

IN THIS ISSUE

- 2 New Student Stipend Now Available
- 3 Editor's Letter
- 3 Update on SMRT Educational Seminars

Member News

- 4 Membership Committee Report
- 5 Annual Meeting Progress Report
- 6 Education Committee Report
- 6 Your Reminder to Vote
- 6 Annual Meeting Fee Update
- 7 SMRT Committees, Chairs, and Members

Information for You

- 8 MRI Safety: Tattoos, Permanent Cosmetics, and Eye Makeup
- 11 Associated Sciences Program at RSNA 2006
- 12 ISMRM/SMRT Calendar of Upcoming Events



Message from the President

Cindy Comeau, B.S., R.T. (N)(MR)



As MRI technologists, we sometimes have to adjust quickly in handling difficult patients and make changes in the scanning protocol in order to obtain the best images possible. Recently, the ISMRM office had to quickly switch gears with the announcement of the change in venue to Berlin, Germany, for the 2007 Annual Meeting. I hope that many of you are still planning to attend. With Program Chair, Vera Miller, and Educational Chair, Carolyn Bonaceto, both facilitating the program construction, I can guarantee you that it will definitely offer us a wealth of educational information. While in Seattle, I purchased books on Barcelona to study, but now I'll need to make another trip to the bookstore and read up on Berlin, Germany!

For the 16th Annual SMRT Meeting, a few program format changes will be introduced in keeping with the highest quality of the educational agenda. We will be able to network with old and new friends at the reception planned for Saturday night. Our traditional poster reception which included poster presentations will be taking on a new format as the selected poster presenters will have the opportunity to present their work during the last hour of the educational meeting on Saturday. As mentioned in the last *Signals* issue, the ISMRM has given the SMRT permission to display our posters with the ISMRM posters. This was a recommendation by the membership, which will give the SMRT more exposure during the ISMRM meeting. The SMRT business meeting will take place during lunch on Saturday, then on Sunday the awards will be presented. This change I feel will allow a bit more time for the SMRT Committee Chairs who put forth a lot of effort during the year to update the membership with their committee accomplishments. Hopefully these program changes will enhance everyone's participation in the Berlin meeting. I would also like to mention that in the background of the ISMRM meeting are the committee meetings for the ISMRM. For 2006-2007, SMRT Policy Board members Caron Murray and Dave Stanley will be the SMRT representatives for the ISMRM Safety Committee. Please watch for the Berlin program updates by visiting the SMRT Web site.

As I review the ARRT annual report, there are over 16,000 technologists certified in MRI with the SMRT membership approaching

Continued on page 2 ➡

Message from the President continued

close to 2,000 members. As members, I feel it is our responsibility to promote the SMRT as much as we can. New policy board member Wendy Strugnell just recently established a SMRT chapter in Australia along with the first international SMRT Regional scheduled for November 2006. This is an excellent example of how SMRT members can reach out to other technologists. Her organizational skills and resources are well appreciated by all technologists, as we will all look forward to her report at the Berlin meeting. I know that a lot of us perhaps work with technologists that are probably not SMRT members, but I think we can clearly emphasize to them that the SMRT is certainly the leader when it comes to offering dedicated MRI education. Our SMRT RCEEM status, chaired by Heidi Berns, has proved very successful as the SMRT generates well over 50 educational activities yearly and this status does allow a conservative cost savings to the SMRT. Educational activities generated by the SMRT include Annual Meetings, Regional Meetings and the Home Study Program, as well as other functions that meet the RCEEM criteria. New this year is the Macromedia Flash presentations of the 2006 Seattle meeting. This membership enhancement will allow technologists worldwide to be able to benefit from the educational component of the 2006 Seattle meeting. We thank all the presenters who released their presentations for the use of MRI technologist education and the ISMRM Central Office for making this a reality to our members. Plans are underway to offer the 2006 Seattle meeting for CE credit for technologists who were not able to attend the meeting. This offering will clearly enhance our membership offerings and will hopefully attract new SMRT members.

Since the Seattle meeting,
Executive and other Policy Board

Members have been very busy. Julie Lowe, our very dedicated Chair of External Relations, welcomes Co-Chairs Gina Greenwood and Charles Stanley. The scope of outside organizational activities that the SMRT participates in has grown and has become too much of a commitment for one person. I'm very excited to have the team of Gina and Charles transitioning into this role as the SMRT will have the representation it needs to maintain our professional status interface with other organizations that affect our profession.

Pam Vincent, our Chapter Chair, has her committee reaching out to members to establish new local chapters. Local chapters are another avenue of reaching out to new members as I'm sure she will have lots of Chapter activity to report at the Berlin meeting! The SMRT Chapters have been busy planning their fall meetings so please check the Web site for updates on all educational activities scheduled throughout the upcoming year.

Our SMRT Educational Standards Ad-Hoc Committee, Co-Chaired by Luann Culbreth and Mark Spooner, is coordinating the final touches on the MRI curriculum guidelines. They plan to have the guidelines finalized by the end of 2006.

As you can read in this issue of *Signals*, SMRT Policy Board members have been very busy promoting the SMRT at all levels but the most important level starts with our members! As I previewed the list of potential new Policy Board nominees I was thrilled to see new names of technologists wanting to become more involved. Have you ever wanted to become a sales person and promote an organization that you truly believe in? Well, here is your chance! Thanks for your support everyone! ●



In Memory of John A. Koveleski

The SMRT would like to announce the formation of the **John A. Koveleski Student Stipend**. The stipend will be awarded annually for a student applicant based on his or her current involvement in the field of MRI. Arrangements are being made so that donations to the Stipend can be made through the SMRT Web site and annual registration notice. Stipend eligibility and application can be reviewed on the SMRT Web site in the near future. We thank everyone who has provided input and support for this effort.

Eligible Students are defined by the SMRT By-laws as follows:

Student Members of the Section

Student Membership shall be open to all persons who share the stated purposes of the Sponsoring Society and the Section, who are enrolled in a full-time academic program in an accredited education institution. Student Membership is only permitted following an annual submission of a letter verifying student status from the Academic Program Director. The letter must include student's name, the start and end dates of the MRI Program, and verification the applicant has been accepted into and is currently enrolled in the program.

Check the SMRT Web site often for updated information. You are invited to spread the word and encourage a student to apply for this award. Most importantly, please consider donating to this special cause in memory of John.

Editor's Letter

Julie Strandt-Peay, B.S.M., R.T. (R)(MR)



This issue comes during a time of seasonal change no matter which hemisphere you are residing. What remains constant is the volunteer work of the many leaders and committee members of the SMRT as is evidenced within this publication. We begin with a message from SMRT President, **Cindy Comeau** who gives us an overview of the activities this past quarter. She brings us up to date with activities and informs us of changes within the leadership of the SMRT. The Student Stipend in memory of John Koveleski is announced on page 2. Editor **Anne Marie Sawyer** explains the latest offering of the *SMRT Educational Seminars* home study which accompanies the hard copy mailing of this newsletter.

Membership Chair, **Nancy Hill Beluk** gives us a status report of the SMRT. She reveals the results of an informal poll which appear complementary. And with assistance from the SMRT office in Berkeley, California, U.S.A., shows our global distribution. In spite of the change in venue for the 16th SMRT Annual Meeting, Program Committee Chair, **Vera Miller** has the planning well underway. The progress is found on page 5. Education Committee Chair, **Carolyn Bonaceto** describes the good work being done on behalf of MR students with SMRT members serving as valuable mentors. Efforts are underway to obtain educational credits for additional SMRT activities as an increase in member benefits.

We are reminded to vote for new SMRT Policy Board members, the President-Elect and the Crues-Kressel Award recipient by Nomination and Award Committee Chair, **Karen Bove Bettis**. This is your responsibility

as a member to ensure that you have good leadership in the future. It is also your opportunity to help recognize those who have contributed greatly to the organization. SMRT Treasurer, **Laurian Rohoman** explains the new fees for the Annual Meeting on page 6. The 2006-2007 SMRT Committees and contact information are listed for your reference beginning on page 7. Even glancing at this listing will enable you to realize how many volunteers and hours are invested on your behalf each and every year.

MRI Safety expert **Frank Sherlock** relates information we need to know about Tattoos, Permanent Cosmetics, and Eye Makeup. As always we appreciate his knowledge and willingness to freely share information with us. On page 11 you will notice the upcoming RSNA schedule of events for the Associated Sciences. Be sure to check the calendar on the back page for educational MR opportunities that may be of interest to you. ●

Update on SMRT Educational Seminars

Editor, Anne Marie Sawyer, B.S., R.T. (R)(MR)



We are pleased to present the *SMRT Educational Seminars*, Volume 9, Number 3: "Exploring Magnetic Field Strengths: Challenges and Opportunities." This is the thirty-third home study developed by the SMRT, exclusively for the SMRT members.

With the increase in availability and installations of 3.0T MR systems worldwide, we face additional challenges in developing appropriate scan protocols, addressing diverse artifacts, designing new RF coils and understanding subtle variations in principles and physics learned earlier. However, this is not dissimilar to scanning at lower field strengths. The challenges are always there when venturing into uncharted territory. It is critical as health care professionals to ensure that the optimum image contrast and quality be secured.

Only through a clear understanding of MR physics and principles and the application thereof, can we be successful in this endeavor. Several years ago, after operating exclusively at 1.5T, I was asked to scan and develop protocols at 0.5T. This proved to be every bit as challenging and rewarding as my 1998 experience moving from 1.5T to 3.0T. It is clearly the case that "bigger is not necessarily better; it's what you do with what you've got." In addition, the utilization of multiple RF coil arrays provides significant improvements in signal-to-noise ratio (SNR) that in some cases may render increases in field strength unnecessary. We sincerely hope the articles in this home study provide some insights and the knowledge critical to travel successfully in either direction along the field strength highway.

A very special thank you to the authors for taking the time out of their very busy schedules to write articles

specifically for this home study: William Faulkner, B.S., R.T.(R)(MR)(CT) FSMRT, William Faulkner & Associates, LLC, Director of Education, Chattanooga Imaging, Chattanooga, Tennessee, USA; David Norris, Ph.D., FC Donders Centre for Cognitive Neuroimaging, Nijmegen, The Netherlands; Wyncent Wong, Applications Specialist (MRI), Siemens Medical Solutions, Asia Pacific Headquarters, Singapore; Raymond Lee, Assistant Senior Radiographer & MRI Chief Technician, Hong Kong Sanatorium & Hospital, Hong Kong, China; and Stefan O. Schoenberg, M.D., Associate Professor of Radiology, Associate Chair for Clinical Operations and Section chief, Magnetic Resonance Imaging, University Hospitals – Grosshadern, Ludwig-Maximilians-University Munich, Munich, Germany.

Many thanks to Gary H. Glover, Ph.D. for participating as our expert

Continued on page 4 ➡

Educational Seminars Update continued

reviewer; for investing the time to share his expertise and provide input in the review of the text and quiz. Dr. Glover is a Professor at Stanford University School of Medicine, Department of Radiology, and Director of the Radiologic Sciences Laboratory at the Richard M. Lucas Center for Imaging.

Thanks to Kara Baczkowski, B.Ap. Sci. Med Rad., Muriel Cockburn, R.T., Bobbi K. Lewis, B.A., A.R.M.R.I.T.,

SMRT Publications Chair, and Greg Brown, (SMRT) for writing the questions that comprise the quiz for which continuing education credits are redeemed.

Thank you to Bobbi K. Lewis, B.A., A.R.M.R.I.T., SMRT Publications Chair, and in the Berkeley, California, USA office of the ISMRM/SMRT, Jennifer Olson, Associate Executive Director, Sara Vasquez, Publications Coordinator,

and the staff for their insight and long hours supporting these educational symposia.

Finally, I would like to thank Tom Schubert, John Wilkie and all of those terrific people at Invivo Corporation (MRI Devices) who support our home studies program, SMRT *Educational Seminars*. ●

Membership Committee Report

Nancy Hill Beluk, R.T. (R)(MR), Chair, Membership Committee



Have you heard the good news? No, the price for a barrel of oil has not come down. And, no, world peace has not been accomplished. My good news hits a lot closer to home. The good news is that your society, The Section for Magnetic Resonance Technologists, is growing.

Now this may not be your typical dinner conversation topic but when it comes to you belonging to a stable society, this is great news. We are here to stay and our voices are being heard and listened to. Our present membership stands at 1,888 members. This is a 9% increase over last year!

Membership by Region:

North America	1,711	90%
Europe (includes UK)	77	4%
Asia	20	1%
ROW (includes Australia)	80	5%
Total	1,888	100%

(Thank you to Kristina King, Membership Coordinator, and Anne Ornelas deLemos, Director of Membership and Study Groups, without whose help these numbers would not be available!)

Only Exxon Mobil, in the 2nd quarter of this year, can beat those numbers! And 9% was our growth from 2004 into 2005. How's that for stability?! (For a full accounting of membership and regional distribution, please see the chart below.)

So, why is our society growing and just how do we keep these numbers up and our members happy? That is a very good question and one that my committee has been pondering for quite some time. To better understand the dynamics of membership and how to get more technologists involved, I posted a question on the List Server, asking you, the user, why you belonged to the SMRT. The responses were overwhelming and greatly appreciated. The membership committee was able to garnish information regarding the "whys" and "why nots" as to SMRT membership. Your comments were very insightful and will be used to change our ways of marketing to the outside technologists who don't see the real value, yet!

Many of you commented on the home studies and continuing education. You said things such as:

"I joined for the home studies." "The home studies have helped a lot in many of the clinics I have worked." "Home studies are a bonus." "... to get my CE with MR credits." "I feel it is important to get education and assistance in the area that you specialize."

Some of you saw the benefit of belonging for the organization itself:



These international SMRT members shared experiences at the Seattle Annual Meeting. Left to right: Caron Murray, Canada; Muriel Cockburn, Scotland; Wendy Strugnell, Australia; Candi Roth, U.S.A.

"I belong because the larger the group, the louder the voice. This can affect working conditions." "I joined the SMRT because I wanted to keep up to date with all that was going on in MRI." "It affiliates you with a most prestigious group (ISMRM/SMRT) in the MRI field and it provides a platform for all of us to effectively deal with MR related issues." "It provides a venue and coherent voice to the group as a whole to promote professionalism for our chosen path." "A desire to support my professional passion through an outstanding organization." "The Society promotes best practices." "The SMRT allows everyone to interact, share, and remove distance between us." "Keeping current with the technology is a constant battle for technologists and one that non-research employers are becoming less willing to support financially, so SMRT is a valuable, affordable resource for me."

I have contacted a few of you personally to thank you for your time and to use your direct quotes for

Continued on page 5 ➔

marketing purposes. For those of you who responded who did not receive my personal thanks, let me do that now. Thank You! As I said previously, your comments were greatly appreciated but sadly we could not use each and every listing. We were limited in time and space but please know that your

comments have been captured and reviewed. (For the three members who wrote back that the reason why they joined the SMRT was because of me, let me say this ... The doctor is in and will see you now!)

All and all, SMRT membership is

growing and getting stronger by the day. But our work is never done. The Membership Committee, along with the great staff in the ISMRM Central Office, will continue to evaluate the numbers and watch for trends, whether they are good or bad. And your comments and input are always welcome. ●

2007 Annual Meeting Progress Report

Vera Kimbrell Miller, B.S., R.T. (R)(MR), Chair, Program Committee



The SMRT Program Committee is in the final stages of planning for the 16th Annual Meeting in Berlin, Germany. We are striving to have a very diverse and exciting meeting in Berlin 19-20 May 2007. Our goal is to provide both the information about upcoming MR techniques as well as a review of the more basic principles. As our

membership grows, we strive to provide education to all of our MR technologists/radiographers, those new to the field, as well the more "seasoned." Please check our Web site frequently for updates and deadlines. <http://www.ismrm.org/smrt>.

Many technologists/radiographers will be submitting papers and posters for review. These give us all a window on both clinical and research work done through the world. We would love to see more technologists/radiographers participate in this very important portion of the annual meeting. The poster tour and exhibit will take place after the last lecture on Saturday evening, so please plan to stay after the session and join us!

The SMRT Annual Business Meeting will take place

during lunch on Saturday 19 May. This important meeting is open to all attendees and gives you a chance to see what is happening in the Section. New Policy Board members and officers are installed and old and new business discussed. This is your opportunity to present your thoughts, face-to-face with the leaders of the SMRT.

I would like to thank the members of the Program Committee for their hard work and flexibility as we change venues: Anne Dorte Blankholm; Silke Bosk; Carolyn A. Bonaceto; Cindy Comeau; Muriel Cockburn; Todd Frederick; Gina Greenwood; Anna Kirilova; Mercedes Pereyra; Sonja Kay Robb-Belville; Steven P. Shannon; Charles T. Stanley; David W. Stanley; Pamela S. Vincent; Judy L. Wood.

We are all very excited to visit Berlin and hopefully get a chance to see the city in between activities. So... start to shop for good airline deals, and let's try to surpass the incredible attendance in Seattle! ●



Education Committee Report

Carolyn Bonaceto, B.S., R.T. (R)(MR), Chair, Education Committee



The Education Committee has been working diligently over this quarter. Since our Annual Meeting in May, 11 Student Scope abstracts have been submitted. As each abstract is received, a committee member is assigned to the student to act as a mentor. The

mentoring process generally involves e-mail and telephone communication regarding suggestions for improvements to the submission. Once the student and the mentor are satisfied, the Student Scope is posted on the SMRT Web site. The process is a rewarding learning activity for both the student and the mentor. So far this year, committee members April Davis, Marc Jacobskin, Terry Duggan-Jahns, Anthony Festa, John Posh, Ashok Saraswat, and Steve Shannon have volunteered and mentored a student. Thank you to these committee members, to the students, and to the program instructors who are all demonstrating an understanding of the importance of

education for MRI technologists.

The Committee hopes that the experience gained by submitting a Student Scope abstract will encourage these students to submit an abstract for the Annual Meeting. Now is the time to be considering topics for an abstract or poster presentation in either the research or clinical category for the Annual Meeting which will be held in Berlin next May. There are some very helpful guidelines on the SMRT Web site. Please take a look and consider sharing your experience and knowledge with the worldwide MR community next spring.

The committee is also beginning work on adding questions to the Macromedia Flash of the Annual Meeting lectures that are now on the Web. Technologists who were not able to attend the 15th Annual Meeting in Seattle will have the opportunity to get CE credits by registering online. Please watch the Web site for additional details. ●

You Are Reminded to Vote

Karen Bove Bettis, R.T. (R)(MR), Past President, Chair, Nominating and Awards Committees



As a member of any organization you have the responsibility to participate when and where you are able. One of these participant activities is voting for the future of the SMRT. We are all busy, we are all working, we all have long lists of obligations to fill. However, we still need to honor and support this professional organization that we are proud to be a part of and want to see flourish in the future. Take a few minutes

of your time to review the biographical information for each candidate when you receive the information and then choose those individuals whom you think will best represent you on the SMRT Policy Board.

You are also responsible to select the candidate who you think will be the best President and lead the SMRT on your

behalf. The nominating committee presents you with quality choices and you have the opportunity to make that choice...or let others make that choice for you. It's up to you.

As a SMRT member you are also able to select who will receive the prestigious Cruess-Kressel Award for outstanding contributions made to the education of MR Technologists. This is an activity in which you are able to honor one of your peers and colleagues. For more information about the award please check on the SMRT Web site.

Ballots will be mailed in October and must be returned by mail, post marked no later than 1 December 2006. Please follow the directions carefully so that your vote will be counted. You must be a member in good standing with your dues paid in order for your vote to be eligible. Your participation in this important SMRT action is vital to the future of the organization. ●

Annual Meeting Fee Update for SMRT Members

Laurian Rohoman, R.T. (R)(MR), ACR, Treasurer



The SMRT would like to notify its membership that as of 2007, the SMRT Annual Meeting registration fee for members will be increased from US\$175 to US\$220 for the two-day SMRT Annual Meeting. The meeting registration fee has remained the same since 2002, while the direct costs for the meeting have continued to increase. The costs for postage, printing of brochures, syllabi, audio/visual expense,

as well as the cost of the food service have been increasing

steadily. The registration fees have not kept pace with the growing inflation rate. Annual Meeting support from our vendor donations have also declined over the past few years. Therefore, in order for the SMRT to continue to provide the excellent educational activities to meeting attendees, as well as continue to offer the additional perks such as coffee breaks, lunches, and a reception, the only alternative unfortunately is to increase the meeting registration fee. The SMRT will strive to meet the needs of the membership and appreciates their continued support. ●

SMRT COMMITTEES 2006-2007

EXECUTIVE COMMITTEE:

Chair: President:
Cindy R. Comeau ccomeau@mriect.com
President Elect:
Carolyn Bonaceto cbonacet@bidmc.harvard.edu
Past President:
Karen Bove Bettis kebb@nih.gov
Treasurer:
Laurian A. Rohoman laurian.rohoman@muhc.mcgill.ca
Secretary:
Gina Greenwood gm.greenwood@hosp.wisc.edu
External Relations:
Julie B. Lowe j_lowe66@yahoo.com
Executive Member:
Charles Stanley cts7z@virginia.edu

AWARDS:

Chair: Karen Bove Bettis kebb@nih.gov
Cindy R. Comeau ccomeau@mriect.com
Greg Brown gbrown1@mail.rah.sa.gov.au
Randy Earnest rearnest@att.net
Robin Greene-Avison robin.avison@vanderbilt.edu
Maureen Hood mhood@usuhs.mil.
Anna Kirilova anna.kirilova@rmp.uhn.on.ca
Caron Murray Caron.Murray@sw.ca

AD HOC FOR THE JOHN A. KOVELESKI STIPEND:

Bobbie Burrow bobbie.burrow@emoryhealthcare.org
Cindy R. Comeau ccomeau@mriect.com
Cindy Hipps cthipps@charter.net
John Posh john.posh@rcn.com
Carolyn Roth candi@imageding.com

BY-LAWS:

Chair: Steven P. Shannon spshannon@mac.com
Cindy R. Comeau ccomeau@mriect.com
Karen Bove Bettis kebb@nih.gov
Bobbie Lewis blewis@cc.nih.gov
Randy Earnest rearnest@att.net
Gloria Olivieri golivieri@optusnet.com.au

EDUCATION:

Chair: Carolyn A. Bonaceto cbonacet@bidmc.harvard.edu
Cindy R. Comeau ccomeau@mriect.com
Karen Bove Bettis kebb@nih.gov
Greg Brown gbrown@mail.rah.sa.gov.au
Bobbie Burrow Bobbie_Burrow@emoryhealthcare.org
Joseph Castillo josephcastillo@golbal.net.mt
Muriel Cockburn muriel@postmaster.co.uk
April Davis april.davis@duke.edu
Therese Duggan-Jahns tdugganjahns@mac.com
Janice Fairhurst jfairhurst@partners.org
Anthony Festa anthonyfesta@yahoo.com
Karen Gourlay kgourlay@bidmc.harvard.edu
Maureen Hood mhood@usuhs.mil
Melissa Loudon scotmel@sbcbglobal.net
Julia Lowe j_lowe66@yahoo.com
Paul McElvogue PaulMRI19@aol.com
Vera Miller bvdmler@comcast.net
Caron Murray Caron.Murray@sw.ca
Bradley Newcomer newcomer@uab.edu
Jim Ott jott@turvillebay.com
Nita Patel nitapate@med.umich.edu
Gerry Piech gpiech@covid.net
John Posh john.posh@rcn.com
Steve Powers usspowers@verizon.net
Lisa Pyke lmpyke@ihis.org
Ashok Saraswat saraswat-1@medctr.osu.edu
Betsy Sestina bsestina@colostate.edu
Steven P. Shannon spshannon@mac.com

Michael Shea mdshea@partners.org
Frank G. Shellock frank.shellock@gte.net
Mark Spooner mspooner@mac.com
Bonnie Thursten bthurste@seattlecca.org
Jackie Turk jturk@cchseast.org
Pamela Vincent vincentp@nhlbi.nih.gov
Viswanathan Venkataraman vxvenkat@santara.com
Rhonda Walcarious rwalcar@imaging.robarts.ca
Beth Winningham bwinningham@uabmc.edu

SUB-COMMITTEE EDUCATION - STUDENT SCOPE:

Chair: Carolyn A. Bonaceto cbonacet@bidmc.harvard.edu

EXTERNAL RELATIONS:

Chair: Julie B. Lowe j_lowe66@yahoo.com
Cindy R. Comeau ccomeau@mriect.com
Carolyn A. Bonaceto cbonacet@bidmc.harvard.edu
Karen Bove Bettis kebb@nih.gov
Wendy Strugnell wendystrugnell@internode.on.net
SUB-COMMITTEE EXTERNAL RELATIONS: GLOBAL RELATIONS:
Wendy Strugnell wendystrugnell@internode.on.net
Anne Dorte Blankholm aid@sk.s.aaa.dk

FINANCE:

Chair: Laurian A. Rohoman laurian.rohoman@muhc.mcgill.ca
Cindy R. Comeau ccomeau@mriect.com
Carolyn A. Bonaceto cbonacet@bidmc.harvard.edu
Karen Bove Bettis kebb@nih.gov
Anne Dorte Blankholm AID@sk.s.aaa.dk
Anna Kirilova anna.kirilova@rmp.uhn.on.ca
Bobbie Lewis blewis@cc.nih.gov
Nancy Hill Beluk pghbeluks@aol.com
Julie B. Lowe j_lowe66@yahoo.com
Vera Miller bvdmler@comcast.net
Caron Murray caron.murray@sw.ca
Steven P. Shannon spshannon@mac.com
Wendy Strugnell wendystrugnell@internode.on.net
Pam Vincent vincentp@nhlbi.nih.gov

AD-HOC FINANCE SUPPORT SUBCOMMITTEE

Chair: Nancy Talbot nancy.talbot@uhn.on.ca
Cindy Hipps cthipps@charter.net
Vera Miller bvdmler@comcast.net
Laurian A. Rohoman laurian.rohoman@muhc.mcgill.ca
Steven P. Shannon spshannon@mac.com
David Stanley david.stanley@med.ge.com

LOCAL CHAPTERS:

Chair: Pam Vincent vincentp@nhlbi.nih.gov
Cindy R. Comeau ccomeau@mriect.com
Kris Barnhart magneticgal@neo.rr.com (NEOhio)
Karen Bove Bettis kebb@nih.gov
Bobbie Burrow bobbie_burrow@emoryhealthcare.org (Atlanta)
John Christopher jmc2v@unix.mail.virginia.edu (Central Virginia)
Leslie Clouston clouston@kc.rr.com (Kansas City)
Muriel Cockburn muriel@postmaster.co.uk
Lynn Fanella Lynn_Fanella@brown.edu
Sharon Greer sgreer@valleyrad.com (San Diego)
Cindy T. Hipps cthipps@charter.net
Mike Kean michael.kean@rch.org.au
Anna Kirilova anna.kirilova@rmp.uhn.on.ca
Francis Schmit fschmit@ntelos.net
Betsy Sestina bsestina@colostate.edu (Rocky Mountain)
Susan Sullivan Susan.Sullivan@mrmc.hma-corp.com
Wendy Strugnell wendystrugnell@internode.on.net
Judy Wood jwood@NMH.org

MEMBERSHIP:

Chair: Nancy Hill Beluk pghbeluks@aol.com
Cindy R. Comeau ccomeau@mriect.com

Kathy Hampton kmhampton2@hotmail.com
Ashok Saraswat saraswat-1@medctr.osu.edu

NOMINATIONS:

Chair: Karen Bove Bettis kebb@nih.gov
Carolyn Bonaceto cbonacet@bidmc.harvard.edu
Silke Bosk silke.bosk@siemens.com
Filip De Ridder filip.deridder@scarlet.be
Todd Frederick todd@advanced-tech-ed.com
Michael Kean michael.kean@rch.org.au
David Stanley David.stanley@med.ge.com New PB
Nancy Talbot nancy.talbot@uhn.on.ca New PB

PROGRAM:

Chair: Vera Miller bvdmler@comcast.net
Cindy R. Comeau ccomeau@mriect.com
Sonja Belville belvills@pbcc.edu
Carolyn Bonaceto cbonacet@bidmc.harvard.edu
Silke Bosk silke.bosk@siemens.com
Muriel Cockburn Muriel.cockburn@haht.scot.nhs.uk
Anne Dorte Blankholm anne@pet.auh.dk
Todd Frederick todd@advanced-tech-ed.com
Gina Greenwood gm.greenwood@hosp.wisc.edu
Anna Kirilova anna.kirilova@rmp.uhn.on.ca
Mercedes Pereyra mpereyra@slsh.com
Steven P. Shannon spshannon@mac.com
Charles Stanley cts7z@virginia.edu
David Stanley david.stanley@med.ge.com
Pamela Vincent vincentp@nhlbi.nih.gov
Judy Wood jwood@nmh.org

PUBLICATIONS:

Chair: Bobbi Lewis blewis@cc.nih.gov
Cindy R. Comeau ccomeau@mriect.com
Greg Brown gbrown1@mail.rah.sa.gov.au
Alyssa Catron Alyssa.Catron@va.gov
Ellen Condon ellencondon@mail.nih.gov
Randy Earnest rearnest@att.net
Sandra S. McKee smckee@cc.nih.gov
Anne M. Sawyer amsawyer@stanford.edu
Mark Spooner mspooner@mac.com
Julie Strandt-Peay jpeay@wi.rr.com
Pamela Vincent vincentp@nhlbi.nih.gov

HOME STUDIES SUB-COMMITTEE:

Chair: Anne Marie Sawyer amsawyer@stanford.edu
Cindy R. Comeau ccomeau@mriect.com
Maureen Ainslie Maureen.Ainslie@duke.edu
Kelly Baron baron4mri@woh.rr.com
Carolyn Bonaceto cbonacet@bidmc.harvard.edu
Karen Bove Bettis kebb@nih.gov
Greg Brown gbrown1@mail.rah.sa.gov.au
Cindy Hipps cthipps@charter.net
Michael Kean Michael.kean@rch.org.au
Anna Kirilova anna.kirilova@rmp.uhn.on.ca
Bobbie Lewis blewis@cc.nih.gov
Laurian A. Rohoman laurian.rohoman@muhc.mcgill.ca
Charles Stanley CTS7Z@hscmail.mcc.virginia.edu
Wendy Strugnell wendystrugnell@internode.on.net
Pamela Vincent vincentp@nhlbi.nih.gov

SIGNALS SUB-COMMITTEE:

Chair: Julie Strandt-Peay jpeay@wi.rr.com
Cindy R. Comeau ccomeau@mriect.com
Heidi Berns heidi.berns@mercyic.org
Karen Bove Bettis kebb@nih.gov
Denise Davis denise@mrctr.upmc.edu
Robin Greene-Avison robin.avison@vanderbilt.edu
Gina Greenwood gm.greenwood@hosp.wisc.edu
Cindy Hipps cthipps@charter.net

Continued on page 8 ➡

SMRT Committees continued

JulieLowe.....j_lowe66@yahoo.com
VeraMiller.....bvdmler@comcast.net
AnneMarieSawyer.....amsawyer@stanford.edu
FrankShellock.....frank.shellock@gte.net

ELECTRONIC SUBMISSIONS SUB-COMMITTEE: HIGHLIGHT YOUR SITE:

Chair: Carolyn A. Bonaceto.....cbonacet@bidmc.harvard.edu
CindyComeau.....ccomeau@mrict.com
KarenBoveBettis.....kebb@nih.gov
Laurian A. Rohoman.....laurian.rohoman@muhc.mcgill.ca
Gina Greenwood.....gm.greenwood@hosp.wisc.edu
JulieB. Lowe.....j_lowe66@yahoo.com
CharlesStanley.....cts7z@virginia.edu

REGIONALS:

Chair: Caron Murray.....caron.murray@sw.ca
CindyR. Comeau.....ccomeau@mrict.com
Carolyn A Bonaceto.....cbonacet@bidmc.harvard.edu
Muriel Cockburn.....muriel.cockburn@haht.scot.nhs.uk
Nancy Hill Beluk.....pghbeluks@aol.com
Mark Spooner.....mspooner@mac.com
James J. Stuppino.....jstuppino@valleyadvancedmri.com
Pam Vincent.....vincentp@nhlbi.nih.gov

Ad-Hoc Committees:

RCEEM:

Chair: Heidi Berns.....heidi.berns@mercyic.org
CindyR. Comeau.....ccomeau@mrict.com
KarenBoveBettis.....kebb@nih.gov
Gina Greenwood.....gm.greenwood@hosp.wisc.edu
CindyT. Hipsps.....cthipps@charter.net
MaureenHood.....mhood@mxc.usuhs.mil
Tamara Lee.....lee@email.chop.edu
JulieLowe.....j_lowe66@yahoo.com
VeraMiller.....bvdmler@comcast.net
CharlesStanley.....CTS7Z@hscmail.mcc.virginia.edu
JamesJ. Stuppino.....jstuppino@valleyadvancedmri.com
Pamela Vincent.....vincentp@nhlbi.nih.gov

Ad-Hoc SMRT Advisory Committee

Chair: KarenBoveBettis.....kebb@nih.gov
CindyR. Comeau.....ccomeau@mrict.com
Heidi Berns.....heidi.berns@mercyic.org
WilliamFaulkner.....faulkner@t2star.com
RobinGreene-Avison.....robin.avison@vanderbilt.edu
JulieStrandt-Peay.....jpeay@wi.rr.com

Ad-Hoc Education Standards Committee

Chair: Mark Spooner.....mspooner@mac.com
Co-Chair: Luann Culbreth.....LuannC@BaylorHealth.edu
CindyHipsps.....cthipps@charter.net
KarenBoveBettis.....kebb@nih.gov
PatrickBeaulieu.....pbeaulieu@montfort.on.ca
Carolyn Bonaceto.....cbonacet@bidmc.harvard.edu
CindyComeau.....ccomeau@mrict.com
DavidClemente.....ClementD@upstate.edu
JohnCrues.....crues@radnetonline.com
DeniseDavis.....denise@mrctr.upmc.edu
RosemaryFisher.....rosemary.fisher@siemens.com
MarkHaacke.....Nmrimging@aol.com
ChristineHarris.....HARRISC@email.chop.edu
Tamara Lee.....lee@email.chop.edu
JulieLowe.....j_lowe66@yahoo.com
PaulMcElvogue.....PaulMRI19@aol.com
VeraMiller.....bvdmler@comcast.net
Nita Patel.....nitapate@umich.edu
SonjaRobb-Belville.....Belvills@pbcc.edu
CandiRoth.....candi@imaginged.com
KarenSmith.....kesmith@telus.net
MarkSpoonier.....mspooner@mac.com
CharlesStanley.....CTS7Z@hscmail.mcc.virginia.edu
RhondaWalcarius.....rwalcars@imaging.robarts.ca

MRI SAFETY

Tattoos, Permanent Cosmetics, and Eye Makeup

Frank G. Shellock, Ph.D., FACC, Adjunct Clinical Professor of Radiology and Medicine, Keck School of Medicine

Director of MRI Studies of Biomimetic MicroElectronic Systems (BMES)

Implants, National Science Foundation

BMES Engineering Research Center, University of Southern California and Institute for

Magnetic Resonance Safety, Education, and Research www.MRIsafety.com, www.IMRSE.org

This article represents the views of its author only and does not reflect those of the International Society for Magnetic Resonance in Medicine and are not made with its authority or approval.

Traditional (i.e., decorative) and cosmetic tattoo procedures have been performed for thousands of years. In the United States, cosmetic tattoos or “permanent cosmetics” are used to reshape, recolor, recreate, or modify eye shadow, eyeliner, eyebrows, lips, beauty marks, and cheek blush. Additionally, permanent cosmetics are often used aesthetically to enhance nipple-areola reconstruction procedures.

Magnetic resonance (MR) imaging is a frequently used imaging modality, particularly for evaluating the brain, head and neck, and other anatomic regions where cosmetic tattoos are typically applied. Unfortunately, there is much confusion regarding the overall safety aspects of permanent cosmetics. For example, based on a few reports of symptoms localized to the tattooed area during MR imaging, many radiologists have refused to perform examinations on individuals with permanent cosmetics, particularly tattooed eyeliner. This undue concern for possible adverse events prevents patients with cosmetic tattoos from access to an important diagnostic imaging technique.

While it is well-known that permanent cosmetics and tattoos may cause MR imaging artifacts and both cosmetic and decorative tattoos may cause relatively minor, short-term cutaneous reactions, the frequency and severity of soft tissue reactions or other related problems associated

with MR imaging and cosmetic tattoos is unknown. Therefore, Tope and Shellock (2002) conducted a study to determine the frequency and severity of adverse events associated with MR imaging in a population of subjects with permanent cosmetics. A questionnaire was distributed to clients of cosmetic tattoo technicians. This survey asked study subjects for demographic data, information about their tattoos, and for their experiences during MR imaging procedures. Results from 1,032 surveys were tabulated. One hundred thirty-five (13.1%) study subjects underwent MR imaging after having permanent cosmetics applied. Of these, only two individuals (1.5%) experienced problems associated with MR imaging. One subject reported a sensation of “slight tingling” and the other subject reported a “burning” sensation. Both incidents were transient in nature and did not prevent the MR procedures from being performed.

Based on these findings and additional information in the peer-reviewed literature, it appears that MR imaging may be performed in patients with permanent cosmetics without any serious soft tissue reactions or adverse events. Therefore, the presence of permanent cosmetics should not prevent a patient from undergoing MR imaging. Furthermore, when one considers the many millions of clinical MR procedures



Continued on page 9 ➔

MRI SAFETY

that have been conducted in patients and that only an extremely small percentage of these individuals have had minor, short-term problems related to the presence of permanent cosmetics, it is apparent that this safety concern has an extremely low rate of occurrence and relatively insignificant consequences.

Before undergoing an MR procedure, the patient should be asked if he or she has ever had a permanent coloring technique (i.e., tattooing) applied to the body. This includes cosmetic applications such as eyeliner, lip-liner, lip coloring, as well as decorative designs. This question is necessary because of the associated imaging artifacts and, more importantly, because a small number of patients (fewer than 10 documented cases) have experienced transient skin irritation, cutaneous swelling, or heating sensations at the site of the permanent colorings in association with MR procedures (review of Medical Device Reports, 1985 to 2005).

Interestingly, decorative tattoos tend to cause worse problems (including first- and second-degree burns) for patients undergoing MR imaging compared to those that have been reported for cosmetic tattoos. With regard to decorative tattoos, a letter to the editor described a second-degree burn that occurred on the skin of the deltoid from a decorative tattoo. The authors suggested that "the heating could have come either from oscillations of the gradients or, more likely from the RF-induced electrical currents." However, the exact mechanism(s) responsible for complications or adverse events in the various cases that have occurred related to decorative tattoos is unknown.

Additionally, Kreidstein et al. reported that a patient experienced a sudden burning pain at the site of a decorative tattoo while undergoing

MR imaging of the lumbar spine using a 1.5-Tesla MR system. Swelling and erythema was resolved within 12 hours, without evidence of permanent sequelae. The tattoo pigment used in this case was ferromagnetic, which possibly explains the symptoms experienced by the patient. Surprisingly, in order to permit completion of the MR examination, an excision of the tattooed skin with primary closure of the site was performed.

The authors of this report stated, "Theoretically, the application of a pressure dressing of the tattoo may prevent any tissue distortion due to ferromagnetic pull." However, this simple, relatively benign procedure was not attempted for this patient. They also indicated that, "In some cases, removal of the tattoo may be the most practical means of allowing MRI".

Kanal and Shellock (1998) commented on this report in a letter to the editor, suggesting that the response to this situation was "rather aggressive." Clearly the trauma, expense, and morbidity associated with excision of a tattoo far exceed those that may be associated with ferromagnetic tattoo interactions. A firmly applied pressure bandage may be used if there is any concern related to "movement" of the ferromagnetic particles in the tattoo pigment. Additionally, direct application of a cold compress to the site of a tattoo would likely mitigate any heating sensation that may occur in association with MR imaging.

Artifacts. Imaging artifacts associated with permanent cosmetics and certain types of eye makeup have been reported. These artifacts are predominantly associated with the presence of pigments that use iron oxide or other type of metal and occur in the immediate area of the applied pigment or

material. As such, tattoo- and makeup-related MR imaging artifacts should not prevent a diagnostically adequate MR imaging procedure from being performed, especially in consideration that careful selection of imaging parameters may easily minimize artifacts related to metallic materials.

The only possible exception to this is if the anatomy of interest is in the exact same position of where the tattoo was applied using an iron oxide-based pigment. For example, Weiss et al. reported that heavy metal particles used in the pigment base of mascara and eyeliner tattoos, have a paramagnetic effect that causes alteration of the local magnetic field in adjacent tissues. Changes in the MR signal pattern may result in distortion of the globes. In some cases, the artifact and distortion may mimic actual ocular disease, such as a ciliary body melanoma or cyst.

GUIDELINES & RECOMMENDATIONS

In consideration of the available literature and experience pertaining to MR procedures and patients with permanent cosmetics and tattoos, guidelines to manage these individuals include, the following:

- (1) The screening form used for patients should include a question to identify the presence of permanent cosmetics or decorative tattoos.
- (2) Before undergoing an MR procedure, the patient should be asked if he or she had a permanent coloring technique (i.e., tattooing) applied to any part of the body. This includes cosmetic applications such as eyeliner, lip-liner, lip coloring, as well as decorative designs.
- (3) The patient should be informed of the relatively minor risk associated with the site of the tattoo.

Continued on page 10 ➡

MRI SAFETY

- (4) The patient should be advised to immediately inform the MRI technologist regarding any unusual sensation felt at the site of the tattoo in association with the MR procedure.
- (5) The patient should be closely monitored using visual and auditory means throughout the entire operation of the MR system to ensure safety.
- (6) As a precautionary measure, a cold compress (e.g., wet washcloth) may be applied to the tattoo site during the MR procedure.

In addition to the above, information and recommendations have been provided for patients by the United States Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Cosmetics and Colors Fact Sheet, as follows: "... the risks of avoiding an MRI when your doctor has recommended one are likely to be much greater than the risks of complications from an interaction between the MRI and tattoo or permanent makeup. Instead of avoiding an MRI, individuals who have tattoos or permanent makeup should inform the radiologist or technician of this fact in order to take appropriate precautions, avoid complications, and assure the best results."

REFERENCES

- Becker H. The use of intradermal tattoo to enhance the final result of nipple-areola reconstruction. *Plast Reconstr Surg* 1986;77:673.
- Carr JJ. Danger in performing MR imaging on women who have tattooed eyeliner or similar types of permanent cosmetic injections. *AJR Am J Roentgenol* 1995; 165:1546-1547.
- U. S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, Office of Cosmetics and Colors Fact Sheet, Tattoos and permanent makeup. November 29, 2000.
- Gomey M. Tattoo pigments, patient clothing, and magnetic resonance imaging. *Risk Management Bulletin* #12748-8/95, The Doctors' Company, Napa, CA. August, 1995.
- Halder RM, Pham HN, Hreadon JY, Johnson HA. Micropigmentation for the treatment of vitiligo. *J Dermatol Surg Oncol* 1989;15:1092-1098.
- Jackson JG, Acker H. Permanent eyeliner and MR imaging. (letter) *AJR Am J Roentgenol* 1987;149:1080.
- Kanal E, Borgstede JP, Barkovich AJ, Bell C, et al. American College of Radiology, White paper on MR safety. *American Journal of Roentgenology* 2002;178:1335-1347.
- Kanal E, Shellock FG. MRI interaction with tattoo pigments. (letter) *Plast Reconstr Surg* 1998;101:1150-1151.
- Kreidstein ML, Giguere D, Freiberg A. MRI interaction with tattoo pigments: case report, pathophysiology, and management. *Plast Reconstr Surg* 1997;99:1717-1720.
- Lund A, Nelson ID, Wirtschafter ID, Williams PA. Tattooing of eyelids: magnetic resonance imaging artifacts. *Ophthalmic Surg* 1986;17:550-553.
- Sacco D, et al. Artifacts caused by cosmetics in MR imaging of the head. *Am J Roentgenol* 1987;148:1001-1004.
- Shellock FG. *Magnetic Resonance Procedures: Health Effects and Safety*, CRC Press, LLC, Boca Raton, FL, 2001.
- Shellock FG. *Guide to MR Procedures and Metallic Objects: Update 2001*. Seventh Edition, Lippincott Williams & Wilkins Healthcare, Philadelphia, 2001.
- Tattoos. *FDA Medical Bulletin* 1994;24:8.
- Tope WD, Shellock FG. Magnetic resonance imaging and permanent cosmetics (tattoos): survey of complications and adverse events. *J Magn Reson Imaging* 2002;15:180-184.
- Vahlensieck M. Tattoo-related cutaneous inflammation (burn grade I) in a mid-field MR scanner. (letter) *Eur Radiol* 2000;10:97.
- Wagle WA, Smith M. Tattoo-induced skin burn during MR imaging. (letter) *Am J Roentgenol* 2000; 174:1795.
- Weiss RA, Saint-Louis LA, Haik BG, McCord CD, Taveras JL. Mascara and eye-lining tattoos: MRI artifacts. *Ann Ophthalmology* 1989;21:129-131.

RSNA | 2006

Strengthening
Professionalism



Associated Sciences Program at RSNA 2006

Registration Information for the RSNA Annual Meeting

Sunday, November 26 –
Friday, December 1, 2006

Advance registration for the RSNA annual meeting ends November 10, 2006. Registration at McCormick Place begins at 12:00 pm on Saturday, November 25. RSNA shuttle bus service to McCormick Place will be available beginning at 11:00 am on Saturday. Registration is required to attend the Associated Sciences programs. Registration fees at McCormick Place are \$100.00 higher than advance registration fees.

Advance registration and housing information can be found at rsna2006.rsna.org.

If you would like a copy of the published Associated Sciences Proceedings, please call 1-630-571-7874.

Sponsoring Organizations

- American Healthcare Radiology Administrators (AHRA)
- American Institute of Architects – Academy on Architecture for Health (AIA-AAH)
- American Radiological Nurses Association (ARNA)
- American Society of Radiologic Technologists (ASRT)
- Association of Educators in Radiological Sciences, Inc. (AERS)
- Association of Vascular and Interventional Radiographers (AVIR)
- Canadian Association of Medical Radiation Technologists (CAMRT)
- Radiology Business Management Association (RBMA)
- Section for Magnetic Resonance Technologists (SMRT-ISMRM)
- Society of Nuclear Medicine – Technologists Section (SNM-TS)

RSNA is an ARRT-approved Recognized Continuing Education Evaluation Mechanism (RCEEM) and will provide Category A continuing education credits for technologists.

ASSOCIATED SCIENCES SYMPOSIUM (Approved for 3 AMA PRA Category 1 credits™)

Monday, 8:30 AM – 11:30 AM

The Art and Science of Radiology Planning and Design

Morris A. Stein, FAIA, FACHA, *Moderator*

The 2006 symposium will explore four overarching trends that significantly determine how imaging project design and implementation will be impacted.

Opening Comments

Jordan B. Renner, MD

New Technology: Trends and Science That Impact Building Planning, Design and Construction in any Radiology Setting

Morris A. Stein, FAIA, FACHA

New Places: Directions and Patterns for Imaging Outside the Traditional Imaging Department

Bill Rostenberg, FAIA, FACHA

New Work: How Changes in Practice, Expectations and Work Flow Relate to Facility Design

Steven C. Horii, MD

New Environments: The Relationship of Design to Patient Satisfaction and Staff Performance

Panel Presentation and Discussion

AAPM/RSNA BASIC PHYSICS LECTURE FOR THE RADIOLOGIC TECHNOLOGIST

(Approved for 1.25 AMA PRA Category 1 credits)

Monday, 1:30 – 2:45 PM

Picture Archiving and Communication Systems—Questions and Answers

Beth A. Schueler, PhD, *Organizer*; Steve G. Langer, PhD; Kenneth A. Fetterly, PhD

REFRESHER COURSES Sponsored by the Associated Sciences Consortium

(Each refresher course is approved for 1.5 AMA PRA Category 1 credits)

Monday, November 27

AS21 1:30 PM – 3:00 PM

Fusion Imaging: Technical & Clinical Highlights

Becky Kruse, RT(R), *Moderator*
Steve Bujenovic, MD

AS22 3:30 pm – 5:00 pm

Optimizing Image Acquisition and Display in Digital Radiography

Sue Crowley, *Moderator*
Charles B. Burns, MS, RT(R)
Kerry T. Krugh, PhD

Tuesday, November 28

AS31 8:30 AM – 10:00 AM

Compliance Continuum for Radiologists

Kathryn J. Canny, *Moderator*
Claudia Murray
Barbara Rubel, MBA

AS32 10:30 AM – 12:00 PM

Policies and Procedures: The Key to Imaging Compliance

Judy LeRose, BS, *Moderator*
Melody W. Mulaik, RCC
Herman Oosterwijk, MS
Daniel K. Knepper, MD

AS33 1:30 pm – 3:00 pm

Development of the Radiologist Assistant: An Education and Certification Update

Arlene M. Adler, MEd, RT(R), *Moderator*
Salvatore Martino, MEd, EdD
Jerry B. Reid, PhD

AS34 3:30 pm – 5:00 pm

The Treasure Hunt: Keys to Unlocking Radiology Reimbursement

Kathryn J. Canny, *Moderator*
Patricia Kroken, FACMPE, CRA
Walter C. Blackham, MD, RT(R)

Wednesday, November 29

AS41 8:30 AM – 10:00 AM

Joint Commission on Accreditation of Healthcare Organizations National Patient Safety Goals

Jordan B. Renner, MD, *Moderator*
JoAnn Belanger, RN

AS42 10:30 am – 12:00 pm

Controversies in Screening: Breast, Cardiac, Chest, and Virtual Colonoscopy

Karen J. Finnegan, MS, RT(R)(CV), *Moderator*
Reuben S. Mezrich, MD, PhD
Charles S. White, MD
David J. Vining, MD

RSNA

Radiological Society
of North America
Founded in 1915

820 Jorie Blvd.
Oak Brook, IL 60523-2251
1-800-381-6660 FAX: 1-630-571-7837
RSNA.org

SMRT/ISMRM **CALENDAR**

SMRT Eastern Canada Regional Educational Seminar

4 November 2006

Sunnybrook & Women's College
Toronto, Ontario, Canada

ISMRM Workshop on Data Processing for MR Spectroscopy and Imaging

11-13 November 2006

Airlie Foundation & Conference Center
Warrenton, Virginia, USA

SMRT Australia - New Zealand Regional Educational Seminar

18-19 November 2006

Brisbane, Queensland, Australia

ISMRM Workshop on Cruising into Molecular and Cellular Imaging

4-9 February 2007

Rhapsody of the Seas by Royal Caribbean International
Western Caribbean Cruise from Galveston, Texas, USA to Cozumel, Mexico

ISMRM Workshop on MR Physics & Techniques for Clinicians

11-15 February 2007

The Fairmont Chateau Lake Louise
Lake Louise, Alberta, Canada

ISMRM Workshop on Non-Cartesian MRI

25-28 February 2007

Enchantment Resort
Sedona, Arizona, USA

SMRT President's Regional Educational Seminar

10 March 2007

Morgan Stanley Children's Hospital
New York, New York, USA

ISMRM Workshop on Advances in High-Field MR

25-28 March 2007

Asilomar Conference Center
Pacific Grove, California, USA

SMRT 16th Annual Meeting

19-20 May 2007

Berlin, Germany

Joint Annual Meeting ISMRM-ESMRMB 2007

19-25 May 2007

Berlin, Germany

Signals

... is published by the International Society for Magnetic Resonance in Medicine, 2118 Milvia Street, Suite 201, Berkeley, CA 94704, USA

Signals is produced quarterly for the benefit of the SMRT membership. In addition to this printed copy of Signals, an electronic version is available to members on the SMRT Website. Remember to check the website often for updates and features that are important to you.

SIGNALS NEWSLETTER COMMITTEE:

Julie Strandt-Peay, B.S.M., R.T. (R)(MR),
Signals Editor
Heidi Berns, M.S., R.T. (R)(MR)
Karen Bove Bettis, R.T. (R)(MR)
Cindy Comeau, B.S., R.T. (N)(MR)
Denise Davis, B.S., R.T. (R)(MR)
Robin Greene-Avison, R.T. (N)(MR) C.N.M.T.
Gina Greenwood, B.S., R.T. (R)(MR)
Cindy T. Hipps, B.H.S., R.T. (R)(MR)
Julia Lowe, B.S., R.T. (R)(MR)
Vera Miller, B.S., R.T.
Anne Marie Sawyer, B.S., R.T. (R)(MR)
Frank G. Shellock, Ph.D.

PUBLICATIONS COMMITTEE:

Bobbi Lewis, B.A., A.R.M.R.I.T., Chair
Greg Brown, R.T.
Alyssa Catron, R.T. (R)
Cindy Comeau, B.S., R.T. (N)(MR)
Ellen Condon, R.T.
Randy Earnest, B.S.
Sandra S. McKee, R.T. (R)(MR)
Anne Marie Sawyer, B.S., R.T. (R)(MR),
SMRT Educational Seminars Editor
Mark Spooner, B.P.S., R.T. (R)(MR)(CT)
Julie Strandt-Peay, B.S.M., R.T. (R)(MR),
Signals Editor
Pamela Vincent, M.P.A., R.T. (R)(CT)(MR)

ELECTRONIC SUBMISSIONS COMMITTEE:

Carolyn A. Bonaceto, B.S., R.T. (R)(MR), Chair
Karen Bove Bettis, R.T. (R)(MR)
Cindy Comeau, B.S., R.T. (N)(MR)
Gina M. Greenwood, B.S., R.T. (R)(MR)
Julia Lowe, B.S., R.T. (R)(MR)
Laurian Z. Rohoman, A.C.R., R.T. (R)(MR)
Charles T. Stanley, CRA, R.T. (R)(CT)(MR)

OFFICERS:

President:
Cindy Comeau, B.S., R.T. (N)(MR)

President-Elect:
Carolyn Bonaceto, B.S., R.T. (R)(MR)

Past-President:
Karen Bove Bettis, R.T. (R)(MR)

Secretary:
Gina M. Greenwood, B.S., R.T. (R)(MR)

Treasurer:
Laurian Z. Rohoman, A.C.R., R.T. (R)(MR)

ISMRM Executive Director: Roberta A. Kravitz
ISMRM Associate Executive Director: Jennifer Olson
ISMRM Publications Coordinator, Design and Layout:
Sara Vasquez

© 2006 by International Society for
Magnetic Resonance in Medicine
Phone: +1 510 841 1899
Fax: +1 510 841 2340
E-mail: smrt@ismrm.org

SMRT Web Page: <http://www.ismrm.org/smrt>