Leaving his mark
Anthony Zietman, M.D.,
is new Red Journal editor.

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1 Communication from Khai Lai, Kreiton Oncology Services Shoreline, Washington - Dated March 8, 2001
3 Communication from J. Limmer, UW Cancer Center Wausau Hospital, Wausau, Wisconsin - Dated December 14, 2000
4 Jeff Limmer, Medical Physicist

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ASTRO's Advocacy Day is March 27-29, 2011. Check the ASTROgram and ASTRO homepage in the weeks after the meeting ends for a link to a special online only edition of ASTRONews covering radiation oncology's premiere advocacy event.
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CONTINUITY A HOMERUN FOR RED JOURNAL

In December 1958, the American Club of Therapeutic Radiologists was founded in Chicago under the leadership of Juan del Regato, M.D. Fifty-four members signed that original founders’ document, boldly seeking to differentiate themselves from the RSNA, the ACR and the ARRS.

By 1962, the membership had grown to 252 at which time the official name was changed to the American Society for Therapeutic Radiologists (ASTR). A decade later, the journal Cancer was chosen as its authorized periodical, but in 1975, the Society felt strongly about establishing its own journal and sponsored a new publication, the International Journal of Radiation Oncology•Biology•Physics (IJROBP).

In 1983, the expansive scope of the organization was recognized by another name change to the American Society for Therapeutic Radiology and Oncology, and in 1984, the “Red Journal”, as it quickly became known, was designated as the official publication of ASTRO.

Before the Red Journal actually made it to the drawing board, however, some decisions had to be made. Dr. Rubin and Luther Brady, M.D., FASTRO, met with the John Wiley publishing company in 1973 to discuss the need for a journal devoted to the specialty, as well as a textbook in radiation oncology.

As Dr. Brady tells it, “The decision as to who would do what was determined by the flipping of an Eisenhower dollar. Heads did the journal, tails did the book.” And thus did Dr. Rubin become the founding editor of the Red Journal and Dr. Brady and Carlos Perez, M.D., FASTRO, become the editors of the Principles and Practice of Radiation Oncology.

Dr. Rubin nurtured the new journal with a paternal instinct, establishing editorial guidelines to ensure quality and integrity in the selection of scientific studies for publication. The senior editor was none other Dr. Brady, with an Editorial Board that included such legendary figures such as Theodore Phillips, M.D., FASTRO, and Eric Hall, D.Sc., FASTRO. Advisory editors included Dr. del Regato, Henry Kaplan, M.D., and Vincent DeVita Jr., M.D.

Volume 1, number 1-2 appeared in October 1975 and was scheduled to be a monthly periodical. The price for members of the ASTR was a cool $40. The lead article in that inaugural edition was titled “Management of presumptive or proven Hodgkin’s disease of the liver: A new radiotherapy technique,” by Schultz, Glatstein and Kaplan.

The new journal was so successful that in 1984, the IJROBP supplanted Cancer as the singular official scientific journal of ASTRO. Dr. Rubin remained at the helm through 1996 when he retired from clinical practice.

The ensuing search for the next editor ended in Houston with the election of Dr. Cox as the new editor-in-chief. His first issue in November 1997 paid tribute to Dr. Rubin with a festschrift—a series of scholarly articles by his colleagues “in celebration of his professional contributions.”

Many of the preeminent radiation oncologists, physicists and biologists from around the world contributed to Volume 39, number 4, including an update on bladder cancer by Shipley et al, whose authors included a junior faculty member at Mass General by the name of Dr. Anthony Zietman.

(Continued on Page 6)
ON JANUARY 25, PRESIDENT OBAMA gave his State of the Union address and talked about the value of education as an investment in the future. That set me thinking about our own educational investment, our residents.

Who they are and how they are trained will determine who they become. In the short-term the health of our specialty can be influenced by payer policy decisions or by ASTRO’s strategy on Capitol Hill. In the long-term, however, it is the quality of our “seed corn” that will determine the strength and vibrancy of the specialty.

As an associate residency program director, I, like many of you, have noticed a progressive rise in the quality of applicants to our residency programs over the last six to eight years. I knew that radiation oncology was becoming popular as a specialty that offered real patient care, high-technology solutions, a rich research tradition and, let’s not forget, sociable hours and generous reimbursement.

I was not aware, however, just how popular. I felt that better candidates than ever had been applying to radiation oncology but did not have the ability to judge how good they were relative to other fields in medicine. Statistics published last year by the National Residency Match Program (NRMP) reveal the thrilling truth.

The NRMP reported the details of the 2009 match and told us about the class that will be entering our residency programs this summer. They published fascinating data on 20 different specialty residencies. Let’s look at some of the parameters they reported.

It is worth reminding ourselves that we are a small specialty with a class of only 159 selected in 2009. This makes us much closer in size to neurosurgery, ENT and plastics than to the mega-residencies of medicine, surgery, anesthesiology and radiology.

Our applicants did extremely well in terms of USMLE step 1 and 2 scores coming in a close third behind plastics and dermatology. Our median scores were 238 and 245, theirs 248/248 and 229/251, respectively.

Family medicine, physical medicine and psychiatry represent the “tail” with median scores around 205. Fifty-four percent of our residents attended one of the “Top 40” U.S. medical schools defined by National Institutes of Health (NIH) funding.

This put radiation oncology on top of the chart with plastics (52 percent), neurosurgery (50 percent) and dermatology (47 percent) following behind. Again, we were in the top four for proportion of residents who were Alpha Omega Alpha at 35 percent. Dermatology ranked first at 51 percent with the other “usual suspects,” plastics and neurosurgery, in between.

Striking as these numbers appear, perhaps the most compelling data comes when one looks at preresidency research experience. Radiation oncology residents had an average of eight abstracts, presentations and publications, second only to plastics. At the opposite end of the

(Continued on Page 6)
But also proudly announces the birth of a new quarterly publication, *Practical Radiation Oncology*, destined to be known simply as PRO.

This journal will focus more on the everyday management of cancer patients using the various radiotherapeutic modalities at our disposal and provide a forum for exploring treatment conundrums and exchanging information.

W. Robert Lee, M.D., a respected clinician, researcher and colleague from Duke University, will edit PRO. Like its predecessor, PRO is expected to eventually morph into a bimonthly or monthly publication and to serve as a pragmatic complement to the IJROBP. The first issue was mailed in late January.

Continuity. It’s worked for both the Dodgers and for the Red Journal, and even though the latter have had their problems of late, the proud tradition of ASTRO publications suggests nothing less than unqualified success. If the Red Journal is considered the MVP (Most Valuable Publication), then PRO should be a shoo-in for Rookie of the Year. Stay tuned.

“Be well. Do good work. Keep in Touch.” (Garrison Keillor)

Dr. Eichler is the medical director of radiation oncology at the Thomas Johns Cancer Hospital in Richmond, Va. He welcomes comments on his editorial at communications@astro.org.

(Continued from Page 4)

**EDITOR’S note**

Dr. Cox presided over a period that successfully ushered the Red Journal into the digital age with the advent of an electronic manuscript submission and review system that nearly doubled the number of submissions between 2004 and 2010. The impact factor (the average number of journal article citations in a particular year) jumped dramatically during Dr. Cox’s tenure, from 2.367 in 1996 to 4.592 in 2009, the last year for which such data is available.

And now, after 36 years, ASTRO not only celebrates the selection of Dr. Zietman as the new editor of the Red Journal but also proudly announces the birth of a new quarterly publication, *Practical Radiation Oncology*, destined to be known simply as PRO.

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**CHAIR’S update**

scale several residencies have a class with an average of less than two such experiences.

This may reflect the significant proportion of radiation oncology residents with higher degrees and the research opportunities they would have offered. Thirty two percent of our residents had higher degrees with 22 percent Ph.D.s and 10 percent master’s.

The only specialties to come close were pathology at 16 percent and 9 percent, neurosurgery at 12 percent and 14 percent, and dermatology at 11 percent and 10 percent, respectively. Many specialties have fewer than 2 percent Ph.D.s.

If the seed corn is of the highest quality, what of the ground into which it is planted? I believe our residency programs are better organized and offer better educational opportunities than ever before.

This comes, in part, in response to the ACGME strengthening the educational component of all residency programs, but it is also an inevitable consequence of radiation oncology programs competing for the superstar candidates.

It is also worth noting that a unique training opportunity was created 10 years ago by the American Board of Radiology for radiation oncology and diagnostic radiology residents and championed by, then trustee, Jay Harris, M.D., FASTRO.

It was a training track for the most academically and clinically gifted residents and named the Leonard Holman Pathway after the great Brigham radiologist of that name. This unique and selective program abbreviates the clinical training from 36 to 27 months and lengthens the research time from 12 to 21 months.

It allows graduating residents with a strong research inclination to undertake more lengthy and substantial projects and puts them in an excellent position to apply for major NIH grants early in their days on faculty.

To date nearly 100 residents have availed themselves of this opportunity, a staggering 80 percent of them coming from radiation oncology (and remember diagnostic radiology is eight times our size!). During this 10th anniversary year the outcome of the program is being evaluated with surveys of graduates and program directors.

Early numbers strongly suggest that the vast majority of graduates did exactly what was anticipated; they entered research careers, obtained major awards and are on their way to being future leaders in oncology.

What can we take from all this? I believe the data show that the strong intellectual appeal of radiation oncology together with its heavy emphasis on patient care and its relatively tolerable lifestyle have combined to make it the most attractive specialty in the United States for the smartest, most caring and most research-oriented medical students.

This augurs very well for our specialty as this generation will be more than capable of absorbing, even leading, the molecular revolution in oncology. Radiation oncology has always been a Cinderella specialty next to its bigger and more assertive sisters in surgery and medical oncology.

Its value has never been assumed, and since the days of del Regato, it has had to argue its case from evidence. If life is a long relay race, we are passing our torch on to the fastest and fittest generation of new residents in our history.

Dr. Zietman is a radiation oncologist at Massachusetts General Hospital in Boston. He welcomes comments on his editorial at communications@astro.org.
RADIATION ONCOLOGY: A STORY THAT NEEDS TO BE TOLD

THE ARTICLES ABOUT RADIATION SAFETY from The New York Times keep reminding me of something I learned my first year of residency: radiation oncology is one of the most opaque specialties in medicine. And it’s hurting our ability to help our patients.

During one of my first rotations at Memorial Sloan-Kettering Cancer Center, I spent time following a renowned medical oncologist around in clinic. One of his patients needed radiation therapy. “Just buzz him,” he said. Further discussion made it clear: he had no sense of how the radiation was done, and he had not seen a linear accelerator in two decades in oncology.

In the decade since that conversation, I’ve continually been impressed by the degree of fear and misinformation surrounding radiation oncology. As a volunteer with ASTRO, I’ve been fortunate to see some improvement related to public policy.

But given the number of challenges we currently face as a specialty, I believe we need to focus more effort on effectively communicating what we do. And I fear unless we dedicate ourselves to telling our stories, The New York Times and others will do it for us.

To some extent, radiation oncology is a victim of its own successes. Technical and scientific advances have been exciting and beneficial to our patients. Often, the overt emphasis in training is on technology, expertise and specialization. Interpersonal skills are valued but not often cultivated or taught. Unless we want to be technicians, we must use the humanistic aspects of our training more rigorously. Despite the rigor we instill into our work, ultimately medicine is a social science.

Doctor means teacher in Latin. Whether it’s your breast cancer patient afraid that radiation will make her lose her hair or the congressional aide who thinks you are a radiologist, you can share your knowledge and stories to help educate them.

Better communication can also help inform the nurses, therapists, dosimetrists, physicists, administrative assistants and other health professionals we depend upon so that we provide better, safer treatment. Communicating is a learned skill, so we need to work at it. But that’s why it’s called medical practice, after all.

If we hone our skills in storytelling and putting a human face on the field, radiation oncology will be better able to provide a clear, cogent narrative on many important issues:

• How radiation can cure and alleviate suffering.
• Our commitment to our patients.
• How we coordinate many health professionals to offer radiation treatment safely and effectively.
• Why self-referral threatens the quality and cost of cancer care.
• The need to invest in cancer research.

These issues are up at the top of my list, and I’m sure you have others to share. By sharing our stories, we can learn together more effective ways to educate and to demonstrate how valuable our work is on all levels: personal, professional and societal.

You can help improve how we communicate today. ASTRO is currently planning to update its brochures and the RT Answers website. We already have several ASTRO members helping on the Communications Committee, but you can give us advice. What works in your conversations with prostate cancer patients? What questions do you want to see in the brochure and on the website?

You can share other stories that you think will help ASTRO humanize the work we do. Keep it HIPAA compliant, but sharing what inspires or concerns you helps ASTRO understand how to better represent you and patients. What really matters to you? Share your stories about radiation oncology at communications@astro.org.

Dr. Katz is a radiation oncologist at Radiation Oncology Associates in Andover, Mass.
CANCER IMAGING SYMPOSIUM TO PROMOTE MULTIDISCIPLINARY LEARNING

ANTHONY ZIETMAN, M.D., SYMPOSIUM CO-CHAIRMAN

AS THE LARGE SPECIALTY SOCIETY annual meetings, such as ASTRO, American Society of Clinical Oncology (ASCO) and the Radiological Society of North America (RSNA), have now grown to enormous size, there is the risk that they become impersonal and that major research findings or key presentations can get swamped in the noise.

What is more, as cancer care becomes truly multidisciplinary, the specialty meetings don’t have sufficient balance to reflect this. As a result, the last eight years have seen the growth of smaller multidisciplinary site-specific cancer meetings.

In each case, one of the cancer societies takes the lead on organization but with co-sponsorship by the other relevant societies who have seats on the steering and program committees. All participants are together in the same room the entire time and there is no fragmentation like with the society annual meetings.

Everyone hears the same presentations at the same time, which is tremendous for discussion in the evenings and for esprit generally. The results have been wildly successful with the GI, GU and breast meetings drawing between 1,000 and 2,000 participants and the thoracic and head and neck meetings between 500 and 1,000. The major research findings are now frequently and preferably presented at these meetings first.

One clinical group has, however, always been underrepresented and never co-chaired a multidisciplinary cancer meeting—the diagnostic radiologists. When one considers their contribution to cancer care, regardless of site, it is clear that radiologists have much to learn from their colleagues in therapy about our specific needs and how we translate their findings into action.

Equally, we in radiation oncology have become more of an image-based specialty and have so much to learn from them. Our residents often complain about their lack of radiologic training, and this is indeed an area where the syllabus lags practice.

To my delight Sarah Donaldson, M.D., FASTRO, now RSNA chairman of the board of directors, suggested a few years back that ASTRO and the RSNA come together to collaborate on a single meeting on the subject of imaging in oncology emphasizing the two-way interaction between our specialties.

When one thinks about it, there is no point in the course of a patient’s cancer, from diagnosis to death, where images do not play a role in decision-making and therapy. It starts with screening and cancer detection and moves on to staging and prognostic determinations. Then there is the role of imaging in targeting therapy, assessing response and ultimately detecting relapse.

I have, together with Suresh Mukherji, M.D., professor of radiology from the University of Michigan, been given the task of heading up this joint meeting—The Cancer Imaging and Radiation Therapy Symposium—in Atlanta on April 29 - 30, 2011, and am delighted to say that the program is coming together superbly.

Over the two days we have four morning sessions on new radiographic techniques in oncology, matching pathology with imaging, imaging and outcome prediction, and image guided therapy. Each session has speakers from both disciplines.

In the afternoons we will take four cancer sites, breast, prostate, lung and CNS, and run from diagnosis through therapy to relapse with multiple speakers looking at the points of intersection between the two specialties and learning from one another as we go.

There will also be two keynote speakers, Brian Ross, Ph.D., will talk about molecular imaging in oncology and David Jaffray, Ph.D., about image guided cancer therapies.

While the meeting will concentrate on the nuts and bolts of anatomic and metabolic imaging in contemporary cancer care and in radiation therapy, we also plan to showcase research. We are delighted to have nearly 150 submitted research abstracts, a tremendous number for a first meeting and which bodes very well for attendance and success.

Most of these will be displayed in poster sessions but some will be presented orally during the morning sessions. As a “teaser” I have described some of the more intriguing and high-scoring abstracts below without revealing their results to give you a sense of the quality of the work and of its breadth and relevance to our field.

One study from Washington Univer-
A University looked at over 600 patients with head and neck cancer who received IMRT for their treatment. This study shows the frequency with which local progression is evident on the simulation scan, the frequency with which it is picked up by radiation oncologists at that time and the frequency with which it is only seen retrospectively by which time the consequences for the patient may be grave.

Another study from St. Jude reminds us how critical a dose-limiting organ the brain stem is when in proximity to the target volume for patients with tumors of the head, neck and brain.

A Cancer Center of Irvine study looks at the use of a gel-type tissue spacer, injected through the perineum under ultrasound guidance, to decrease the rectal dose during intensity modulated radiation therapy for prostate cancer. They took MRIs before and then serially throughout the course of treatment and monitored changes in the spacer compound over time and the degree of separation it had created between prostate and rectum.

Memorial Sloan-Kettering Cancer Center researchers are presenting a prospective study on lymphoma patients. They examined the FDG-PET CT target volume definition and provocatively compared the gross target volumes drawn by radiation oncologists with those that would have been drawn by radiologists.

ASTRO and RSNA are proud to be hosting this important multidisciplinary meeting. We anticipate a first class program and are looking for great attendance.

The date is fixed, the invitation is open and every ASTRO member, be they a radiation oncologist, physicist or resident, is welcome. Let's rub shoulders with our colleagues in diagnostic radiology, learn from one another and improve the care of patients with cancer.

Dr. Zietman is a radiation oncologist at Massachusetts General Hospital in Boston.
FOUR COMPANIES ELECTED TO CORPORATE ADVISORY COUNCIL

ASTRO’s Corporate Membership of nearly 100 companies has elected new Advisory Council representatives. There were three seats open for three-year terms. Council seats are comprised of small, medium and large size corporations based on their sales volume in radiation oncology, and seats represent a cross section of the radiation oncology industry.

The election resulted in a tie in the small company category, with two newly elected Council members from D3 Radiation Oncology Solutions and WFR-Aquaplast/Qfix Systems. Council members from Brainlab and Accuray were re-elected to their seats in the medium and large company categories, respectively.

A complete Council listing with term expirations is as follows:

- Calypso Medical (2011)
- Standard Imaging (2011)
- Varian Medical Systems (2011)
- Alliance Oncology (2012)
- Elekta (2012)
- Revenue Cycle Inc. (2012)
- D3 Radiation Oncology Solutions (2013)
- Brainlab (2013)
- Accuray (2013)

The Council strives to fulfill its mission to establish a synergistic relationship between ASTRO and the Corporate Members to focus on issues and initiatives of mutual concern, including increasing awareness of radiation therapy and advancing the science and practice of cancer treatment and patient care.

The Council convenes quarterly with ASTRO leaders to discuss issues of mutual concern in the radiation oncology profession.

AMBASSADOR recognition

ASTRO proudly recognizes our 2011 Corporate Ambassadors for their outstanding year-round leadership and support of radiation oncology.
TREATING A PATIENT WITH RADIATION requires the synchronization of a multitude of people, processes and equipment. For this reason, it is imperative that the systems that are used to deliver this treatment have a seamless connection with one another. However, this is not always the case. Clinicians experience daily situations in which achieving a connection between systems from different vendors poses obstacles.

Currently, the only formal way for clinicians to communicate with various health care vendors to establish solutions for everyday connectivity problems is through Integrating the Health Care Enterprise—Radiation Oncology (IHE-RO), a platform to which problems can be brought and where potential solutions for interoperability are sought.

IHE-RO has successfully solved many connectivity issues related to treatment planning and delivery systems brought forth by clinicians, physicists and others involved in radiation oncology since ASTRO began sponsoring the initiative in 2004.

By 2007, a common process for image-based 3-D radiation therapy treatment planning systems was developed. In 2008, the process of exchanging and storing image registration, RT structure sets, RT doses and related spatial registration was released. The Advanced Radiation Therapy Objects process was developed in 2009 to address the exchange of data required to perform sophisticated treatment planning for computer controlled accelerators in external beam treatment delivery (i.e., IMRT, virtual wedge, VMAT, etc.).

IHE-RO is currently developing a treatment delivery workflow process that will clarify the departmental workflow, decrease errors, create a more accurate method for billing and offer a more consistent way of scheduling.

IHE-RO is also a critical part of Target Safely, ASTRO’s patient protection plan. The crucial need for seamless compatibility of radiation therapy equipment from different vendors was demonstrated in a December 2010 The New York Times article. The article brought to light a series of radiation overdoses administered to patients in an Illinois hospital, with the reason for the overdose ultimately being pinned on the different machines not properly reading each other.

ASTRO has been working since 2004 to solve interoperability problems and while progress has been made, there is still a lot of work to be done.

“It is time to take IHERO to a new level. With six years of work behind the scenes by vendors and volunteers, we have the product that the radiation oncologists, medical physicists and administrators can use in their Request For Proposals (RFP) for the new software and hardware acquisition,” Prabhakar Tripuraneni, M.D., FASTRO, said.

IHE-RO is always looking for dedicated volunteers to help further advance the field of radiation oncology in the fight against cancer. For more information on how you can help IHE-RO in its mission to ensure compatibility between radiation treatment machines or how IHE-RO can help you solve your interoperability problems, visit the website at www.astro.org/IHERO.

For more information on Target Safely, visit www.astro.org/TargetSafely.
BEATING THE COMPETITION

Career center participants offer interview, job hunting tips for residents

BY LISA GIBSON, MEMBER RELATIONS AND COMMUNICATIONS ADMINISTRATIVE ASSISTANT, LISAG@ASTRO.ORG

RADIATION ONCOLOGY IS A HIGHLY SPECIALIZED, yet growing, field. More and more residents are deciding to venture into this part of cancer care, and the competition can be fierce. Residents should be prepared when applying for radiation oncologist positions and make sure that they’ve done their homework when committing to future employers.

One of the important elements in researching a future employment opportunity is studying the background of the location. You should be looking at the practice, the other physicians and the community to make sure it is a good fit for you.

During this process, be honest with yourself. An anonymous recruiter stresses this and said, “making yourself into something you are not will make you unhappy in the job you get and will make the employer unhappy as well.”

practices, which will result in multiple interviews. These facilities will have their obvious similarities, but they will have their differences as well. ASTRO contacted several locations and found one prominent desire for incoming radiation oncologists: flexibility.

Cancer care is an ever-changing field and the ability to modulate with that change is the key to succeeding.

“We are seeing more and more candidates who want to do things in a very specific way, who aren’t willing to cover other facilities and who are not willing to compromise,” an ASTRO Annual Meeting Career Fair participant said. “In this ever-changing health care environment, you have to be a chameleon to survive and be successful.”

Joe Stork, chief development officer for Oncure Medical Corporation and an ASTRO Annual Meeting Career Fair participant, also stresses the importance of flexibility.

“Most people do not really know where they want to go or what kind of work they will excel in even if they think they do,” he said. “If they were flexible to consider other locations or types of jobs, they would find a whole spectrum of opportunities they did not know existed that would be very fulfilling for them.”

Although residents may have several priorities when searching for their perfect position, the ultimate goal should be providing the best possible treatment for the cancer patients. In choosing radiation oncology as a profession, the fight against cancer should be your guiding force in any job opportunity.

This goal should be shared by you and your colleagues.

“Know the greatest and latest research and treatment options for patients,” John Sohrweid, office supervisor and personnel liaison for the University of Colorado School of Medicine and ASTRO Career Center participant, said. “Develop good working relationships with colleagues and staff since we all work toward the same goal.”

Matthew Katz, M.D., of Radiation Oncology Associates, P.A., agrees that working collaboratively is ideal for success in this field.

“Success in radiation oncology hinges on being an effective team leader, both in clinic and in the community,” he said. “Respect for all members of the team is essential for providing good care.”

Keeping these tips in mind should be helpful in your search for future employment.

To assist you, please visit the ASTRO Career Center at www.astro.org/careercenter for current job opportunities or visit the Career Fair at ASTRO’s 53rd Annual Meeting in Miami Beach, Fla., October 2–6, 2011.

Cancer care is an ever-changing field and the ability to fluctuate with that change is the key to succeeding.

Andy Trotti, M.D., a radiation oncologist at Moffitt Cancer Center and an ASTRO Career Center participant, suggests spending a week with your future potential partner.

“Everyone is on good behavior in one-hour interviews or at dinner. A week inside the practice reveals much more,” Trotti said.

As a resident, you will most likely be applying to various cancer centers and
IN THE LAST FEW DECADES, the biggest advances in the discipline of radiation oncology have been made in technology, such as intensity modulated radiation therapy and image-guided radiation therapy.

These are all advances that we know allow radiation oncologists to more definitively treat tumors and minimize damage in the normal tissues, thus improving patient treatment and safety. It is no wonder that the Exhibit Hall at the ASTRO Annual Meeting is packed with bigger and better machines each year.

The advances in the science of radiation delivery have been less obvious but, certainly, as significant.

Enormous advances have been and are being made in the molecular and genetic areas, and it is imperative for radiation therapy-related translational science to be seen by the rest of the clinical world as being science-driven and, more importantly, as providing the momentum that will move the field of radiation therapeutics forward in a scientifically-justified manner.

Therefore, in line with ASTRO’s mission to provide the membership with information on the cutting edge advances in the science, we are providing a forum in which translational science is the single focus of the meeting—the 3B Research Forum: Benchtop to Bedside and Back. Leaders from both the clinical (bed) and basic (benchtop) sides of the translational radiation field have been invited to provide information on the cutting edge of science.

The format of the meeting is focused on discussion between these two important groups, with each session being led by a scientist from both “sides.” Thus, the meeting organizers have the goals of not only providing our audience with information and education about cutting-edge research but also encouraging dialogue between the participants that will lead to deeper understandings of issues and problems and to better collaborations between the clinic and the lab, enhancing ongoing research efforts.

In addition, there will be discussion about the use of biomarkers in trials and how “targeting” in all of its definitions affects high dose fractionation scheduling. Finally, a session will be led by two accomplished translational scientists who will provide aspiring (and current) researchers with information on how to survive as a translational researcher.

Dr. Williams is a radiation biologist at the University of Rochester Medical Center in Rochester, N.Y.
Anthony Zietman, M.D., an endowed professor of radiation oncology at Harvard Medical School in Boston, has been named the new editor of the *International Journal of Radiation Oncology•Biology•Physics*, ASTRO’s primary research journal also known as the Red Journal.

After more than 14 years in dedicated service to the Red Journal and ASTRO, current editor-in-chief James Cox, M.D., FASTRO, announced last year that he would retire when his third five-year term ended at the close of 2011.

In June 2010, ASTRO’s Board of Directors selected then immediate past chairman Patricia Eifel, M.D., FASTRO, to lead a search for a new editor with the help of an 11-person task force made up of radiation oncologists from private and academic practice, a biologist and a physicist. The task force also included a representative from our international counterpart, *Radiotherapy and Oncology*, and ASTRO’s new practice journal, *Practical Radiation Oncology*.

To begin the search last summer, advertisements ran in the Red Journal and other related journals, and announcements were published in the ASTROgram and the *ASTRONews*. Applications complete with curriculum vitae and a vision statement had to be received at ASTRO headquarters by October 1, 2010, with the goal of holding in-person interviews during the Annual Meeting in San Diego beginning November 1, 2010.

“I am pleased to announce we received eight very strong applications and interviewed three candidates at the Annual Meeting,” Dr. Eifel said. “After several conference calls and lengthy discussions, the task force selected Anthony Zietman, M.D. He gave a presentation at the ASTRO Board of Directors meeting in January 2011 and has been confirmed. I am thrilled for Anthony and excited for him to build upon Jim’s excellent work and the tenure of Phil Rubin before him.”

Dr. Zietman’s qualifications include a long commitment to ASTRO through the Scientific Program Committee, the Board of Directors and the presidency. He has a lengthy history of scientific writing publishing original works, books, chapters and reviews in both clinical radiation oncology and radiobiology and is one of the most highly cited authors in radiation oncology.

He has had multifaceted training in internal medicine, medical oncology and radiation oncology in both Europe and the U.S. and has had a career that has incorporated a higher degree in radiobiology.

He brings to the job a substantial history of editorial writing on the future and evolution of our specialty. In addition, he has a history spanning more than 20 years of reviewing for multiple oncology journals.

“It is with great pleasure and after considerable thought that I accept the editorship of the *International Journal of Radiation Oncology•Biology•Physics*,” Dr. Zietman said. “Under Dr. Cox’s leadership, the journal has grown greatly in stature, and it is an honor to maintain that momentum and advance his work.”

Dr. Zietman also sits on the editorial board for *Practical Radiation Oncology*. Both ASTRO journals are published by Elsevier, which will ensure PRO and the Red Journal continue to work well together.
“My goal for the journal is to continue the extraordinary work of Dr. Cox but to do it with a different flavor. I would not envisage any immediate revolutionary changes but see change as an inevitable evolution,” Dr. Zietman said. “I plan to continue the close liaison with the ASTRO Board of Directors but maintain a healthy independence from it. To me, if the science and safe delivery of radiation therapy is the body of our specialty, then ASTRO and the Red Journal are its right and left arms, independent but clearly linked.”

HIS GOALS FOR THE JOURNAL INCLUDE:

- Producing the most readable journal possible with a high quality of writing and greater use of images and covers.
- Reaffirming the commitment to the best science, the most rigorous ethics, the avoidance of conflicts, and transparency and full disclosure.
- Creating new features such as Washington reports, creative writing, a digest of literature from other journals and video submissions.
- Creating more alignment with the American Board of Radiology and the career-long educational needs of radiation oncologists.
- Expanding the interest of other nations in the journal. With Web technology, it is possible to envision electronic supplements in other languages, such as Japanese, Chinese or Spanish.

Dr. Zietman says he intends to share the responsibility of the Red Journal with a global panel of senior editors including one who will work with him on electronic initiatives. He has already begun preparing for the transition by talking with other editors to learn best practices before he assembles his editorial board. In February, he met with Dr. Cox in Houston to work out a succession plan. Dr. Zietman’s first issue will be January 2012.
The Survivor Circle grant is a funding initiative that provides gifts of financial support to non-disease site specific cancer support organizations in the states where ASTRO holds its annual scientific meeting.

The emphasis of this initiative is to provide cancer support organizations with the funding to assist in continuing, growing or creating programs to help cancer patients, cancer survivors and their families from diagnosis through survivorship. The two recipients of the 2009 Survivor Circle Grant Program, Gilda's Club Chicago and Halos of Hope, each received a grant of $10,000. As part of their award, they were asked to update the ASTRO membership on their progress. This is the second of their two updates.

ASTRO provides patient support year-round with Survivor Circle grants

Gilda’s Club Chicago

By Stephen Majsa, director of development, Gilda’s Club Chicago

This provides a final report on the Survivor Circle grant awarded to Gilda’s Club Chicago. The grant was used to support Gilda’s Club Chicago’s program, which provides social, emotional and informational support to those living with cancer, along with family and friends.

Our fiscal year 2010 goal was to enroll 600 new members and generate 9,500 member visits. At year-end, we are projected to serve 759 individuals and host 10,220 visits through our Clubhouse and hospital sites:

- Total visits are up from 9,843 in fiscal year 2009 to 10,220 visits in fiscal year 2010.
- Total members served is up from 750 in fiscal year 2009 to 759 individuals in fiscal year 2010.

Laura Thevenot, ASTRO CEO, and Rep. Parker Griffith, present members of Gilda’s Club Chicago’s board with a $10,000 grant check.
In addition we have made progress on our plans to expand hours at our Gilda’s Club Chicago satellites in the city’s leading academic medical centers:

**At Northwestern University Medical Center**
- We have expanded programming from one afternoon to three days (from four hours to 15 hours).
- We now have outpatient and inpatient programming.

**At Rush University Medical Center**
- We have added a weekly caregiver support group, two weekly support groups for minorities and a support group for Polish-speaking patients.
- We have two outpatient program locations as well as inpatient programming.

**At the University of Chicago Medical Center**
- We are re-evaluating our inpatient program and are now serving patients in the infusion room where they are receiving medical treatment.

We have also have made a number of strategic changes to enhance the program at the main Clubhouse:

- We moved our “Noogie Night” kids activities from evening programming to a Saturday program so that parents could take advantage of parenting workshops and activities when their children are involved in Noogieland activities.
- We have expanded our teen activities with the guidance of a teen council made up of teen members, adding activities like hip-hop classes and a bowling night to provide activities that the council has identified as having the most interest to teen members.
- We have added a number of family activities (e.g., Family Night at the Circus, Chicago Cubs and Chicago White Sox tickets, movie nights) and have received strong feedback that these events provide an important opportunity for families to share time together, strengthening family bonds at a time when going to fun events together can otherwise take second priority to doctors visits and medical concerns.

Gilda’s Club Chicago continues to offer over 200 activities each month for those impacted by cancer. All of our programs are offered free of charge. Your support from the Survivor Circle grant has made these achievements possible. Thank you.

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**Halos of Hope**

By Pam Haschke, president, Halos of Hope, and Kathi Brown-Wright, vice-president of marketing, Halos of Hope

**IN OUR APPLICATION, HALOS OF HOPE** requested the Survivor Circle grant so that we could fund expansion of our distribution capabilities, enabling us to regularly deliver caps to cancer centers and hospitals in communities across the U.S. The program that we asked ASTRO to fund was a new approach to distribution and cap collection through locally-based donation locations.

We needed initial funding to prove this revised distribution model would work and we could expand our scope and outreach to serve more cancer patients across the U.S. As ASTRO might recall, prior to the grant award, Halos of Hope was reliant upon a handful of volunteers to tag each donated hat and pack and mail them to our centers. This approach was sustainable in nominal quantities but did not allow for expansion, and hats were not sent out on a regular basis.

We continue to partner with Chicago-based 501c3 non-profit Clearbrook for the tagging and shipping of caps to cancer centers across the country. Clearbrook offers an adult training program for those with developmental disabilities, enabling them to learn employment skills and earn wages to help them feel more independent. Tagging, packing and shipping Halos of Hope caps is a perfect fit in terms of tasks best suited for Clearbrook clientele. We have been able to leverage Clearbrook’s relationships with UPS and FedEx Ground, keeping our shipping costs manageable.

(Continued on Page 18)
Halos had well over 1,500 people visit our booth during the four-day venue, creating additional awareness with individual volunteers and yarn shops and with social crafting networks such as the Crafty Angels, a national organization based in Illinois, several youth groups and Girl Scout troops looking for opportunities to serve the community.

Cap contributions through local yarn shops are growing steadily. Additionally, Halos of Hope was recognized by DRG Network Inc. and Arts in Action Inc., which will continue to foster relationships with the shops who carry their products and provides an additional source of funding.

As provided in our August update, yarn shop owners asked us to think about participating in local, regional or national events targeted to our volunteer population of knitters/crocheters in an effort to broaden awareness. Halos has been offered an opportunity to work with XRX Inc., publisher of *Knitters Magazine*, a variety of books and sponsor of the *Stitches Markets* held four times each year. The chief executive officer of XRX has offered us an opportunity to participate in all four regional *Stitches Markets* next year based upon the success we had with our participation in *Stitches Midwest* in late August. Halos had well over 1,500 people visit our booth during the four-day venue, creating additional awareness with individual volunteers and yarn shops and with social crafting networks such as the Crafty Angels, a national organization based in Illinois, several youth groups and Girl Scout troops looking for opportunities to serve the community.

Halos will participate in the *Midwest show* again in August 2011. We had a booth at the west show in Santa Clara, Calif. (February), and will have booth at the south show in Atlanta (April) and the east show in Connecticut (October), thanks to our new relationship with the XRX team.

At the end of 2009, Halos of Hope cancer caps could be found in 150 centers located in 40 states. As of November 1, 2010, our caps are now available to help cancer patients in 302 centers across all 50 U.S. states, and we have reached some in economically-repressed areas throughout the country, as we feel they have the greatest need to help cancer patients undergoing treatments with limited insurance or funds. That said, several locations of the American Cancer Society have reached out to us to provide hats for the patients they serve. Previously, Halos had worked with ACS offices in Illinois but not beyond the state border. We are excited about this opportunity.

Halos also partnered with three young people who were trying to make things better for cancer patients in their communities.

- Alex Speidel from Pennsylvania became an Eagle Scout this year based on a community service campaign to provide a Satchel of Caring to men diagnosed with cancer. One hundred and twenty Halos specially crafted for men were donated to Alex’s campaign.
- Asjá McCullough from South Carolina is a brain cancer survivor who wanted to help kids at St. Jude’s hospital feel a little stronger through their cancer experience. She asked for kids hats to be donated so she could give back to the hospital that helped her survive. Eighty hats were donated to Asjá’s cause.
- Bethany Mejean from Kentucky is vying for a governor’s scholarship in her home state. Her leadership project was to rally knitters and crocheters to make and donate hats for cancer patients. Using the social network site Ravelry, Bethany began *Stitches for the Cure*. Halos partnered with Bethany to do further outreach through other social media outlets (Facebook and Twitter) and through local standard media. This effort is bringing in 182 hats to Halos’ inventories. These hats will be sent to cancer centers in need throughout Bethany’s home state of Kentucky. Her scholarship application was submitted on December 2, 2010.

We will continue to support programs such as these to help young people striving to become leaders and ensure cancer patients receive much needed comfort through their treatments.

As previously reported, the critical statistic for this project is the sustained increase in numbers of hats sent as compared to last year. With Clearbrook clientele tagging, packing and shipping our caps, we are able to send hats to cancer centers on a weekly basis, meaning more hats are available to help those who have lost their hair due to radiation or chemotherapy treatments. Our growth in caps distributed still exceeds last year’s totals by over 240 percent.

Lastly, based on a relationship our founder, Pamela Haschke, established with Richard Nares in late 2006 as she was conceptualizing Halos of Hope as a possible not-for-profit and the ongoing dialogue between our organizations, we are absolutely thrilled that ASTRO selected the Emilio Nares Foundation as a 2010 Survivor Circle Partner. We gladly pass our torch to an organization that gave us a lot of insights and encouragement to launch Halos and help us grow!
THE MANAGEMENT OF CANCER PATIENTS with radiation therapy has been a team effort since the discovery of X-rays over 100 years ago. Revelations in The New York Times over the past year have highlighted the critical importance of timely, adequate and appropriate quality assurance guidelines and the disastrous outcomes when such algorithms are either not in place or ignored.

ASTRO took a proactive position and issued Target Safely, a patient protection plan, in early 2010 to underscore the Society’s unflagging support of patient safety, first and foremost. ASTRO’s dedication to this plan was reaffirmed in January of this year.

What may be lost in the noise, however, is the crucial role that medical physicists play in the effective delivery of modern, complex radiotherapy regimens. In 1997, the Committee for Accreditation of Medical Physics Education Programs began accrediting physics residency programs. The graph above illustrates the slow but steady progression of accredited programs beginning in 1997. It is anticipated that there will be between 70-80 accredited programs by the end of 2012 with approximately 20 programs currently under review.

This exponential growth should meet anticipated clinical demands. At the urging of the American Board of Medical Specialties, the American Board of Radiology, in conjunction with the American Association of Physicists in Medicine (AAPM), has made the successful completion of an accredited residency program a requirement for those individuals applying for certification in 2014.

Accredited programs will provide 24 months of robust training with intensive clinical exposure. Recertification will be required every five years. Now, more than ever, it is clear that well-trained physicists, preferably from accredited programs, are vital to the safe delivery of complex radiotherapy plans such as IMRT, SRS and SBRT.

Radiation oncologists are encouraged to hire physicists who graduate from such programs and successfully meet the rigid guidelines established for board certification. Adequate financing for these residency programs, however, continues to be a daunting challenge.

Proper Accreditation Council for Graduate Medical Education classification of these programs to ensure Centers for Medicare and Medicaid Services (CMS) reimbursement is strongly recommended. The ASTRO Board recognizes this critical need and has issued a statement to support CMS reimbursement and has asked department chairs to “lobby for sustained funding for physics residency programs within their institution.”

Medical physicists are integral to the fundamental operation of a high-quality radiation oncology program. It is incumbent upon those in hiring positions to select individuals with sufficient training and adequate clinical experience to oversee the physics aspects of their programs. Anything less is a disservice to our patients and our specialty.

Further information can be found at http://campep.org/res.asp and from an AAPM subcommittee on residency programs at www.aapm.org.

Dr. Klein is the chief of physics at the Washington University of St. Louis Department of Radiation Oncology.
Annual member survey results show what ASTRO members value

ASTRO’s annual member survey was made available online to all members between July 7, 2010, and September 1, 2010. This year, in addition to the demographics and questions about education needs, the survey focused on an assessment of the kinds of therapy currently being used by members and the importance to members of some aspects of ASTRO’s strategic plan.

We sent announcements of the survey in five ASTROgrams and two targeted e-mail announcements. There were 1,718 valid surveys returned or approximately 17 percent of ASTRO membership. A response rate of 15-20 percent is fairly standard for online surveys such as the ASTRO member survey, but having a larger proportion of members responding to the annual member survey will help ASTRO better identify and serve the needs of all of its membership. What follows is a brief summary of some of the findings from the survey data.
CHART 1: RESPONDENT DEMOGRAPHIC – PROFESSION
Of the 1,718 respondents to the member survey, 1,168 (68.1 percent) stated they were either radiation oncologists or clinical oncologists (i.e., overseas physicians who are qualified to administer radiation therapy), 340 (19.8 percent) described themselves as medical physicists, 22 (1.3 percent) described themselves as radiation biologists, 44 (2.5 percent) described themselves as oncology nurses or nurse practitioners, 25 (1.5 percent) as radiation therapists, 22 (1.3 percent) as dosimetrists, and 27 (1.6 percent) described themselves as retired.

ASTRO members practice their professions in many countries. Of those countries, 69.5 percent of respondents indicated that they practice in the U.S., 4.6 percent in Canada, 1 percent in China, 1.3 percent in India, 3.6 percent in Japan, 1.7 percent in Germany, 2.1 percent in Brazil and 1.3 percent in Italy. The remaining 15 percent are distributed among an additional 54 countries in Europe, Asia, Oceania, Latin America and Africa.

When asked about the population density of their practice location, 65.2 percent of respondents said they practiced in an urban area, 22.1 percent in a suburban community and 9.6 percent in a rural area.

CHART 2: EMPLOYMENT ARRANGEMENT
About one-third (34 percent) of respondents indicated that they work for an academic or faculty group practice, and about half (56 percent) work either in a community hospital or a private practice. When asked to describe their work setting, about half of the respondents (49 percent) indicated that they worked in hospital-based settings, with a quarter (28 percent) in freestanding clinics and a quarter (23 percent) working in academic settings.

When asked to describe the other services provided to patients by their practice, 22.5 percent of radiation oncologists practicing in the U.S. indicated that their practice provides medical oncology, 20.3 percent diagnostic radiology, 15.1 percent urology and 15.2 percent indicated that their practice provides surgical oncology services to their patients as well as radiation oncology.

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CHART 3: Modes of therapy currently used*

- IMRT
- IGRT
- Brachytherapy
- Electronic medical records
- Functional imaging
- SRS
- SBRT
- Radiation sensitizers
- Unsealed sources
- Radioprotectors
- IORT
- Particle beam therapy
- Hyperthermia

*By U.S.-based radiation oncologists

CHART 4: Importance of aspects of ASTRO’s strategic plan

- Educating Congress
- Raising public awareness
- Developing clinical practice guidelines
- Promoting improvement of patient safety
- Providing professional education
- Informing members of regulatory issues
- Promoting research
- Providing networking opportunities
- Providing accreditation to practices
- Providing research funding

Very important
Somewhat important
Not very important
CHART 5: Importance of member benefits

Survey respondents felt that the three most important benefits provided to them by ASTRO were the International Journal of Radiation Oncology•Biology•Physics (Red Journal) (88.7 percent said it was very important), continuing education opportunities (85.6 percent) and advocacy (78.1 percent).

Membership in ASTRO continues to grow. In 2010 we experienced a 3 percent increase in the number of dues paying members, bringing the total membership to 10,098. The greatest number of new members reside in the United States, Canada and Japan.

When asked about their experience with ASTRO staff, 88 percent of those who had requested help or information from the staff either said that their experience was excellent, very good or good, with only 4.3 percent indicating that it had been a poor experience.

"The membership survey, administered annually, helps ASTRO leaders to stay in tune with our member demographics and needs," Anna Arnone, vice-president of member relations and communications, said. "It is a valuable tool that assists us in directing our program development throughout the year as well as evaluating the effectiveness of our efforts. Thank you to everyone who took the time to complete the survey."
The National Institutes of Health (NIH) is projecting medical expenditures for cancer care in 2020 to reach at least $158 billion, an increase of 27 percent over the $124.6 billion projected for 2010. However, if cutting-edge tools for diagnosis, treatment and follow-up care get increasingly more expensive, costs could reach as high as $207 billion in the next decade.

Projections from this NIH study, which appeared in the January 12, 2011, *Journal of the National Cancer Institute*, used current data on cancer incidence, survival and costs of care combined with the U.S. Census Bureau’s projected U.S. population rates to determine the 2020 projection of $158 billion.

Additional analyses were conducted to account for changes in incidence, survival rates and treatment costs. At a 2 percent increase in medical costs, the projected 2020 expenditures increased to $178 billion. Costs increase to $207 billion at a 5 percent increase.

“Rising health care costs pose a challenge for policy makers charged with allocating future resources on cancer research, treatment and prevention,” Angela Mariotto, Ph.D., study author and chief of the data modeling branch at the National Cancer Institute’s Surveillance Research Program, said. “Because it is difficult to anticipate future developments of cancer control technologies and their impact on the burden of cancer, we evaluated a variety of possible scenarios.”

According to researchers, there were 13.8 million cancer survivors alive in 2010, with 58 percent aged 65 years or older. In 2020, the number of cancer survivors is expected to increase by 31 percent to 18.1 million, with the largest portion of that increase to be among American age 65 and older.

“The rising costs of cancer care illustrate how important it is for us to advance the science of cancer prevention and treatment to ensure that we’re using the most effective approaches,” Robert Croyle, Ph.D., NCI Division of Cancer Control and Population Sciences director, said. “This is especially important for elderly cancer patients with other complex health problems.”

According to ASTRO, Americans living longer with cancer and living longer in general combined with the increasing costs of treatment, highlights the need for ensuring that spending on cancer treatments is efficient.

“Inefficiencies in the health care system and cancer care must be addressed. ASTRO’s top advocacy priorities are focused on making sure that health care dollars are spent on appropriate and safe cancer treatments,” Bharat Mittal, M.D., FASTRO, vice-chairman of ASTRO’s government relations council and chairman of radiation oncology at Northwestern Memorial Hospital in Chicago, said.

“We are working hard to close the abusive self-referral loophole that allows precious health care resources to be squandered on unnecessary treatments. We also are promoting a number of safety initiatives through our Target Safely campaign to help ensure that spending on radiation therapy treatments isn’t wasted on ineffective treatments or errors.”

This report also raises questions about the adequacy of the radiation oncology workforce and whether there are sufficient numbers of radiation oncologists, medical physicists, dosimetrists, therapists, nurses and other allied professionals to meet the expected needs of future cancer patients. ASTRO’s Workforce Committee will be conducting a survey later this year to examine this question.


**Cancer care costs projected to increase over $30 billion by 2020**

ASTRO’s top advocacy priorities are focused on making sure that health care dollars are spent on appropriate and safe cancer treatments. . .
Medicare physician quality reporting

TRANSITIONING FROM CARROTS TO STICKS AND WHAT THIS MEANS FOR THE PRACTICING RADIATION ONCOLOGIST

SINCE MID-2007, MEDICARE has been operating a voluntary quality reporting program, the Physician Quality Reporting System (PQRS), formerly known as the Physician Quality Reporting Initiative (PQRI). Through this program, the Centers for Medicare and Medicaid Services (CMS) provides an incentive payment to eligible professionals who satisfactorily report data on quality measures. All participating providers also receive confidential feedback reports. While historically a voluntary program, the Patient Protection and Affordable Care Act (H.R. 3590) signed into law by President Obama on March 23, 2010, established penalties for providers who do not successfully participate in PQRS. This change in the program, from voluntary bonuses for participation to reductions in payment for nonsuccessful participation, has increased the pressure on physicians to participate.

2011 PQRS Program
Eligible professionals may choose to report PQRS measures on fee-for-service Medicare beneficiaries to CMS through their Part B claims, a qualified registry or via a qualified electronic health record (EHR) product. While many of the elements of the program have remained the same from previous years, CMS is making a number of changes to PQRS for 2011.

2011 Reporting Periods – CMS has established six-month and 12-month reporting periods. The 2011 reporting periods are the same as 2010.
• Claims-based – 12 month (January 1-December 31, 2011)
• Claims-based – six month (July 1-December 31, 2011)
• Registry-based – 12 month (January 1-December 31, 2011)
• Registry-based – six month (July 1-December 31, 2011)
• EHR-based – 12 month (January 1-December 31, 2011)

Criteria for successfully reporting – There is a reduction in the reporting requirements for claims-based reporting of individual measures from 80 percent to 50 percent of applicable Part B patients, which lessens the burden on eligible professionals to qualify for incentive payments. Registry-based and EHR-based reporting remains at 80 percent to be considered a successful participant.

Incentive Payments – A 1 percent incentive payment has been established for program year 2011 and a 0.5 percent payment for program years 2012 through 2014. A penalty will be implemented after CY 2014 for those who do not satisfactorily report.

Maintenance of Certification Program – Eligible professionals may qualify for an additional 0.5 percent incentive beginning in 2011 if they satisfactorily report data on the Physician Quality Reporting System and participate in a Maintenance of Certification Program.

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ASTRO PQRS Measures

Measures consist of two major components: a denominator that describes the eligible cases for a measure (the eligible patient population associated with a measure’s numerator) and a numerator that describes the clinical action required by the measure for reporting and performance. Each component is defined by specific codes described in each measure specification along with reporting instructions and use of modifiers.

CMS has identified 194 quality measures for the 2011 PQRS program. The following radiation oncology measures are eligible to be reported for either claims-based or registry-based reporting in the 2011 PQRS program; these are the same measures that were eligible for the 2010 program:

- **#102 - Prostate Cancer**: Avoidance of Overuse of Bone Scan for Staging Low-risk Prostate Cancer Patients.
- **#104 - Prostate Cancer**: Adjuvant Hormonal Therapy for High-risk Prostate Cancer Patients.
- **#105 - Prostate Cancer**: Three-dimensional (3-D) Radiotherapy.
- **#156 - Oncology**: Radiation Dose Limits to Normal Tissues.
- **#194 - Oncology**: Cancer Stage Documented.

The CMS 2011 Measure Specifications and Release Notes document provides detailed instructions on the proper way to report PQRS measures. This document is available at www.cms.gov/pqri.

Future of Quality Reporting in the Medicare Program

CMS has committed itself to pursuing a much broader approach to value based purchasing. Numerous provisions in the health reform legislation have provided the agency with the authority to pursue these goals. The upcoming changes in PQRS mark the beginning of more expansive changes linking Medicare physician payment to some method of quality measurement. To prepare for these future changes, ASTRO believes members should gain experience in PQRS and other similar programs. The Society urges members who are not currently participating in PQRS to begin exploring the feasibility of implementing it into their practices.

Promoting the high-quality provision of radiation oncology services is one of the highest priorities for ASTRO.

The Society will continue to engage with CMS to better understand how these evolving payment reforms impact radiation oncology and advocate for the ASTRO membership and the patients they serve.

A FUNDAMENTAL ISSUE IN SBRT is whether the linear-quadratic (LQ) model is a valid method to assess the biologically effective dose at the high doses typically encountered in radiosurgery. This point was debated in back-to-back papers in *Seminars in Radiation Oncology* where Brenner argued that LQ formalism was appropriate whilst Kirkpatrick and colleagues suggested it was inappropriate.

Brenner’s argument is based on the robustness of the LQ model to predict fractionation and dose-rate effects in experimental models in vitro and in vivo at doses up to 10 Gy. This conclusion is based on the premise that cell killing is the dominant process mediating the radiotherapeutic response for both early and late effects including vascular effects.

Brenner argued that, to date, there is no evidence of problems when LQ has been applied in the clinic. However, this was the crux of Kirkpatrick and colleagues’ argument. They suggested that a variety of studies suggested that the administration of a single high dose of radiation in vivo had a much greater effect than predicted by the LQ model.

They cited several examples including Leigh et al who calculated that the dose to obtain a high probability of tumor control for brain lesions would be at least 25 to 35 Gy using the LQ model, which was much higher than the observed clinically effective radiosurgical dose, which was in the range of 15-20 Gy.

Kirkpatrick maintained that there was a disconnect between in vitro cell survival data and observed clinical data that suggests there is more than one mechanism of radiation damage and that these operate differentially at low and high doses. In addition, Kirkpatrick argues, the LQ model does not effectively address the potential existence of radioresistant cancer stem cells, which may require a threshold dose to be crossed before their death is triggered.

Unequivocal evidence has been presented by Fuks and colleagues that vascular endothelial damage is activated above 10 Gy per fraction and that the ceramide pathway orchestrated by acid sphingomyelinase (ASMase) operates as a rheostat that regulates the balance between endothelial survival and death and thus tumor response.

Damage to vascular/stromal elements are further supported by pathological observations after...
radiosurgery, which show profound changes in vasculature, and from studies on arteriovenous malformations where obliteration of abnormal vasculature and damage to the surrounding normal tissue are rare below single doses of 12 Gy but climb steeply with increasing doses above this threshold.

Another line of evidence has suggested that CD8+ T cells may be responsible for the therapeutic effects of ablative radiation. The delivery of an ablative dose of radiation of 15-25 Gy was found to cause a significant increase in T cell priming in draining lymphoid tissue, leading to reduction or eradication of the primary tumor or distant metastasis in a CD8+ T cell dependent fashion in an animal model.

The curve (USC) model, which combined dose range using a universal survival model overestimates radiation cell kill- ing at these doses as a consequence of the model’s prediction of a continuous downward bend (ßd2) in the survival curve in contradiction with some experimental data, which suggests that the dose-response may be linear above 12 Gy.

Other models have been described to better predict the response at higher doses using modified LQ formalism. These include Park et al who described the effects of radiation in the ablative dose range using a universal survival curve (USC) model, which combined the LQ and multitarget models using a transition dose to separate the two fitting components of the model.

Although the multitarget model may not radiobiologically explain the underlying processes involved in the response to high doses, it was found to describe measured data better than the LQ model over a broad dose range. Using the LQ model, the potency of the doses used in the Indiana University phase II trial of SBRT for medically inoperable NSCLC (20 Gy x 3) was estimated to be 1.7 times greater than the biological effectiveness of a similar Japanese trial delivering 12 Gy x 4. However, when the USC model was used, the potency of the Indiana University regimen was only 1.34 times more than the Japanese regimen.

Other models have included the generalized LQ (gLQ) model in which the reduction of conversion of sublethal to lethal injury in hypofractionated ablative dose radiation is taken into account and the actual effect of the radiation is lower than what was estimated by the LQ model.

Modeling may never fully describe the complexity of the biological processes involved in the response to high dose per fraction radiation, but it might facilitate the ability to design optimal radiosurgery treatment plans.

Therefore, evidence would seem to suggest that there are several potential disparate mechanisms for cell killing in the high dose range and that the LQ model overestimates radiation cell killing at these doses as a consequence of the model’s prediction of a continuous downward bend (ßd2) in the survival curve in contradiction with some experimental data, which suggests that the dose-response may be linear above 12 Gy.

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Modeling may never fully describe the complexity of the biological processes involved in the response to high dose per fraction radiation, but it might facilitate the ability to design optimal radiosurgery treatment plans.

agent during SBRT to gain maximum therapeutic benefit. However, another modeling study from Ruggieri and colleagues suggested that the non-homogeneous dose delivery intrinsic to SBRT for small NSCLC lesions, which results in simultaneous dose-boosting to about 50 percent of the tumor volume, could counterbalance the loss of reoxygenation within a few fractions.

Searching for references on PubMed that contain “SBRT” and “biology” reveals very few hits emphasizing that this is an area of modern radiotherapy where the biology needs to catch up with the clinic.

As we reported in a previous Biology Bytes, small animal platforms are now developed to simulate a
realistic SBRT delivery in experimental animals\textsuperscript{14} and other recent developments in image guided small animal irradiators could also be adapted to simulate SBRT\textsuperscript{11}.

However, a wealth of knowledge already exists in the radiobiology archive from the ‘60s, ‘70s and ‘80s where large doses per fraction were used for ease of experimental design in experimental studies, which need to be revisited.

At present SBRT represents an exciting, effective yet almost empirically designed radiation therapy. Increasing our knowledge of the underlying biology associated with modern high dose delivery will only serve to improve the therapeutic benefit of this modality.

Dr. Wilson is chief of radiation biology at William Beaumont Hospital in Royal Oak, Mich.

ENDNOTES
Cancer Imaging and Radiation Therapy Symposium: A Multidisciplinary Approach

Atlanta Marriott Marquis | Atlanta | April 29-30, 2011

Join us in Atlanta this April as leaders from the world of radiation oncology, physics and diagnostic radiology discuss anatomic imaging, molecular and biology imaging, PET imaging, therapeutic target definition, and image guided therapeutic techniques from the prospective of all three disciplines.

Over 140 abstracts have been submitted for poster viewing and the program includes 12 oral abstracts highlighting new ground-breaking science.

Discussion topics include:
- Anatomic imaging
- Molecular and biological imaging
- PET imaging
- Diagnosis, staging and recurrence
- Therapeutic target definition
- Image guided therapeutic techniques
- Normal tissue definition
- Brachytherapy

Register by April 1, 2011, and save $50 to $100.
www.cancerimagingandrtsymposium.org

3B Research Forum: Benchtop to Bedside and Back

Atlanta Marriott Marquis | Atlanta | May 1-2, 2011

Do you have an idea you want to test in the lab?
Do you have exciting data that you want to take to the clinic?
Don’t know how to do it or who to talk to?

Join us at a new meeting that will bring together biologists, clinical researchers and junior faculty (including residents) interested in translational research for a lively discussion on current and innovative research in the field of radiation oncology. Preeminent leaders in translational science will discuss topics critical to the field. Special emphasis will be on targeting, with an introductory session titled “Understanding Targets, Patient Selection and Clinical Trial Design.”

Discussion topics include:
- DNA Repair
- Hypoxia/microenvironment
- Stem cells
- Cell signaling
- Biomarkers

Register by April 1 and save $60.
Register at www.astro.org/3bresearchforum.
ASTRO comments on NRC proposed physical protection rules

In January, ASTRO commented on the Nuclear Regulatory Commission’s (NRC) proposed rules for the physical protection of byproduct material. The proposed rules are intended to establish security requirements for the use and transport of category 1 and category 2 quantities of radioactive material. The NRC believes that this material is risk-significant and warrants additional protection.

The proposed rules will require enhanced security checks, including fingerprinting, background and credit, for those who will require unescorted access to the materials. It will also require facilities to develop and implement security plans.

ASTRO expressed concern over the proposed rules, stating that the current security guidelines are sufficient and should not be enhanced.

NRC seeks comments on radiation protection regulations, guidance

The NRC held a series of public meetings in the fall of 2010 to solicit input on major issues associated with potential updates to the NRC’s radiation protection regulations and guidance. The agency has listed a number of questions on which it is soliciting comments.

The issues include:
- Effective dose and numerical values.
- Occupational dose limits.
- Doses to special populations (including limits for embryo/fetus of a declared pregnant worker and limits for members of the public).
- Incorporation of dose constraints.

The NRC has not yet initiated rulemaking; it is using this opportunity to seek public comment as a way to gauge whether or not a rulemaking is necessary. ASTRO will be submitting comments.

FDA holds stakeholder meetings on MDUFA reauthorization

As the Food and Drug Administration (FDA) begins its negotiations on the reauthorization of the Medical Device User Fee Amendments of 2007 (MDUFA), it will hold monthly meetings with representatives of physician and consumer advocacy groups to ensure continuity and progress in these discussions. The statutory authority for MDUFA expires September 30, 2012, at which time new legislation will be required for the FDA to continue to collect user fees for the medical device program. ASTRO staff will be participating in these meetings.

ASTRO members* are now eligible to receive valuable discounts of up to 29 percent on select FedEx shipping services.

Sign up at www.astro.org/membership and enter passcode YDJ1QR.

*Domestic members only.
SPRING REFRESHER COURSE
April 8-10, 2011
Delve into radiation treatment for various disease sites and explore safety issues most commonly encountered in radiation oncology at the 2011 ASTRO Spring Refresher Course. This two-and-a-half day meeting will be held at the Sheraton Chicago Hotel and Towers; those who register on or before March 31, 2011, will receive $75 off their registration.
Register today at www.astro.org/springrefresher.

CANCER IMAGING AND RADIATION THERAPY SYMPOSIUM:
A MULTIDISCIPLINARY APPROACH
April 29-30, 2011
Co-sponsored by ASTRO and RSNA
Join us in Atlanta as we take a multidisciplinary look at cancer staging and treatment, focusing on the many points of contact between imaging and radiation oncology from the day of diagnosis through the entire course of the patient’s disease. Over 140 abstracts have been selected covering topics such as: image guided therapeutic techniques, therapeutic target definition, diagnosis, staging and recurrence, and PET imaging.
Register by April 1, 2011, and save $50.
Visit www.cancerimagingandrtsymposium.org to register.

3B RESEARCH FORUM: BENCHTOP TO BEDSIDE AND BACK
May 1-2, 2011
Engage in a discussion on translational science and research with leading experts in the field May 1-2, 2011, at the Atlanta Marriott Marquis. Topics include research that could lead to improvements in patient treatment and individualized care. Special emphasis will be placed on targeting, with an introductory session titled “Understanding Targets, Patient Selection and Clinical Trial Design.”
Save $60 when you register by Friday, April 1, 2011, at www.astro.org/3bresearchforum.

RADIATION ONCOLOGY REIMBURSEMENT AND CODING BASICS
June 9, 2011, 3:00 p.m. Eastern time
This webinar, led by Thomas Eichler, M.D., and William Noyes, M.D., is tailored for those interested in learning the basics of radiation oncology reimbursement and coding as well as those looking for a refresher course. Various topics will be covered including an overview of the structure of radiation oncology CPT codes, modifiers, CCI edits and MUE edits.
Register for this webinar at www.astro.org/webinars.

CODING FREQUENTLY ASKED QUESTIONS
September 15, 2011, 3:00 p.m. Eastern time
In this webinar, William Hartsell, M.D., and Gerald White, M.S., will address commonly asked coding questions pertaining to treatment planning and simulation, treatment devices, IGRT, physician supervision and more. Attendees will have an opportunity to submit questions in advance.
Register for this webinar at www.astro.org/webinars.

ASTRO’S 53RD ANNUAL MEETING
October 2-6, 2011
Miami Beach Convention Center, Miami Beach, Fla.
Each day, evolving technology, reimbursement adjustments and health care reform all vie for the attention of radiation oncologists, but one thing remains our constant priority—the needs of the patient. Despite this ever-changing health care landscape it is imperative that oncologists continue to put the needs of the patient first. Through multidisciplinary teamwork and a commitment to high-quality care for our patients, radiation oncologists can deliver superior care and receive superior results. Join us in Miami Beach, Fla., this October as we explore the benefits of “Patient-focused, High-quality, Multidisciplinary Care” as the theme of this year’s meeting.
www.astro.org/annualmeeting
Registration opens June 1, 2011.

Please visit www.astro.org for regular updates about our meetings.
For streaming updates follow us on Facebook and Twitter.
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Listening. It’s made all the difference in how people think about us and how we think about our next innovations. By doing more listening than talking and through collaboration with our customers worldwide, Elekta produces many clinically relevant firsts that continue to define and raise the standard of human care. You certainly can hear a lot just by listening. Visit us at elektacom/experience.

Experience the Elekta Difference
CIVCO’s Body Pro-Lok™ is the benchmark for comfortable, accurate immobilization for SBRT. Since its introduction 3 years ago, CIVCO has consistently enhanced Body Pro-Lok with improvements and additional accessories. Through listening to feedback from loyal users and clinical leaders, CIVCO has developed a comfortable and flexible SBRT immobilization system.

- **Laser-Lok™** - shines a cross hair on the patient, to assist in verifying patient position in relation to the system
- **Rails-Only System** - provides a system for utilizing Body Pro-Lok bridges and accessories without the full Body Pro-Lok Platform or the Universal Couchtop. The open design features fewer solid areas than the Body Pro-Lok Platform assisting in reducing attenuation
- **Shoulder Restraint Bridge 2** - this improved bridge adds angle, tilt and clam angle adjustments to the shoulder pads. The improved clamp system allows for lower reach and increased durability
- **Type 1B Bridge** - this new bridge now goes even lower providing more options for smaller adults and pediatric patients

*Contact CIVCO for more information or a demonstration.*