## Program at a Glance

### Wednesday | mercredi
April 26 avril

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<td>1105-1150 Rajiv Samant</td>
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*Updated April 18, 2017*
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Welcome to Ottawa!
It is our honour and great pleasure to welcome you all to Ottawa, Ontario for the CAMRT-OAMRS Annual General Conference (AGC) — we’ve been looking forward to this event for a long time. The weekend promises a full complement of leading edge scientific programming, stimulating panel discussions and unique and exciting social gatherings. We’d like to give a special thanks to all of you who volunteered, without your dedication and hard work, an event like this would not be possible.

Over the next few days, please take the time to visit the 2017 exhibit hall — this year dozens of exhibitors are on hand to share their latest and most innovative new technologies across the professions. The exhibit hall is also where you will find representatives from both CAMRT and OAMRS — be sure to visit our booth to have all your questions answered and to discover how your associations are actively representing you through initiatives and advocacy.

We hope you will also join us at some of the many and varied social activities. We look forward to seeing you at the 2017 Presidents’ Event, as we take time to celebrate, mingle and have some fun with colleagues, friends and family.

We wish all of you an exciting time in Ottawa!

Bienvenue à Ottawa!
Nous sommes honorés et extrêmement heureux de vous accueillir à Ottawa, Ontario pour le Congrès général annuel conjoint ACTRM-OAMRS — un événement que nous attendions depuis longtemps. Le week-end s’annonce prometteur, avec une programmation scientifique de pointe, des discussions d’experts stimulantes et des activités sociales uniques et excitantes. Nous aimerions remercier tout particulièrement tous ceux et celles d’entre vous qui ont travaillé bénévolement à son organisation : sans votre dévouement et votre travail acharné, un événement comme celui-ci ne serait pas possible.

Au cours des prochains jours, nous vous invitons à rendre le temps de visiter le hall d’exposition de 2017 — des douzaines d’exposants sont sur place cette année pour présenter leurs technologies les plus récentes et les plus innovatrices dans tous les domaines de la profession. C’est aussi dans le hall d’exposition que vous pourrez rencontrer les représentants de l’ACTRM et de l’OAMRS — assurez-vous de visiter notre stand afin d’obtenir les réponses à toutes vos questions et découvrir comment vos associations vous représentent activement par leurs initiatives et leurs efforts de défense des intérêts de la profession.

Nous espérons aussi que vous vous joindrez à nous à l’occasion des activités sociales, aussi nombreuses que variées. C’est avec plaisir que nous vous accueillerons à le gala des présidents 2017, afin de célébrer, de faire des rencontres et d’avoir du plaisir entre collègues, amis et membres de la famille.

Nous vous souhaitons à tous un séjour excitant à Ottawa!
Welch Memorial Lecture | Conférence commémorative Welch
Lisa Di Prospero, MRT(T), BSc, MSc

The Welch Memorial Lecture was established in 1951 to honour Mr. Herbert M. Welch, one of the pioneer members of the CAMRT. Mr. Welch was also president of the CAMRT from 1949 to 1950. The honour to deliver this lecture is bestowed upon a member of the CAMRT who has made an outstanding contribution to the profession at a national level.

This year’s Welch Memorial Lecture will be delivered by Lisa Di Prospero. Lisa has recently been appointed the Interim Director for Practice-Based Research and Innovation at Sunnybrook Health Sciences Centre. Previous to this appointment, she was the Professional Leader and Manager of Education and Research for Radiation Therapy at the Odette Cancer Centre at Sunnybrook Health Sciences Centre (since 2010). She is an Assistant Professor in the Department of Radiation Oncology and Associate Member at the Institute of Medical Sciences, School of Graduate Studies at the University of Toronto. She received her undergraduate and graduate degree in biology at McMaster University under the supervision of Dr. Andrew Rainbow and graduated from the Toronto-Sunnybrook School of Radiation Therapy in 1996. Throughout her professional career, Lisa has held a number of appointments in both research and education. Previous to joining Sunnybrook, she was a Professor in the undergraduate Medical Radiation Sciences program at the Michener Institute for Applied Health Sciences / The University of Toronto (since 2001). She continues to teach at both the undergraduate and graduate level. Lisa has authored and co-authored numerous articles and continues to mentor and coach both intra- and inter-professional colleagues. Lisa was named the Editor-in-Chief of the Journal of Medical Imaging and Radiation Sciences (JMIRS) in 2013, an international, peer-reviewed journal. Lisa currently serves on committees for both the College of Medical Radiation Technologists of Ontario (CMRTO) and the Canadian Association of Medical Radiation Technologists (CAMRT). In 2014, she was the recipient of the Steward of the Profession Award from the CAMRT and more recently, the Ivy Oandasan Leadership Award from the Centre for IPE at the University of Toronto, and the Department of Radiation Oncology Professional Development and CME Award (2016).

Mary F. Cameron Lecture | Conférence Mary F. Cameron
Debbie Havill, BSC, CRGS

Mary F. Cameron was one of the founders of the OAMRS and one of the original ‘Group of 35’ (1935). She was the main catalyst behind the shaping and development of the present OAMRS, and her reputation for determination and resolve is still strong today. Her role as Chief Technician at the McGregor Clinic in Hamilton lasted from 1928 – 1958. Mrs. Cameron was a renowned Lecturer, and her accomplishments included fostering international relations with the CSRT/ASXT Conferences, and being the recipient of the CSRT George Reason Cup. Each year, an OAMRS member is asked to deliver a lecture in her name. This is a very prestigious honour, as the member is chosen for their continued support and advancement of the profession. This is the final year for the Mary F. Cameron Lecture; in the future, the acknowledgement of her legacy will be integrated into the new OAMRS Mary F. Cameron Leadership Award.

Debbie Havill planned to be an x-ray technologist from the time she was young, but a well-meaning high school guidance counselor directed her to university. Perhaps providence intervened as her roommate at the University of Toronto, the only non-U of T student in residence, was enrolled in x-ray technology at the Toronto Institute of Medical Technology. After completing her undergraduate first year, Debbie was accepted at The Hospital for Sick Children for entry into the x-ray program. Following graduation, she was hired by HSC and trained in Special Procedures and CT. She was privileged to start their ultrasound department with Dr. David Martin and soon enrolled in the first ultrasound program at TIMT. She and some of her classmates incorporated the provincial Ultrasound society and she became its first president.

She was TIMT’s third Ultrasound Program Coordinator but patients again beckoned and she returned to University Avenue as Charge Sonographer at Toronto General Hospital in the department directed by Dr. Stephanie Wilson. She completed her BSc, remained active in the provincial society, served on the Board of the CSDMS and became the third Executive Director of the OSDMS until the merger with the OAMRT to become the OAMRS. She continues to work at the University Health Network in the JDMI Research Department.
Plenary Lecture

Ann Mitchell, RN, BNSc, MEd

Ann has worked in maternal newborn care for 28 years, as a Neonatal Intensive Care Nurse, Coordinator with the Champlain Maternal Newborn Regional Program, and Director of Obstetrics, Gynecology, Newborn Care and Pediatrics at Kingston General Hospital. She joined The Ottawa Hospital in 2009 as the Director of Obstetrics Gynecology and Newborn Care. She recently completed a 5-year joint Director role with CHEO, responsible for the NICU, Neonatal Transport Team and Neonatal Follow-up Clinic. Ann is passionate about patient safety, quality improvement and creating a Just Culture for all health care professionals.

Plenary Lecture

Maggie Green & Andrew McKenna

As Vice President of BMS Canada Risk Services Ltd. (BMS Group), Maggie delivers customized claims and risk management services to health care organizations and their members. A registered health professional with a Masters in Healthcare Quality, Risk and Safety, Maggie leads and directs the risk management services for the CAMRT insurance program. Working collaboratively with CAMRT, legal, and insurance partners, Maggie evaluates the risk exposures specific to medical radiation technologists. Maggie is a frequent speaker on professional liability, insurance, and risk management, and regularly delivers sessions at conferences and educational institutions.

Her research interests and publications focus on health professional practice risk, including medical malpractice trends and liability insurance coverage, and how they relate to the quality and safety of care.

Mr. McKenna is a partner in Gowling WLG’s Ottawa office. Mr. McKenna represents health care professionals in professional liability and regulatory matters. In addition to appearing in all levels of court in Ontario, he represents health care professionals in discipline committee matters, hospital board proceedings and before various other administrative tribunals. Mr. McKenna was called to the Ontario Bar in 2002 and is a member of the Law Society of Upper Canada. Mr. McKenna is also a member of the Law Society of Nunavut, having been called to the Nunavut Bar in 2003. He is a member of the Ontario Bar Association, the Advocates Society and the County of Carleton Law Association. Mr. McKenna is a regular contributor to continuing medical education programs for health care professionals. He is also actively involved in continuing legal education programs and in the student program at Gowling WLG. He is a past instructor of trial advocacy at the University of Ottawa Faculty of Law and is a volunteer with Pro-Bono Law Ontario.

Plenary Lecture

Gretchen Conrad, PhD, C.Psych

Dr. Gretchen Conrad is a Clinical and Health Psychologist, employed at the Ottawa Hospital since 1993 and is working in variety of contexts within mental health: general in-patient and out-patient Psychiatry, the Eating Disorders Program, the Early Psychosis Intervention Program, and 2 years as Acting Chief of Psychology. Responsibilities have included group and individual therapy, diagnostic assessment, program design and evaluation, teaching and supervision, and community education and presentations. Throughout her career, she has advocated for youth mental health. She served as Co-Chair of the Early Psychosis Intervention Ontario Network (EPION) from 2009–2013, and she helped develop the Ontario Standards for Early Psychosis Intervention. Currently she is on secondment to the Transitional Aged Youth (TAY) Service, Royal Ottawa Mental Health Centre, developing and implementing a program for youth with moderate to severe concurrent disorders. In her non-work time, Dr. Conrad likes to travel and to participate in half marathons with her husband and her three (early) adult children.
**Plenary Lecture**  
**Rajiv Samant, MD, FRCP**  
Rajiv is a Radiation Oncologist at The Ottawa Hospital and an Associate Professor in the Faculty of Medicine at the University of Ottawa. He graduated from medical school at Dalhousie University in 1988. He then interned at the Regina General Hospital in 1989 and completed his residency in radiation oncology in Ottawa in 1993. He worked in Newfoundland, British Columbia and northern Ontario before returning to Ottawa in 2001. He has been caring for cancer patients for over 25 years, and has gained much wisdom from his patients and colleagues during that time. As a teacher, educator and researcher interested in improving how we deal and communicate with patients and their families, he believes patients need to be treated on an individual basis with dignity, respect and kindness. He also believes in a good dose of humour where circumstances allow for levity to enter a too-often serious world. Many people view cancer as all doom and gloom, and think that his job must be very serious, sad and depressing all the time. However, there is much more humour and positivity when dealing with cancer patients than you might think. In fact, since cancer will affect almost half of all North Americans, it might be beneficial to deal with it in a positive way! He has decided to show people that working with cancer patients can be filled with laughter and smiles. This is why he published his book titled “Smiles from the Clinic: A humorous look at cancer” and wants to share with everyone the true, funny stories and experiences that he has witnessed in his day-to-day work. His prescription for everyone, including those with cancer and those without it, is a daily dose of smiles and humour – and you don't need to go to the pharmacy to get this, it is all around you!

**ASRT Speaker**  
**Regina A. Ley, AS, RT(T)**  
Regina Ley is the recipient of the International Speakers Exchange Award, which provides a speaking opportunity at the CAMRT conference to an outstanding member of the American Society of Radiologic Technologists. She knows better than most that access to treatment is the key to surviving cancer. She recently worked as an ASRT Foundation Community Outreach Fellow in Kenya to help improve patient care. Regina has been a radiation therapist for 25 years. She works for Memorial Sloan-Kettering Cancer Center in New York — where she was treated for Hodgkin’s Disease at the age of 20.
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**SUNDAY APRIL 30 | DIMANCHE 30 AVRIL**

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<td>Technostress – Understanding and Managing the Impact of Technology: The Good, the Bad, and the Ugly</td>
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PROGRAM COMMITTEE | COMITÉ DE PROGRAMME

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We would like to thank the committee members for their time and effort. In addition, thank you to the many on-site conference volunteers – we could not do it without you!

Nous souhaitons remercier les membres du comité pour leur temps et leurs efforts. Merci également aux nombreux bénévoles qui œuvrent sur le site du Congrès – nous n’aurions pas pu y arriver sans vous!
As we mature, gain experience and feel as if we have truly found our niche in the workplace, we start to feel comfortable. However, this is never a permanent state in the ever-changing world of health care. When the inevitable ripples in the calmness occur, we have an opportunity to challenge ourselves and think outside of our siloed perspective with a sense of curiosity and adventure, as opposed to fear. In this session, my hope is to take you on a journey of discovery that will reframe the sense of being uncomfortable as an energy that can be harnessed and leveraged, rather than being intimidating. The latter half of the session will outline ideas for approaching “uncomfortable” from a leadership perspective: how to realize and utilize the strength in the collective, and the importance of identifying and accepting our vulnerabilities.

Think of the people who have influenced you over your career and/or lifetime. They may be your parents, teachers, family, friends, leaders in our profession, patients or colleagues. These individuals may have shaped your career choice, place of employment, your work style, patient care or your day-to-day happiness and contentment. Have you been “the one” to influence someone? Beyond personal benefits, our learned or adopted behaviours can dramatically affect our patients and their well-being. How do your patients affect you? This talk will explore the impact – positive and negative – individuals have within the world of medical imaging and therapy using anecdotes, documented research and your stories.

Response to errors in health care traditionally was reactive rather than proactive and often the focus was on the severe outcomes. Encouraging the development of a learning culture enables hospitals to ensure systems are designed to support our employees, and employees are comfortable to identify mistakes so we can all learn from them. While a no-blame approach to errors focuses on addressing system issues and not individual blame, it doesn’t take into consideration the quality of decision making or accountability of the individual.

A “Just Culture” model carefully considers the importance of fostering individual accountability and system improvements. There are four primary considerations that must be considered when instituting a Just Culture within an organization. In this presentation, I will discuss the inevitability of human error; the difference between human error, at-risk behaviour, and reckless behaviour; and how organizations can respond using a just approach. I will also briefly discuss organizational transformation through the implementation of a Just Culture.
Plenary Lecture / Top Legal and Liability Issues Facing MRTs Today
Maggie Green & Andrew McKenna
How much do you know about the risks and liabilities associated with your work as a medical radiation technologist? Join BMS Group and Gowling WLG (Canada) LLP, CAMRT’s professional liability insurance program broker and legal counsel, for an interactive discussion on the top legal and liability issues facing your profession today. Learn more about the common questions that come through the CAMRT pro bono legal hotline and take the opportunity to ask some of your own.

Plenary Lecture / Understanding and Managing the Impact of Technology: The Good, the Bad, and the Ugly
Gretchen Conrad, PhD, C.Psych
The online Collins dictionary defines Technostress as “any mental stress caused by (too much) interaction with technology”. It involves our reaction to technology and technological advances, and how we are responding and changing as a result. Technology brings advantages: we can do many activities simultaneously, communicate almost instantly, work from multiple locations, and we have access to more information than ever before. However, with these advantages have come some challenges, some new sources of stress. Cellphones, tablets, and portable computers blur the boundaries between work and non-work. People often feel pressured and overwhelmed. Email and social media can consume hours in the day. We often have difficulty disconnecting or protecting down-time. Keeping pace with technological changes can be exhausting (and intimidating). Technology has changed the way we socialize and interact. This presentation will discuss reasons for technostress, associated changes, and possible techniques to mitigate the challenges. Technology is all around us, it is embedded in our lives, and it is here to stay. It is important to be aware of technology’s impact — the good and the bad, some obvious and some subtle. By doing so, we can better manage the impact of technology, rather than having technology manage us.

Plenary Lecture / Are Humour and Cancer Compatible?
Rajiv Samant, MD, FRCPC
In this lecture, issues related to Humour and Cancer will be discussed. These topics will include a definition and the value of humour, whether humour has a place in health care, research findings, anecdotal evidence and experiences, and the role of humour in cancer care.

ASRT Speaker / The Quest for Hakuna Matata - My Journey into Community Global Outreach
Regina A. Ley, AS, RT(T)
Can you imagine if your chances of surviving cancer were determined on winning a healthcare “lottery”? This is a reality for people in under-developed countries every day. Hakuna Matata may mean “no worries” in Swahili but you won’t hear that “wonderful phrase” from any of the 1,200 Kenyan people on the waitlist for radiation treatments. Our professional community has the skill, compassion and resources it takes to change that. Join Regina as she shares her experiences as an outreach fellow with the unique viewpoint of a veteran radiation therapist and two-time cancer survivor.
Review of Image-Guided Procedures Used in Breast Imaging
Susan Peddle, MD
APR 29 - 08:30-09:15  Ontario Room

The main image-guided procedures used in the diagnosis and management of breast cancer including mammographic, stereotactic, sonographic and MRI guidance will be demonstrated. Biopsy technique and radioactive seed localizations will be reviewed, as well as the role of the technologist in each procedure. Tips for optimizing technique and ensuring accurate correlation among the various modalities will be provided by reviewing cases.

Objectives:
• List the image-guided procedures commonly used in the diagnosis and management of breast cancer
• Describe how and why each modality is used in different patients to optimize diagnostic accuracy
• Recognize the importance of a team approach to optimize patient care

Breast Imaging - Quality Imaging and Assessment
Sharlene Bilmer, MRT(R), CBI, RDMS (BR)
APR 29 - 09:20-10:05  Ontario Room

This presentation will allow the participant to acquire an in-depth knowledge on patient positioning and practical directions for improving image quality. The presentation includes critique of both routine mammography views as well as the application of specialty views in a diagnostic setting. The role of tomosynthesis will be discussed briefly. The techniques for optimizing breast ultrasound images will be discussed.

Objectives:
• Identify techniques to maximize tissue acquisition for the routine mammographic views
• Acquire knowledge and be able to identify optimized breast ultrasound scanning technique

Digital Breast Tomosynthesis – Is it a Better Mammogram?
Vivianne Fridas, MD
APR 29 - 10:30-11:15  Ontario Room

Digital breast tomosynthesis (DBT) is an imaging technology that addresses the limitation caused by overlapping structures by acquiring a series of low-dose projection images. Computer reconstruction allows the reader to examine 1-mm single-section images from the volumetric dataset on a workstation. Therefore, this technique is associated with reduced recall rates, which improves work flow. It also has shown improved sensitivity and specificity compared with digital mammography, increasing cancer detection rate. This lecture intends to review the benefits and limitations of DBT in the diagnostic setting and discusses the implementation requirements.

Objectives:
• Explore the benefits and limitations of DBT
• Acquire knowledge about the implementation requirements of DBT technology

Breast Screening: Controversies of Screening 40-50 Years and Over Diagnosis
Jean Seely, MDCM, FRCP C
APR 29 - 11:20-12:05  Ontario Room

There are many benefits of screening mammography, the most important being 40% relative reduction in breast cancer mortality, and 9% absolute reduction in breast cancer mortality. Increased awareness and earlier detection of breast cancer, along with improved treatments have led to this marked improvement in mortality. Nonetheless, there are controversies surrounding screening mammography, including variations in how the benefits are estimated. Some of the limitations of screening mammography will be covered: 25-30% of women still die from their breast cancer despite early diagnosis, 10% of women are overdiagnosed and overtreated for cancers that would not lead to their death, and 15% have cancers that are not detected with mammography, found only by clinical breast exam or symptoms. The methods of most accurately estimating the benefits of screening mammography will be shown, with a focus on the number needed to participate or screen, compared to the number needed to invite. A review of the factors leading to overdiagnosis will be presented. The limitations of breast tissue density and how it affects the sensitivity of mammography will be reviewed. Ways on how to improve the sensitivity of mammography screening with supplemental techniques will be discussed.

Objectives:
• Describe the most recent evidence in support of screening women 40-49 years old
• Define overdiagnosis in screening mammography
• Illustrate the connection between overdiagnosis and DCIS

Screening Breast Ultrasound
Andrew Scott-Moncrieff, MD
APR 29 - 13:10-13:55  Ontario Room

This presentation will review the current evidence for whole breast ultrasound as a supplemental screening modality alongside mammography. Appropriate applications of screening breast ultrasound will be addressed as well as highlighting emerging technologies through a broad range of case examples.
**Objectives:**
- Understand the current evidence for use of breast ultrasound as a supplemental screening modality
- Understand the advantages and disadvantages of screening breast ultrasound as it compares to mammography
- Understand the appropriate application of breast ultrasound as a supplemental modality

**Breast Cancer Pathology**
Zuzana Kos, MD, FRCPC

**APR 29- 14:00-14:45 Ontario Room**

The presentation will review the concept of cancer and the differences between invasive and in situ carcinoma. The most common subtypes and prognostic factors in breast cancer will be discussed. The role of the pathologist in the workup and treatment of breast cancer will be covered. The importance of biomarker testing in breast cancer will be addressed. The concept of molecular subtypes of breast cancer will be introduced, as will the role of molecular prognostic testing for treatment decisions.

**Objectives:**
- Explain the differences between invasive and in situ carcinoma
- Discuss the role of pathology in the workup and treatment of breast cancer
- Describe the importance of biomarker testing in breast cancer

**BI-RADS (Breast Imaging Reporting and Data System) 5th Edition, Review of Changes**
Neety Panu, MD

**APR 29- 15:15-16:00 Ontario Room**

This presentation will offer an overview of the BI-RADS classification, specifically the revisions in the 5th edition to assessment categories, mammography, ultrasound and MRI.

**Objectives:**
- Acquire a brief review of BI-RADS
- Acquire an outline of changes to the BI-RADS classification from 4th to 5th edition:
  - Assessment Categories
  - Mammography Revisions
  - Ultrasound Revisions
  - MRI Revisions

**Transition to Out-Patient Gastrostomy Tubes for Patients with Head/Neck Cancers**
Irene Ravadilla-Semella, RN, MScN
Gladys Mokaya, MSN

**APR 28- 09:50-10:10 Ontario Room**

Patients undergoing complex Head and Neck oncology treatment often, for a variety of reasons, require placement of a gastrostomy tube for feeding. At University Health Network (UHN), G-tubes have historically been placed on an inpatient basis. Patients are admitted to Princess Margaret Cancer Centre (PM) the evening prior to the procedure and transferred to Toronto General (TGH) for the actual procedure the next day. Post-procedure, patients are transferred back to PMH where they remain overnight.

Bed pressures at PM and the need for efficiencies led to TGH Interventional Radiology (IR) being approached for a solution that included performing this procedure on an outpatient basis. Through a thorough process review and development of policies, standards of work and educational packages for pre- and post-procedure care; certain patients were able to be transitioned to an outpatient procedure. IR staff provided feedback on the proposed plan and MRTs and nurses were educated on the new process.

The success in the change in process required interdepartmental and interprofessional collaboration as we searched for a solution that provided safe care for patients while addressing PM’s need to optimize beds.

**Objectives:**
- Describe the transition to and out-patient G-tube process for patients with head & neck cancer
- Explore the challenges and success in implementing this new process

**Implementation of a Pre-Procedural Patient Safety Checklist in Interventional Radiology**
Mark St. Denis, MRT, BSc
Susan Cleverley, MRT(R), CIR

**APR 28- 10:15-10:35 Ontario Room**

In 2009, University Health Network (UHN) was selected to participate in the World Health Organization’s international pilot study using a “Surgical Patient Safety Checklist” in the operating room (OR). It is well documented that implementation of a checklist increases patient safety by promoting communication amongst the surgical
team and reducing the risk of error during surgery.

That same year a checklist based on the OR model was developed and put into use for Interventional Radiology (IR) at the Toronto General Hospital. Initially, compliance was low and buy-in from some of the IR Team was minimal. A committee was developed in an effort to enhance acceptance and use of the safety checklist. An inter-professional working group was created to direct the work which later expanded to include two other sites. The checklist was revised and adapted for all three departments. Committee members championed the use of the checklists in their respective departments.

A one year post-implementation survey revealed a more positive opinion of the checklist and increased compliance rates. The checklist had become an important communication tool, improving collaboration amongst the Team with minimal impact between cases. Most importantly, it is considered a valuable and consistent tool in ensuring patient safety.

Objectives:
• Describe the benefits of a standardized pre-procedure checklist
• Describe some of the methods used to manage change in the procedural area

Panel Discussion: Interprofessional Models in IR and Cath Labs
Lydia Antalfy, MRT(R)
Jane Bonk, MRT(R)
Julie Coudé
Lisa Terlevic, MRT(R)
APR 28- 11:05-12:40 Ontario Room

This panel discussion will review the various interprofessional models used in Interventional Radiology (IR) Suites and Cardiac Catheterization Labs (CCL) across Canada. Discussions will focus on aiding medical radiation technologists (MRTs) in expanding their scope of practice within Interventional Radiology and the Cardiac Catheterization Lab. Panelists will share their experiences and applicable evidence used to advance MRT’s roles within their own departments from management and technologist perspectives. An open discussion will be encouraged focusing on MRT’s experiences and challenges of change, highlighting interprofessional concerns in radiology.

Objectives:
• Review the various types of interprofessional models used in IR Suites and CCL
• Give guidance to technologists and management on how to expand scope of practice
• Discuss how to implement change and managing acceptance within an interprofessional team

Grand Slams and Catastrophes in IR
Adnan Hadziomerovic, MD
APR 28- 14:35-15:20 Ontario Room

Although as physicians we like to institute treatment to according to evidence based medicine, the vast majority of our patients do not fit into a single category of disease. Recently there has been an initiative to practice patient-centric medicine, which makes a lot more sense as every patient is different. However, sometimes issues are so complex and difficult that we have to improvise and utilize everything available at our disposal for what we believe is the right treatment. In this short presentation, cases will be shown to highlight such endeavours.

Objectives:
• Identify two advanced catheter insertion techniques in patients with central venous occlusions
• Describe two treatments for treatment of femoral pseudoaneurysms

Perfusion Imaging of Brain Neoplasms: Why and How?
Thinh Binh Nguyen, MD
APR 29- 08:30-09:15 Quebec Room

In patients presenting with an intracranial mass, the diagnostic interpretation of conventional MRI imaging is sometimes difficult since certain pathologies such as stroke, encephalitis and abscess might look like neoplastic process. The addition of perfusion imaging, either T1 or T2 perfusion imaging, can help improve the diagnostic accuracy of MRI in identifying and grading a neoplasm preoperatively. T1 perfusion imaging, also called dynamic contrast-enhanced (DCE) imaging, relies on the acquisition of multiple gradient-echo T1-weighted images following the injection of gadolinium agent. This volume of data is then post-processed using a kinetic tracer model to determine parameters such as the plasma volume(Vp) and the volume transfer constant (Ktrans). T2 perfusion imaging, also called dynamic susceptibility-contrast(DSC) imaging is performed using an echoplanar gradient – echo or spin-echo T2 sequence. T2 perfusion imaging typically provides measure of rCBV(relative cerebral blood volume). Vp and rCBV can be used as imaging markers of angiogenesis (formation of new vessels from existing vessels), which is the hallmark of high grade gliomas such as glioblastomas.
Objectives:
- Distinguish the differences between T1 and T2 perfusion imaging
- Acquire knowledge on how to generate relative blood volume (rCBV) maps

MRI Strategy in Assessment of Endometriosis
Claudine Michaud, MD
APR 29 - 09:20-10:05 Quebec Room
During this presentation, the MRI protocol and relevance of various sequences for the diagnosis of endometriosis will be reviewed and optional sequences will be described, and their added value in the investigation of endometriosis, especially in the context of the frequently underestimated deep infiltrative disease will be demonstrated. Examples of the ‘MRI sliding sign’ will be demonstrated. The pelvic compartments anatomy and the landmarks will be reviewed. Case review of findings associated with the diagnosis of endometriosis and their evolution on MRI over time, with sonographic correlation. MRI imaging findings of post-ablation tubal sterilization syndrome (PATTs) will be presented and optimisation of examination technique will be performed for the early detection of this process.

Objectives:
- Acquire knowledge of new technical options to assist in the diagnosis of endometriosis
- Review the MRI findings of endometriosis
- Learn the more recently described entity of PATTs

Diffusion Weighted Imaging (DWI) and Fat-Suppression in the Body
Nick Schieda, MD
APR 29 - 10:30-11:15 Quebec Room
Diffusion weighted imaging (DWI) is of critical importance for lesion detection (in the abdomen) and characterization (in the pelvis). DWI can be interpreted subjectively or quantitatively. The fundamentals of DWI for body imaging is presented with a discussion of limitations and potential solutions using echo-planar DWI.

Fat suppression (FS) in abdominal and pelvic MR is important to improve image quality of post-gadolinium enhanced imaging and for lesion detection and characterization. The current and future FS techniques used in body MRI are presented with a discussion of their advantages and disadvantages.

Objectives:
- Acquire knowledge in diffusion weighed echo-planar imaging in the body
- Explore advantages and disadvantages of methods of fat suppression MR in the body

Reducing Anxiety in the Healthcare Environment
Joyce Warren, RTT, CHT/RCH
APR 29 - 11:20-11:40 Quebec Room
This presentation reviews the challenges surrounding the implementation and maintenance of a Real-Time Ultrasound-Guided Prostate HDR program in a small radiation therapy department. The importance of an effective team, preparation put into initial startup and some of the challenges faced during the first year will be highlighted.

Discussion will include how experience alone does not improve efficiency therefore ongoing analysis of processes is required. Examples will be provided regarding what changes made decreased the overall time required to deliver treatment. With an effective team, ongoing analysis and innovative thinking small departments can develop and operate specialized programs such as Prostate HDR.

Objectives:
- Explore the impact healthcare professionals have on patient experience
- Be introduced to a perspective regarding the power of language and the mind
- Identify some practical skills that will help the patient and healthcare provider

The Educational Utility of Blogging for MRI Technologists
Holly Chun, MPhil, BAppSc, MRT(MR), MRT(R)
APR 29 - 11:45-12:05 Quebec Room
Blogging is a form of micropublication that fosters scholarship and authorship. Bloggers frequently write about their passions, jobs or research, discuss experiences, and share their opinions. Blog readers can comment on the posts or ask questions. Therefore, blogging is an open forum where individuals can connect and discuss their interests. This unfettered sharing of opinions has generated a vast repository of information that can be a resource for the investigation of various themes and topics. With a systematic investigation of MRI technologists’ contributions to the blogosphere, this research aims to identify the educational utility of MRI-related blogs and blogging. Although the research is still in progress, it will use qualitative content analysis to explore the themes of different MRI-related blogs and to describe the content of the posts found on those blogs. In particular, attention will be drawn to the educational merit of the blogs, and how bloggers portray themselves as practitioner-scholars in MRI. Initial investigations indicate that MRI blogs focus on a variety of topics such as open MRI, MRI safety, case studies, or student reflections. Research efforts will continue to identify new themes, solicit emerging bloggers, and promote erudition by reflecting on blogging as a collaborative learning tool.
**Objectives:**
- The participants will appreciate the educational utility of MRI-related blogs and blogging
- The participants will reflect on blogging as a collaborative learning tool

### An Update on the Presence of Gadolinium in the Brain

**Josh Grimes, PhD**  
**APR 29 - 13:10-13:55 Quebec Room**

Since late 2013, multiple retrospective clinical studies from a number of different groups have been published, reporting increased signal intensity in the brain, specifically in the dentate nucleus and globus pallidus, on unenhanced T1w MRI in patients after multiple administrations of gadolinium based contrast agents (GBCAs). The signal intensity increase in patient brains has been reported to proportionally increase with multi-purpose linear GBCA exposure. No proof of a visual signal intensity increase in the dentate nucleus or globus pallidus has been shown after multiple injections of macrocyclic GBCAs. The presence of trace amounts of gadolinium in the brain has been observed with all tested GBCAs. No adverse clinical events have been associated with increased signal intensity or gadolinium presence in the brain. The clinical studies on gadolinium presence are to some extent limited by their retrospective study design, confounding factors and the lack of access to human brain tissue. Since 2014, several non-clinical studies have been published as they allow for the control of confounding factors and may allow to better evaluate and understand the patho-physiological mechanism and to potentially see symptomatology.

### MRI Peer Learning

**Steve DeColle, MRT(MR)**  
**APR 29 - 15:15-16:00 Quebec Room**

Alberta Health Services is Canada’s largest health authority. In October of 2015, a comprehensive peer review program for both radiologists and technologists was implemented through out the province. This began in the areas of general radiography and CT scanning. In February of this year, MRI was the next modality to be integrated within the system. Focusing on education and support in a non-punitive environment allows staff to participate without reservation and supports the overall goal in the reduction of errors with a focus on quality and improving patient outcomes.

### PET/MR-Early Impressions

**Rosanna Chan, MRT(N)(MR)**  
**John Bridle, RTR**  
**APR 29 - 14:00-14:45 Quebec Room**

With the advent of new hybrid imaging scanners, PET/MR has shown great diagnostic performance within research applications. This presentation will describe the basic principles of PET imaging and identify the main hardware components of a simultaneous PET/MR scanner. A comparison will be made between the Siemens mMR biograph PET/MR scanner interface and a Siemens MR system. There will also be a review of images from PET/MR chest, abdomen and pelvis. Finally, we will discuss and evaluate the future of PET/MR; the current state and the improvements that are still needed.
Program by Discipline / Programme par Discipline

An Overview of Radiopharmacy Practice in Canada
Shaun Ramdhany, BPhar
APR 28 - 11:05-11:50 Governor General 2 Room
A description of current developments in radiopharmacy with a focus on:
• Centralized PET and SPECT Radiopharmaceuticals
• Regulatory Overview of Radiopharmaceutical Production
• Landscape of Supply Chain (eg reactor production facilities)
• Novel Radiopharmaceuticals
Objectives:
• Understand the practice of centralized radiopharmacy particularly from an end-user (nuclear medicine technologist) perspective
• Understand new developments in the production of PET and SPECT radiopharmaceuticals

Ran Klein, PhD ElecEng
APR 28 - 14:35-15:20 Governor General 2 Room
Our work on quantification of myocardial blood flow using rubidium-82 (82Rb) positron emission tomography (PET) is poised to provide accurate and precise clinical information for effective patient management. Modern technology has enabled us to substantially reduce the cost of these exams, reduce radiation exposures, and drive new applications. The lessons we learnt and the technologies we developed are now being translated to clinics around the world through industry partnerships. This talk will introduce our cutting edge 82Rb PET technology and what we have done to make it more widely available.
Objectives:
• Become familiar with the benefits of myocardial blood flow quantification over traditional modalities
• Understand why 82Rb PET is likely to make myocardial blood flow quantification more widely available
• Understand the implications of these technologies for the nuclear medicine technologist

Exploring Brain PET and Case Studies
Dave Webster, MD, FRCP
APR 29 - 10:30-11:15 Governor General 2 Room
A look first at unique features of the brain, both anatomically and functionally, which will shape how we approach imaging this unique and extraordinary structure that is the ‘seat of who we are’. Look at the nature of PET radiopharmaceuticals and the extraordinary range of possible imaging agents. Then look at some practical applications through case examples.
Objectives:
• Understand structure and function of the human brain
• Understand the vast possibilities of positron radiopharmaceuticals compared to single photon isotopes
• Understand the practical applications with special emphasis on dementia

The Current Status of MSK Infection Imaging in Nuclear Medicine
Sadri Bazarjani, MD
APR 29 - 11:20-12:05 Governor General 2 Room
This presentation discusses the pathophysiology of soft tissue and bone infection and applies those changes to main imaging modalities including X-ray, CT, MRI, and nuclear medicine studies in evaluation of osteomyelitis. Osteomyelitis in major areas such as children, diabetic foot, arthroplasty, post bone injury, and spine will be reviewed using all modalities with emphasis on nuclear medicine tests. Also, major advances including use of combined SPECT-CT and FGD PET-CT in skeletal infection will be discussed.
Objectives:
• Review pathophysiology of soft tissue and bone infection in Osteomyelitis.
• Discuss the role of X-Ray, CT, MRI and in particular, nuclear medicine in evaluation of osteomyelitis.
• Discuss major advances using SPECT-CT and FDG PET-CT imaging, in skeletal infection.
Prostate Cancer Imaging Using PSMA PET/CT
Colin MacIntyre, Student
APR 29 – 14:00 – 14:15 Governor General 2 Room

Approximately 21,600 Canadian men will have been diagnosed with prostate cancer in 2016. Early detection of both primary disease and metastatic spread is imperative to the proper management of these patients. Prostate-specific membrane antigen (PSMA) is a cell surface enzyme that is highly expressed in prostate cancer cells. It has recently gained interest as a target molecule for imaging with positron emission tomography (PET) radionuclides.

In patients with primary prostate cancer of intermediate to high-risk, PSMA PET imaging has been reported to improve detection of metastatic disease compared to other modalities (including conventional PET/CT, MRI, and bone scintigraphy). Beyond this, in patients with biochemically recurrent prostate cancer, 68Ga-PSMA PET has been shown to increase detection of metastatic lesions, even at low serum prostate-specific antigen (PSA) levels. While 68Ga-PSMA agents have been a focus in the literature, new research demonstrates the efficacy of using 18F-PSMA agents in identifying prostatic malignancy. This presentation will focus on the current research behind PSMA imaging agents, highlighting the benefits (such as earlier detection of prostate cancer and metastases), touching on some pitfalls, and ending on a discussion around the costs and practicality of introducing PET PSMA into existing PET/CT departments within Canada.

Objectives:
- Explore the advantages of prostate cancer imaging with PSMA PET/CT
- Gain knowledge in how PSMA PET/CT affects patient management

Methods for Overcoming Language Barriers in the Nuclear Medicine Department
Stephen Dunbar, Student
APR 29 – 14:15 – 14:30 Governor General 2 Room

According to Statistics Canada’s 2006 census, over 6.8 million Canadians speak a mother tongue other than English and French. There has been an increasing trend of family members acting as a patient’s translator. This has several potentially negative consequences including: incomplete or incorrect translations, conflicts of interest, additional radiation exposure and possible legal consequences. To evaluate current methods being employed to alleviate language barriers, a questionnaire was circulated to nine nuclear medicine departments across the country. Information gathered included which language services are available in their department, how these services are accessed and could they identify any existing access barriers and gaps in language services. The results found most commonly used services to be language lines, multi-lingual staff and face-to-face interpreters with the least common being translated reading materials and video interpretation. Several recommendations are proposed including the incorporation and regular usage of language lines and video interpretation services. This ensures the translation is performed by a registered translator and is guaranteed to be comprehensive. Second, technologist education on available services and the importance of utilizing registered services is necessary to ensure patients are receiving the best care possible and any potentially negative consequences related to translation errors are avoided.

Objectives:
- Become aware of services that can eliminate language barriers between health care professionals and patients
- Understand the importance of using language services and possible negative consequences of withholding these services

CZT Cardiac Cameras - Dawn of the Dynamic SPECT
Glenn Wells, MD
APR 29 – 13:10 – 13:30 Governor General 2 Room

Conventional gamma cameras rotate slowly about a patient to acquire the projections needed to create a 3D image of the injected radiotracer. Typical acquisition times are ten minutes or more, which is too slow to capture the dynamic behaviour of many physiological processes. Because of this, dynamic imaging of single-photon emitting radiotracers has been mostly restricted to planar acquisitions. The introduction of solid state gamma camera detectors based on cadmium zinc telluride (CZT) has allowed the design of gamma cameras that are stationary but still capable of 3D imaging. These new cameras open the door to dynamic SPECT for which the first major application has been cardiac imaging. Dynamic cardiac SPECT makes possible measurement of absolute myocardial blood flow, which enhances diagnostic accuracy in the case of multi-vessel disease. This presentation will describe the new camera designs made possible with CZT detectors and highlight work being done at the University of Ottawa Heart Institute to develop clinical SPECT imaging of absolute myocardial blood flow.

Objectives:
- Describe the design of CZT-based dynamic SPECT cameras
- Discuss the current accuracy of SPECT myocardial blood measurement

CT Processing for Nuclear Medicine Technologists
Jozef Nycz, MRT(N)
APR 29 – 13:35 – 13:55 Governor General 2 Room

Present various CT processing activities as they apply to nuclear cardiology and general imaging.

Objectives:
- Optimize CT acquisition and processing settings for common SPECT/CT studies
- Examine factors that influence CT image quality when using low dose CT settings
- Summarize SPECT/CT exposures incurred by patients for attenuation correction and anatomic localization
Radiation Safety in PET/CT

Jessica George, Student

**APR 29 - 14:30-14:45**  
Governor General 2 Room

The demand for PET/CT continues to rise, therefore with the increasing number of departments across Canada, it is important to educate all technologists on the aspects of radiation safety particular to this area of practice. PET imaging is produced using radionuclides with higher energy photons when compared to isotopes used in traditional nuclear medicine. The increased energy of these photons, the dose delivered, the length of time the patient is in the department, the number of patients, and overall design are contributing factors to the amount of exposure received by technologists. Technologists need to take these factors into consideration to reduce exposure to themselves, patients, and the public. In keeping with ALARA, radiation protection practices should be implemented with respect to measurement, monitoring, staffing, workflow, and equipment with established processes and policies in place. However, there are benefits and challenges in introducing various radiation safety practices specifically as it relates to risk and cost. Therefore, as there are differences in departments across the country so will there be variation in radiation safety programs. This presentation will provide an overview on the factors of radiation exposure, consideration of methods to reduce risk and potential variations in protection practices in PET/CT departments.

**Objectives:**
- Educate technologists on the aspects of radiation safety particular to PET/CT departments
- Help technologists better understand how to limit radiation exposure within the PET/CT department

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RADIATION THERAPY

3D Printing Techniques to Improve Radiation Treatment and Patient Care

Adnan Sheikh, MD

**APR 28 - 09:50-10:35**  
Governor General 1 Room

The Ottawa Hospital’s Medical 3D Printing Program is among the first of its kind in Canada. Utilizing MRI and CT technology, 3D printing provides opportunity for innovation, research and development in support of improved patient care. This presentation provides an exploration through the implementation process of the 3D Printing Program and examples of successful applications within the healthcare environment.

**Objectives:**
- Introduction to the process of implementing 3D printing within a healthcare facility
- Gain insight to innovative uses of 3D printing in healthcare

The learner will consider 3D printing technology in relation to radiation therapy practice

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The Learning Curve: Implementing a Prostate HDR Program

Joyce Warren, RTT, CHt/RCH

**APR 28 - 11:05-11:25**  
Governor General 1 Room

This presentation reviews the challenges surrounding the implementation of a Real-Time Ultrasound-Guided Prostate HDR program in a small radiation therapy department, highlighting the preparation put into initial startup and some of the challenges faced during the first year. After one year, it was determined that experience alone does not improve efficiency. Focus will be on the analysis of our process and what we did to decrease the overall time required to deliver treatment. A site visit to another centre prompted some changes to the process followed for catheter insertion and reconstruction by de-identifying the image sets for patients who received an HDR prostate treatment in our centre and manipulating the inverse optimization setting for each data set. An average of the optimized parameters was calculated and applied to each data set, determining if adjusting and standardizing the inverse optimization parameters could simplify and speed up the planning process.

**Objectives:**
- Build an awareness regarding resource challenges in a small department
- Explore how radiation therapist roles are expanding within multidisciplinary teams
- Discuss how program evaluation and analysis can lead to improvements

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Key Success Factors for a Compliant Radiation Safety Program

Michèle Légaré
Ali Shoushtarian

**APR 29 - 15:15-16:00**  
Governor General 2 Room

This presentation will discuss the key success factors that contributed to building The Ottawa Hospital Radiation Safety Program which is often referred to as ‘a best practice’. Examples will be offered on how those principles help shape the development or improvement of programs. Highlights of key operational radiation safety program elements that can help support a nuclear medicine technologist in taking on a radiation safety role will be given. Finally, examples of compliance tools, such as the Monthly Compliance Report, will be demonstrated. This is a tool essential to the Corporate RSO and Applicant Authority in providing oversight of the radiation safety program.

**Objectives:**
- Understand key Success for a compliant Radiation Safety Program
- Understand Nuclear Medicine and Radiation Safety Program tools used for compliance
Deep Inspiration Breath Hold: Designing a Pilot Protocol

David Shedden, BSc, RTT

APR 28– 11:55-12:15 Governor General 1 Room

This presentation details the creation and implementation of a Deep Inspiration Breath Hold (DIBH) pilot protocol for patients with left-sided breast cancer from a Radiation Therapist perspective. This process includes learning the technique – designed to help minimize cardiac toxicity – by observing treatments at another centre, then creating a procedure to work within the framework of our existing processes. It summarizes the creation of techniques to accommodate the different workflow, procedures, and equipment at our centre while adhering to strict resource constraints. It will focus on the design and testing of the pilot procedures and training of the initial cohort of treatment and simulator staff. It will also discuss the challenges that have occurred during the 18 months from the creation of the procedure to the point where we have now treated more than 30 patients with this technique. While data analysis is ongoing (and will not be the focus of the presentation), initial results have shown excellent reproducibility and stability of the chestwall. This technique is now the standard treatment at CancerCare Manitoba for all suitable patients who are receiving treatment to the internal mammary chain.

Objectives:

- Acquire knowledge of possible techniques to implement DIBH with minimal resource impact
- Utilize CancerCare Manitoba’s experience with DIBH to minimize challenges in implementing new procedures

What do Radiation Therapists Know About Patient Anxiety? International Results

Kelly Elsner, MPhil

APR 28– 12:20-12:40 Governor General 1 Room

Many people undergoing radiation therapy experience anxiety. This emotional stress can lead to poorer communication, co-operation, and service delivery.

An online survey, including demographics, anxious patient vignettes, existing radiation therapy tools, and ProQoL burnout questionnaire, was distributed to Canadian, Australian and New Zealand Radiation Therapists (RTs). Email, social media, professional body and research networks were used to recruit responders. The University of Sydney granted ethics approval.

A total of 449 responses (Canada 195, Australia 184, and New Zealand 70) were received in 2 months. Participants were predominantly female 87%, and professional experience ranged between 1–47 years. RTs demonstrated the ability to detect patient anxiety and select appropriate management strategies, the most endorsed strategy was ‘acknowledgement of concerns and encouragement to express them’. When dealing with patients showing signs of anxiety, 17% of respondents rated themselves as ‘very confident’ and 60% as ‘somewhat confident’. RTs indicated a strong or moderate need for communication skills training (CST), 44% and 33% respectively.

RTs reported a strong need for further training in CST, psychosocial support, and screening processes. These results will facilitate a systematic approach to up-skill RTs and improve psychosocial care outcomes for patients with cancer.

Objectives:

- Recognise signs of anxiety in patients undergoing radiation therapy
- Reflect on one’s own skill levels regarding psychosocial support for patient
- Understand the importance of training in psychosocial support and communication skills

The Impact of MRI on Radiation Therapy Practice

Colleen Dickie, MRT(T)(MR), MSc

APR 28– 14:35-15:20 Governor General 1 Room

There are three main objectives of this presentation. The first objective will focus on the basic safety elements of an MR unit within a radiation therapy environment and will highlight training considerations. Guidelines for MR safety policies and procedures, MR specific staff roles and responsibilities, definitions for MR personnel and levels of training, as well as construction zoning in the design...
phase of a new facility will be discussed. The promotion of MR safety culture in a radiotherapy environment will be discussed. The second objective will overview clinical examples of MRI simulation units for radiotherapy treatment beginning with basic CT/MR fusion, to the use of MR for interventional brachytherapy treatment and targeted biopsy location, and finally to describe the use of MR for treatment response and assessment. Clinical research demonstrating how MR imaging is improving the accuracy of radiotherapy planning and treatment, and is leading to more personalized targeted radiation treatment that is adapted to the changing tumor and patient characteristics will be summarized. The final objective will focus on the MRI-Linear Accelerator. Various MR-Linacs in use internationally will be described. A brief summary of the current state will be provided and future possibilities will be discussed.

**Objectives:**
- Acquire knowledge in MR safety within a radiotherapy environment
- Receive an overview of MR imaging for radiotherapy
- Distinguish between MR simulation and the MRI Linear Accelerator

**Staff Perception on Delegation and Role Expansion in Radiation Therapy**

Tessy Vattaparambil, Student

**APR 29- 08:30-08:50 Governor General 1 Room**

Delegation has gained success in its implementation into the healthcare system over the past few decades. Delegated procedures have decreased patient wait times, increased the quality of care delivered and increased job satisfaction among health care workers. For radiation therapists, the advent of advanced practice roles in radiation therapy (e.g., clinical specialist radiation therapists (CSRTs)) has broadened the scope of practice. With delegation becoming more common in healthcare, this research study was conducted to understand radiation therapists’ perspective on role expansion and delegation in radiation therapy and brachytherapy. Perceptions of radiation therapists at the Juravinski Cancer Centre, a large Canadian academic institution, were studied. The study data were analyzed using the Minitab software. Results highlighted that radiation therapists were more confident in performing delegated tasks directly related to their scope of practice (such as ordering a re-simulation) in comparison to tasks they did not have much exposure to (ordering a complete blood count for patients). The study concluded that radiation therapists were optimistic and positive about role expansion. Furthermore, the advent of roles such as CSRT has provided opportunities for radiation therapists to broaden their scope of practice.

**Objectives:**
- Describe the delegation in health care and its effects on the patient experience
- Analyze radiation therapists’ perceptions of delegation and role expansion
- Review the significance of advanced practice in role expansion for radiation therapists

**The Implementation of a CSRT and a Rapid Access Clinic**

Kelly Linden, MRT(T)

**APR 29- 08:55-09:15 Governor General 1 Room**

The Palliative Clinical Specialist Radiation Therapist position was implemented at The Ottawa Hospital in September 2014. A local needs assessment provided the foundation on which the palliative CSRT roles and responsibilities are based, addressing four main areas of focus. The main objective of the palliative program initially focussed on developing, implementing and sustaining a rapid access clinic at The Ottawa Hospital. This clinic began in January 2015 and has to date been well received in the community, offering timely, efficient, evidence-based radiotherapy practices, in a convenient one-day visit, aimed at controlling symptomatic metastatic disease, while providing a multi-disciplinary approach to patient care. Secondary objectives of the CSRT role have been to establish community links, provide education to staff and advance their knowledge in the care of palliative patients and to initiate research to advance palliative practice and knowledge translation. The palliative CSRT has been successful in addressing each of these items through community and local presentations, poster presentations, abstracts and publications. This advanced practice position offers infinite opportunities to achieve successes both personally and professionally at local and national levels.

**Objectives:**
- Acquire knowledge in implementing a Palliative Rapid Access Clinic
- Explore local impact of a CSRT

**Human Factors in Radiotherapy - From Error Prone to Error Free?**

Julie Renaud, MRT(T)

Robert Brown, BA, MRT(T)

**APR 29- 09:20-10:05 Governor General 1 Room**

Human factors science studies human abilities, limitations and characteristics and applies this knowledge to the development of systems, processes and equipment to produce safe, comfortable and effective interactions. It includes the practical recognition that variable factors like cognitive psychology, human performance dynamics, visual perception, ergonomic and human-computer interface design parameters interact together and impact on human behaviour in any workplace. Incumbent on this awareness is the recognition that technology is evolving faster than our ability to predict how we as humans will interact with it. Yet understanding
these interactive factors is our change management challenge when developing safer and more effective human work environments. Although human factors engineering has been widely adopted in the industrial setting, it is seldom applied to the design of equipment, software and processes involved in the delivery of radiation therapy. This presentation will include examples of error prone processes at The Ottawa Hospital (TOH) identified by our incident learning system and for which the root cause involved physical, cognitive and/or organizational human factors shortcomings. We will explain how human factor engineering principles can be used to inform changes, discuss potential challenges to implement more effective work environments and share outcomes of successful re-engineered processes at TOH.

Objectives:

- Enhance the knowledge and understanding of human factors
- Gain information about the application of human factor engineering in modern radiotherapy departments
- Learn about human factor engineering resources available

Breast Techniques: Comparisons, Successes and The Future

Laval Grimard, MD FRCPC

APR 29- 10:30-11:15 Governor General 1 Room

Participants at the end of this session will be able to have an historical perspective on the evolution of the breast radiotherapy techniques over time, the current status, the variation in the approaches to achieve volume and constraints coverage, the uncertainties in our knowledge, and the future of breast radiotherapy.

The following techniques will be presented: tangents, breast and lymph nodes with or without internal mammary chain coverage, use of wide tangents, and whole breast radiotherapy vs. partial breast radiotherapy. The risks and benefits of the techniques and the long term results will be presented. The technological changes that impacted current practice, especially virtual compensators, respiratory gating, breath-hold techniques, prone boards, brachytherapy, helical tomotherapy, use of breast expanders and their ports, changes in the surgical management of axillary nodes, introduction of oncoplastic breast surgery, changes in systemic management, and risk adjustment for breast cancer subtypes gene expression will be summarized.

The current clinical trials regarding the place of radiotherapy, and the main questions and controversies in current practices will be presented highlighting the place of the boost and accelerated partial breast irradiation. Promising techniques like GammaPOD, brachytherapy, helical tomotherapy will be reviewed.

Objectives:

- Assess the evolution of the techniques of breast radiotherapy
- Identify the limitations, strengths and weaknesses of current techniques
- Identify the controversies and the questions from current trials on breast radiotherapy

A Primer on Proton Therapy

Miller MacPherson, MD

APR 29- 11:20-12:05 Governor General 1 Room

The theoretical benefits of particle beam therapy have been known for decades, but for many years complexity and cost delayed widespread adoption and slowed the creation of clinical evidence. The recent past has seen a proliferation of particle beam facilities, with more than 70 in operation worldwide, and a further 60 under construction or in planning stages. Notably among developed nations, Canada does not have such a facility nor have plans been announced. Recent innovations in beam delivery systems for protons could have significant impacts on capability and cost, but clinical evidence is required to support investments. This talk will review the physical and clinical rationale for proton beam therapy, along with methods of beam delivery and the implications for facility design.

Objectives:

- Describe the perceived physical advantages of particle beams for cancer treatment
- Indicate clinical scenarios that might benefit from proton therapy
- Describe methods of beam production and dose shaping

Good Death: a Canadian Perspective

Carina Feuz, RTT, MRT(T), MSc

APR 29- 13:10-13:30 Governor General 1 Room

Good palliative care not only translates into improved quality of life but also a good death. It is crucial to understand that palliative care does not equate to nearing the end of life, but is a facet of care throughout the disease trajectory. Palliative care and the concept of a good death are important and highly relevant topics due to the increasing demand on the current health care system in response to changing demographics. Defining the components of a good death is highly individual but pain and symptom management and the opportunity for life completion are common themes found in the literature. The concept of a good death will be discussed, including the perceptions of a good death as seen by the patient, family and health care provider. The ethical and legal aspects surrounding the concept of a good death, including euthanasia and medical aid in dying will be reviewed along with implications for practice for Medical Radiation Technologists.

Objectives:

- Acquire knowledge in about the concept of a good death from various perspectives
- Explore the ethical and legal aspects of a good death, including practice implications
A Journey to the Modern Day Palliative Patient
Kelly Linden, MRT(T)
APR 29 - 13:35-13:55 Governor General 1 Room

In 2016, when a patient is offered radiation therapy with a palliative intent there are many expectations to be met on behalf of the health care providers, the patient and their families. From a clinical perspective there are standard staging investigations that must be ordered and reviewed, laboratory investigations, pathology, surgical and other therapeutic modalities to be considered. There are also many supportive services to consider either within the cancer centre or the community. These items are currently considered standard of care, but when and how did these investigations and services become standard?

This presentation will look back to the last decade, examining the practice-changing initiatives proposed by Cancer Care Ontario focussing on the changes in philosophies within the discipline of supportive and palliative medicine that has shaped cancer care into what it is today. We will focus the advances made in imaging modalities, investigation tools and advancements in technology, which has catapulted the precision in which palliative radiation is now delivered. Also we will review various practice changing research that has influenced palliative care both in radiation therapy and palliative medicine in general.

Objectives:
• Acquire knowledge in past / present imaging impacting radiation therapy
• Explore technology advances

Survivors’ Perspective: How Cancer Treatment Impacts on AYA Survivor Experience
Susan Boyko, MRT(T), MEd, PhD(c)
Samantha Munroe, BSc, MRT(T)
APR 29 - 14:25-14:45 Governor General 1 Room

Although cancer is relatively rare in children and adolescents, accounting for about 1% of all newly diagnosed cancers, it is the fourth leading cause of death for Canadians under the age of 20. More than 80% of children and adolescents will survive their cancers; approximately two-thirds of survivors live with late side effects of treatment. Because of the experience of one of the authors who is an adolescent and young adult (AYA) survivor, we set out to answer the following questions: What is the impact of cancer and treatment on the experience of AYAs? How can healthcare professionals better prepare AYAs for a lifetime of survivorship?

We conducted a literature review that focused on survivors’ experience to deepen our understanding of the impact of cancer and treatment on AYA survivors. We also sampled frameworks, models, and education programs evaluated as positively influencing the AYA experience. The focus in the literature on patient engagement, self-management education and interdisciplinary support points to opportunities for clinicians and educators to re-examine practice and curriculum from the AYA perspective.

Inclusion of the AYA survivor’s perspective can increase practitioner awareness of the impact of cancer treatment and increase knowledge of strategies that improve AYA survivor experience.

Objectives:
• Describe how cancer treatment impacts the experience of survivorship from the AYA perspective
• Identify clinical and education strategies that have reported having a positive impact on AYA experience
• Reflect on how this new knowledge can influence daily practice and curriculum development

Patient-Reported Adverse Events Following Intra-Prostatic Marker Insertion for Radiotherapy Image Guidance
Tara Rosewall, MD
APR 29 - 14:00-14:20 Governor General 1 Room

The purpose of this presentation is to quantify patient-reported adverse events following ultrasound-guided, trans-rectal implantation of intra-prostatic markers (IPM).

100 prostate patients were prospectively recruited. The interventional radiologist documented procedural parameters immediately after the IPM insertion. All patients completed an adverse events questionnaire immediately after IPM insertion and 3-5 days later.

All patients were successfully implanted with 3 IPM. 2% of patients received local anaesthetic, and the radiologist reported pain during the procedure in 4% of patients. 49% of patients reported that the procedure was as painful as, or worse than, previous biopsies. 23%-30% reported hematochezia, hematuria or hematospermia. 8% reported fever, requiring a visit to their family doctor (6%) or the emergency department (2%) resulting in admission to hospital for parenteral antibiotic therapy. There was no significant change in Prostate Symptom Score after IPM insertion. There were no detectable associations between pain during procedure and pain later on, or between anticoagulant use and bleeding events. IPM are a valuable tool for daily image-guidance during prostate radiotherapy but their utility must be balanced with implantation clinical safety. IPM insertion was well tolerated by most patients. Any bleeding or pain experienced was self-limiting. IPM insertion was however, associated with infrequent, but severe infections.

Objectives:
• Acquire knowledge of the adverse events associated with implanting radio-opaque markers into the prostate
• Explore the advantages and disadvantages of using intra-prostatic markers for image-guided radiotherapy
EVD response plans were prepared to safely care for any patient that arrived at UHN with suspect or confirmed EVD. This included ensuring staff were equipped with the tools, equipment and education to manage requests. For medical imaging staff, new imaging workflows were established to support x-ray, CT, and ultrasound requests. The ultimate goals of the response plan was to achieve zero staff exposures to EVD while providing seamless, quality care for patients with confirmed or suspected EVD. The presentation will highlight what medical imaging did to prepare for this responsibility and what we learned for future pandemics.

Objectives:
- Acquire knowledge in expectations for emergency preparedness response plans for EVD
- Learn how medical imaging prepared staff for EVD

The ABCs of Video Fluoroscopy Study at the Ottawa Hospital
Melanie Martin, MRT
Avital Winer, MS. SLP(C)

APR 28- 10:15-10:35 Confederation 2 Room

This presentation will discuss delivery of an inter-collaborative approach to VSF, focusing on the changing role of the MRT and positive patient outcome. We will present a case study following the patient process from referral to final recommendations based upon the VSF.

Objectives:
- Define the changing role of the MRT in video fluoroscopy study
- Explain the role of speech language pathologist
- Gain insight into patient experience through VSF from A to C

Enterography Versus Enteroclysis in CT
Patrik Rogalla, MD

APR 29- 11:05-11:50 Confederation 2 Room

Imaging the small bowel remains a challenge for all imaging modalities. The small bowel is difficult to distend, and natural peristalsis may prevent homogeneous filling of the entire small bowel. CT provides excellent spatial and temporal resolution and represents the mainstay in many diseases in the abdomen. CT enteroclysis is based on duodenal intubation and injection of contrast material through the tube via slow injection. CT enterography relies on a continuous drinking pattern with the same goal of filling the small bowel with contrast material. Both techniques have clearly defined indications, however patient related factors, convenience and workflow may influence the clinical decision making as to which technique is preferred.

Objectives:
- Acquire knowledge in the principles of small bowel imaging using CT
- Understand the impact of CT enteroclysis and enterography on patients, imaging protocols and workflow
**Advances in Perfusion and Dual-Energy CT**

Patrik Rogalla, MD  
APR 28 - 11:55-12:40  
Confederation 2 Room

Perfusion imaging and dual-energy CT represent the latest advances in CT imaging technology. Both have been praised as the ultimate innovation that represents a quantum leap in numerous disease conditions, in particular cancer imaging. Some of the promises hold true. Over the past 5 years, many applications have been developed for either technique with focus on integration into routine imaging. Excessive post-processing times, and lack of standardization, however, are perceived as roadblocks for widespread implementation.

Is there still a clinical justification for using perfusion imaging in cancer patients? Is the radiation dose too high? What additional information can be gathered from dual-energy CT and will such information change patient management? Not all questions can be answered with certainty, but the fog is lifting. This lecture will show the hype, the hope and clinical reality.

**Objectives:**
- Explore the technological challenges in perfusion and dual-energy CT imaging
- Become familiar with generally accepted clinical indications

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**Practice Made Perfect: an Innovative Electronic MRT Peer Review System**

Valerie Anzil, RTR  
Sarah Mariani, RTR  
Michelle Murray, RTR  
APR 28 - 14:35-15:20  
Confederation 2 Room

Peer review processes significantly improve the quality of patient care, yet this technique has not been widely implemented in MRT clinical practice. To address this deficit, an in-house PACS system was used to facilitate a peer review of MRT images in a multi-site environment.

General radiography images were randomly identified by the electronic system, and were sent to MRTs who performed a standardized review based on a quality checklist. Any images flagged by the MRT were then sent to the Quality Team Leaders for a more thorough examination.

In the first month of operation, 1,550 images were reviewed, 94 MRTs participated in the peer-review process and 3% of the images were flagged for review by the Quality Team Leaders. Data from these images were then analyzed and presented at regular MRT Quality Review rounds, which were also video recorded to be accessible after the meeting.

Challenges associated included participant concerns regarding anonymity and the desire for a no-blame environment. After addressing these concerns, the rounds are now highly interactive. They typically identify themes for quality improvement and the development of consistent clinical practices across multiple sites.

There is ongoing work to apply the peer-review process to other imaging modalities.

**Objectives:**
- Understand the role of all MRTs/stakeholders in the implementation of a general radiography peer review process in a multi-site environment
- Understand the importance of disseminating peer review information in a multi-site environment
- Understand how a technologist peer review process can help improve image quality and patient safety

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**Impacts on Practice: Converting from CR to DR Mobile Imaging**

Jessica Goldie, MRT(R)  
Ryan Hazell, MRT(R)(MR)  
APR 29 - 08:30-08:50  
Confederation 2 Room

In this digital age of technological advancements, there has been a push for faster, more efficient technology. Advancements in progression from computed radiography (CR) to digital radiography (DR) has had impacts on both workflow and patients, specifically in mobile imaging. Key areas where change can be seen and measured include: patient safety, patient care, and technologist workflow. Several studies have demonstrated that DR image quality is superior to CR and furthermore, overall dose to the patient is reduced. Since images are available for review far quicker in DR systems, examinations may be completed faster, which ultimately benefits both patient and healthcare provider alike. Furthermore, by eliminating time-consuming steps such as cassette retrieval prior to performing an x-ray, and then processing the cassette afterwards, several more examinations can be completed before the need to return to the department. In 2016, our corporation upgraded to three new Carestream DRX-Revolution digital mobile units from the previous Siemens Mobilettes, with CR cassettes. We have witnessed first hand these well documented benefits, but there have also been challenges to overcome. Though the initial cost to upgrade to a portable DR unit is expensive, the benefits are well worth the initial investment.

**Objectives:**
- Learn to develop a workflow to ensure accuracy, timeliness and patient safety

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**REVOLUTION™! ...And my CT Practice**

Tamara Nikic, MRT  
APR 29 - 08:55-09:15  
Confederation 2 Room

Technological advancements in medical imaging have improved imaging, patient care, and have enabled physicians to administer appropriate treatments for patients faster. Technological advancements, however, also had an impact on the technologist’s practice. This presentation will discuss the improvements and limitations in my CT practice as it pertains to the GE REVOLUTION™ CT scanner. Focus will be placed on changes in practice of basic head
scanning, CTA studies, trauma, stroke, and cardiac scanning.

**Objectives:**
- Discuss considerations in practice changes of basic head scanning
- Explore impact on CTA studies, trauma, stroke
- Discuss changes in cardiac scanning

**Implementation of an MRT-led Bedside PICC Insertion Program**
Jennifer Kubara, MRT(R)

APR 29 - 09:20-09:40 Confederation 2 Room

Lengthy wait times and decreased overall efficiencies within Interventional Radiology (IR) led to the implementation of a Bedside Peripherally Inserted Central Catheter (PICC) program utilizing Medical Radiation Technologists (MRT) as inserters at Sinai Health Systems (SHS). Going directly to the patient bedside allows for a more efficient, timely and patient-centered approach to this procedure. Factors such as delays while waiting for transportation to bring a patient to the department are also eliminated in this model. Patients also benefit greatly in this model as they receive a PICC line in the comfort of their bed. Because this model uses ECG confirmation for PICC placement, a chest x-ray or fluoroscopy is no longer needed to confirm tip placement. This model has become paramount for patients in Intensive Care (ICU), in isolation, those who are pregnant or may have difficulty lying on the imaging table. The success of this program depends on interprofessional collaboration and communication as the team moves from a two person to a single person model and addresses the challenges associated with this change.

**Objectives:**
- Describe the benefits of the bedside PICC program
- Understand the challenges associated with this implementation

**Clinical Evaluation of Chest Digital Tomosynthesis Versus a Chest Radiograph**
Vahid Anwari, BSc, BHSc, MRT(R)

APR 29 - 09:45-10:05 Confederation 2 Room

Superimposition of anatomical structures and of disease processes limits the diagnostic utility of chest x-ray (CXR) in detection of isolated pathologies (e.g., lung nodules) and in characterization of disease (e.g., lung atelectasis, consolidation, pleural effusions). Digital Tomosynthesis (DT) overcomes these limitations by using spatial discrimination to separate overlapping structures. However, DT is limited by the maximum arc for image acquisition (15° to 15°) and by motion artifacts from the prolonged acquisition time (10s).

The study aim was to evaluate these limitations and to determine their impact on diagnostic quality for a cohort of patients with thoracic disease. Seventeen patients; mean age 61 (range 43-77), consented to receive matched pairs of thoracic DT and CXR. Image quality (IQ) was assessed on a 5 point RadLex scale by 7 radiologists.

The radiation dose for DT was higher than CXR (34.56± 11.75 mAs versus 12.13 ±6.82 mAs). 47% of patients had artifacts from patient motion or implanted devices on DT; however the IQ rating for DT was significantly higher than for CXR (3.63 ±0.25 versus 3.48 ±0.25). In conclusion, thoracic DT is a promising technique in the clinical setting as it overcomes the limitations of CXR.

**Objectives:**
- Acquire knowledge of digital tomosynthesis (DT) imaging including movement, dose, positioning and limitation
- Assess the clinical features demonstrated on a chest DT image using illustrative examples
- Explore the advantages of chest DT imaging compared to the current standard chest x-ray

**Fluoroscopy Techniques and Dose Reduction**
Michelle Falkiner, MRT(R), BHSc

APR 29 - 10:30-11:15 Confederation 2 Room

This discussion will show how dose reduction techniques are used in our pediatric imaging suite, and can be utilized in all environments. We will touch on recent studies on dose and how we have worked to reduce our dose at Sick Kids. We will also discuss the different techniques and protocols used for pediatric patients and how the pathology that you are investigating differs from adult patients, alternative testing methods that can be used to reduce need for a test with fluoroscopy, and staff safety in the fluoro suite.

**Objectives:**
- Distinguish between techniques and protocol needed in adult vs pediatric procedures
- Acquire knowledge of techniques that can be utilized to reduce patient dose
- Explore advantages of dose reduction techniques not only for the patient but also staff

**It’s the Parts That Matter**
Sidsel Pedersen, MRT(R), BRad
Virginia Sanders, MRT(R), MSc

APR 29 - 11:20-12:05 Confederation 2 Room

Traditionally, MRTs have used a binary sex model known as male / female to determine appropriate radiation protection practices. This binary model is now obsolete. Now, a gender continuum has been identified that contains approximately 31 different categories of gender variance. Gender variances that are presented within this continuum may include sex to gender congruency and sex to gender incongruencies. Therefore, it is imperative for us as MRTs to be aware of the diversity within the gender continuum as we are the ones delivering ionizing radiation to the public. Additionally, we must ascertain the placement of the patients reproductive organs in order to adhere to best practice guidelines of radiation protection. Questionnaires and communication must be adapted to ensure that MRTs are protecting the public appropriately, while remaining professional and respectful of people’s diversity.
Objectives:
• Gain an understanding of how gender variances effect reproductive organ placement
• Apply the gender continuum to formulate new communication methods for the purpose radiation protection

Communicating the Benefits and Risks of Medical Radiation to Patients

Nicholas Shkumat, MS

APR 29 - 13:10-13:55 Confederation 2 Room

The use of ionizing radiation in diagnostic imaging remains a cause of considerable concern for patients and families. Often, readily accessible information from the news, internet, social media, and healthcare professionals significantly overstate any potential deterministic or stochastic radiation effects of common diagnostic exams. This can exacerbate fears and foster the frequent misconception that radiation risk should be evaluated without consideration of the medical benefit of a properly indicated imaging study. As front-line imaging experts interacting with patients and families, this situation can place considerable pressure on the medical radiation technologist. In many cases they are presented with questions more appropriate for a clinician, ordering physician, radiologist or medical physicist.

This presentation will review a comprehensive pathway describing how to communicate with patients regarding their imaging procedures; from an inquisitive patient curious about radiation to the parent requesting a detailed assessment of their child’s attributable cancer risk. It will also review the current body of knowledge on quantifying radiation dose and dose indices in a diagnostic imaging environment, while discussing common questions encountered in radiology, with simple approaches to answer them.

Objectives:
• Improve ability to communicate the radiation risks and benefits of an indicated imaging examination
• Acquire knowledge in quantification deterministic and stochastic risk at radiation levels encountered in diagnostic imaging

Vascular Imaging in the OR

Kris Gagnon, RTR

APR 29 - 14:00-14:45 Confederation 2 Room

This presentation will showcase some of the new and emerging technologies located within the endovascular suites at the Ottawa Hospital, including, but not limited to the GE Discovery 730 and its functionalities, as well as the Raysafe dose monitoring devices.

Objectives:
• Review modern endovascular surgery and possible areas of improvement
• Showcase modern technologies available within the suites: Hybrid Imaging, 3D CT Spin, Raysafe devices
• Discuss the impact of these technologies on patient outcome and radiation safety culture

SONOGRAPHY

Lessons Learned from a Collection of Interesting Obstetrical Cases

Ray Lappalainen, CRGS

APR 28 - 09:50-10:35 Governor General 3 Room

A number of interesting obstetrical ultrasound cases will be presented. The hope of the lecture is to encourage sonographers to expand their knowledge of rare abnormalities; and also to encourage sonographers to look for subtle identifying markers that point to the diagnosis of these unusual entities.

Objectives:
• Acquire knowledge in some rare obstetrical cases
• Learn to “recognize the subtle changes” that point to specific diagnosis

Interesting Vascular Conditions

Kim Boles, CRGS, CRVS, FCSDMS, RDMS, RVT

APR 28 - 11:05-11:50 Governor General 3 Room

Discussion and sample case studies of a series of genetic and congenital vascular disorders, patient presentation, diagnosis and impact of quality of life. This discussion will cover a range of unusual vascular disorders that can have major impact on patient quality of life and life expectancy and are infrequently seen but critically important to understand.
OBJECTIVES:

- Acquire knowledge of rare vascular disorders
- Understand examination techniques required for assessment of these disorders

CRANIAL SONOGRAPHY - BASIC AND ADVANCED

Elka Miller, MD, FRCPC

APR 28 - 11:55-12:40  Governor General 3 Room

Cranial sonography is a valuable tool for screening of the infant brain. The successful application of modern sonography requires knowledge of brain anatomy, variants and imaging pitfalls that might mimic pathology. Understanding of brain application of modern technology, Doppler sonography, linear imaging and use of multiple fontanelles can be helpful in accurate detection of pediatric cranial abnormalities.

The presentation will be divided into:

Basic Cranial Sonography: A review of gray scale normal anatomy and interpretation, followed by a discussion of linear imaging, Doppler techniques and imaging through different fontanelles. We will go through pitfalls, normal variants as well as common pathologies.

Advanced Cranial Sonography: Advanced uses of cranial sonography will be exemplified, including the use of ultrasound to assess the cranial sutures, the cerebral venous sinuses and extracranial structures.

OBJECTIVES:

- Review gray scale normal anatomy and interpretation
- Review pitfalls, normal variants, as well as, common pathologies
- Review advanced uses of cranial sonography to assess cerebral venous sinuses and cranial sutures

REGULATION OF DIAGNOSTIC SONOGRAPHERS: WHAT DOES IT MEAN TO ME?

Linda Gough, MRT(R), ACR, MPA

APR 29- 09:20-10:05  Governor General 3 Room

Several provincial governments across Canada are close to passing legislation that would regulate diagnostic medical sonographers. This presentation will summarize the experience of medical radiation technologists in the regulation of the profession in the public interest, and provide an overview of what diagnostic medical sonographers may expect should they become regulated in their province. Sonographers will gain an understanding of regulation of health professionals and the difference between a regulatory college and a professional association.

OBJECTIVES:

- Acquire knowledge in the importance of provincial regulation in protecting the public from unqualified practitioners
- Understand how the proposed regulation of the profession will impact diagnostic medical sonographers
- Distinguish the difference between a regulatory college and a professional association

ULTRASOUND OF ABDOMINAL MASSES IN INFANTS AND CHILDREN

Rita Putnins, MD

APR 29 - 10:30-11:15  Governor General 3 Room

Ultrasound is usually used as a first line of imaging for evaluating abdominal masses in children. These masses are different in pathology and appearance compared to adults. I will review the usual and unusual types of masses that are seen, and correlate with CT and MRI when appropriate.

OBJECTIVES:

- Learn the commonest types of malignant masses in children
- Learn about some unusual masses in children
- Realize that ultrasound is first line for evaluating masses in children

PUT YOUR HEART INTO SCANNING THE FETAL HEART

Ray Lappalainen, CRGS

APR 29 - 08:30-09:15  Governor General 3 Room

A review of the anatomy of the fetal heart and views that should be used in routine obstetrical imaging to optimally detect congenital heart conditions.
MSK US in the ER: A Case Review
Ryan Foster, MD, FRCPC
APR 29 - 11:20-12:05 Governor General 3 Room
Ultrasound is a key imaging modality for assessment of musculoskeletal pathology in the acute setting. This lecture will outline the ultrasonographic features of a variety of MSK related pathologies presenting to the emergency department using a case based approach. Anatomy and scanning technique for the corresponding musculoskeletal targets will be reviewed, including tips for improved imaging.

Objectives:
• Identify common musculoskeletal pathologies presenting to the Emergency Department which are frequently assessed by ultrasound
• Review the sonographic anatomy of a variety of musculoskeletal targets relevant to objective 1

Venous Compliance: A Simple Model to Improve Your Scanning
Tim Proveda, CRGS, RDMS, RVT, RMSK
APR 29 - 14:00-14:45 Governor General 3 Room
Explain the principles of venous compliance, including anatomy, physiology and pathology with the use of a stress technique. This will be used to demonstrate normal vs. abnormal anatomy.

Objectives:
• Explain the principles of venous compliance
• Demonstrate how to apply stress techniques using a quick and reliable method
• Identify when the use of stress techniques will aid in differentiating normal from abnormal

Mobile Ultrasound in Remote First Nation Communities: Then and Now
John Peacock, CRGS
APR 29 - 15:15-16:00 Governor General 3 Room
To bring awareness of a unique program that serves to improve outcomes to the people in a group of remote communities in northwestern Ontario. To highlight the challenges in keeping the program running, to deliver this much needed service, plus how and what has changed over the years.

Objectives:
• Demonstrate the importance of the program and the needs it serves
• Understand the positive effects for the region and the patient outcomes
• Demonstrate how and what has changed because of the program
## How to Implement Research into Practice

**Lisa Di Prospero, RTT, BSc, MSc**  
**Bonnie Bristow, RTT**  
**Carly McCuaig**

**APR 29 - 09:20-10:05**  
Governor General 2 Room

This session will explain how to read peer-reviewed journals with a critical eye, and determine what evidence-based practice advances might be a good match to integrate into your workplace. It will describe the initial steps to implement workplace change, including how to approach supervisors, how to introduce new practices to co-workers, how to follow up and evaluate the changes and tips on how to track your own successes for possible publication.

**Objectives:**
- Understand how to evaluate peer reviewed literature
- Understand how to approach initiating workplace changes
- Understand how to measure impact and track success

## Meet the JMIRS Editor

**Lisa Di Prospero, RTT, BSc, MSc**

**APR 29 - 12:05-13:00**  
Provinces Room/CAMRT Booth

The Editor-in-Chief and board members from the *Journal of Medical Imaging* and Radiation Sciences will be available at the CAMRT Member Lounge in the exhibit hall on Saturday during lunch. This is a great opportunity to meet, interact with, and hear the views of JMIRS editors. We welcome all questions on potential submissions, the review process, or any thoughts or comments you might have on the journal that represents your profession. We want to hear from you, so be sure to stop by!

## The White and Black Swan

**Wael Shabana, MBBCh, MSc, MD, PhD, MBA**

**APR 29 - 13:10-13:55**  
Governor General 3 Room

What makes us different?  
Does our brain affect the way we think?  
Does our brain deceive us?  
How much do we know ourselves?  
Do we know the people around us?  
How do we work with others?

**Objectives:**
- Explore advantages of critical thinking
- Explore advantages of self awareness and how it will affect the work place

## Advanced Practice: A Canadian Context - State of the Union

**Nicole Harnett, RTT, ACT**  
**Mark Given, RTR, RTMR**  
**Caitlin Gillan, RTT, FCAMRT**

**APR 28 - 09:50-10:35**  
Quebec Room

**Objectives:**
- Describe the activities that are being undertaken by CAMRT to formalize advanced practice in RT
- Describe the formal APRT certification process
- Describe the activities that are being undertaken by CAMRT to advance the development of advanced practice in other MRT disciplines

## Advanced Practice: A Canadian Context - Workshop

**APR 28 - 11:05-11:50**  
Quebec Room

**Objectives:**
- Identify the data available that would inform the existence of a need for that particular position
- Define the advanced competency that would be required for the position being proposed
- Describe metrics that could be used to measure the impact of the position

## Advanced Practice: A Canadian Context - Group Discussion

**APR 28 - 11:55-12:40**  
Quebec Room
Social / Online Media Use for MRT PD in Australia and Canada  
Lori Boyd, RTR

Body Image Concerns Among Head and Neck Patients Receiving Radiation  
Leah Branch, RTT

A Comparative Dosimetric Evaluation Between 3D-CRT, IMRT, VMAT & H-VMAT for the Radiation Treatment of Locally Advanced Non-Small Cell Lung Cancer  
Katie Chartrand, Student

Radiation Therapy Students’ Knowledge, Attitudes and Beliefs About Palliative Care  
Carina Feuz, RTT

Collaborate and Communicate: A Practice Council for Medical Imaging Professions  
Harinder Grewal, RTNM, CTIC

Radiotherapy Patient Education: A Refocus on Value to Patients  
Christine Hill, RTT

Does an e-Learning Module Improve Health Sciences Students’ Venipuncture Skills?  
Tamas Lindenmaier, Student

Improving Quality of Student Performance Evaluation in the Clinical Environment  
Karen Moline, RTT, ACT

An Integrated Program Model: Reviewing the Redesigned Nuclear Medicine Program  
Cathryne Palmer, RTT

An Analysis of National Trends in the Management of Pain Flare Following Palliative Radiotherapy for Bone Metastases  
Stephanie Peters, Student

The Use of a Timing Study to Examine Radiation Treatment Appointment Times at a Large Canadian Cancer Centre  
Keri Smith, RTT

12-Hour Shifts in Radiation Therapy  
Marcia Smoke, RTT, ACT

Managing Radiology Information System Downtimes—A Comprehensive Approach  
Daniel Toubassy, BSc

Remote Radiology Providing Imaging Services for the PAN AM Games  
Daniel Toubassy, BSc

Radiographers Identifying the Necessity of Pre-Operative Imaging in the Emergency Department  
Ralph T. T. Yeung, RTR
SOCIAL EVENTS | ACTIVITÉS SOCIALES

Join us Thursday at the Welcome Reception in the exhibit hall, and then grab your friends and head to the Heart and Crown for the CAMRT Foundation’s Beer and Toque fundraising event. Saturday morning, lace up your sneakers for the annual Roentgen Ramble, and Saturday evening toast to our esteemed award winners and celebrate CAMRT’s 75th Anniversary at the CAMRT Celebration of Excellence Reception.

Save some energy though, because Saturday evening’s Presidents’ Event is going to blow you away — join us for fun, laughter, a hypnotic performance by CAMRT member Joyce Warren, and perhaps even a surprise performance from a high-profile volunteer or two. Dress code is business casual or dressed to the nines, however you’re comfortable, but dancing shoes are a must! Guests welcome!

**Welcome Reception**
Provinces Ballroom, Level 4, Thursday April 27, 1800-1930

**CAMRT Foundation Beer and Toque Night**
The Heart and Crown Pub, 67 Clarence Street, Thursday April 27, 1930-2200

**Roentgen Ramble**
Westin Hotel Lobby, Saturday April 29, 0700-0800

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Jeudi, assistez à la réception de bienvenue dans le hall d’exposition, avant d’entraîner vos amis vers le Heart and Crown pour la soirée de financement Bière et Tuque de la Fondation de l’ACTRM. Samedi matin, lacez vos souliers de course pour la Randonnée Roentgen annuelle, avant de venir célébrer les gagnants des prix d’excellence et le 75e anniversaire de l’ACTRM à l’occasion de la Soirée de célébration de l’excellence de l’ACTRM.

Gardez-vous cependant de l’énergie, parce que le Gala des présidents, samedi soir, vous émerveillera – avec une soirée de plaisir et de rire, avec une performance hypnotique de Joyce Warren, membre de l’ACTRM, et peut-être une performance surprise de la part d’un ou deux bénévoles bien connus. Tenue de ville décontractée ou tenue chic à votre choix, mais n’oubliez pas vos souliers de danse!

**Réception de bienvenue**
Salon Provinces, le jeudi 27 avril, 18 h à 19 h 30

**Soirée de la Fondation — Bière et Tuque**
The Heart and Crown Pub, 67 rue Clarence, le jeudi 27 avril, 19 h 30 à 22 h 00

**Randonnée Roentgen**
Lobby de l’hôtel Westin, le samedi 29 avril, 7 h 00 à 8 h 00

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**CAMRT Celebration of Excellence Reception**
Governor General 1 Ballroom, Level 4, Saturday April 29, 1730-1845

**Presidents’ Event & Foundation Raffle**
Confederation Ballroom 2, Level 4, Saturday April 29, 1900-2330

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**Soirée de célébration de l’excellence de l’ACTRM**
Salon Governor General 1, le samedi 29 avril, 17 h 30 à 18 h 45

**Gala des presidents & Tirage de la Fondation de l’ACTRM**
Salon Confederation 2, le samedi 29 avril, 19 h 00 à 23 h 30
GENERAL INFORMATION

Registration Desk
The registration desk is located on Level 4 of the Westin Hotel Ottawa.

Registration Hours:
Thursday, April 27     0730 – 1900
Friday, April 28     0730 – 1700
Saturday, April 29     0730 – 1600
Sunday, April 30     0800 – 1015

Badges
All participants’ official conference name badges must be visible at all times. Badges are required to access all educational sessions. Other than the institutional passes, name badges are non-transferable. We ask that name badges are not altered, deface or concealed with business cards, pins or stickers. Conference participant categories are coded using coloured badges for easy identification.

Continuing Education Credits
Session attendance will be tracked electronically by scanning registration badges; this will provide an accurate record of each MRT’s / sonographer’s attendance at individual educational sessions. To receive credit for the sessions attended, the participant must have their badge scanned when entering and leaving the session. Credit will only be assigned to sessions attended in full. Participants arriving late to the session or leaving early will not be scanned and will not receive the assigned credit. There will be a “5-minute grace period” at the beginning of each session.

Category A/credit hours have been pre-assigned to all educational sessions. One credit is equivalent to one hour of education. MRTs / sonographers may use these credits (hours) to fulfill CE requirements established by a professional association or regulatory body. The CAMRT is a Recognized Continuing Education Evaluation Mechanism (RCEEM) for the American Registry of Radiologic Technologists (ARRT) therefore allowing participants attending from the United States and Canadians who have an active ARRT membership to use these credits to fulfill their biennium requirements. To qualify as educational, an activity must provide sufficient depth and scope of a subject area. Business meetings, poster and exhibit viewing, social events, etc., do not qualify for credit.

Poster Presentations
Poster presentations will take place in the Exhibit Hall during breaks and lunch hours. Presenters will be in the poster area during the breaks on Friday and Saturday.

Food and Beverage Service
Food and beverages will be provided for registered participants during official conference functions. These functions include the Welcome Reception on Thursday, and scheduled refreshment and lunch breaks throughout the conference. Please refer to the Program schedule for exact times.

Message Boards
There is no paging service available at the conference facilities. Instead, participants may post messages on boards located in the registration area.

Scent-Free Conference
We recognize that some participants are sensitive to scented products. Perfumes and strong odours can cause severe reactions. We ask that participants limit the use of perfumes, scented hair spray, cologne, aftershave and any other highly scented product out of respect for attendees with severe allergies. Thank you for your cooperation.

Children
For safety reasons, children under the age of 16 are not permitted access to the Exhibit Hall except during the Welcome Reception. Young infants in strollers are permitted in the company of a participant.
RENSEIGNEMENTS GÉNÉRAUX

Bureau d’inscription
Le bureau d’inscription est situé au quatrième étage de l’hôtel Westin.

Heures d’inscription
Jeudi 27 avril 7 h 30 à 19 h
Vendredi 28 avril 7 h 30 à 17 h
Samedi 29 avril 7 h 30 à 16 h
Dimanche 30 avril 8 h à 10 h 15

Badges
Tous les badges officiels des participants au congrès doivent être visibles en tout temps. Ils sont exigés pour assister à toutes les sessions éducatives. À l’exception des laissez-passer d’établissements, ils ne sont pas transférables. Nous vous demandons de ne pas les modifier, les endommager ou les masquer avec des cartes professionnelles, des épinglelettes ou des autocollants. Les catégories de participants au congrès sont codées à l’aide de badges colorés pour faciliter leur identification.

Crédits de formation continue
La présence aux sessions sera repérée électroniquement en scannant les badges d’inscription. Ce processus procédera à l’ACTRM un dossier précis de la présence de chaque TRM aux sessions éducatives individuelles. Afin d’obtenir un crédit pour les sessions auxquelles il a assisté, le participant doit faire scanner son badge en entrant à une session ou en sortant de celle-ci. Le crédit ne sera attribué qu’aux sessions complètes. Les participants en retard à la session ou quittant celle-ci avant la fin, ne seront pas scannés et ne recevront pas le crédit attribué. Une « période de grâce de 5 minutes » sera accordée au début de chaque session.

Des crédits de catégorie « A » ont été attribués à l’avance à toutes les sessions éducatives. Un crédit équivaut à une heure de formation. Les TRM peuvent utiliser leurs heures créditées pour satisfaire aux exigences de formation continue établies par une association professionnelle ou un organisme de réglementation. L’ACTRM a le statut de Mécanisme d’évaluation de la formation continue (RCEEM) pour l’American Registry of Radiologic Technologists (ARRT), ce qui permet aux participants américains et canadiens qui sont membres actifs de l’ARRT d’utiliser ces crédits pour satisfaire à leurs exigences biennales. Afin d’être considérée comme éducative, une activité doit être liée à un domaine d’une portée et d’une profondeur suffisantes. Les réunions d’affaires, le visionnement d’affiches et d’expositions, les événements sociaux, etc., ne sont pas admissibles aux crédits.

Présentations par affiches
Les présentations par affiches auront lieu dans la salle d’exposition pendant les pauses et les heures de lunch. Les présentateurs seront dans le secteur des affiches pendant les pauses du vendredi et du samedi.

Service de restauration et de boissons

Tableaux d’affichage
Il n’existe aucun service de recherche de personne sur les lieux du congrès. Les participants peuvent plutôt afficher des messages sur des tableaux situés dans le secteur d’inscription.

Congrès sans parfum
Nous reconnaissons que certains participants sont sensibles aux produits parfumés. Les parfums et les odeurs fortes peuvent causer des réactions graves. Nous demandons aux participants de limiter l’utilisation de parfums, de fixatifs, de l’eau de Cologne et de lotions après-rasage parfumées et de tout autre produit parfumé par respect des participants souffrant d’allergies graves. Merci de votre collaboration.

Enfants
Pour des motifs de sécurité, les enfants de moins de 16 ans ne peuvent accéder à la salle d’exposition, sauf pendant la réception de bienvenue. Les nourrissons dans des poussettes sont admis en compagnie d’un participant.
LEVEL THREE
Exhibition | Exposition

The Exhibition Hall is located on Level 4 of the Westin Hotel. A valid name badge is required to gain access. Morning and afternoon breaks and lunch will be served in the Exhibit Hall.


Exhibit Hours | Horaire

Thursday | Jeudi 1800–1930 (Welcome Reception | Bienvenue)
Friday & Saturday | Vendredi & Samedi 0930–1600
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