® and HCPCS codes that went into effect in January 2016.

**Please note that each *e*Reader subscription is valid for a single user, and it cannot be downloaded or printed. Internet access is required.**

**Special discounted pricing for ASTRO members. Bulk orders are available.**

**ORDER NOW! www.astro.org/codingresource**

ASTRO
TARGETING CANCER CARE

# ASTRO*news* goes digital

BY ERIN L. BOYLE, COMMUNICATIONS MANAGER

AS YOU CAN SEE FROM THIS EDITION'S NEW DIGITAL "FLIPBOOK" FORMAT, *ASTROnews*, the Society's quarterly magazine, has gone digital-only for the Spring, Summer and Winter 2016 editions. The Annual Meeting Guide, coming out in the fall, will be both print and digital.

All ASTRO members will receive this digital edition. It will be distributed through an electronic table of contents (eTOC) email news blast.

When you receive future news blast emails from ASTRO, please open the email and click on the small picture of the front cover of the issue, or any story in the eTOC that interests you, which will take you to the whole edition or that specific story, respectively. After you've finished reading each story, just click on the left- or right-hand side of the digital flipbook and read the rest of the edition.

As usual, the announcement about the newly published *ASTROnews* edition will also appear in the ASTROgram on the week that *ASTROnews* is distributed via the eTOC email news blast to the ASTRO membership. The new digital platform will offer readers:

- **Rich media.** *ASTROnews* will now provide an enriched, multimedia experience. Potential ideas for the publication include videos, podcasts and slideshows.
- **Hyperlinks.** You will now see hyperlinked words and phrases throughout each article in blue underlined font. When you click on a link, it will take you to the website it is hyperlinked to, so you can read more about it.
- **Enhanced ads.** Ads will now have the ability to link directly to the products that they're advertising. Click on the ad and go straight to the site with information about the product being sold.

The flipbook platform that ASTRO has selected for *ASTROnews* has many features, including the option to view the flipbook as a "spread" (two pages) or as a single page. To see the flipbook full screen, click on the full screen icon on the bottom viewer,




which you can access by hovering your mouse on the bottom of the flipbook.

Within the publication, navigate through the pages by clicking on the triangle arrow on both sides, or by using the sliding bar on the bottom of the page. The sliding bar can be located beside the full screen icon, by hovering on the bottom of the flipbook and then clicking on the arrow/box icon.

Click on the header of each story to pop up the "reader view," which has three adjustable font sizes. Once in the reader view, click on the small box with lines and it will expand across the screen.

*ASTROnews* is now mobile-optimized, so the flipbook is easily readable on your cellphone or tablet, formatting itself automatically to whatever screen you are reading it on.

ASTRO and *ASTROnews* are excited for the possibilities with this new digital flipbook platform, and as you read through this first digital-only edition, we hope you are, too.

# ARRO

BY LEAH M. KATZ, MD, MPH

## WHY 'GOING DIGITAL' IS ONLY NATURAL

IT IS NOT NEWS THAT THE DIGITAL AGE IS UPON US, and the Association of Residents in Radiation Oncology (ARRO), being comprised of millennials, is enthusiastically on board. Today's residents grew up in the digital age. We were in high school when email became the norm, and few of us entered medical school and/or residency without a Facebook or Twitter account. Today's residents interact with each other and potential employers via online means, and most importantly, are pioneering programs through which technology enhances both the patient experience and the patient/doctor relationship, which is a new priority.

ARRO is optimizing our digital presence to afford residents around the world the opportunity to interact in innovative ways. While radiation oncology is inherently a close knit and small world, ARRO knows that by fostering digital connectedness, we will strengthen our relationships with each other, and thus our field as a whole.

And now with the ASTRO Web redesign, ARRO's Web presence has been streamlined to help residents access the information they need with ease.

ARRO's direct communication with the resident community has been enhanced through Facebook and Twitter efforts over the past several years. The ARRO Facebook group includes every resident with a Facebook account, and has proven a terrific way to communicate about upcoming events, meetings, grants and abstract deadlines, as well as human interest issues relevant to the resident community. With the average resident checking Facebook and/or Twitter at least once a day (OK, more than once a day), the ARRO pages on these platforms are the most efficient communication tool we have.

Beyond ARRO's increasing Web presence, there are various websites and apps that have permeated medicine, and indeed, radiation oncology. Twitter itself has become a contemporary platform for physician discussion and formal journal clubs. Radiation Nation has started a monthly Twitter journal club chat where articles are shared, with open comment leading up to a live chat hour on a Sunday every month[1].

Using Twitter to remodel a classic practice, such as journal club, is a prime example of the digital world blending standard practices with the future of physician communication. Shifting a journal club online not only boosts audience variety, but also adds to the quality of the discussion and builds physician relationships that outlive the Twitter interaction itself.

Online forums continue to revolutionize the way we as radiation oncologists interact with each other in the context of sharing academic and clinical ideas. TheMednet.org has become a popular forum reconciling the lag time between formal practice guidelines and new literature/trial results. It is a

"While radiation oncology is inherently a close knit and small world, ARRO knows that by fostering digital connectedness, we will **strengthen our relationships** with each other, and thus our field as a whole."




real-time venue that allows members to ask experts about the current best practices, including the specific and technical details imperative to excellent patient care. Not only is theMednet.org a tangible way to garner information, but it also inspires physician collaboration that wouldn't have otherwise transpired.

In addition to physicians going digital, it is the national experience that patients too are joining in. Patients have been using forums such as PubMed to gather sound information, and avoid the Internet "noise" that we so often warn them about. In an effort to render radiation oncology articles on PubMed more digestible to the patient and non-radiation oncologist physician, ARRO has started a "PubMed Commons Project." The project will focus on seminal papers chosen by academic advisers for specific sites, with the curation of summaries for both patients and the medical community to be posted on the PubMed commons infrastructure. We hope it will become another way for residents and attendings nationwide to interact. Optimistically, the project will have a meaningful impact on improving the patient/medical professional experience with our field.

Lastly, LinkedIn, Doximity and ASTRO's Career Center allow for increased connectedness. Particularly for those looking for jobs or research opportunities, LinkedIn is a professional Facebook of sorts. It bridges employers with job seekers, and allows for a younger generation to reach out to those with valuable real-world experience, an opportunity that was hard to come by in the past.

Many argue that our new digital world decreases personal connection, but for radiation oncology, it allows for novel and meaningful interactions that surpass formal introductions. ARRO looks forward to continuing to be a part of this exciting time. Helping to form a strong resident community only fortifies our field, and allows us to be better physicians.

*Dr. Katz is a fourth-year resident at NYU Langone Medical Center, and ARRO Executive Committee member.*

## Reference

[1] Radiation Nation, Collaborative Conversations in Radiation Oncology. http://radonc.radiationnation.com/radonc-journal-club-on-twitter. Availability verified, March 31, 2016.

BY EMILY CONNELLY, MA,
ROI GOVERNANCE AND RESEARCH ADMINISTRATOR

# A TOOLBOX AT YOUR FINGERTIPS

## ROI set to provide iPhone and iPad users with a radiation oncology app later this year

**THE RADIATION ONCOLOGY INSTITUTE (ROI) HAS SUPPORTED THE DEVELOPMENT OF THE RADONC TOOLBOX**, an app for iPhones and iPads. This app recommends evidence-based interventions for managing and preventing eight of the most common radiation-related toxicities: oral mucositis, dermatitis, xerostomia, nausea/vomiting, esophagitis, pain, diarrhea and proctitis.

The app will include additional clinical tools such as summaries of dose-volume histogram constraints for various treatment sites, a dose conversion calculator, a reference for prescribing commonly used medications, toxicity scales and performance status scales. Its goal is to provide practitioners with an easy-to-use digital resource at their fingertips.

The RadOnc ToolBox app was developed in response to a 2013 ROI request for proposals to identify the most effective strategies for managing acute and late radiation toxicity, and to produce a tool for practitioners.

The ROI initially awarded Malolan S. Rajagopalan, MD, MBA, a radiation oncologist practicing in Columbus, Ohio, the grant over one year for his project "RadOnc ToolBox: Website and Mobile App to Revolutionize Symptom Management," which supported the development of the application and website framework for the first two toxicities, oral mucositis and dermatitis.







Malolan S. Rajagopalan, MD, MBA, shows others how to use the new RadOnc ToolBox app.

After a promising beta test, ROI has continued to fund the development of the RadOnc Toolbox, including an expansion to six additional symptom pathways. Users will have a wealth of information about each of the symptoms and management strategies based on guidelines published by the Multinational Association of Supportive Care in Cancer (MASCC) literally at their fingertips.

"I passionately believe in the ability for electronic, dynamic and instantly accessible media such as smartphone apps to equip clinicians with the highest quality evidence to make evidence-based decisions to improve patient care," Dr. Rajagopalan said.

The ROI was excited to share a preview of this digital resource with attendees at the ASTRO 57th Annual Meeting in San Antonio, and looks forward to making it available to practitioners later this year in the Apple App Store on their Apple devices.

For the latest information on RadOnc Tool Box, visit www.roinstitute.org.

# APEx

BY SAMANTHA DAWES, CMD,
ASSISTANT DIRECTOR OF
QUALITY IMPROVEMENT

## THE APEx® WEB PORTAL OFFERS ONE-STOP ONLINE LOCATION FOR PROGRAM PARTICIPATION



IN 2014, ASTRO LAUNCHED THE ASTRO ACCREDITATION PROGRAM FOR EXCELLENCE (APEx®) with a completely Web-based process. The interactive Web portal contains the APEx application, self-assessment, feedback reports, surveyor portal, accreditation resources and document repository. These resources provide all of the necessary accreditation information and documentation in one online location. The online portal allows facilities to progress through the APEx distinctive program structure at their own pace, providing objective evaluation and standardized processes.

There are five phases in the accreditation process, each contained in the APEx Web portal:

### PHASE 1: APPLICATION

The entire application process is done via the APEx Web-based application tool. The submitted application includes detailed information about equipment, programs and personnel. Legal agreements and payment can also be submitted electronically as part of the application process.

### PHASE 2: SELF-ASSESSMENT

The self-assessment is a preliminary process in which the applicant assesses readiness for the facility visit. APEx was created to support quality improvement in radiation therapy practices, and the self-assessment focus and goals are self-reflection and continuous quality improvement. It consists of three sections including medical record review, document uploads and interview preparation. Emphasizing the team approach, the Web portal allows multiple users to enter data and access information. A key feature of the APEx program is that it allows for incremental saving. This means data entry can be partially entered and saved, removing the need to complete all in one sitting.

Each section is designed to collect data that demonstrate compliance to the standards and are submitted independently via the Web portal. Compliance scoring of each section is built into the program and provided in the feedback reports. The facility will have access to detailed feedback reports that identify the extent to which the facility meets the requirements with each of the APEx evaluation criteria and may indicate deficiencies that must be addressed in order to progress to the facility visit.

The APEx self-assessment has a Physician Quality Improvement (PQI) template designed for a group of two or more participants from an application. This template is based on the American Board of Radiology's four-part Plan-Do-Study-Act (PDSA) process for continuous quality improvement. Participants will link two PDSA cycles together to create an action-oriented improvement plan that assesses the effects of their quality improvement strategy.

### PHASE 3: FACILITY VISIT PREPARATION

The dates and preparation of the facility visit are done online via the Web portal. Tasks drive the process within the APEx program, and emails alert key personnel to required steps for completion. In this way, facilities are able to select their preferred dates, and the system matches these with compatible surveyors. Once confirmed, ASTRO staff will initiate a teleconference with facilities to confirm arrangements, verify details and manage expectations for the visit.

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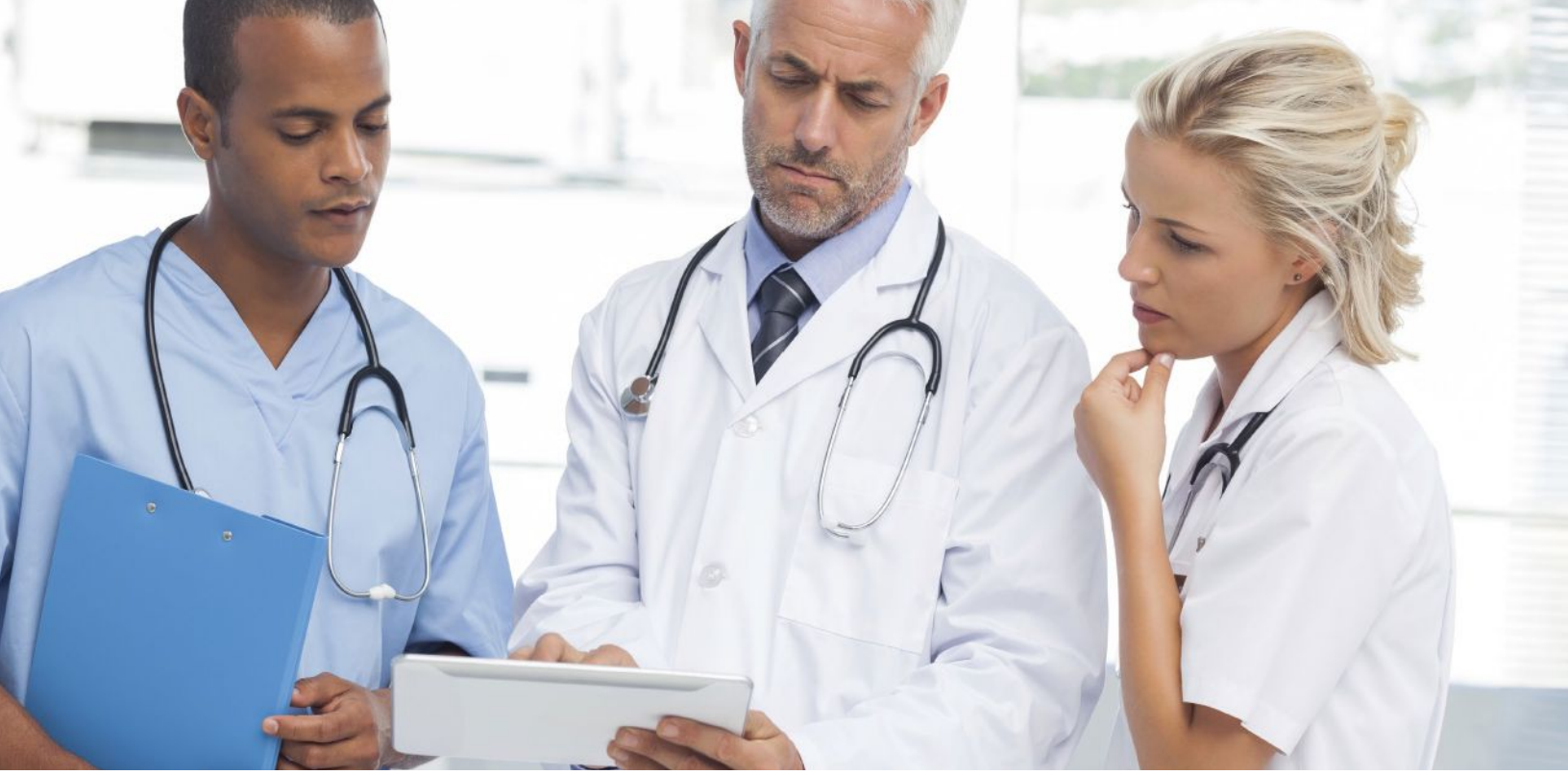

## PHASE 4: THE FACILITY VISIT

Prior to the facility visit, the selected surveyors will have access to the facility's file, including the application information and the documents uploaded as part of the self-assessment. At the facility visit, objective data will be collected through documented evidence, policies and procedures, interviews with key staff and a review of medical records. Surveyors conduct the facility visit using the web-based tool and are expected to have computer skills sufficient to allow them to collect and input data. All requirements and questions are built into the program, so that each facility undergoes the exact same assessment. The program was designed so that surveyors can only input data on the day of the scheduled visit, and all information must be completed at that time. The surveyor portal was designed to allow for an objective assessment of the facility in real time, removing the influence of individual judgments and opinions from the process.

## PHASE 5: DETERMINATION

Data collection results will be summarized and generated electronically after the completion of the facility visit. The report is anonymized within the system, and then a blinded review is conducted by the Practice Accreditation Committee, an independent, multidisciplinary committee.

## SURVEYORS

The APEx surveyor process is completely online. Applications to be a surveyor are submitted via the ASTRO website. Once accepted, all prospective APEx surveyors are required to complete a rigorous orientation, consisting of 20 online modules that cover the APEx competency-based standards and a customized HIPAA module. All of the courses include a series of short knowledge checks and content assessment.

Once completed, surveyors submit their availability for facility visits via the ASTRO website. With both the facility and surveyors entering their dates of availability online, the program automatically selects optimal dates for a facility visit that combine the best compatibility with the potential surveyor pool.

## IN CONCLUSION

The APEx program utilizes the digital age to offer a comprehensive accreditation program that is robust and measurable. Electronic access allows facilities to drive their own application and allows for assessment in a transparent and objective fashion.

Facilities that obtain practice accreditation through APEx will have the systems, personnel, policies and procedures to provide high quality, safe patient care. ASTRO looks forward to working with all members of the radiation oncology community as we work toward this common goal.

# IHE-RO

BY SCOTT W. HADLEY, PHD, MARY FENG, MD, CHRIS PAUER, JOHN BUATTI, MD, AND BRIDGET KOONTZ, MD, MP

## IHE-RO AND THE DIGITAL AGE

### WHAT IS IHE-RO?

IHE, Integrating Healthcare Enterprise, is an international collaborative effort that aims to improve compatibility across all segments of health care technologies. The ultimate goal is to improve patient care and reduce medical errors by improving interoperability and eliminating incompatibilities of medical technologies.

The Integrating Healthcare Enterprise-Radiation Oncology (IHE-RO) is the radiation oncology domain and is sponsored by ASTRO with the aim of improving functionality of the radiation oncology clinic. If you have clinical interoperability issues, please report them to ihero@astro.org.

IHE-RO is composed of members from the radiation oncology team, administrators and industry representatives, who work together to improve the safety and efficacy of radiation oncology clinics. IHE-RO offers vendors the ability to work directly with clinicians to advance safe care for patients.

The IHE-RO committee members work to identify clinical issues and develop IHE integration profiles, which specify how industry standards are to be used to address specific clinical problems and ambiguities. IHE-RO then works with radiation oncology industry representatives to apply integration compatible updates in the products and test inter-vendor compatibility during a "Connectathon."

### IHE-RO CLINICAL IMPACT STATEMENTS

IHE-RO creates profiles that describe detailed solutions to integration problems. A profile documents how standards will be used by each different machine system to address individual problems. The Clinical Impact Statement for each profile explains the issue, the rationale behind the creation of the profile and the anticipated clinical impact.

All clinical impact statements have been written and reviewed by a multidisciplinary panel of physicians, physicists and vendors for a deep review of the clinical subject. IHE-RO has currently published 19 clinical impact statements, which can be viewed on the ASTRO website.

### TWO KEY IHE-RO PROFILE UPDATES

As there is currently no consistent and comprehensive approach to exchange treatment prescriptions between radiation oncology systems, the IHE-RO domain started working on the "Prescription in Radiation Oncology" (RXRO) integration profile to overcome this issue. This profile will provide a mechanism for the exchange of prescription and intent information between two radiation oncology systems to reduce both mundane reentry of prescription data and the possibility of inadvertent changes. In addition, a consistent means of entering and displaying prescription information will reduce the possibility of misinterpretation.

The RXRO profile requires the use of second generation Digital Imaging and Communications in Medicine (DICOM) objects to support its interactions. At the moment, the following five initial use cases are defined:

- Transfer of Treatment Intention
- Transfer Simple Prescription
- Transfer Intermediate Prescription
- Transfer Detailed Prescription
- Segment Definition and Treatment Linkage

Additional information can be found at: Clinical Impact Statement, Profiles and RXRO.

### DISCRETE POSITIONING AND DELIVERY WORKFLOW (DPDW)

Currently, radiation therapy treatment sessions performed at a delivery device can be complex. Necessary information includes not just the actual delivery of treatment, but also other procedures, such as patient positioning, patient position monitoring and even real-time tracking of the tumor or its surrogates.

In many cases, there is no single vendor providing a solution for each of these very specialized disciplines, so for one patient treatment, multiple

*Continued on next page*

vendor products may be involved. For example, the treatment delivery system comes from vendor A, the patient positioning (or table top) system comes from vendor B and the registration system comes from vendor C. To allow a seamless integration of these components, the Discrete Positioning and Delivery Workflow (DPWD) profile was introduced.

The profile specifies the workflow to transfer the procedures scheduled for a particular treatment session from the Treatment Management System (TMS) to the performing delivery device(s). Furthermore, it specifies how the treatment session is controlled by the so-called Treatment Session Manager (TSM) actor and how the procedures are distributed from the TSM to the actual performing device(s).

The DPDW profile makes use of the "Unified Worklist and Procedure Step" as defined in the DICOM standard and the DICOM Supplement 160 "Patient Positioning and Workflow." Supplement 160 is available in draft version only and is being worked out in close collaboration with the DPDW profile and second generation DICOM RT.

In the current version of the profile, most of the scenarios have been worked out. The DPDW subgroup is examining the details of the transactions. To bring the profile forward more rapidly and efficiently, the group met face-to-face in June 2015, concurrent with the DICOM WG6 meeting. Additional information can be found at: Clinical Impact Statement. For the latest version of the profile, visit this site.

## CONCLUSION

Significant effort is being put into improving the compatibility of radiation oncology technology, with the cooperation of radiation oncologists, physicists and industry representatives. IHE-RO provides a unique collaboration, where all can interact to improve the clinical care of the patient.

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MD Anderson at Cooper is a partnership between Cooper University Health Care and The University of Texas MD Anderson Cancer Center. This partnership was formed in September 2013 and brings together southern New Jersey's leading cancer program and the nation's leading cancer center - establishing a fully integrated, comprehensive center treating all types of cancers for patients in New Jersey, Pennsylvania, Delaware and beyond.

The Department of Radiation Oncology administrative offices are located in the newly-opened cancer center located on the Cooper Health Sciences Campus in Camden, NJ. The facility houses multidisciplinary clinical space for hematology/medical oncology, radiation oncology, surgical oncology and gynecologic oncology programs and services. The division also provides outpatient services at our large multidisciplinary, suburban satellite center in Voorhees, NJ and at two additional locations in South Jersey.

Cooper University Health Care is based in Camden, NJ. Cooper University Hospital is the premier, tertiary-care, teaching hospital in the region. Cooper welcomed the charter class of Cooper Medical School of Rowan University in 2012, the only four-year allopathic medical school in South Jersey.

Cooper has a fully employed physician model with 450 physicians in all major medical specialties and sub-specialties. Graduate and undergraduate education are key elements of the system with students from The Cooper Medical School of Rowan University (CMSRU), and approximately 300 trainees in residencies and fellowships across the spectrum of specialties. The Division of Radiation Oncology is actively involved in the educational elements of the Internal Medicine residency program and in the medical school curriculum of CMSRU. An academic title with the Medical School will be proposed, as will an adjunct academic title with MD Anderson Cancer Center.

Applicants must be certified by the American Board of Radiology, have significant clinical experience in a cancer center with experience managing clinical operations in Radiation Oncology. Salary and academic title/s will be commensurate with experience, previous training and academic status.

Interested applicants should submit a letter describing qualifications, attached CV and a list of three references to: Francis R. Spitz, M.D., FACS, Chair, Radiation Oncology Department Chair Search Committee Spitz-Francis@cooperhealth.edu or to Fran Lee, Exec Asst. Lee-Frances@cooperhealth.edu

BY BRIDGET KOONTZ, MD, AND JENNIFER DE LOS SANTOS, MD

# PRESENT AND FUTURE SCIENCE OF SURVIVORSHIP CARE PLANNING



Bridget Koontz, MD

WITH AN AGING POPULATION AND IMPROVED TREATMENT STRATEGIES, the number of patients surviving cancer has increased dramatically. The American Cancer Society predicts that there will be 19 million cancer survivors living in the U.S. by 2024. More than a decade ago, the Institute of Medicine cited shortfalls in care provided to cancer survivors and noted that a lack of evidence constituting best practice in caring for survivors had resulted in wide variation in care practices. Among their recommendations included educating patients and primary care providers about cancer surveillance, intervention for the sequelae of previous cancer treatment and promotion of general health and wellness, including access to psychosocial support. Recent data shows that cancer survivors continue to feel a lack of knowledge and care coordination regarding the transition into follow-up care.

A survivorship care plan (SCP) is a document containing both treatment information and a roadmap detailing late effects, risks and surveillance recommendations for the purpose of educating and improving communication among survivors, cancer specialists and primary care providers. We and our colleagues created a SCP that we published in *Practical Radiation Oncology* this year. Despite broad endorsement from both patients and providers, there has been slow uptake in the use of SCPs by radiation oncologists.[1] Major barriers to implementation include lack of resources, difficulty coordinating care plans among multiple oncologic providers and unclear benefit. Four randomized trials performed to date evaluating SCPs have failed to show a significant impact on patient-reported satisfaction, symptoms and anxiety.[2,3,4,5]

However, these studies have garnered criticism based on their early testing prior to SCP refinement coupled with methodological problems that may have precluded identification of benefit.

Despite these data, the evidence is not solely negative. One national survey indicated that primary care providers (PCPs) receiving SCPs described better oncology care coordination and confidence in handling cancer survivorship issues.[6] Another study found that the process of developing an SCP program facilitates multi-specialty communication resulting in coordinated follow-up visits and streamlined clinics.[7] Several studies report high rates of positive lifestyle changes after SCP receipt.[8,9] Despite negative primary endpoint outcomes, two of the randomized studies noted positive change associated with SCP use: less health worry[5] and more contact with their PCPs[2] in those randomized to SCPs. Given the inconsistencies in existing data regarding SCP benefit, oncology practices face the challenge of reconciling the clear patient and societal directive for an SCP while awaiting developing evidence. The complexity of SCPs has resulted in significant variation in the elements comprising the SCP, how and when it is delivered,

*Continued on next page*

and by whom. Ongoing research is aimed at evaluating these nuances. However, one issue that has not been evaluated is who should be receiving the SCP. SCPs are driven by patients and non-oncology providers requesting more information for self-use. Studies have shown that what patients and PCPs want are very different,[10] so it is unlikely that a single document will effectively serve both recipients. Additionally, only 20 percent to 30 percent of cancer survivors describe concerns with anxiety or informational unmet need,[11,12] so it may be that SCPs are beneficial in relieving anxiety to only a percentage of cancer survivors. SCPs may play a greater role in the transition out of the oncologist office, but that transition is made reluctantly by both patients and doctors. More research is needed to understand how SCPs can be truly useful as a resource for patients and a roadmap for transition into primary care.

The multitude of issues that face cancer survivors following treatment is likely to rise in frequency as more patients survive longer after therapy. Radiation oncologists have long recognized the permanent late effects that result from radiation, and while the majority of radiation oncologists do not deliver a SCP, many practices incorporate or refer patients for supportive services both during and following treatment, including referrals for social work, nutrition, counseling, physical therapy, lymphedema and wound management.

The unique long-term sequelae of radiation require the radiation oncologist to remain an active participant in this care, and shared care approaches with other specialists may emerge as one optimal model to address the diverse and changing landscape of cancer survivor care.

*Dr. Koontz is associate professor, department of radiation oncology, Duke Cancer Institute, Durham, North Carolina.*

*Dr. De Los Santos is professor, department of radiation oncology, University of Alabama at Birmingham, Birmingham, Alabama.*



Jennifer De Los Santos, MD

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# *From the* ABR

BY PAUL E. WALLNER, DO, FASTRO, AND DONNA E. BRECKENRIDGE, MA

## CONNECTIVITY UPGRADES FOR IMPROVED CANDIDATE, DIPLOMATE AND PUBLIC SERVICES

THE AMERICAN BOARD OF RADIOLOGY (ABR) ROUTINELY SEEKS WAYS TO IMPROVE COMMUNICATION with candidates and diplomates, and to create interfaces designed to make information-gathering and data submission and distribution more timely and efficient. In addition to primary Board stakeholders (candidates and diplomates), access for the public and others seeking information about the Board and its constituents is critical.

The ABR website has been designed for improved public and professional access. You might want to click the link and follow along as we describe the various sections of the website and the information available.

Perhaps the two most obvious and significant improvements for candidates and diplomates can be found on the topmost blue menu bar. The upper left "Contact Us" link directs the user to a form that can be filled out and submitted to the ABR; this generates an automatic email to the appropriate department. Using the phone numbers, fax numbers or email address in the light gray box on the "Contact Us" page will take users to the new ABR call center, known as "ABR Connections."

Implemented in 2014, ABR Connections is staffed by individuals trained to answer questions, or to direct the inquiry to an ABR staff member who has the answer. Callers do not need to go through a button-pushing menu to speak to a "real live person" who is both knowledgeable and friendly! They can simply call 520-790-2900 or 520-519-2152, or email information@theabr.org. This email address should be used if you need to include an attachment.

The upper right "myABR" tab will give candidates and diplomates direct access to their own ABR data. Access to this information requires registration with a user name (the individual's ABR ID number) and password. Once registration has been established, candidates and diplomates can check the status of initial certification (IC) and maintenance of certification (MOC) documentation and make account payments. They can also update their contact information, which is very important to ensure that they are receiving email announcements from the ABR. Candidates and diplomates should also occasionally check their junk mail or spam boxes to ensure important messages from the ABR aren't being redirected.

Diplomates can also use myABR to attest to meeting their MOC requirements. A new "simplified attestation" process became available on myABR beginning Monday, January 4, 2016. With simplified attestation, diplomates need to log in to myABR and simply affirm that their requirements for each part of MOC have been met. This includes Part 1– professional standing (licensure); Part 2 – lifelong learning and self-assessment (CME and self-assessment CME); and Part 4 – practice quality improvement (PQI projects and/or the newly-accepted PQI activities—visit http://www.theabr.org/moc-part4-activities to learn more). Diplomates are not required to attest to Part 3 – cognitive expertise (the MOC exam) as the ABR already has records of those who have taken and passed the MOC exam. Also, entering and uploading detailed data is no longer necessary, but diplomates will need to retain this information so they can document that they have met MOC requirements in case of an audit.

Finally, the top blue bar is visible on all pages of the ABR site, unless a user opens a PDF file. Clicking on the small white house at the left on the top bar will take users back to the home page no matter where they are on the website.

Directly underneath the top menu bar, users will find four rotating photographs depicting the main specialties of ABR certification, including radiation oncology. By clicking on the blue text in the photo captions, users can access PDF files of the latest MOC brochures, or, for interventional radiology, a page of information about this new specialty. To the right of the rotating photographs, users (including the public) can check the board certification status of ABR diplomates by filling in the information in the

gold box and clicking on the search button. The blue Google search box underneath is also very useful for finding specific information on the ABR website. On the bottom half of the home page are three blocks of information that will link users to the latest ABR news, information for the general public and information for professionals. The "Latest News" block provides direct access to important announcements, the latest edition of *The BEAM* (the ABR newsletter) and the most recent ABR *Annual Report*. Users are also given an opportunity to sign up for ABR newsletters (*The BEAM* and the *Volunteer Bulletin*) by clicking the blue tab at the top of this section. At the bottom, clicking the "More News" button takes the user to an archive of past issues of *The BEAM*, the *Annual Report*, ABR press releases and videos. The "General Public" block provides access to background information about the ABR, the American Board of Medical Specialties (ABMS), a history of the board movement and board certification and information about radiology specialties and subspecialties.

The "Professionals" tab at the right, providing links to information regarding initial certification and MOC program details, will be used most frequently by ABR diagnostic radiology, radiation oncology, interventional radiology and medical physics stakeholders. After users click on either the Initial Certification or Maintenance of Certification links, they find a list of ABR specialties and subspecialties on the right sidebar for the specific information they need. On the left of the inside pages, and on the home page, are links to pages with the "General Information" that is most requested by candidates and diplomates, as well as information on volunteering for the ABR and a sitemap.

The ABR is also using Web-based products such as SurveyMonkey to complete online candidate and diplomate surveys; Cvent for diagnostic radiology Core and Certifying exam registration; and Constant Contact for newsletter design and distribution. Other products used for volunteer interaction and collaboration include Doodle for group scheduling; Citrix OpenVoice and Cisco WebEx for conference call logistics; and ExamDeveloper for exam item development and review. In 2012, the ABR began using webinars to unite clinical category committees for training in exam item (question) creation and development.

The Board has not yet ventured into the realm of social media but does poll stakeholders regarding their preferred methods of communication. The use of social media sites is being considered for the future.


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# JOURNALS

## HIGHLIGHTS




### FROM THE *INTERNATIONAL JOURNAL OF RADIATION ONCOLOGY • BIOLOGY • PHYSICS*

**DECEMBER 1, 2015**

#### Physics: The Use of MRI in Radiation Therapy

*By Klein et al*

The Physics editorial team has turned its attention to the use of MRI in the brain, prostate and uterine cervix to improve predictability and assessment. When these applications are considered together with the use of MRI to improve radiation therapy delivery and provide real-time image guidance, it is clear that this imaging modality has become central to the modern practice of radiation oncology.

#### Phase II Trial of De-intensified Chemoradiation Therapy for Favorable-Risk HPV-associated Oropharyngeal Cancer

*By Chera et al*

This multicenter phase II study evaluated the efficacy of a de-intensified chemo-radiation regimen in favorable-risk, HPV-associated oropharyngeal squamous cell cancer. A very high pathologic complete response rate of 86 percent was observed, as well as early evidence of decreased toxicity compared with other standard regimens.

**JANUARY 1, 2016**

#### Preclinical Advances in Combined-Modality Cancer Immunotherapy with Radiation Therapy

*By Smith and Freeman*

This article highlights some of the recent preclinical research exploring the synergy between radiation therapy and immunotherapy in both local and systemic control of cancer. Each paper discusses increases in our mechanistic understanding and carries real clinical implications.

#### Radiation Therapy in the Philippines: A Challenge in Resourcefulness

*By Cañal and Limkin*

Our "Around the Globe" series reports this month from the Philippines, a nation with a population of 105 million but only 65 board-certified radiation oncologists. The authors describe how Filipino radiation oncologists and their patients manage access-to-care obstacles and also describe some ingenious, low-cost, practical solutions to the challenge of dealing with a high throughput of patients with limited equipment.

#### Fractionation of Palliative RT for Bone Metastases in Ontario: Do Practice Guidelines Guide Practice?

*By Ashworth et al*

A retrospective report from Ontario describes the fractionation of palliative radiation therapy for bone metastases, before and after the 2004 publication of a provincial guideline endorsing the use of single fractions for uncomplicated bone metastases.

**FEBRUARY 1, 2016**

#### A Time for Optimism? The State of Radiation Oncology in Iran

*By Kabolizadeh et al*

In this month's "Around the Globe" article, we look at medicine and cancer care in the Iranian Republic. The authors proudly trace Persian contributions to medical science back 2,500 years to Zoroastrian times. They chart the development of radiation therapy in 20th century Iran and the struggles they have faced over recent decades. The recent move to relax sanctions will have substantial implications for the radiation therapy community in Iran and the patients they serve.

#### The Multidisciplinary Approach Needs to Extend into Head and Neck Cancer Clinical Trials

*By Corry and Yom*

This "Oncology Scan" discusses two trials, which contain, arguably, the most important generalizable information in radiation therapy (RT) of recent years. These are RTOG 0129 and TROG 0202. Subset analyses of these trials clearly show that inferior RT delivered at low-accruing trial centers results in a substantial survival decrement for patients with advanced head and neck cancer. This is vivid evidence of what we instinctively know, which is that, as is the case for surgery, volume and experience also matter in RT.

*Continued on next page*

### Nodal Clearance Rate and Long-Term Efficacy of Individualized Sentinel Node-Based Pelvic IMRT for High-Risk Prostate Cancer

*By Müller et al*

The authors looked to exploit sentinel node (SN) studies to direct pelvic intensity modulated radiation therapy (IMRT) in prostate cancer. They assessed the efficacy of individually SN-guided pelvic IMRT in clinically node-negative prostate cancer patients with very high-risk features using the parameter "nodal clearance rate."

## MARCH 1, 2016

### Central Nervous System: Progress of Today and a Preview of Tomorrow

*By Shih*

In this issue's "Oncology Scan," CNS Senior Editor Helen Shih reviews two important and recent studies that exemplify the way clinicians and pathologists have brought together the novel pieces of molecular information on gliomas that have been uncovered recently.

### Phase I Trial of Sorafenib and Stereotactic Body Radiation Therapy for Hepatocellular Carcinoma

*By Brade et al*

This phase I study from Toronto tested the safety of the combination of neoadjuvant, concurrent and adjuvant sorafenib delivered with stereotactic body radiation therapy for hepatocellular carcinoma. Clinically significant toxicity was noted dependent on the irradiated volume and dose of sorafenib.

## HIGHLIGHTS FROM *PRACTICAL RADIATION ONCOLOGY*

## NOVEMBER-DECEMBER 2015

### Clinical and Cosmetic Outcomes in Patients Treated with High-dose-rate Electronic Brachytherapy for Nonmelanoma Skin Cancer

*By Paravati et al*

The authors retrospectively analyzed clinical and cosmetic outcomes in patients treated for nonmelanoma skin cancer (NMSC) with high-dose-rate (HDR) electronic brachytherapy (EBT) using surface applicators. The authors found that HDR EBT confers promising local control, minimal toxicity and excellent cosmesis during their institutional experience. It should be considered ideal for NMSC of the head and neck, particularly for basal cell carcinoma involving central facial locations where surgical cosmesis may be inferior.

### A Radiation Oncologist's Guide to Contouring the Lacrimal Gland

*By Freedman and Sidani*

The authors explain how to identify and contour the lacrimal gland on axial computed tomography (CT) images as would be done for radiation therapy planning.

## JANUARY-FEBRUARY 2016

### Evaluating the Quality, Clinical Relevance and Resident Perception of the Radiation Oncology In-training Examination: A National Survey

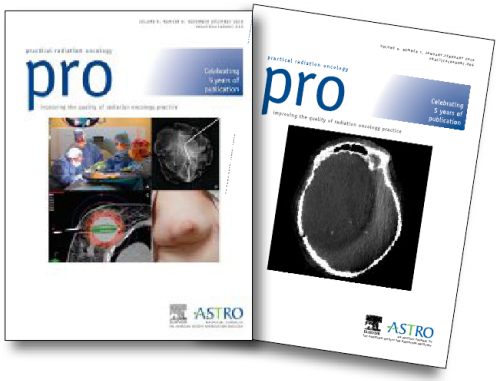
*By Kim et al*

The yearly radiation oncology in-training examination (ITE) by the American College of Radiology is a widely used, norm-referenced educational assessment, with high test reliability and psychometric performance. We distributed a national survey to evaluate the academic radiation oncology community's perception of the ITE. Despite high examination reliability and psychometric performance, resident and attending physicians report a need for improved quality assurance and clinical relevance in the ITE.

### It's Never Too Late: Smoking Cessation after Stereotactic Body Radiation Therapy for Non-small Cell Lung Carcinoma Improves Overall Survival

*By Roach et al*

As stereotactic body radiation therapy (SBRT) has emerged as a quick, effective and well-tolerated treatment for early stage non-small cell lung carcinoma (NSCLC), it can be difficult to convince patients to quit smoking in follow-up. Overall survival is significantly improved in patients who stop smoking after SBRT for early-stage NSCLC, no matter their previous smoking history.



# 2016 AMBASSADORS

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