

AMERICAN COLLEGE OF RADIOLOGY
2019 ANNUAL MEETING
WASHINGTON, DC, USA

CAR
RESIDENTS'
REPORT



Report prepared by:

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Canadian Association of Radiologists
L'Association canadienne des radiologistes

OVERVIEW

Drs. Lindsay Cherpak and Baljot Chahal were able to take part in the Resident and Fellow Section Meeting (RFS) at the American College of Radiology Annual Meeting, held in Washington, D.C., in May 2019, as CAR resident delegates. The CAR is a founding member of the ACR with voting members on the General Council and Board of Chancellors.

The ACR annual meeting includes programs for the Resident and Fellow Section, the Young and Early Career Professionals Section (YPS) and the ACR Council. Additionally, the resident delegates were also able to attend the General Council sessions and the Capitol Hill Day. The ACR has a complex organizational structure that is beyond the scope of this document to explore.

BACKGROUND

WHAT IS THE AMERICAN COLLEGE OF RADIOLOGY?

The American College of Radiology (ACR) is a professional medical society that was founded in 1924, representing more than 38,000 radiologists, radiation oncologists, nuclear medicine physicians and medical physicists. The core purpose of this professional body is to serve patients and society by empowering members to advance the practice, science and professions of radiological care. Core values of the ACR are leadership, integrity, quality, and innovation.

The ACR has accredited more than 38,000 facilities in 10 imaging modalities and provides its trainees and attendees alike with multiple education resources, journals and the annual meeting. Among its many accomplishments, this year, the ACR released the latest edition for the ACR Appropriateness Criteria, celebrating 25 years of comprehensive evidence-based guidelines for diagnostic imaging selection and image guided interventional procedures.

WHAT IS THE RESIDENT AND FELLOW SECTION?

The American College of Radiology Resident and Fellow Section (RFS) is dedicated to establishing and engaging a nationwide network of professionally committed radiology, radiation oncology, and nuclear

medicine trainees while contributing to the overall mission of the College by developing and distributing trainee-specific information and resources related to leadership, advocacy, quality, economics and education.

2019 RFS ANNUAL MEETING AGENDA

- Welcome
- Keynote – Corporatization
- Your AI-enabled future in Radiology: Separating the Hope from the Hype
- DSI Update
- Future Practice Management Sessions
 - How the “Robots” will help us care for our patients (without taking our jobs)
 - Are we too burned out to even think of wellness?
 - Radiology, consolidation, and the Griswold family Truckster
 - Learn your ABC’s and 123’s – Personal and professional finance concepts for radiology practice leadership
 - Rethinking the radiologist’s value equation
- Networking lunch
- Job searches
- How to network
- Subcommittee update and overview
- Malpractice Talk
- Workforce update
- How to get and stay involved in the ACR
- RADPAC/RAN Update
- Dictation to Dollar
- MACRA

WELCOME AND MEETING OVERVIEW

Daniel Ortiz, MD

@danortizmd

Dr. Ortiz introduced the RSF program with an overview of the upcoming lecture series. He thanked the speakers, emphasized how the RFS was attempting to engage new residents more than ever, and reemphasized the presence of the ACR and the RFS on social media.

KEYNOTE: CORPORATIZATION

Howard Fleishon, MD, MMM, FACR

Vice Chair Board of Chancellors, Chair ACR Task Force on Corporatization in Radiology

Corporatization has been an increasing concern for radiology in the United States, and to a lesser extent in Canada. The ACR created a task force with key stakeholders to advise the profession how to best deal with the increasing threat to physician autonomy, patient care, and healthcare overall from increasing corporatization. The ACR Task Force is nearing completion of a position statement on corporatization.

Radiology is projected to continue to experience immense growth both in the short- and long-term future, increasing its exposure to corporate interests. In order to counter corporatization, radiology groups have continued to increase (i.e., combat size with size). The key concepts for radiology trainees and young radiologists to be aware of include the trends, risks/benefits of corporatization, and basic financial concepts (e.g., economies of scale, venture capital, etc.).

YOUR AI-ENABLED FUTURE IN RADIOLOGY: SEPARATING THE HOPE FROM THE HYPE

Tessa Cook, MD, PhD

@asset25

Dr. Cook conducted an excellent breakdown of the different concepts behind machine learning and artificial intelligence (AI) in radiology. Key concepts for radiology trainees to understand include basic terms such as convolutional neural network (a deep learning network commonly used in diagnostic imaging), data mining (process used to extract useable data from a larger set of raw data), deep learning (set of automatic pattern recognition methods), and machine learning (the algorithm/statistical model that computer systems use to effectively perform tasks without instruction). Other basic concepts include training, validation, and testing, which are used to instruct the machine learning algorithms.

Dr. Cook emphasized that AI has been discussed and/or used in radiology for years (e.g., PACS, clinical decision support systems, etc.). The discourse and research have shifted into the use of AI for computer aided diagnosis in every day clinical practice.

The best place for radiology trainees to start learning about AI is to engage in imaging informatics first, followed by more comprehensive education in machine learning and AI thereafter.

DSI UPDATE

Adam Prater, MD

@adambprater

The Data Science Institute (DSI) is a branch of the ACR that facilitates the development and implementation of AI that will help radiology professionals provide medical care.

The DSI has created an AI-LAB that is designed to accelerate these developments and to allow radiologists to create their own AI tools. The AI-LAB can be used to annotate your own data (i.e., 'segment your data'). A mobile application will also be available to make it easier for researchers to segment their data 'on the go'.

The best way to learn more about the AI-LAB is to make an account and directly explore it. Free webinars also occur periodically links are included below). Residents are also encouraged to take part in the ACR's Imaging Informatics Summit.

Relevant links to explore include:

- <https://www.acrdsi.org/>
- <https://www.acrdsi.org/Get-Involved/AI-LAB>

FUTURE PRACTICE MANAGEMENT SESSION

The future practice management session was a series of short lectures regarding transition to practice issues affecting residents and young radiologists followed by a discussion panel with all of the speakers.

HOW THE "ROBOTS" WILL HELP US CARE FOR OUR PATIENTS (WITHOUT TAKING OUR JOBS)

Tessa Cook, MD, PhD

@asset25

There is significant conflict among researchers and policy makers about the role that AI will play in the future of radiology. Some radiologists believe AI will completely replace them while others think that AI will be used to optimize radiologists' practice and

patient care. Dr. Cook highlighted that many clinicians currently distrust AI and value human opinion. She noted however that trust is built over time and clinical confidence in AI could develop quickly. Other issues with respect to AI in radiology, aside from computer aided diagnosis, include cost, ethics, and regulatory policy.

ARE WE TOO BURNED OUT TO EVEN THINK OF WELLNESS?

Jonathan B. Kruskal, MBChB, PhD

Radiologists in the United States are at higher risk of burnout than many of their clinical colleagues, as radiologists are amongst the highest in terms of self-reported burnout. Burnout has been shown to adversely affect patient care, personal well-being, and social situations. Symptoms of burnout among radiologists include depersonalization, fatigue/emotional exhaustion, decreased personal achievement, and decreased perceived effectiveness.

Resources for residents developed by the ACR include the ACR Radiology Well-Being Program created in collaboration with the Mayo Clinic. The Well-Being Index (WBI) is a trusted resource for physicians to self-evaluate their level of well-being.

The following is a link to ACR resources (all ACR members have free access to the WBI):

<https://www.acr.org/Member-Resources/Benefits/Well-Being#surveytool>

RADIOLOGY, CONSOLIDATION, AND THE GRISWOLD FAMILY TRUCKSTER

Richard E. Heller, MD

@richardheller

Consolidation (i.e., the amalgamation of smaller companies into larger ones) is amongst the top healthcare trends for all medical subspecialties in 2019. Corporatization has led to increasing consolidation amongst medical and radiology practice. Other top trends include telehealth, AI, and consumerism.

Consolidation is a complex process given that it includes multiple stakeholders with varied interests. It is important for radiologists and young professionals, specifically, to consider the degree to which they value work/life balance, physician autonomy, income, and

practice ownership. The emphasis of these domains often leads to varied opinions of consolidation. Many radiologists are thus ambivalent towards consolidation while others are strongly opposed.

LEARN YOUR ABC'S AND 123'S – PERSONAL AND PROFESSIONAL FINANCE CONCEPTS FOR RADIOLOGY PRACTICE LEADERSHIP

Kurt A. Schoppe, MD

@kurtschoppe

Dr. Schoppe provided a brief introduction to personal finance management. Dr. Schoppe highlighted the importance of recognizing personal biases when engaging in management of personal finances. Potential biases include confirmation bias, anchoring effect, loss aversion, and, perhaps most consequentially, the Dunning-Kruger effect. He strongly cautioned against falling victim to the Dunning-Kruger effect.

Dr. Schoppe also noted that it is important to evaluate finance professionals in an appropriate manner; many finance advisors make their incomes through commission or management fees which can be extremely expensive with limited benefit for high income earners. A critical point that Dr. Schoppe communicated was that personal finance was not simply math, but rather about beliefs and values that guide our decision-making and the resultant behaviors from those decisions.

RETHINKING THE RADIOLOGIST'S VALUE EQUATION

Marta E. Heilbrun, MD

@meh1rad

Value is a hot topic in radiology that is discussed with increasing frequency. Dr. Heilbrun defined value as a combination of quality, service and cost. She noted that radiologists will need to challenge themselves to modify their clinical work to incorporate the concept of value into their practice, and that simply engaging in volume-based practice would not be sufficient in the future. Dr. Heilbrun noted that it is specifically important for young radiologists to educate their clinical colleagues and patients about what we do and why our role has significance in the healthcare system. She argued that radiologists who provide the best

value to referring clinicians and patients are available, affable, and accurate.

Dr. Heilbrun also discussed wellness as a component of value. She emphasized that organizational culture is paramount to physician wellness. A specific example that was provided was that of wellness activities – many organizations organize wellness activities to ‘check a box’ that it has been completed. She noted that wellness is truly incorporated into organizational culture when these activities simply take place and/or are expected, rather than overtly organized. Autonomy, mastery, and purpose were emphasized as three factors that improve performance, personal satisfaction, and ultimately value.

NETWORKING LUNCH

Lunch was provided to trainees with an opportunity for small group networking. The ACR RFS executive committee members and election candidates toured the tables discussing their platforms.

JOB SEARCHES

Frank J. Lexa, MD, MBA, FACR

Dr. Lexa is a radiologist lecturer at the Wharton School of Business that specializes in recruiting. He noted that interviews are usually very important in recruitment because of the similarity in candidates’ CVs/resumes. Appropriately, interviews should be conducted to assess organizational compatibility, rather than personal skills or achievements. Examples of tips for radiology trainees to improve their performance during interviews include:

- Do your homework regarding the organization you have applied to.
 - Ask questions that could not be addressed through simple background research you could have conducted through Google.
- Arrive 15 minutes early. Anything later is considered late.
 - Plan your logistics beforehand. Arriving late because you did not anticipate for traffic is not considered acceptable.
- Dress for the job you want, not the job you have.
- If the interview has been conducted over a meal or if you are invited to dinner: order from the ‘middle of the menu’. That is, order something that is not overly expensive. Also do not order something messy to eat.
- Speak to each member of the panel during panel interviews, even if they did not ask the question.

HOW TO NETWORK

Amy Patel, MD

@amykpatel

Dr. Patel is a prominent member of the radiology community on social media and she discussed the importance of utilizing social media as a networking tool. She also emphasized the importance of maintaining your connections, even if they are across the country, to ensure continuity. In particular, Twitter can be useful for women in radiology by creating a global mentorship network (see resource provided below).

Relevant resources for radiology trainees to explore include:

- <https://doi.org/10.1016/j.jacr.2019.03.014>
- <https://doi.org/10.1016/j.jacr.2018.09.044>
- <https://doi.org/10.1016/j.jacr.2018.06.028>
- <https://doi.org/10.1016/j.jacr.2017.09.029>

SUBCOMMITTEE UPDATE AND OVERVIEW

Monica Wood, MD

@monicajwood

The various members of the ACR RFS subcommittees provided updates on their progress over the past year. The ACR RFS has eight subcommittees and advisory groups: AI Advisory Group, Economics Advisory Group, Women & Diversity Advisory Group, Education Subcommittee, International Outreach Subcommittee, Medical Student Subcommittee, Membership Subcommittee, and the Radiology/Radiation Oncology Advocacy Network. An update was also provided by the RSNA Resident and Fellow Committee. If you are interested in becoming involved in an ACR RFS subcommittee, please contact the CAR RFS or the ACR directly at the following link: <https://www.acr.org/Member-Resources/rfs/leadership>.

The most pertinent updates relevant to Canadian radiology trainees include:

AI Advisory Group

The AI advisory group has focused on the education of trainees on developments in AI and how it will affect their future practice. Online journal clubs are frequently held including Twitter discussions. Canadian radiology trainees are also eligible to attend these sessions.

Education Subcommittee

The education subcommittee received an ACR Innovations Grant to create an informatics curriculum that could span the residency curriculum; this work is currently ongoing. Radiology trainees are encouraged to use the ACR Case in Point case series provided daily. The JACR also established a new reviewer toolkit to encourage young professionals to contribute to the peer review process through manuscript review. Trainees were also reminded about the Radiology Leadership Institute Summit.

Economics Advisory Group

The economics subcommittee also often hosts journal clubs online that are accessible to Canadian radiology trainees. Much of the work done by the Economics Advisory Group is out of scope for Canadian radiology trainees wishing to practice in Canada but could be relevant for those wishing to either train or practice in the US in the future. Current topics of interest include the gender pay gap, the student loan debt crisis, and consolidation.

International Outreach Subcommittee

This committee explores opportunities for residents and fellows seeking information and global health imaging opportunities. This could potentially be a great resource for Canadian residents seeking to engage in global health as the CAR RFS does not have a dedicated resource available at this time.

Women & Diversity Advisory Group

This subcommittee celebrates diversity in radiology. Multiple webinars have been hosted in the past including a book club on *Becoming* by Michelle Obama and a webinar discussing parental leave during residency. Residents are encouraged to explore the website for the *American Association for Women in Radiology* (<https://www.aawr.org/>) for further information, including awards available to radiology trainees.

Medical Student Subcommittee

This subcommittee develops materials for medical students interested in radiology. The group is working to create a toolkit for medical students to host events relevant to radiology at their institutions (e.g., teaching opportunities, networking, etc.).

Membership Subcommittee

The main focus of the committee has been to increase trainee engagement in the ACR and ACR RFS activities. The group attempts to engage in ongoing needs-analyses to ensure radiology trainees' needs are being addressed by the RFS.

Radiology/Radiation Oncology Advocacy Network

The focus of this committee is to help ACR RFS members become familiar with relevant health policy and advocacy issues. Current topics of interest include the Medicare Access to Radiology Care Act (MARCA) and 'Surprise Billing'. Attempts are being made to increase radiation oncology engagement in these initiatives.

RSNA Resident and Fellow Committee

The RSNA RFC has been endeavouring to address concerns regarding transition to practice, the job market, and personal finance. Trainees are encouraged to explore the RSNA annual meeting or RSNA virtual meeting for further information.

RadioGraphics has also recently developed a peer review mentoring program to help young professionals become familiar with the peer review process. Young radiologists will be paired with an experienced manuscript reviewer and will co-review 3 manuscripts for *Radiographics*. The following is a link to the peer review mentoring program: <https://pubs.rsna.org/page/radiographics/peer-review#mentor>

Other updates

The American Board of Radiology (ABR) fail rate has increased over the past few years. The ABR and other organizations are currently evaluating why this has occurred. Residents are encouraged to look at the ABR Core Exam Study Guide early in their training to gain an understanding of the requirements of the exam. *RadioGraphics* also has a collection of relevant articles.

Relevant links include:

- https://www.theabr.org/wp-content/uploads/2018/12/CORE_Exam_Study_Guide_2019.pdf
- <https://pubs.rsna.org/page/radiographics/abr-core-exam-study-guide>

MALPRACTICE TALK

H. Benjamin Harvey, MD, JD

Dr. Harvey is a Juris Doctor who specializes in risk management and malpractice for radiologists. He discussed the complexities of malpractice and an emerging issue within diagnostic radiology that is at the forefront of public awareness: gadolinium enhanced MRI and gadolinium deposition disease (GDD). GDD searches are increasing on Google and law firms are aggressively advertising their services to litigate on behalf of patients. Cases are currently before the courts investigating GDD and radiologists' role within it.

Radiology trainees are encouraged to familiarize themselves with the complexities of GDD (many articles have been published on the topic) as well as the Daubert standard, a rule of evidence regarding the admissibility of expert testimony in United States federal law that is based on five factors that is at the crux of the GDD controversy. An in-depth discussion of the Daubert standard is beyond the scope of this document.

ACR WORKFORCE UPDATE

Claire Bender, MD, FACR

The 2019 survey explored the current workforce, current hires and projected hires. This included a subspecialty breakdown. Statistics of interests included:

- 5329 radiologists within the US completed the workforce update survey, which represents approximately 16% of all radiologists
 - 23% of radiologists are women
 - Approximately 50% of radiologists are between the ages of 46 and 65;
 - 84% of radiologists are employed full time, and
 - General, body, and neuroradiology are the most common subspecialties.
- Southern and Midwest USA have been hiring the most radiologists over the past year

- The greatest opportunities for graduating trainees are in private practice and academic institutions
 - with 48% and 17% of those practices expecting to hire within 2019, respectively
- The most in-demand fellowships for new hires are musculoskeletal, interventional, and neuroradiology.

HOW TO GET AND STAY INVOLVED IN THE ACR

Sonia Gupta, MD

Daniel Ortiz, MD

As mentioned previously, the ACR organizational structure is fairly complex and involves thousands of radiologists. A brief overview was provided. Trainees are encouraged to become involved in the ACR RFS through a stepwise process including state RFS chapters, the national ACR RFS including its subcommittees and advisory groups, and the YPS.

Resources for trainees were described including the ACR RFS newsletters, monthly blogs, twitter hashtags, online journal clubs, and more.

Radiology trainees are encouraged to explore the RFS section of the ACR website for a comprehensive breakdown of different opportunities for involvement.

RADPAC/RAN UPDATE

David Youmans, MD, FACR

@DaveYoumansMD

Michael J. Lee, MD

Kimberly Beavers, MD

@KBeaversMD

The Radiology Advocacy Network (RAN) and Radiology Political Action Committee (RADPAC) are bipartisan branches of the ACR that engage in political advocacy. A brief overview of the organizational efforts behind ACR's advocacy initiatives was provided and is best explored by Canadian radiology trainees through the following links:

- <https://www.radpac.org/Login>
- <https://cqrcengage.com/acradiology/home?0>

The main issues for the 2019 year include surprise billing, MACRA, student loan debt, and the US Preventative Services Task Force (USPSTF) breast cancer screening

guidelines. Though these issues are not directly relevant to Canadian radiology trainees, they do bear many similarities to current Canadian issues. Student loan debt and personal finances are also of concern to all medical trainees.

DICTIONATION TO DOLLAR

Ezequiel Silva III, MD, FACR

Dr. Silva discussed relative value units (RVU) and metrics for performance in radiology. RVUs have become increasingly relevant in radiology as the volume and complexity of imaging studies continues to increase. RVU analysis is complex but important for radiology trainees to understand as workplace productivity becomes an increasingly important discussion point in radiology practices. Resources for further information include:

- <https://doi.org/10.1016/j.jacr.2010.01.026>
- <https://doi.org/10.1016/j.jacr.2010.01.025>

MACRA AND THE QPP: A FIELD GUIDE FOR RESIDENTS AND FELLOWS

Lauren Golding, MD

The Quality Payment Program (QPP) and the MACRA are physician payment models that emphasize value-based payments. Value or quality-based payments are of immense importance within the US due to the range in quality provided by different healthcare organizations and institutions. The federal government has attempted to establish measures for performance to ensure accountability.

Unfortunately, this has adversely affected many small medical groups whom were unable to hire administrative experts to address the many requirements of these initiatives. This has accelerated the movement towards consolidation of radiology practices.

HIGHLIGHTS FROM THE 2019 ACR GENERAL MEETING AGENDA

- Various networking opportunities
- Physician Burnout: Prevalence, Drivers and Mitigating Strategies
- Economics Forum
- Capitol Hill Day

VARIOUS NETWORKING OPPORTUNITIES

There were extensive opportunities provided to radiology trainees for networking amongst each other and with members of the senior ACR leadership. Different sessions included speed mentoring sessions conducted over lunch, a reception for trainees, the President's reception for honorary and new fellows and award recipients, a reception for the YPS, and a social event at a local restaurant sponsored by a private radiology group.

PHYSICIAN BURNOUT: PREVALENCE, DRIVERS AND MITIGATING STRATEGIES

Liselotte N. Dyrbye, MD, MHPE

@dyrbye

Dr. Dyrbye is a specialist in the well-being of medical students, residents and physicians. She has collaborated with the ACR on wellness initiatives including implementing the WBI. Dr. Dyrbye presented data which suggests that training in radiology was associated with a higher relative risk for career choice regret during residency relative to training in internal medicine ([doi:10.1001/jama.2018.12615](https://doi.org/10.1001/jama.2018.12615)).

ECONOMICS FORUM

A series of lectures were presented that described the complexities of the American medical system with respect to healthcare economics. A debate format was utilized to increase audience participation and engagement. Multiple speakers from the RFS program were included including Dr. Schoppe, Dr. Heller, and Dr. Silva.

CAPITOL HILL DAY

The Canadian delegates were invited to attend the ACR Capitol Hill day with the delegation from the Virginia Chapter of the ACR. The CAR has a long-established relationship with the Virginia Chapter of the ACR that was continued at this meeting. The main topics of discussion for Capitol Hill Day included surprise billing, PALS (related to mammography screening for breast cancer in women ages 40 and above), MACRA, and the REDI Act (deferring the accrual of interest on student loans during residency).