CAIR EXPRESS

Official newsletter of the Canadian Association for Interventional Radiology

SPECIAL EDITION - COVID-19

INSIDE THE ISSUE

PRESIDENT'S BLOG

How has COVID-19 impacted us at CAIR?

Dear members,

Looking back at 2019 it is, in some ways, like looking back on a different world. It was a world where CAIR brought together, face-to-face, so many IR professionals for important moments like the Annual Meeting, where we could sit down next to each other and where we could present, listen, and engage in real life.

We made the difficult decision to cancel our 2020 event, but we continue to be grateful for the ongoing support and professionalism of our community of healthcare professionals, members, corporate partners, and other stakeholders.

As we look ahead, we realize that, though our methods of delivery may be different, our goals are still very much the same: providing value to our members by moving forward our scientific and educational offerings in a world where the COVID-19 pandemic continues to pose professional and personal demands to the IR community.

We must forge ahead with the important work of promoting IR and minimally invasive procedures to patients, patient advocacy groups, other health care professionals, and policy makers as part of the CAIR initiative. New initiatives are underway: we have started a new Virtual Angio Club and a brand-new Residents, Fellows, and Students Section!

We also must face other realities. Over the past few weeks, we've been listening to the conversations taking place internally and worldwide on the topic of racial inequities experienced by Black people and their communities. The widespread protests against racial injustice and anti-Black violence have also showed us being at a crossroads for democracy and human rights not only south of the border but also here in Canada.

Around the world, health care organizations are declaring anti-Black racism a public health crisis. Here at CAIR, we have a commitment to equality and justice for all, zero tolerance for racism, bigotry and hate of any kind. Racism exists everywhere, including Canadian healthcare, and as health care professionals, we must commit to challenge it whenever we see it and strive to provide the highest attainable standard of healthcare as one of the fundamental rights of every human being. In addition, we must proclaim: Black Lives Matter.

More than ever, we now have a shared sense of purpose and commitment where health care professionals are compassionate and collaborative.

We have built a great team. In April, we welcomed Luciana Nechita as CAIR's Executive Director. Under her leadership and along with the CAIR board, we're looking forward to strengthening our vision to bring together the IR community and work with patient groups and other allies to help increase accessibility for Canadians to patient friendly, effective, minimally invasive, image guided treatments.

The strength of CAIR is in our members, and it is through membership and engaged members that CAIR is able to advance our profession.

2020, is it over yet? Despite our new challenges, I look forward to our mission and to listening and working with you!

Take CAIR,
Amol Mujoomdar

LATEST NEWS

Due to the COVID-19 pandemic and the physical distancing requirements across the country, the Canadian Association for Interventional Radiology (CAIR) held its first virtual Annual General Meeting (AGM) for its members on June 11th, 2020 at 8:00 pm EST.

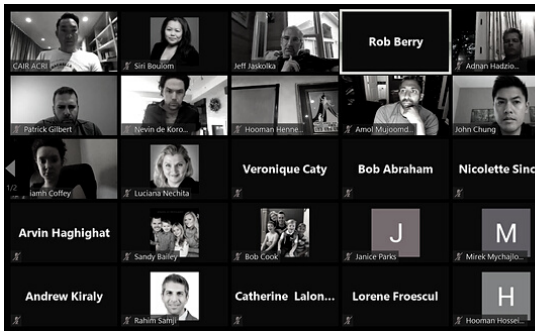
Highlights:

- Members approved the proposed changes to the bylaws allowing future meetings to be conducted virtually.
- 2019 financials as well as the appointment of the financial reviewer for 2020 were reviewed and approved.
- We thanked our departing board director, Dr. Bob Cook for his 10 year services and welcomed Dr. Melissa Skanes as our new director. The 2020 slate of board of directors was presented, voted, and approved.
- We offered an overview of CAIR's 2019 activities

Thank you,
Dr. Bob Cook!

Welcome,
Dr. Melissa Skanes!

VIRTUAL ANGIO CLUB



Hosted by Dr. Jason Wong and Dr. Amol Mujoomdar via Zoom, this first inaugural meeting took place on June 23, 2020 and included six Interventional Radiologists from across Canada.

Speakers:

- Dr. Amol Mujoomdar, London (Osteoid Osteoma)
- Dr. Rob Berry, Halifax (Extreme Y90 Case)
- Dr. John Chung, Vancouver (Presentation of a UFE Case)
- Dr. Patrick Gilbert, Montreal (Thoracic Duct Embolisation Post ENT Surgery)
- Dr. Adnan Hadziomerovic, Ottawa (Embolization of a Mycotic Common Hepatic Pseudoaneurysm)
- Dr. Jason Wong, Calgary (A Stuck Permcath and Management)

RESIDENTS, FELLOWS, AND STUDENTS SECTION

Led by Dr. Kevin Shixiao He, resident representative on the CAIR Board and inaugural Chair of the RFS, the new section had its first meeting in June with more than a dozen of representatives, and will soon be present in all of the 16 radiology residency programs across Canada. The main goal of the RFS is to be a strong voice of IR and CAIR locally at the trainees' level. Among other exciting projects, it will work closely with medical students groups to host the IR Discovery Cocktails series, a CAIR initiative aimed at attracting the best minds of the next generation of physicians to the sub-specialty of IR.

UK National Health Service meets the challenges of COVID-19

Dr. B. P. Krishna Prasad
Consultant Radiologist, BHR Hospitals

With an ordinary beginning to the year, little did I suspect a virus pandemic and a near future bleak reality awaiting. The earliest cases detected in the UK were in late January. Despite not belonging to any vulnerable group at that time, exaggerated media reports of young individuals rapidly deteriorating, requiring ventilator support and some even dying did cause fear in our minds. Unsurprisingly, crowding being the most common risk factor for spread, London soon saw exponential growth in its COVID-19 cases. Simple public health measures like frequent hand sanitising and avoiding frequent touching of the face failed to reduce the virus spread, and the increasing case load led to full blown lockdown in late March. The parliament of the UK granted the government emergency powers to handle the pandemic and police were empowered to enforce lockdown. Fear of disaster and supply shortage led to panic buying. The situation slowly started improving in May and the government is looking at gradually relaxing lockdown measures.

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Major and drastic changes were made in the NHS. The health trust I work in is one of the five most affected trusts in the whole of UK. Diagnostic radiologists started working from home exclusively, including attending multidisciplinary meetings via online conferencing softwares. Interventional radiology services fell overnight to an emergency-only service. An experienced radiologist colleague was designated the Radiology COVID lead who collaborated with the other departments and hospital management to bring about necessary changes in Radiology to meet the demands of this pandemic. Vetting of planned cases and categorization into various classes of urgency and severity ensued.

Musculoskeletal interventions involving steroid injections, outpatient angioplasties, elective EVARs, oncology related interventions including biopsies were stopped. Angioplasties were restricted to in-patient critical ischemic limbs. EVARs were restricted only to aneurysms that presented with rupture.

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Musculoskeletal interventions involving steroid injections, outpatient angioplasties, elective EVARs, oncology related interventions including biopsies were stopped. Angioplasties were restricted to in-patient critical ischemic limbs. EVARs were restricted only to aneurysms that presented with rupture. Despite a significant reduction in the number of interventional radiology procedures, isolation of symptomatic staff kept the functional staff busy almost all the time. Also contributory was an increase in procedural times due to time spent in donning and doffing a complete PPE attire for every suspected or confirmed infected patient and a high level clean of the procedure room between every patient. There was also a significant increase in the number of bedside procedures to avoid moving infected patients within the hospital.

Plans to involve private hospitals to provide 'green' pathways, particularly targeting oncology and trauma services for patients tested negative for COVID have been successfully implemented, though these areas do not have the capacity to bear the full NHS case load. Despite having a designated 'green' hospital in central London for vascular interventions, wait times increased significantly. We recently saw a a patient for EVAR with rapidly increasing abdominal aortic aneurysm wait for 3 months. Such patients are now counselled about the dangers of deferring treatment balanced with the dangers of acquiring COVID in our hospital if treated, and if patients agree, every measure is taken to provide as 'green' a pathway as possible, with the least in-hospital.

Major structural changes are being made to hospitals, dividing them into various colour coded zones – green, yellow and blue, to serve confirmed negative, untested and confirmed positive cases respectively - with restrictions in patient and staff movement between different zones. For example, movement from green to yellow to blue zones would be permitted but and not the other way. Outpatient clinics are being held over the phone. Critical care capacity has been increased five-fold. A team of psychologists were assigned for psychological support for our staff in person and over the phone. The present challenge in our department is to manage interventional radiology services over the different hospital zones, which may involve an unwelcome split in the entire department staff retinue, being designated to work in different zones.

This COVID pandemic has shown us how an organization can step up and give a remarkable display of innovation, collaboration, dedication, decision-making, service reconfiguration and workforce re-design. With a hope that an effective treatment or vaccine will emerge eventually, we are preparing to live with the impact of COVID-19 pandemic for the foreseeable future.

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NY recovers from a massive blow from COVID19 - lessons we can learn (for the second wave?)

Dr. Rebecca Zener

Attending Interventional and Diagnostic Radiologist, NYC Health and Hospitals

It was a Saturday in mid March. I sat down in the back of the IR control room, and I began dictating chest radiographs from the ER. The first one demonstrated subtle hazy peripheral opacities. It was not garden variety bacterial pneumonia. I called the ER attending, "I am concerned this is COVID-19." The next chest radiograph showed peripheral, ill-defined, bilateral airspace opacities. I called the ER attending again. One after the other, I began to feel like a broken record with my dictations, and phone calls. On CTs of the abdomen and pelvis performed to rule out nephrolithiasis, diverticulitis, etc... I was seeing bilateral, peripheral, ground glass opacities in patients who were otherwise asymptomatic from a respiratory perspective. I picked up the phone again: "No stone, no diverticulitis, but I'm worried they have COVID-19."

Prior to this, we had seen probably fewer than five suspicious cases at my hospital. On Monday, I followed up the COVID testing for those patients. They were all positive. The floodgates had opened, and COVID-19 came charging through.

Our hospital, one of NYC's public hospitals and a level 1 trauma centre, was transformed. Normally empty stretchers lining the halls and back corridors of the ER soon overflowed with COVID-19 patients. The public health system quickly nearly tripled its existing ICU capacity. US Army doctors, nurses, and physician assistants answered the call of duty, and helped support us through this crisis by helping staff some of the new ICUs. Elective surgeries were postponed. We postponed doing elective IR cases.

> *The floodgates had opened, and COVID-19 came charging through.*

In March, prior to the surge, my partner and I would go to the ICU and place central venous catheters and arterial lines on patients to help ease the burden on the ICU staff. With a program of four radiology residents per year, one resident was assigned to night float, and four covered various rotations simultaneously.

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The other residents stayed at home and were on backup in case someone became ill. Many diagnostic radiology attendings obtained home access and started to report remotely. By the beginning of April, all of our radiology residents were redeployed to internal medicine.

As the ICU volumes increased, my IR partners and I, with a handful of ESIR (early specialization in IR) residents, formed a procedure team. We were running all over the hospital, from the ER to the 'wards' and ICUs to perform all kinds of venous access procedures and place arterial lines. COVID-19 started taking out people's kidneys left and right.

The Nephrology service stopped placing temporary dialysis catheters at the beginning of the pandemic, and the procedure team took over that responsibility as well. The number of patients requiring temporary dialysis catheter placement surged exponentially to the point where we ran out of catheters in the entire hospital.

With no glimmer of hope for imminent improvement in their AKI, many of these COVID-19 patients subsequently required Permacath placement. With only positive pressure IR suites, these patients could not be brought down to IR. As such, they had to be performed in the one negative pressure OR with a C-arm. If a patient was here long enough, odds were they needed one of the 'usual' IR procedures, such as a pleural drain, abscess drain, etc. Anything capable of being performed under CT-guidance was done in CT, as it was a neutral pressure room.

During the height of the pandemic, we continued to perform the occasional urgent biopsy or portacath placement for urgent chemotherapy for outpatients, and we kept our pre- and post-procedural area a 'cold' zone, free of COVID-19. When we had a patient bleeding to death requiring emergent angiography/embolization who was either COVID-19 positive or under investigation, we performed the case in our positive pressure IR suite, and hoped we would not get sick.

The PPE situation felt dire due to the global supply chain challenges. In the first week of March, we had run out of our regular supply of N95s that we have in IR, and one of the IR nurses and myself went to procure more from another department as we anticipated needing them for a potential procedure on a patient on airborne precautions.

Later that day, they were taken away. Due to the system-wide PPE conservation practices in response to potential shortages, we were told that if we needed a mask we would have to sign one out for a specific procedure, and demonstrate that the patient was on airborne precautions in order to obtain one. Once the conservation efforts were in place, all PPE became centralized within a command center housed outside the ER. From the command center, you could see the refrigerated trucks, which housed the deceased.

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Once per week, we were given a brown paper lunch bag, which contained an N-95 mask and a standard surgical mask, but no sandwich. Following CDC guidance, we were asked to reuse the N-95 mask unless it became visibly soiled or broken. It felt as though we were being sent in to battle without armor or weaponry. We began wearing paper scrubs.

The scariest moment for me was when I was in the ICU placing a bedside dialysis catheter. The intubated patient started to move around, and they managed to disconnect their ventilator. Unfortunately, I didn't realize they had disconnected it, as it was under the drape right next to the opening with the sterile field. An alarm eventually went off a while later, and we alerted the ICU attending to the alarm and dropping SpO2. All the while, unbeknownst to me, I stood in the line of fire as the viral particles in the tube were being emitted.

Almost four weeks ago, I underwent serology testing. It resulted negative. While it would have been comforting to have antibodies for COVID-19, I am reassured by the fact that PPE actually works. But, it's a matter of having a sufficient supply. Recently, I went to procure an N95 mask, and there was a giant sign that read "STOP! We do not have regular N95s at the moment. Corporate aware!" A supply arrived later that day.

A number of doctors and nurses became very sick at the height of the pandemic. Some died. Morale across the city was very low. The city that never sleeps went for a nap, and shortly after, it went into complete hibernation.

There was a mass exodus of people fleeing the city. Grocery stores and pharmacies reduced their hours, and limited the number of people permitted inside. Grocery deliveries were impossible to garner. Buying food and obtaining essential items became difficult, as everything was closed by the time most of us would get home from work. Michael Bloomberg's Bloomberg Philanthropies donated millions of dollars to fund World Central Kitchen, which provided meals for workers at the hospital. After spending a long day at the hospital, I would return to a desolate, grey, cloud-filled sky towering over lower Manhattan, its sidewalks flanked by homeless people and garbage bags. Restaurant and bar windows were boarded up with plywood.

There have been over 50,000 people hospitalized with COVID-19 in NYC. The municipal death toll topped 20,000.* Given the mortality rate was 76.4% and 97.2% for patients receiving mechanical ventilation aged 18-65 and 65 and older, respectively, many of the people I encountered and treated sadly contribute to that gut-wrenching statistic.**

The hospital started playing "Fight Song" by Rachel Platten overhead every time a patient was extubated. For a while, we were hearing the song very often, 5 to 6 times per day. People would cheer, clap, or let out a sigh of relief every time it was heard.

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By mid-May, over 700 COVID-19 patients had been discharged from my hospital, and over 6,000 across the NYC public hospital system. NYC's daily death rate is finally in the double digits - a dramatic improvement from what it once was topping over 800. Pediatric patients have since returned, and a number of the converted wards have been reconverted back to 'cold' non-COVID-19 units. Elective surgery and elective IR procedures are slowly resuming. People are returning to NYC, filling parks, and running along the East and Hudson Rivers.

> *The city became a shell of its former self.*

Some people socially distance appropriately and wear masks, while many others do not. Non-healthcare workers press for society to reopen. Meanwhile, those of us who on the front lines anxiously await the potential second wave. We fear the fate of those who remain intubated and admitted.

But, on the bright side, one of our hospital's nurses recently was discharged after battling COVID-19. The clip even made it to CNN. She was cheered on as she left the hospital, and finally had a breath of fresh air. For the first time in a long time, my tears were filled with joy, and some hope, instead of despair. The sun has finally broken through the clouds, and is starting to shine through.

References

*https://www1.nyc.gov/site/doh/covid/covid-19-data.page

**Richardson S, Hirsch JS, Narasimhan M, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City area. JAMA 2020;323:2052-9.

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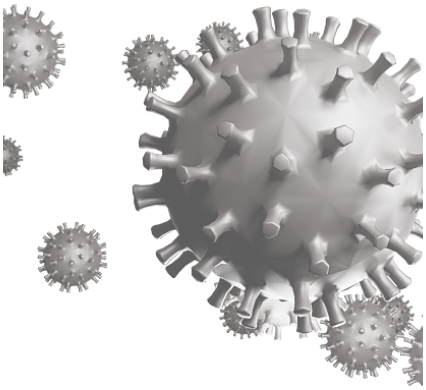
ICYMI

In Case You Missed It



COVID - 19 GUIDELINES

The Canadian Association for Interventional Radiology (CAIR) and Canadian Association of Radiologists (CAR) Guidelines for Interventional Radiology Procedures for Patients with Suspected or Confirmed COVID-19 - download.

CASES OF THE MONTH

These cases represent a remarkable learning opportunity for physicians of all levels of experience. Members only - login required.

- *Embolization of a Large Pulmonary Artery Mycotic Pseudoaneurysm in the Setting of Granulomatosis with Polyangitiis and Concomitant Intravenous Drug Abuse.*
- *Embolization of Renal Artery Aneurysms During Pregnancy*
- *A Not So Retrievable "Retrievable" Inferior Vena Cava Filter*
- *Recanalization of Chronically Occluded Superior Mesenteric Vein Through Transjugular Intrahepatic Portosystemic Shunt Access*
- *Trans-DIPS plug assisted retrograde transvenous obliteration of gastric varices*
- *Embolization of a Complex Renal AVM.*
- *Radiofrequency Wire Utilization in Treatment of Benign Ureteroenteric Anastomotic Stricture*
- *No-Option Critical Limb Ischemia*
- *Renal Artery Aneurysm : A Case, Pathophysiology, Natural History and Management*

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RE-ENTRY GUIDANCE

Document for Medtech Company Representative and Health Care Facilities

In response to the COVID-19 pandemic, hospitals and surgical facilities nationwide paused elective surgical procedures and other non-emergent and non-essential services, limiting physical access to health care facilities for non-essential health care personnel, patient visitors, and medical technology representatives.

Medtech Canada (the association representing the medical technology industry in Canada) developed the following Re-entry Guidance document (link below), which provides clinically based recommendations to support health care organizations and medical technology representatives when resuming elective procedures.

The principles and considerations contained in the document are intended to guide health care facilities, health care personnel and medical technology representatives as they adopt access policies that support safe re-entry of medical technology representatives into the health care facility. These considerations are not a substitute for guidance or requirements from provincial or federal government authorities.

Medtech Canada will be disseminating the document to its relevant stakeholders through the association's various committees, and they sought endorsements from medical groups to support the document.

CAIR is pleased to support this guidance document, as it will assist in ensuring that industry representatives can continue to support clinicians in a safe and responsive way.

Re-entry Guidance for Health Care Facilities and Medical Technology Representatives

If you have any questions about the Re-entry Guidance, please contact Medtech Canada's President and CEO, Brian Lewis at blewis@medtechcanada.org.

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