# The Exposure

NEWSLETTER OF THE MASSACHUSETTS SOCIETY OF RADIOLOGIC TECHNOLOGISTS

### SPECIAL POINTS OF INTEREST

#### • Preseident's Message

• Report on CARE Bill



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#### MSRT

P.O. Box 71 Weymouth, MA 02188 Phone (781) 331-3520 www.msrt-ma.org msrt-ma@comcast.net

## President's Message

**JULY 2010** – The warm sunny days and outdoor recreations and cook-outs of summer are here. One of the "Rites of Spring" in Massachusetts is the MSRT Annual Conference. This April, as in past years, a wide selection of CEU offerings attracted Radiologic Health Care Professionals from all over the region. Following this year's theme, Law and Ethics in Radiology, attendees could chose from a wide range of lecture topics. Please look at the Conference report in this issue of Exposure.



It was with pride as well as healthy dose of humility that I accepted

the office and was installed as your 2010-2011 President. As has been the practice over the years, one of the first duties as President is to establish a main "theme" for the year to come. Reflecting the renewal characterized by springtime, it occurred to me that all of us in the community of Radiologic Health Care Professionals could use a "renewal" of our identity as true Professionals. I am sure that most of you have at one time or another felt that as Radiographers, CT Technologists, MRI Technologists, Mammographers, Cardiovascular Interventional Technologists and Radiation Therapists, we have not always received the level of respect and recognition commensurate with our education, credentials and professional performance responsibilities. I am convinced that most if not all of you do consider yourselves to be professionals. Then why is there a gap between our self perception and that of some of the other Health Care Professionals? Part of the disparity is due in part by what I believe to be a lack on the part of practitioners in other professions of any real knowledge about what we do, about how much and how serious the responsibility is that we accept daily in our work, and about what it really takes to be educated and credentialed in our respective practice areas. To the casual observer, obtaining a radiograph of a patient's wrist, chest, abdomen, etc. appears to be a simple task that could be easily learned. It is not so readily apparent, that there are many layers or levels of decisions, judgments and problem solving steps

Continued on page 3

#### REPORT ON THE CARE BILL H.R. 3652

BY DAVE LECLAIR BS, RT(R)

We have made some significant progress this year with The CARE Bill with 117 cosponsors to date. Massachusetts has 7 of its 10 Representatives signed on as cosponsors to the



Bill and has reached out to the other three Congressmen for their support.

Dave Goch the ASRT Legislative Counsel for the House of Representatives stated that this year represents the best opportunity we have seen to date to pass The CARE Bill in light of the recent elevated exposure to our issue resulting from the unfortunate incidents suffered by patients as reported recently in the *N.Y. Times* newspapers.

With the cosponsor list in the House rapidly growing, we now understand that Rep. Pallone (N.J.), the chairman of the energy and commerce's Health Subcommittee (where H.R. 3652 was referred) has stated that it is his expectation that the committee will move the bill sometime soon.

Representative Waxman from the Energy and Commerce Committee has indicated

Continued on page 3

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#### President's Message continued from page 1

involved in obtaining an optimally diagnostic set of images while restricting the dose of radiation employed to as low as reasonably achievable, and, all the while, being attentive to the individual comfort and safety needs of our patients.

All of the foregoing not withstanding, I feel there are several additional factors which may contribute to our professions' lack of formal recognition. I fear that a number of our colleagues may consider the profession, as little more than a "9-to-5 job". Individuals adopting this approach could easily be seen by others as being health care workers, not "true" health care professionals. I strongly feel that the message to students should be that they are in school NOT merely to learn how to "do" radiography, they are transforming themselves into Professionals. "Becoming a professional" infers a deeply learned, deeply rooted change in one's persona. Becoming a nurse by internalizing the identity rather than merely performing nursing tasks / duties is an essential part of professionalism. A nurse is a professional health care provider 24 hours a day, three hundred and sixty five days per year. Because being a professional is the over-riding context intertwined within the learning process, the Staff Tech who had internalized their professional identity, will in performing their daily duties, have a higher probability of automatically performing them in a professional manner.

If you noticed, I began this message by addressing you all as "Radiologic Health Care Professionals". If I may be so bold, I suggest that this year we all attempt to become more conscious of this identity as we refer to ourselves and what we are to other health care providers. Radiography, Mammography, CT, etc while being valuable sub-specialty areas of practice, are closer to defining what's being done in the practice rather than the approach being used in performing daily responsibilities. Admittedly, you cannot take your CT unit, Radiology suite, or mobile unit home with you, but you DO bring home your feelings about your profession and the knowledge you have gained through education and experience. We are seen, within our families, communities, etc, as the local "Expert" in radiation matters. I would be willing to bet that most of you have been approached by a relative, friend or neighbor asking your opinion on some article, news item or TV program that dealt with radiation. If you didn't know the answer to their question, I'll bet that you took the time to find out and get back to them. This is characteristic of how a professional would respond.

Lastly, as true professionals we must be continually assessing/evaluating our performance and manner of interacting with others. Unfortunately, the development and adoption of our highly sophisticated, automated equipment and instrumentation potentially may increase the likelihood of some of our fellow practitioners to be lulled into behaviors more indicative of the "button-pushing technician", an image we all have been toiling so hard for so long to overcome. Neglecting to collimate the beam, relying on CR/DR's ability to post process crop; paying more attention to the "S-Number" or "Index Value" of the image than

to the adjustment of exposure factors to be truly ALARA; purposely using MORE exposure than necessary in order to take advantage of CR/DR's windowing and leveling capability to "create" the perfect image; using "annotation" rather than properly placing markers on the image receptor are all examples of "poor practice" which I am sure many of you have witnessed in your departments. As professionals, we should approach the situation in a positive manner, mentoring the individuals involved and encouraging them when they show improvement. If we Ignore or turning away from the situation without appropriately addressing it, we perpetuate the behaviors. As Radiologic Health Care Professionals, we are ethically (if not legally) bound to approach and work with individuals exhibiting inappropriate practices, helping them to improve. Granted, this is not an easy thing to do, but I firmly believe it is the RIGHT thing to do and, as Professionals, we should not hesitate to gently and appropriately approach individuals whose performance has slipped. Failure to do so makes us as guilty of "poor practice" as they are.

In closing this, my first message to you, my colleagues and fellow Radiologic Health Care Professionals, I would be remiss if I didn't give recognition to the majority of you who really do have a passion for who we are, what we do and how much we care about our individual as well as collective" professional image". It is you who continue without exception in your exhibiting "good practices" who strengthen the probability that Radiologic Health Care Professionals will receive the recognition we deserve. Please feel free to e-mail me, sharing your experiences and feelings about your profession and your place in assuring we are seen by others as the true professionals we are.

See you next issue!

#### James V. Lampka, M.S., RTR – 2010-2011 President, Massachusetts Society of Radiologic Technologists Email: profjimlampka@msn.com

#### REPORT ON THE CARE BILL continued from page 1

that once The CARE Bill reaches 100 cosponsors with 20 of them on this committee his intention will be to move the bill through committee.

Meanwhile on the Senate side, Senator Enzi is working with the H.E.L.P. Committee to position himself to introduce a much anticipated Senate Bill to Congress very soon—Stay tuned.

In the 11 years of trying to get The CARE Bill passed we have never been so visible in Congress; we are in fact the closest we have been to achieving our goal of passing The CARE Bill. To those who have contacted your Congressman, thank you. If you have not done so, it's not too late, please email your Congressman today and ask for their support and the support of their colleagues. Thank You.

#### Dave LeClair is a member of the ASRT National Advocacy Committee and Chairman for MSRT State Governance. Email: dleclair@weymri.com

#### Master of Radiologist Assistant Studies Program at MCPHS

The Master of Radiologist Assistant Studies Program (MRAS) at MCPHS is an exciting new opportunity for ARRT certified radiographers with a bachelor degree and a minimum of four years direct patient care experience to earn a graduate degree and embark on a new career.



# The Master of Radiologist Assistant Studies Program at MCPHS

#### HIGHLIGHTS OF OUR PROGRAM

- MCPHS has the only Radiologist Assistant Studies Program in Massachusetts and is one of just eight master degree RA programs in the United States.
- Students earn a MRAS in five semesters of blended studies through distance education and periodic onsite intensive instruction.
- Our program integrates opportunities to work collaboratively with members of the cohort in Boston and have clinical training opportunities at world renowned hospitals.
- Courses are instructed by those with expertise as radiologists, radiologist assistants, lawyers, physicists, as well as other doctoral prepared allied health professionals.

#### PROGRAM OVERVIEW

The Master of Radiologist Assistant Studies (MRAS) Program at MCPHS-Boston is a five semester master degree program that combines distance education with intensive condensed on-campus education and web-based instruction. Radiologist-directed clinical internships may be completed in or outside of Massachusetts with proper documentation. The MRAS program offers an invigorating course of study designed to prepare our students to:

- fill advanced clinical professional roles in patient management, assessment, and education.
- · perform selected radiology examinations and procedures.
- be responsible for evaluating image quality and reporting initial image observations to the radiologist.
- contribute to education, research, policy and advocacy as a radiologist assistant.

#### **Apply Now!**

We are currently accepting applications through September 15, 2010 for the Spring 2011 semester.

#### **Next Steps**

For more information, please visit our website at www.mcphs.edu/MRAS.

Contact Dr. Lynne Davis, Director of the Master of Radiologist Assistant Studies program, at **lynne.davis@mcphs.edu** with any questions you may have about the program.

You may also direct questions regarding application or admission procedures to Tara Hennessy, Coordinator of Graduate Admission, at **tara.hennessy@mcphs.edu.** 

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### Treasurer's Report MAY 19, 2010

By Karl Ellison, B.S., RT(R)

THE CONFERENCE'S FINANCIAL ACTIVITY has slowed down to a trickle. There are still a few checks



that haven't been deposited, but activity for May is about to wrap up. I'm please to report that the Conference itself made a \$8k profit, owing to good planning and cost-control on the part of the conference committee. It wasn't easy for them.

There's only one more month left in

our fiscal calendar, and historically June is a slow activity month. As you can see in my graphic, year-to-date, we're very close to breaking even. This is considered to be good given the surprise price increases we've encountered throughout the year for necessary expenses.

The budget planning process will begin in June, and your board will be looking at ways to squeeze expenses out of our day-to-day activities to keep our society financially sound in these extraordinarily difficult times. I'll give you an update on this in the next *Exposure*.

#### MASSACHUSETTS SOCIETY OF RADIOLOGIC TECHNOLOGISTS

Income & Expense

JULY 1, 2009 THROUGH MAY 19, 2010

	JULY 1, 2009 - MAY 19, 2010
INCOME	
100.00 - MSRT - Income	106,859
300.00 - Conference Income	47,241
Total Income	154,100
EXPENSE	
200.00 - MSRT Expenses	115,456
400.00 - Conference Expenses	39,405
Total Expense	154,851
Net Income	-761

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The Exposure is Going Green! Take a moment to enjoy holding this edition of the newsletter in your hand because it is the last one you will hold for a while. In an effort to reduce our carbon footprint, become more fiscally responsible and reach our membership as efficiently and effectively as possible with timely information, the Board has unanimously decided to move all but one newsletter per year to the online format. The Conference edition of the newsletter, which will contain election information and be produced each February, will still be mailed to our membership. Your September newsletter can be viewed at www.msrt-ma.org.

**DO THIS** - In order to update the MSRT email list and assure you get your next edition of *The Exposure*, send an email to msrt-ma@comcast. net. In the Subject Line type EMAIL UPDATE and type your first and last name.

### Assessing the Coronary Arteries with the Salem Advanced CT Protocol

By Terrence Licciardi RPA, RT,(R),(CT)



This is the second part of a two-part article.

**IN PART ONE**, we reviewed the cardiac anatomy, as demonstrated with MDCT (multidector CT). This time we'll look at the assessment of the coronary arteries with the technique of Salem Advanced CT.

In our practice, we take the opportunity to also make as full an assessment of our patient's coronary condition as possible. This includes an in-depth pre-procedure consult, including a health history cardiac risk assessment as well as patient screening for the exam. Although we make every effort to perform this exam for as many patients as possible there are some patients, very few, who are not wellsuited for this exam. Those persons include patients with erratic cardiac arrhythmias (A-fib and PVCs) and patients with end stage renal disease.

The diagnostic portion includes a low dose scan of the entire chest, a calcium score and a coronary CTA (Computed Tomography Angiogram). All of these scans can be completed within five minutes or less and provide a high yield of diagnostic information with minimal radiation exposure.

As with any diagnostic exam, we are responsible for every bit of information we gather during our exam. With that in mind, the first stop on our journey is a look at the scout or localizer images. This is the equivalent of a chest radiograph and is assessed in the same manner (see Figures 1a-b). FIGURE 1



Our next stop is an unenhanced, low dose CT of the chest. At this point the lungs, bony thorax, mediastinum and upper abdomen are evaluated. Approximately 4% of our patients have significant, incidental findings discovered during the low dose chest CT review (Figures 2a-b).





Calcium score is a predictive tool used to estimate the risk that the patient has of having a significant cardiac event over the next 10 years of their life. After obtaining a gated, noncontrast CT of the heart, calcification is identified and quantified in the coronary arteries. A computer-generated score is assigned to each vessel and a total score is assessed as well. After adjusting the score for age and sex, the patient is given a percentile value. This value helps the patient's physician make therapeutic decisions for their patient (see Figures 3a-f).

FIGURE 3 | Calcium Score Calcium is identified; stents NOT included in calculation











Next is the main event, the assessment of the coronary arteries. Taking advantage of 3D computed modeling technology now available, the raw axial CT data is reconfigured in a variety of orientations to yield unprecedented evaluation of the coronary arteries. Our advanced equipment allows us to only scan during diastole so radiation dose is ALARA. Typically the dose for the CCTA is 1-3 mSv, whereas a cardiac catheterization usually results in a dose of 10-17 mSv. (see Figure 4a-c).







FIGURE 4 - Coronary CTA



During our evaluation, we have three general assessment categories. Stenotic lesions, post intervention reassessment and congenital anomalies. All of these require careful attention, however, they are approached from a slightly different perspective.

When looking at a coronary artery, the first question asked is, "is this artery normal or does a stenosis exist?" The artery should be widest at its origin and taper gradually and evenly. Any sudden decrease in diameter with subsequent distal increase in diameter is considered stenosis (see Figure 5). FIGURE 5



Once a stenosis is identified, it is important to characterize it further with at least two criteria. First, whether the stenosis is focal or diffuse (Figure 7) and second, whether the stenotic lesion is comprised of soft plaque, calcified plaque or a combination of the two (see Figures 6a-b).

FIGURE 6 - Vessel Analysis





FIGURE 7



After the lesion has been appropriately characterized, it is essential to determine the severity of the stenosis relative to the percent of occlusion of the vessel. In conjunction with our cardiologists, we have determined the most valuable description of the stenosis is to place it into one of three general categories rather than giving a percent stenosis. The three general categories used are mild, moderate and severe stenosis. These correlate approximately with up to 50%, 50-90% and greater than 90% respectively (see Figures 8a-c).







Once all of the coronary arteries have been evaluated, an ejection fraction is calculated and an assessment is made of ventricular wall thickness and valve anatomy.

A separate population evaluated is patients who have undergone prior interventional procedures, including stenting and bypass grafting. For this group, the assessment criterion is the same for the grafts, however careful correlation with the patient's operative note is paramount to ensuring all grafts have been identified (see Figure 9). With today's CT scanner resolving down to a half millimeter, it is possible to look inside stents for re-stenosis and determine the degree of patency (see Figures 10a-b).

FIGURE 9 - Occluded Bypass Graft and native vessels



FIGURE 10 - Stent evaluation images





The last stop on our journey is checking for anomalous coronary arteries. An anomalous coronary artery (ACA) is a coronary artery that has an abnormality or malformation. The malformation is congenital (present at birth) and is most often related to the origin or location of the coronary artery. However, there may be other defective areas in the coronary artery. Likewise, it may affect the overall size and shape of the affected coronary artery or arteries. ACA may also occur along with other congenital heart defects.

This condition may also be called congenital coronary artery anomaly (CAA).

Although they are present at birth, ACAs are often not diagnosed until late adolescence or adulthood, because of the lack of symptoms or because symptoms may not be recognized as being caused by ACA. Teens or adults with unknown ACA may have an initial episode of chest pain, heart failure, or even sudden cardiac death before the condition is recognized.

Anomalous coronary arteries occur in approximately 5% of people undergoing cardiac catheterization to evaluate chest pain. ACA occurs in about 1-2% of the general population worldwide. (See Figures 11a-b)

FIGURE 11 Anonalous LAD / Circ Takeoffs





As computer power continues to increase and CT resolution becomes finer and finer the CCTA will be the premier diagnostic exam for cardiac assessment.

I hope you have enjoyed these articles and hope they have given you a sense of how versatile our profession continues to be. May you be inspired to take a closer look at this revolutionary advance in imaging technology.

Special thanks to Dr. Robert Hannon, Chief of Radiology, Salem Radiology and Anne Marie Edwards, General Manager and Chief of CT Scanning, Salem Advanced CT Imaging for the images and input on this article.

Terrence Licciardi RPA, RT (R) (CT) is a Radiology Practitioner Assistant at Salem Radiology and can be reached at tlicc@verizon.net.

Scenes from the 2010 MSRT Conference





ABOVE: Annual Conference attendees

LEFT: Eileen Maedel, MSRT Past President

# **2010 MSRT Conference Raffle Winners**

#### ASRT Complimentary 1-Year Membership Winner: Dale Kershner

MSRT Complimentary 1-Year Membership Winner: Amber Damuni

#### **50/50 Raffle Winners**

Vanida Chea, Lawrence Memorial Hospital/REGIS College and Bia Zarycki, Quinsigamond Community College



XR Imaging (XRI) donated a Women's Schwinn 26" Mountain Bike. Winner: Gina Tripp, Northern Essex Community College (Quarter Century Club President, Mary Creesy is shown bringing prize to the podium.)





Associated X-Ray Imaging donated a Weekend Getaway. Winner: Allan Finnegan, BIDMC





Radiology Services, Incorporated (RSI) donated an IPOD. Winner: Shannon Barron



### APOLOGY

In the MSRT Annual Conference Program we incorrectly advertised the Friday Mid-Morning Break as being sponsored by Lawrence Memorial/ REGIS College. The Mid-Morning Break was actually sponsored by REGIS College RT-MS Graduate Program.

The MSRT thanks the RT-MS Graduate Program at REGIS College for sponsoring the Friday Mid-Morning Break during the Annual MSRT Conference.

# THANK YOU To Our Convention Sponsors and Exhibitors

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#### SCENES FROM THE 2010 MSRT CONFERENCE



Students from Middlesex Community College

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Out-going President, Ty Martin (right) with In-coming President, James Lampka



Kevin Reynolds, 2010 Oliver E. Merrill Lecturer and honoree, with his family

# Membership Renewal

Membership Renewals have been mailed out. Look for them in your mailbox and update any necessary information. If you are a student who recently graduated from



a Radiography Program, you must renew your membership and change your status to TECH-NOLOGIST so you can earn Continuing Education Credits to renew your license.\* If you have any questions, please contact the MSRT office, msrtma@comcast.net.

\*Students do not receive technologist credits at the Half- Day Seminars nor a technologist certificate of attendance and cannot submit approval numbers to the Radiation Control Program (RCP) for CE lectures.

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The Massachusetts Society of Radiologic Technologists P.O. Box 71 Weymouth, MA 02188