



Annual Report 2018–2019
Eastern Ontario Regional Laboratory Association



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EORLA Chair Patrick Dion

Chair's Message:

The EORLA team has faced a great deal this past year —changes both meaningful and melancholy.

The sudden passing of our colleague and board chair Tom Schonberg, an exceptional leader in Ottawa's healthcare community, brought heartbreak beyond the easy reach of words. And so, it is with humility that I begin my term as Chair of the EORLA Board of Directors. I am honoured that my colleagues —directors representing both Eastern Ontario member hospitals and community perspectives— have placed in me their confidence. In remembrance, we set forth to dedicate our work over the year ahead to Tom's memory.

In 2013, when Jeffrey Dale, Dr. Virginia Roth and I were appointed to the EORLA Board as community members, the prospect that one day I would assume the role of board chair and Jeffrey the position of CEO was improbable. After all, we were forerunners —the Board's first effort to add community members to its ranks. Much has changed since 2013.

I am pleased that EORLA's board culture, composition and strategic vision has matured and diversified. Under the leadership of our colleague Dr. Bernard Leduc, Montfort Hospital CEO, board culture evolved to embrace the meaningful involvement of community board members. Best practice in board governance and mutual trust among directors has strengthened year-over-year since 2013. In my term as chair, I commit to continuing to grow trust among member hospitals and community directors, hopeful to further stimulate such forward-thinking board governance.

In my services over 6 years, I have developed a deep regard for the practice and purpose of laboratory medicine and its value to patient wellbeing. The level of excellence of laboratory medicine in Eastern Ontario is, by any measure, a consequence of the EORLA team's dedication to delivering value to member hospitals and to their primary focus that patients come first. Such dedication must guide everything we do.

Over the past year, EORLA has faced considerable change among the ranks of EORLA's executive leadership team and board. In September, we bade farewell to Craig Ivany, as he began a new healthcare role in Alberta, and hired his successor Jeffrey Dale, past director of the board; recruited and hired Paul St. George, VP Finance and Administration; appointed my colleague Cameron Love, Chief Operating Officer of The Ottawa Hospital (TOH), to the role of board vice chair; and recruited to replace our colleague Dr. Greg Rose, whom served as the Board's physician lab user member until leaving to accept a position on the Ontario Medical Association board of directors. A year of renewal, to be sure.

As EORLA sets its sights to the year ahead, many acknowledge that healthcare in Ontario will develop and challenge the business operations of EORLA's member hospitals. As board chair, I am mindful of the challenges ahead. The board will work closely with senior management to formulate a strategic plan to guide EORLA forward. Both the board and management is committed to working with EORLA employees and member hospitals to create a plan focused on sustainable and high-quality lab services.

On behalf of the Board of Directors, I want to thank all members of the executive leadership team and all employees for their dedication to EORLA's success. The commitment to healthcare excellence captured in this report belongs to you and to the people we serve.

CEO's Message:

I am proud to present the 2018-19 Annual Report, marking EORLA's 7th year of operation.

2018–19 was a year of change, tragedy and renewal. This year's annual report reflects the important work EORLA is doing for our members, their patients and the future of laboratory medicine.

Change is a constant in healthcare and EORLA is not exempt. In 2018-19, EORLA implemented new laboratory information systems, alongside new biochemistry and hematology equipment. Our team managed such change while completing IQMH reviews at our member hospitals and maintaining our record of quality test results. Also, we faced significant challenges with Pathology turn around times. Over the past year, staff retirements and transfers within the Pathology team left us significantly short of staff. The entire Pathology team rallied to cover the shortage and actively recruited new technologists and pathologists to provide better long-term coverages.

EORLA has also faced significant change within its executive leadership ranks: a new CEO, new discipline leads, and new members have joined the EORLA team. We all wished Craig Ivany well as he embarked on a great new opportunity to create an EORLA-like model in Alberta.

Over the past year, a number of tragedies struck our community. The EORLA team responded and supported our member hospitals as they cared for the victims of the tornado, the OC Transpo bus crash, and a serious automotive accident near Hawkesbury. Our team responded professionally, proactively providing our members with urgent, critically needed lab services.

We also had our own tragedy with the passing of EORLA's board chair, Tom Schonberg. Tom was a champion of healthcare in our region and a strong advocate for EORLA. On a personal note, he was a strong influencer in my joining EORLA as CEO. I miss his leadership, guidance and humour.

The recent changes at EORLA created opportunity for renewal. EORLA hired new leadership on many of its teams, leaders whom bring new ideas and new energy. Over the past year, management has focused on improving team engagement. My visit to each lab in Eastern Ontario Region revealed the dedication of our teams to their hospitals and their patients. EORLA aspires to developing teams whose members place equal pride in EORLA as they do their work. We have made progress, however this is not a single action. I committed to making EORLA a welcoming and inclusive workplace — where each employee feels valued. This is not easily achieved, requiring all employees to take ownership in improving EORLA. Getting engaged and staying engaged can be contagious.

My final message is to thank everyone at EORLA and our member hospitals for the warm welcome you have provided to me. I have enjoyed all my visits to our member sites and having had the opportunity to visit each site at least once, I will continue visiting you regularly to better understand your operations and to thank you for the work that you do everyday.



EORLA CEO Jeffrey Dale



Dr. Veinot is a Cardiovascular Pathologist at the Ottawa Hospital, CHEO, University of Ottawa and the University of Ottawa Heart Institute where he has worked since 1994.

He is a Full Professor at the University of Ottawa and a Clinical Investigator at the Ottawa Hospital Research Institute.

He is Past-President of the International Society for Cardiovascular Pathology. He sat on the Physician Advisory Board of Accreditation Canada.

Dr. Veinot completed his undergraduate training at Acadia University, pursued Medical School at Dalhousie Medical School and completed a rotating internship at Victoria Hospital, London Ontario. He did a Residency in Anatomical Pathology at Queen's University, Kingston, Ontario. Dr. Veinot completed his Fellowship in Cardiovascular Pathology at the Mayo Clinic, Rochester MN.

In September 2010, Dr. Veinot took on the role of Chairman of the Department of Pathology and Laboratory Medicine at the University of Ottawa, Department Head at The Ottawa Hospital and the Children's Hospital of Eastern Ontario and the Chief of Medical Staff of the Eastern Ontario Regional Laboratory Association (EORLA).

EORLA Chief of Staff's Message

Another year, more change and more challenges! I want to thank all staff for their continued perseverance and dedication. The quality of care we provide continues to be excellent due to our people.

The teamwork demonstrated by the medical scientific and the operations staff continues to be great. We work together for the good of our patients and their families. In collaboration you are making a difference.

We said adieu to Craig Ivany who was Alberta bound and welcomed Jeffrey Dale as our new CEO. It has been a pleasure working with Mr. Dale and I look forward to continued productive endeavours with him.

Strategic planning has been active and medical and scientific staff were pleased to participate in the process which was very interactive and inclusive.

Regional Discipline activity continues. Our Regional Discipline leads are: Anatomical Pathology – Dr. J. Lage; Microbiology – Dr. K. Ramotar; Biochemistry – Dr. J. Shaw and Hematopathology-Transfusion Medicine and Tissue Typing – Dr. M. Rutherford.

Dr. Banerjee retired as Anatomical Pathology Chief last year and is happily enjoying spending time with his grandson.

Dr. Antonio Giulivi stepped down as Chief of Hematopathology but we are lucky to have him continue as lead in Transfusion Medicine and an active member of the Hematopathology division.

We continue to have academic achievements. Several staff participated in leadership training, quality and patient safety training. Educationally, we made large contributions to the undergraduate medical teaching curriculum, residency training, training of fellows, and in the teaching in the Faculty of Science and Health Sciences. We have several residency programs - anatomic pathology, medical microbiology, and hematopathology and transfusion medicine. Our residents were once again successful in obtaining their Fellowship exams this year.

Pathology and Laboratory Medicine Grand Rounds are continuing with a combination of talks from both medical and scientific staff, as well as operations staff.

EORLA continues to co-sponsor a Forensic and Pediatric pathology conference with the University of Ottawa. This year we are working with colleagues in Atlanta Georgia and the conference will occur in Atlanta; A very successful educational activity.

These accomplishments are only possible through the hard work from all of you. People remain our most valuable resource. In the coming year, we will try to focus on wellness, communication and performance management.

Thank you again for your dedication, perseverance and support.

JOHN P. VEINOT, MD, FRCPC

Chief of Staff, EORLA

Department Head/Medical Director, Department of Pathology and Laboratory Medicine - The Ottawa Hospital

Department Head/Medical Director, Department of Pathology and Laboratory Medicine – Children's Hospital of Eastern Ontario (CHEO)

Chairman, Department of Pathology and Laboratory Medicine, University of Ottawa

EORLA's Balanced Governance Model

Sixteen member hospitals with 18 sites located across Eastern Ontario, more than 800 laboratory technologists, 65 medical/scientific staff, and greater than 13 million tests performed annually ...

The Eastern Ontario Regional Laboratory Association (EORLA) is one of the first examples of a clinical service being amalgamated and offered as a not-for-profit organization. It is the largest voluntary integrated laboratory in Ontario.

EORLA delivers consistent, high-quality, innovative, cost-effective, safe and sustainable medical laboratory services to its member hospitals so they, in turn, can meet the needs of the region's patients.

The governance required to both lead and support an organization of this magnitude and complexity must be carefully composed.

Board composition

The EORLA Board (12 members) is set up to provide balanced operational oversight with almost equal representation between hospital members and community-based members.

"We're very proud of that fact. Community members bring a different, outside perspective," shares Jeffrey Dale, EORLA CEO.

Currently, the Board Chair, Patrick Dion, is a community member and the Vice-Chair, Cameron Love, is the COO of The Ottawa Hospital (TOH).

"The board's composition of member hospital and community-based perspectives makes for meaningful board and committee discussion, helping to explain EORLA's success as a regional provider of high-quality laboratory services," says Patrick.

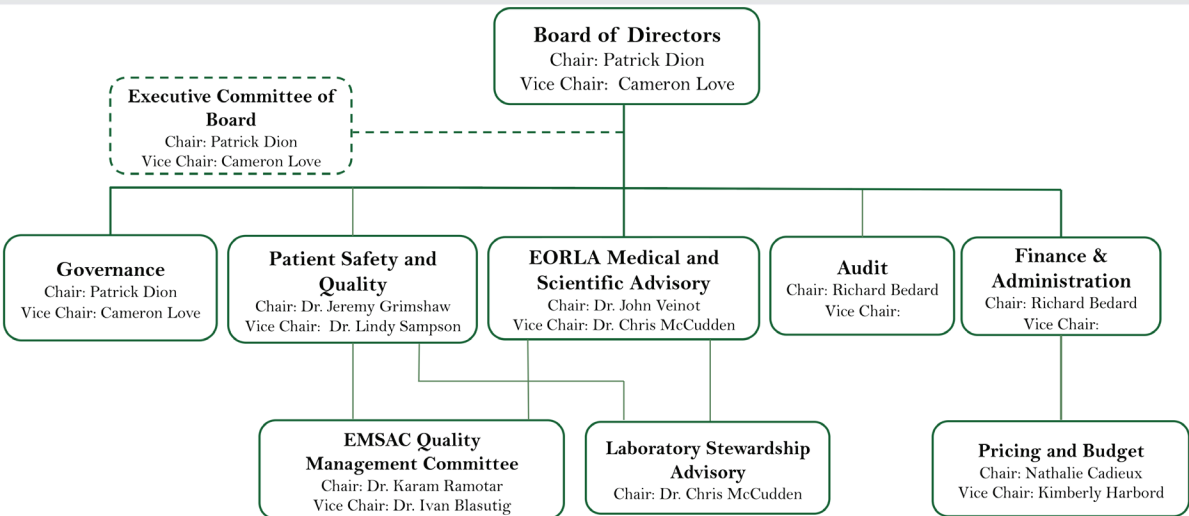
Over the past 10 years EORLA has amended its by-laws to increase the number of community board members and create a balance between the representatives from EORLA members and the broader community.

Hospital Board Members:

Board of Directors shall be elected by the regular members which Directors shall consist of the following:

- One (1) person approved by The Ottawa Hospital
- One (1) person approved by Children's Hospital of Eastern Ontario
- One (1) person approved by L'Hôpital Montfort
- One (1) person approved by Queensway Carleton Hospital
- One (1) person approved by Kemptville District Hospital, Carleton Place & District Memorial Hospital, Almonte General Hospital; Renfrew Victoria Hospital, Pembroke Regional Hospital; Arnprior & District Memorial Hospital (Arnprior Regional Health), St. Francis Memorial Hospital and Deep River District Hospital
- One (1) person approved by Cornwall Community Hospital, Glengarry Memorial Hospital, L'Hôpital General de Hawkesbury & District General Hospital and Winchester District Memorial Hospital;
- One (1) person approved by the University of Ottawa; and
- Five (5) persons from the community (other than the institutions named above)

EORLA Board Committee Structure



Balance in action

In October 2018 TOH brought forward to the Board that TOH wanted the costs associated with Pathologists Academics and the costs for medical/scientific support in the reference lab to be included in the price per test for all EORLA members. Historically, TOH had covered 100% of these costs. The Board discussed the matter and how it aligned with EORLA’s principles for both protecting an academic mandate and having one price per test for all members. Because of the blend of members on the Board, the discussion included both hospital oversight and community input. From the hospital perspective, there needed to be continued support to meet the academic mandates of members (especially key for large hospitals), however smaller hospitals were concerned about increased costs. From the community member perspective, a solution had to be found that was equitable for all member hospitals.

A decision was reached to include the costs in the tests that utilize the specialize medical and scientific support, so costs would be proportionate to actual use of the specialty service. It was also decided that implementation of the new model would not take place until the beginning of the new fiscal year to allow costs to be included in hospital budgets.

Providing Members with Oversight

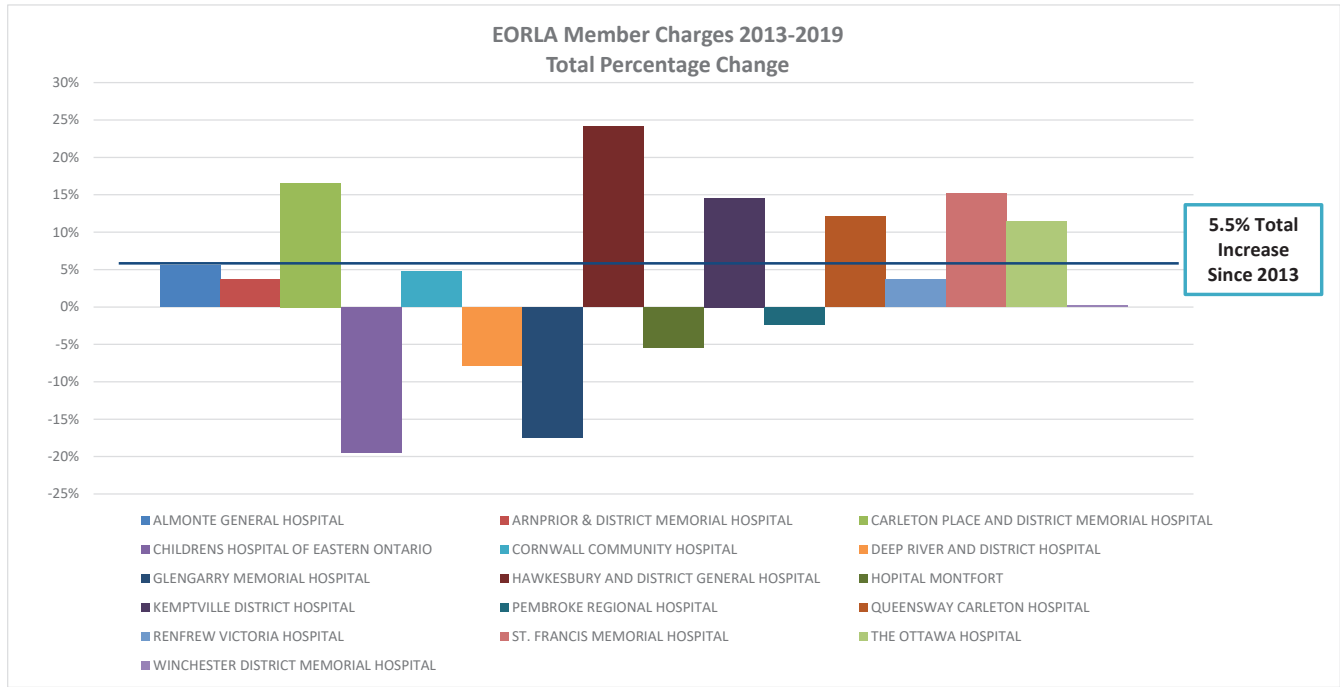
EORLA’s annual budget and test pricing is very important to EORLA and has implications for all of its members. EORLA’s governance model includes the Pricing and Budget Committee consisting of all member hospital CFOs to review EORLA’s annual operating and capital budgets. The Pricing and Budget Committee reports to the EORLA Finance and Administration Committee where the budget is finalized and brought to the Board for approval.

Overall, since 2013, hospital members have seen a total increase of only 5.5%—some are up, some are down, each hospital has its own story.

Member equality

Incorporated in 2003, all members of the Eastern Ontario Regional Laboratory Association (EORLA) have equal representation in the corporation—one member, one vote at the AGM.

In this way, explains Jeffrey Dale, EORLA CEO, “All members are equal. No hospital overpowers another, and they all have an equal say in how EORLA evolves in the future.”

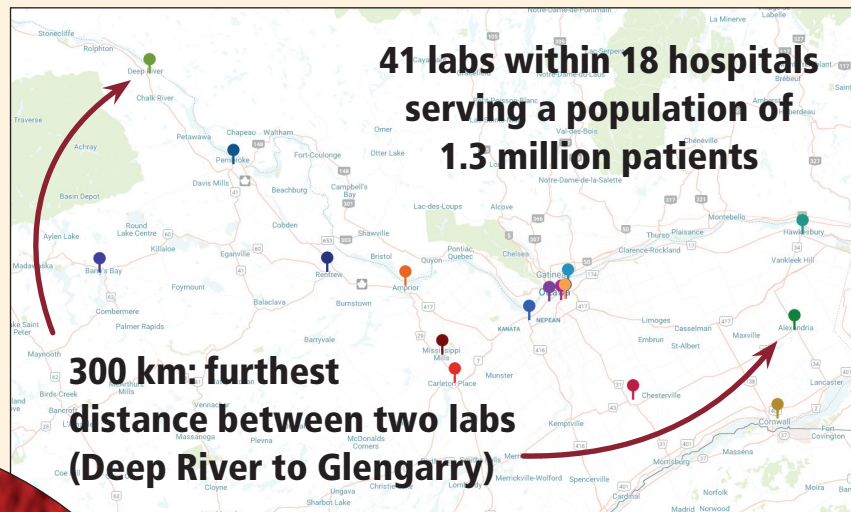


EORLA Interesting Facts

13 million specimens
are tested annually

863 employees fill
684.6 FTE positions
across the region

\$122,000,000 annual
budget



**43,000 Red Blood Cell units
& 6,800 platelet units are
transfused annually**

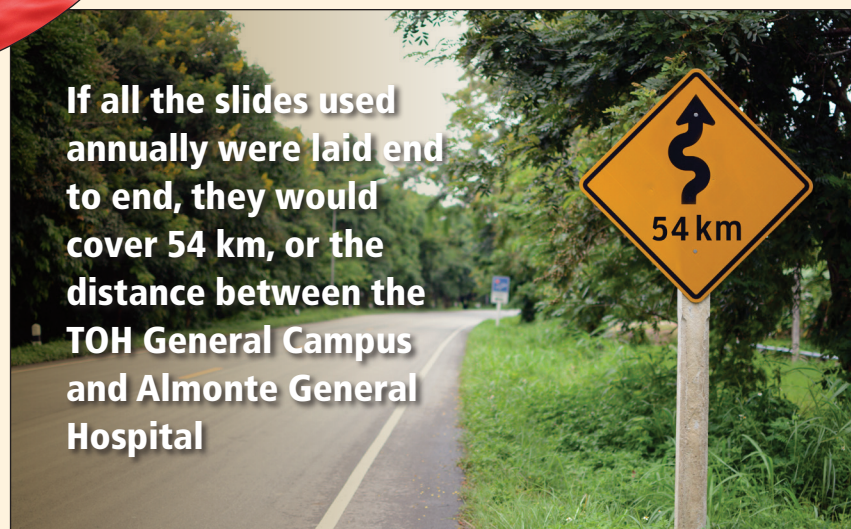
**600,000 blood draws are
performed by Phlebotomists.
That's 16,800 litres of blood or
enough to fill a 15 ft diameter
pool to 3½ feet deep**

76,000 cases are handled by our
Regional Pathology Laboratory annually,
consisting of:

- 135,000 Specimens
- 400,000 Blocks
- 700,000 H&E Slides
- 22,000 Special Slides
- 84,000 Immunohistochemistry slides
- 24,000 liters of alcohol & 8,300 kg of wax are used to process specimens

48 years – EORLA's
longest serving
employee

37,000 courier stops
to deliver specimens
to our labs





Hawkesbury and District General Hospital lab team

Responding to Code Orange

“September 19, 2018, a school bus was rear-ended by a transport truck while carrying 25 children to school. The children were transported by bus or ambulance to Hawkesbury and District General Hospital (HGH) and the bus driver was taken to The Ottawa Hospital (TOH – Civic Campus) by air ambulance. This was a very scary Code Orange, and when the danger passed we felt a huge relief even though the realization of what could have been caused us emotional upheaval.

“February 25, 2019, nearly a dozen vehicles were involved in a pile-up in the vicinity of the Alfred municipality due to the difficult road conditions (whiteout conditions). The situation was reported around 1115 H and the Code Orange was triggered around 1135 H. HGH received nine patients by ambulance and several others who arrived on their own. An extra waiting room was set up to accommodate any family members who accompanied the patients to hospital. Food and drinks were provided for the patients and their families.

Code Orange events demonstrate the dedication, compassion and collaboration of hospital staff. The laboratory staff, though often unseen, show up for these urgent situations and are able to reassure nursing staff with contingency plans that address the issues of being a community hospital far away from bigger metropolitan centres.

“The nursing director makes a point of thanking the laboratory for being ready and providing the needed support,” says Cheryl Portelance, Site Manager, Hawkesbury, Glengarry.

In the event of a Code Orange at HGH, all managers and directors, including lab, are notified by text, email and over the hospital PA system of the impending surge. On receiving notification, staff “literally run” directly to the boardroom to discuss the situation and available resources that can be accessed to supply the emergency department.

During mass casualty events, the laboratory brings forward its current inventory in the transfusion medicine refrigerator and works closely with the emergency department to assess potential needs and urgency.

“As a small hospital, we keep a limited supply of blood on hand because it has a 45-day expiry date,” notes Portelance.

If extra blood products will be required, the lab reaches out to The Ottawa Hospital (TOH), which has the largest supply in the region, to borrow units.

In the case of the whiteout pile-up and treacherous road conditions, the OPP were contacted to transport the blood products from Ottawa to Hawkesbury. When they hesitated, Doris Neurath, EORLA Regional Manager, Transfusion Medicine, Hematopathology, Tissue Typing/DNA, at TOH took the lead.

“There was no question, in a matter of minutes it was a done deal,” says Portelance, who recalls Neurath saying at the time that people in small centres have to be supported.

“And then she just picked it up and ran with it, and the products arrived within an hour and a half,” notes Portelance.

The collaboration between sites is a basic principle of EORLA’s model of integrated laboratory services to ensure the needs of the region’s patients are met.

Ottawa Bus Crash

On January 11, 2019, around 3:50 pm, a devastating bus crash in Ottawa killed three passengers. Another 23 passengers sustained major blunt force trauma injuries. Of those victims, 12 were sent to The Ottawa Hospital Civic Campus, 6 to The Ottawa Hospital General Campus with the remainder going to the Queensway Carleton Hospital.

The total blood use for all victims of bus crash treated at The Ottawa Hospital was 96 RBC units, 58 units of frozen plasma, and 10 doses of platelets as well as a number of doses of fibrinogen, according to the Utilization Report prepared by Dr. Alan Tinmouth, Emergency Blood Management Chair. These figures included a total of 15 O positive RCB units, 16 O negative RBC units, and 10 units of AB negative plasma issued by transfusion medicine staff stationed in the Emergency Department.

When the Code Orange was received, The Ottawa Hospital Civic Campus EORLA team sprang into action. Knowing that the victims of the crash may need transfusions and other blood products, the Transfusion team assembled at the designated mobile blood station equipped with several boxes of O positive and O negative red blood cells and plasma to be dispensed right there with no time delay. This process has been designed to provide effective timely blood distribution to patients in life threatening situations. At the same time staff in Transfusion Medicine were preparing and sending additional blood products to the mobile station in ED and also to specific patients requiring more blood. The team had dedicated porters available to them, their main responsibility was blood product transport from Transfusion Med main lab to the mobile station in Emergency and from Emergency to Operating rooms as needed.

Over the next 12 hours the EORLA team supported the emergency room and operating room teams and helped to save many lives. After when they were asked about how they reacted, the Transfusion team commented that it was their training and understanding the role they play that took over and allowed them to be as responsive as they were. No one likes to have this situation, however there is a great sense of pride and accomplishment when you can do what you are trained to do.



Members of the Ottawa Hospital Civic Campus EORLA team: Jeannie Barton, Melissa Sawchuk, Lynn Brown, Calista Hagarty, Katherine Sokoll

Preparedness Tested Through Unique Joint Exercise

“The lab was ready,” states Dr. Ruth Padmore, Hematopathologist, The Ottawa Hospital and Eastern Ontario Regional Laboratory Association (EORLA).

While all member labs of EORLA pride themselves on being prepared, Dr. Padmore was speaking specifically about the staged collaborative disaster response exercise carried out at Deep River and District Hospital (DRDH) on November 7-8, 2018.

2 Field Ambulance, a Canadian Armed Forces unit based out of Garrison Petawawa, responsible for providing support in the event of major air disasters across Canada, collaborated with DRDH to conduct the exercise.

The scenario involved an emergency aircraft landing just outside of town, which resulted in mass casualties.

Two field care delivery units were erected in the hospital parking lot—one to assist with triage, and the other to act as a medical/urgent care ward. The hospital’s emergency department carried on with real patients as military ambulances began delivering patients with a wide variety of simulated injuries and conditions by mid-morning on November 7.

In all, 20 critical patients, 10 semi-critical, and 10 stable patients were treated with the support of laboratory and diagnostic imaging, and were stabilized and prepared for transport to other facilities where they would receive further care in a real-life scenario.

“The lab was involved through the whole process, actually drawing and testing blood and following the process of how to respond to an incident like this,” explains Richard Bedard, DRDH CEO.

The exercise tested how the lab would work with remote sites, for example Pembroke Regional Hospital and The Ottawa Hospital, to meet needs, like significant amounts of blood for transfusion.

“It demonstrated how a small, local lab could respond and how larger sites could help to meet the urgent needs,” states Bedard.

Four lab technologists were on site for the exercise: Mike Wilson, Laboratory Charge Technologist, DRDH, Morgan Loos, Susan Ripley, Lab Technologist, DRDH, and Dr. Padmore.

DRDH Technologist Sue Ripley draws blood from a patient during the exercise.



The first step was to conduct an inventory of blood product on hand, and reach out to Pembroke to find the inventory/availability of products there. Then an order was created for Canadian Blood Services, which was updated as the exercise went on.

“It was good practice managing the units you need,” says Padmore.

As part of the exercise, lab staff drew real blood samples in the tent and took them back to the lab. Patients were numbered only, as in a real disaster scenario, and there were mock bags of blood on hand for transfusion.

“It was a really fantastic experience,” remarks Padmore.

“My takeaway from this experience is the need to communicate with our Manager, Lab Director and Hematopathologist well before the heat starts,” shares Wilson. “Dr. Padmore was such a powerful lead and took so much pressure off our team by coordinating blood supply, staffing and was a very valuable liaison between the laboratory, DRDH staff and all military personnel. Without communications, this exercise would not have been the huge success it was.”

While there were extra technologists on hand for the exercise because it was such a unique opportunity, Dr. Padmore notes that in the case of a real-life mass casualty situation, the lab would still be prepared because they get a heads-up. Once the hospital is notified of an incident, the lab employs a “fan-out list” (a call list to a pool of trained technologists who are on call 24/7, how far away they are, and how fast they can get there).

Once the Deep River exercise was complete, the lab staff gathered to debrief on the lessons learned. Those included: 1. Practice is good and a mock exercise is the way to go (in this instance the soldiers were wonderful and the exercise was very real), 2. The opportunity to collaborate is very valuable, and 3. It’s important to continually review mass transfusion protocols.

All in all, “It was a once-in-a-lifetime opportunity to collaborate like this,” concludes Dr. Padmore.



From left to right: Morgan Loos, Mike Wilson, DRDH Charge Technologist, Sue Ripley, DRDH Technologist, and DRDH CEO Richard Bedard sporting his “Incident Commander” vest during debrief in the lab.



Dr. Ruth Padmore discusses aspects of the exercise with military personnel.

Publications

2018

1. **Patrick J, Montazeri A, Michalowski W, Banerjee, D.** Automated Pathologist Scheduling at The Ottawa Hospital Interfaces. In press 2018.
2. Atherton MJ, Stephenson KB, Tzelepis F, Bakhshinyan D, Nikota JK, Son HH, Jirovec A, Lefebvre C, Dvorkin-Gheva A, Ashkar AA, Wan Y, Stojdl DF, **Belanger EC**, Breau RH, Bell JC, Saad F, Singh SK, Diallo JS, Lichty BD. Transforming the prostatic tumor microenvironment with oncolytic virotherapy. *Oncoimmunology*. 2018 Mar 27;7(7):e1445459. doi: 10.1080/2162402X.2018.1445459. eCollection 2018. PMID: 29900060
3. Kimmaliardjuk DM, Dennie C, Dickie S, **Belanger EC**, Rubens F. Acute Management of Infected Chronic Thromboembolic Disease. *Ann Thorac Surg*. 2018 May 5. pii: S0003-4975(18)30593-9. doi:10.1016/j.athoracsur.2018.04.006. [Epub ahead of print] PMID:29738753
4. Paul ABM, Simms L, Mahesan AA, **Belanger EC**. Teens, Drugs, & Vegas: Toxicological surveillance of illicit prescription and illegal drug abuse in adolescents (12-17 years) using post-mortem data in Clark County, Nevada from 2005 to 2015. *J Forensic Leg Med*. 2018 Apr 14;58:20-24. doi: 10.1016/j.jflm.2018.04.002. [Epub ahead of print] PMID: 29680493
5. Yao J, Witherspoon L, McCormick BB, **Belanger E**, Warren JE. Abdominal visceral perforation by buried peritoneal dialysis catheters: Cause or coincidence? *Semin Dial*. 2018 May;31(3):305-308. doi:10.1111/sdi.12690. Epub 2018 Mar 7. PMID: 29513899
6. Tang T, Brownstein S, Chen H, Jordan D, Iacob CE, **Blanco P**, Farmer J. Histopathological study on the proposed pathogenesis of intratarsal keratinous cysts. *Ophthalmic Plast Reconstr Surg* 2018 Nov 12 [Epub ahead of print]
7. Bugeja A, **Blanco P**, Clark EG, Sood M. Sick cell disease: A case report of renal amyloidosis. *BMC Nephrol* 2018 Oct 10;19(1):256.
8. Ren K, Geldenhuys L, Alexopoulou I, Bellur S, Bissonnette M, **Blanco P**, Mengel M, Moussa M, Riopel J, Sis B, Avila-Casado C. Measuring workload in nephropathology: A Canadian experience. *Can J Pathol* 2018;10(3):29-38.
9. Massicotte-Azarniouch D, Barbour S, **Blanco P**, Clark EG. Primary membranous nephropathy presenting with crescentic glomerulonephritis 25 years after initial presentation: A case report. *Clin Nephrol*. 2018 Oct;90(4):291-295
10. McDonald HM, Farmer JP, **Blanco PL**. Cognitive biases in orbital mass lesions – Lessons learned. *Saudi J Ophthalmol* 2018;32(1):23-27
11. Bourque PR, Warman Chardon J, Bryanton M, Toupin M, **Burns BF**, Torres C. Neurolymphomatosis of the Brachial Plexus and its Branches: Case Series and Literature Review. *Can J Neurol Sci*. 2018 Mar;45(2):137-143. doi: 10.1017/cjn.2017.282. Epub 2018 Jan 8.
12. Nasr Y, El Demellawy D, Nasr A, **de Nanassy J**. Esophageal Squamous Cell Papillomatosis Arising in Focal Dermal Hypoplasia in a Three-Year-Old Girl. *Journal of Pediatric Gastroenterology and Nutrition*, 2018, Manuscript JPGN-17-545R2
13. Kabir B, **de Nanassy J**, Mofeedah S, Ramien M, El Demellawy D. Dermal Non-neural Granular Cell Tumor in a 3-year-old Child *Pediatric Dermatology*, 2018, DOI: 10.1111/pde.1352
14. **El Demellawy D**, Lee JY, McDonnell L, Dymont DA, Knisely AS, McGowan-Jordan J, Ngan B, Finegold M, Kapur RP, Nasr A. Atypical Hepatic Mesenchymal Hamartoma: Histologic Appearance, Immunophenotype, and Molecular Findings. *Pediatr Dev Pathol*. 2018 Nov 29;1093526618806750. doi: 10.1177/1093526618806750.
15. Kabir B, Ramien M, Al Shammery M, de Nanassy J, **El Demellawy D**. Dermal non-neural granular cell tumor in a 3-year-old child. *Pediatr Dermatol*. 2018 Jul;35(4):e241-e242. doi: 10.1111/pde.13520. Epub 2018 May 16.
16. Nasr Y, Salgado D, **El Demellawy D**, Boland M, de Nanassy J. Esophageal Squamous Cell Papillomatosis Arising in Focal Dermal Hypoplasia in a 3-Year-Old Girl. *J Pediatr Gastroenterol Nutr*. 2018 May;66(5):e132-e134. doi: 10.1097/MPG.0000000000001899. No abstract available. PMID: 29373440
17. **Demellawy DE**, Davila J, Shaw A, Nasr Y. Brief Review on Metabolic Bone Disease. *Academic forensic pathology on August 31, 2018*.
18. Ferretti E, Pilon S, Boland M, **El Demellawy D**. Early onset of allergic proctitis in a preterm neonate-A Case *Pediatr Dev Pathol*. 2018 Oct.
19. Hill KM, Masoudian P, Fung-Kee-Fung K, **El Demellawy D**. Intrauterine interventions for the treatment of twin anemia-polycythemia sequence: A systematic review. Accepted in *Journal of Obstetrics and Gynaecology Canada*
20. Sadoughi N, Krishna S, McInnes MDE, **Flood TA**, Breau RH, Morash C, Schieda N. ADC Metrics From Multiparametric MRI: Histologic Downgrading of Gleason Score 9 or 10 Prostate Cancers Diagnosed at Nontargeted Transrectal Ultrasound-Guided Biopsy. *AJR Am J Roentgenol*. 2018 Jul 11;W1-W8. doi: 10.2214/AJR.17.18958. [Epub ahead of print] PMID:29995495
21. Capitano M, Schieda N, Robertson SJ, Morash C, Breau RH, Maciejewski C, **Flood TA**. Images: Ruptured intratesticular arteriovenous malformation. *Can Urol Assoc J*. 2018 Jun 8. doi: 10.5489/cuaj.5049. [Epub ahead of print] No abstract available. PMID: 29989884
22. John S, Cooper S, Breau RH, **Flood TA**, Cagiannos I, Lavalley LT, Morash C, O'sullivan J, Schieda N. Multiparametric magnetic resonance imaging - Transrectal ultrasound-guided cognitive fusion biopsy of the prostate: Clinically significant cancer detection rates stratified by the Prostate Imaging and Data Reporting System version

- 2 assessment category. *Can Urol Assoc J.* 2018 Jun 19. doi: 10.5489/cuaj.S254. [Epub ahead of print] PMID: 29940139
23. **Flood TA**, Schieda N. Beyond the Gleason score: the prognostic significance of prostate cancer subtypes. *Transl Androl Urol.* 2018 May;7(Suppl 2):S260-S261. doi: 10.21037/tau.2018.04.01. No abstract available. PMID: 29932176
24. Krishna S, Schieda N, **Flood TA**, Shanbhogue AK, Ramanathan S, Siegelman E. Magnetic resonance imaging (MRI) of the renal sinus. *Abdom Radiol (NY).* 2018 Apr 9. doi: 10.1007/s00261-018-1593-1. [Epub ahead of print] Review. PMID: 29632991
25. Schieda N, Lim RS, Krishna S, McInnes MDF, **Flood TA**, Thornhill RE. Diagnostic Accuracy of Unenhanced CT Analysis to Differentiate Low-Grade From High-Grade Chromophobe Renal Cell Carcinoma. *AJR Am J Roentgenol.* 2018 May;210(5):1079-1087. doi:10.2214/AJR.17.18874. Epub 2018 Mar 16. PMID: 29547054
26. Lim RS, McInnes MDF, Siddaiah M, **Flood TA**, Lavalley LT, Schieda N. Are growth patterns on MRI in small (< 4 cm) solid renal masses useful for predicting benign histology? *Eur Radiol.* 2018 Aug;28(8):3115-3124. doi: 10.1007/s00330-018-5324-3. Epub 2018 Feb 28. PMID: 29492598
27. Krishna S, McInnes M, Lim C, Lim R, Hakim SW, **Flood TA**, Schieda N. Comparison of Prostate Imaging Reporting and Data System versions 1 and 2 for the Detection of Peripheral Zone Gleason Score 3 + 4 = 7 Cancers. *AJR Am J Roentgenol.* 2017 Dec;209(6):W365-W373. doi: 10.2214/AJR.17.17964. Epub 2017 Oct 5. PMID: 28981356
28. **Flood TA**, Schieda N, Sim J, Breau RH, Morash C, Belanger EC, Robertson SJ. Evaluation of tumor morphologies and association with biochemical recurrence after radical prostatectomy in grade group 5 prostate cancer. *Virchows Arch.* 2018 Feb;472(2):205-212. doi: 10.1007/s00428-017-2241-9. Epub 2017 Oct 3. PMID: 28975495
29. Mammen S, Krishna S, Quon M, Shabana WM, Hakim SW, **Flood TA**, Schieda N. Diagnostic Accuracy of Qualitative and Quantitative Computed Tomography Analysis for Diagnosis of Pathological Grade and Stage in Upper Tract Urothelial Cell Carcinoma. *J Comput Assist Tomogr.* 2018 Mar/Apr;42(2):204-210. doi: 10.1097/RCT.0000000000000664. PMID: 28937484
30. Lim RS, **Flood TA**, McInnes MDF, Lavalley LT, Schieda N. Renal angiomyolipoma without visible fat: Can we make the diagnosis using CT and MRI? *Eur Radiol.* 2018 Feb;28(2):542-553. doi: 10.1007/s00330-017-4988-4. Epub 2017 Aug 4. Review. PMID: 28779401
31. Krishna S, Lim CS, McInnes MDF, **Flood TA**, Shabana WM, Lim RS, Schieda N. Evaluation of MRI for diagnosis of extraprostatic extension in prostate cancer. *J Magn Reson Imaging.* 2018 Jan;47(1):176-185. doi: 10.1002/jmri.25729. Epub 2017 Apr 7. PMID: 28387981
32. Schlosser M-P, Bucking S, Lemyre B, **Grynspan D**, Padmore R, Johnston D. Prenatally Diagnosed Infant AML. *J. Pediatr. Hematol. Oncol.* 2018;40(3):238-239.
33. Abdulghani S, Moretti F, Nikkels PG, Khung-Savatovsky S, Hurteau-Miller J, **Grynspan D**. Growth Restriction, Osteopenia, Placental Massive Perivillous Fibrin Deposition With (or Without) Intervillous Histiocytes and Renal Tubular Dysgenesis-An Emerging Complex. *Pediatr. Dev. Pathol.* 2018;21(1):91-94.
34. Shapira-Zaltsberg G et al. MRI features of the placenta in fetuses with and without CNS abnormalities. *Clin. Radiol.* 2018;73(9):836.e9-836.e15.
35. Shapira-Zaltsberg G, **Grynspan D**, Reddy D, Miller E. Apparent Diffusion Coefficient of the Placenta in Twin versus Singleton Pregnancies. *Fetal Diagn. Ther.* 2018;44(2):129-134.
36. Christians JK, **Grynspan D**, Greenwood SL, Dilworth MR. The problem with using the birthweight: Placental weight ratio as a measure of placental efficiency. *Placenta.* 2018;68:52-58.
37. Miller C, et al. Maternal and neonatal characteristics of a Canadian urban cohort receiving treatment for opioid use disorder during pregnancy. *J. Dev. Orig. Health Dis.*, pp. 1-6, Aug. 2018.
38. Benton SJ, Leavey K, **Grynspan D**, Cox BJ, Bainbridge SA. The clinical heterogeneity of preeclampsia is related to both placental gene expression and placental histopathology. *Am. J. Obstet. Gynecol.* 2018;219(6):604.e1-604.e25.
39. Gibbs I, Leavey K, Benton SJ, **Grynspan D**, Bainbridge SA, Cox BJ. Placental transcriptional and histologic subtypes of normotensive fetal growth restriction are comparable to preeclampsia. *Am. J. Obstet. Gynecol.* 2019;220(1):110.e1-110.e21.
40. Ferretti E, et al. Impaired antimicrobial response and mucosal protection induced by ibuprofen in the immature human intestine. *Pediatr. Res.* 2018;84(6):813-820.
41. Bonnefoy S, et al. Biallelic Mutations in LRRC56, Encoding a Protein Associated with Intraflagellar Transport, Cause Mucociliary Clearance and Laterality Defects. *Am. J. Hum. Genet.* 2018;103(5):727-739.
42. Xiang X, et al. Pannexin 1 inhibits rhabdomyosarcoma progression through a mechanism independent of its canonical channel function. *Oncogenesis.* 2018;7(11):89.
43. Sim J, **Halwani F**, Lee G. Divergent presentations of pulse granulomas: a sequela of colonic injury that is important to recognize. *Can J Pathol.* 2018;10(3):60-64.
44. Niu Z, Pontifex CS, Berini S, **Hamilton LE**, Naddaf E, Wieben E, Aleff RA, Martens K, Gruber A, Engel AG, Pfeffer G, Milone M. Myopathy With SQSTM1 and TIA1 Variants: Clinical and Pathological Features. *Front. Neurol.* 2018;9:147. doi:10.3389/fneur.2018.00147
45. Arnold A, Parkins MD, **Hamilton, LE**, Hader W, Federico P. Recurrent Herpes Simplex Virus Encephalitis After Epilepsy Surgery. *Canadian Journal of Neurological Sciences/Journal Canadien des Sciences Neurologiques.* 2019;46(2): 261-263. doi:10.1017/cjn.2018.385.
46. Adam Amlani, Glen S Hazlewood, **Leslie Hamilton**, Minoru Satoh, Marvin J Fritzler; Autoantibodies to the survival of motor neuron complex in a patient with necrotizing autoimmune myopathy, *Rheumatology*, Volume 57, Issue 1, 1 January 2018, Pages 199-200

47. Bourque PR, Boyd KU, **Jansen GH**, Warman-Chardon J, Zwicker J, Pringle EB, Rakhra K, Breiner A. Intraneural Ganglion Cysts of the Fibular Nerve: A Cause of Fluctuating Painful Foot Drop. *Can J Neurol Sci*. 2018 Jul 25;1-3. doi:10.1017/cjn.2018.66. [Epub ahead of print] No abstract available. PMID: 30041709
48. Mercer RCC, Daude N, Dorosh L, Fu ZL, Mays CE, Gapesina H, Wohlgemuth SL, Acevedo-Morantes CY, Yang J, Cashman NR, Coulthart MB, Pearson DM, Joseph JT, Wille H, Safar JG, **Jansen GH**, Stepanova M, Sykes BD, Westaway D. A novel Gerstmann-Sträussler-Scheinker disease mutation defines a precursor for amyloidogenic 8 kDa PrP fragments and reveals N-terminal structural changes shared by other GSS alleles. *PLoS Pathog*. 2018 Jan 16;14(1):e1006826. doi:10.1371/journal.ppat.1006826. eCollection 2018 Jan. PMID: 29338055
49. Harrison SM, Dolinsky JS, Chen W, Collins CD, Das S, Deignan JL, Garber KB, Garcia J, **Jarinova O**, Knight Johnson AE, Koskenvuo JW, Lee H, Mao R, Mar-Heyming R, McFaddin AS, Moyer K, Nagan N, Rentas S, Santani AB, Seppälä EH, Shirts BH, Tidwell T, Topper S, Vincent LM, Vinette K, Rehm HL; ClinGen Sequence Variant Inter-Laboratory Discrepancy Resolution Working Group. Scaling resolution of variant classification differences in ClinVar between 41 clinical laboratories through an outlier approach. *Human Mutation* [IF: 5.35] 2018;39(11):1641-1649.
50. Nfonsam L, Ordorica S, Ghani M, Potter R, Schaffer A, Daoud H, Vasli N, Chisholm C, Sinclair-Bourque E, McGowan-Jordan J, Smith AC, **Jarinova O***, Bronicki L* (*share senior authorship). Leveraging the power of new molecular technologies in the clinical setting requires unprecedented awareness of limitations and drawbacks: Experience of one diagnostic laboratory. *Journal of Medical Genetics* [IF: 5.75]. 2018. doi:10.1136/jmedgenet-2018-105443
51. Chisholm C, Daoud H, Ghani M, Mettler G, McGowan-Jordan J, Sinclair-Bourque L, Smith A, **Jarinova O**. One Diagnostic Laboratory's Approach to Re-interpretation of Sequence Variants. *Genetics in Medicine* [IF: 9.94] 2018;20(3):365-368.
52. Lebo MS, Zakoor KR, Chun K, Speevak MD, Waye JS, McCready E, Parboosingh JS, Lamont RE, Feilottter H, Bosdet I, Tucker T, Young S, Karsan A, Charames GS, Agatep R, Spriggs EL, Chisholm C, Vasli N, Daoud H, **Jarinova O**, Tomaszewski R, Hume S, Taylor S, Akbari MR, Lerner-Ellis J; Canadian Open Genetics Repository Working Group. Data sharing as a national quality improvement program: Reporting on BRCA1 and BRCA2 variant-interpretation comparisons through the Canadian Open Genetics Repository (COGR). *Genetics in Medicine* [IF: 9.94] 2018;20(3):294-302.
53. Bellizzi AM, Hafezi-Bakhtiari S, Westerhoff M, **Marginean EC**, Riddell RH. Gastrointestinal pathologists' perspective on managing risk in the distal esophagus: Convergence on a pragmatic approach. *Ann N Y Acad Sci*. 2018 May 11. doi:10.1111/nyas.13680. PubMed PMID: 29749623.
54. Tripathi M, Streutker CJ, **Marginean EC**. Relevance of Histology in the Diagnosis of Reflux Esophagitis. *Ann N Y Acad Sci*. 2018 May 16. doi:10.1111/nyas.13742.
55. **Marginean EC**, Meloski B. Is There a Role for Programmed Death-Ligand 1 Testing and Immunotherapy in Colorectal Cancer with Microsatellite Instability? Part I: Colorectal Cancer: Microsatellite Instability, Testing and Clinical Implications. *Arch Pathol Lab Med*. 2018 Jan;142(1):17-25
56. **Marginean EC**, Meloski B. Is There a Role for Programmed Death-Ligand 1 Testing and Immunotherapy in Colorectal Cancer with Microsatellite Instability? Part II: The Challenge of Programmed Death-Ligand 1 Testing and Its Role in Microsatellite Instability-High Colorectal Cancer. *Arch Pathol Lab Med*. 2018 Jan;142(1):26-34.
57. **Nair V**, Belanger EC, Veinot JP. Lysosomal storage disorders affecting the heart: a review. *Cardiovasc Pathol*. 2018 Dec 1;39:12-24. doi:10.1016/j.carpath.2018.11.002. [Epub ahead of print] Review. PubMed PMID: 30594732
58. Alzayer H, Winter J, Alshatti A, **Nair V**, Sheth T, Whitlock RP, Dyub A, Belley-Côté EP. Histoplasma Endocarditis Diagnosed by Thrombus Aspiration. *Can J Cardiol*. 2018 Oct;34(10):1370.e9-1370.e11. doi: 10.1016/j.cjca.2018.07.417. Epub 2018 Jul 29. PubMed PMID: 30269839
59. Mir H, Alhussein M, Alrashidi S, Alzayer H, Alshatti A, Valettas N, Mukherjee SD, **Nair V**, Leong DP. Cardiac Complications Associated With Checkpoint Inhibition: A Systematic Review of the Literature in an Important Emerging Area. *Can J Cardiol*. 2018 Mar 28. pii: S0828-282X(18)30246-0. doi:10.1016/j.cjca.2018.03.012. [Epub ahead of print] Review. PubMed PMID: 29980467
60. Pawlowicz B, Fernandes J, **Nair V**. Coronary Artery Abnormalities as the Cause of Sudden Cardiac Death: A 20-Year Review. *Am J Forensic Med Pathol*. 2018 Feb 15. doi:1097/PAF.0000000000000387. [Epub ahead of print] PubMed PMID: 29461269
61. **Petkiewicz S**, Baltz J, Cornejo K, Deng A, Wiss K. Widespread presentation and spontaneous regression of porokeratotic eccrine ostial dermal duct nevus. *JAAD Case Reports*. 2018 November;4(10):972-5. doi:10.1016/j.jdc.2018.08.001
62. Heck E, **Petkiewicz S**, Xing L. Hyperpigmented Cutaneous Plaques With Ulceration on the Legs. *JAMA Dermatol*. 2018 Mar 1;154(3):355-356. doi:10.1001/jamadermatol.2017.4485. No abstract available. PMID: 29141088
63. Xiang X, Langlois S, St-Pierre ME, Barré JF, Grynspan D, **Purgina B**, Cowan KN. Pannexin 1 inhibits rhabdomyosarcoma progression through a mechanism independent of its canonical channel function. *Oncogenesis*. 2018 Nov 21;7(11):89. doi:10.1038/s41389-018-0100-4
64. Flaman AN, Wasserman JK, Gravel DH, **Purgina BM**. Ear and Temporal Bone Pathology: Neural, Sclerosing and Myofibroblastic Lesions. *Head Neck Pathol*. 2018 Sep;12(3):392-406. doi:10.1007/s12105-018-0891-9. Epub 2018 Aug 1. Review.
65. Antonescu CR, Argyris, PP, Bilodeau E, Bullock MJ, Freedman PD, Lee CH, Jordan RCK, Leong I, Gnepp DR, Koutlas IG, Merzianu M, **Purgina BM**, Thompson LDR, Wehrli B, Wright JW, Swanson D, Zhang L, Bishop JA,

- Dickson BC. Ectomesenchymal Chondromyxoid Tumor: A Neoplasm Characterized By Recurrent RREB1-MKL2 Fusions. *Am J Surg Pathol*. 2018 Jun 15. doi:10.1097/PAS.0000000000001096
66. Kandel RA, Yao X, Dickson BC, Ghert M, Popovic S, **Purgina BM**, Verma S, Werier J. Molecular analyses in the diagnosis and prediction of prognosis in non-GIST soft tissue sarcomas: A systematic review and meta-analysis. *Cancer Treat Rev*. 2018 Apr 22;66:74-81. doi:10.1016/j.ctrv.2018.04.005
 67. Berdugoa J, Thompson LDR, **Purgina B**, Sturgis C, Tuluc M, Seethala RR, Chiosea SI. Measuring Depth of Invasion in Early Squamous Cell Carcinoma of The Oral Tongue: Positive Deep Margin, Extratumoral Perineural Invasion and Other Challenges. *Head Neck Pathol*. 2018 Apr 26. doi:10.1007/s12105-018-0925-3
 68. Maniuk T, Kielar AZ, O'Sullivan JP, El-Khodary M, Lochnan H, **Purgina B**, Odell MJ. Effect of Implementing Community of Practice Modified Thyroid Imaging Reporting and Data System on Reporting Adherence and Number of Thyroid Biopsies. *Acad Radiol*. 2018 Feb 2;pii:S1076-6332(17)30519-6. doi:10.1016/j.acra.2017.12.009. [Epub ahead of print] PMID: 29398434
 69. Mohajeri S, Lai C, **Purgina B**, Almutairi D, Baghai T, Dimitroulakos J, Kilty S. Human papillomavirus: An unlikely etiologic factor in sinonasal inverted papilloma. *Laryngoscope*. 2018 Apr 18. doi:10.1002/lary.27207. [Epub ahead of print] PMID: 29668071
 70. Diab N, Awad S, **Purgina B**, Zuckier L, Keely E. Hypercalcemic Crisis Secondary to a Parathyroid Hormone Secreting Intrathyroid Cystic Parathyroid Adenoma. *AACE Clinical Case Reports*: January/February 2018;4(1):e60-e64. <https://doi.org/10.4158/EP171814.CR>
 71. Wasserman JK, Gravel D, **Purgina B**. Chordoma of the Head and Neck: A Review. *Head Neck Pathol*. 2018 Jun;12(2):261-268. doi:10.1007/s12105-017-0860-8. Epub 2017 Oct 4. Review.
 72. Flood TA, Schieda N, Sim J, Breau RH, Morash C, Belanger EC, **Robertson SJ**. Evaluation of tumor morphologies and association with biochemical recurrence after radical prostatectomy in grade group 5 prostate cancer. *Virchows Arch*. 2018 Feb;472(2):205-212. doi:10.1007/s00428-017-2241-9. Epub 2017 Oct 3. PMID: 28975495
 73. Chin-Yee N, Taylor J, Rourke K, Faig D, Davis A, Fergusson D, **Saidenberg E**. Red blood cell transfusion in adult palliative care: A systematic review. *Transfusion*. 2018 Jan;58(1):233-241. doi: 10.1111/trf.14413. Epub 2017 Dec 1. Review. PMID: 29194669
 74. Bailey MH, Tokheim C, Porta-Pardo E, Sengupta S, Bertrand D, Weerasinghe A, Colaprico A, Wendl MC, Kim J, Reardon B, Kwok-Shing Ng P, Jeong KJ, Cao S, Wang Z, Gao J, Gao Q, Wang F, Liu EM, Mularoni L, Rubio-Perez C, Nagarajan N, Cortés-Ciriano I, Zhou DC, Liang WW, Hess JM, Yellapantula VD, Tamborero D, Gonzalez-Perez A, Suphavitai C, Ko JY, Khurana E, Park PJ, Van Allen EM, Liang H; MC3 Working Group; Cancer Genome Atlas Research Network, Lawrence MS, Godzik A, Lopez-Bigas N, Stuart J, Wheeler D, Getz G, Chen K, Lazar AJ, Mills GB, Karchin R, Ding L, ... Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon H**, Thomas G ... Bradford C, Carey T, Haddad A, Moyer J, Peterson L, Prince M, Rozek L, Wolf G, Bowman R, Fong KM, Yang I, Korst R, Rathmell WK, Fantacone-Campbell JL, Hooke JA, Kovatich AJ, Shriver CD, DiPersio J, Drake B, Govindan R, Heath S, Ley T, Van Tine B, Westervelt P, Rubin MA, Lee JI, Aredes ND, Mariamidze A. Comprehensive Characterization of Cancer Driver Genes and Mutations. *Cell*. 2018 Aug 9;174(4):1034-1035. doi:10.1016/j.cell.2018.07.034.
 75. Kahles A, Lehmann KV, Toussaint NC, Hüser M, Stark SG, Sachsenberg T, Stegle O, Kohlbacher O, Sander C, Caesar-Johnson SJ, Demchok JA, Felau I, Kasapi M, Ferguson ML, Hutter CM, Sofia HJ, Tarnuzzer R, Wang Z, Yang L, Zenklusen JC, Zhang JJ, Chudamani S, Liu J, Lolla L, Naresh R, Pihl T, Sun Q, Wan Y, Wu Y, Cho J, DeFreitas T, Frazer S, Gehlenborg N, Getz G, Heiman DI, Kim J, Lawrence MS, Lin P, Meier S, Noble MS, Saksena G, Voet D, Zhang H, Bernard B, Chambwe N, Dhankani V, Knijnenburg T, Kramer R, Leinonen K, ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, ... Catto J, Agnew K, Swisher E, Creaney J, Robinson B, Shelley CS, Godwin EM, Kendall S, Shipman C, Bradford C, Carey T, Haddad A, Moyer J, Peterson L, Prince M, Rozek L, Wolf G, Bowman R, Fong KM, Yang I, Korst R, Rathmell WK, Fantacone-Campbell JL, Hooke JA, Kovatich AJ, Shriver CD, DiPersio J, Drake B, Govindan R, Heath S, Ley T, Van Tine B, Westervelt P, Rubin MA, Lee JI, Aredes ND, Mariamidze A. Comprehensive Analysis of Alternative Splicing Across Tumours of 8,705 Patients. *Cancer Cell*. 2018 Aug 13;34(2):211-224.e6. doi: 10.1016/j.ccell.2018.07.001. Epub 2018 Aug 2.
 76. Ricketts CJ, De Cubas AA, Fan H, Smith CC, Lang M, Reznik E, Bowlby R, Gibb EA, Akbani R, Beroukhim R, Bottaro DP, Choueiri TK, Gibbs RA, Godwin AK, Haake S, Hakimi AA, Henske EP, Hsieh JJ, Ho TH, Kanchi RS, Krishnan B, Kwiatkowski DJ, Lui W, Merino MJ, Mills GB, Myers J, Nickerson ML, Reuter VE, Schmidt LS, Shelley CS, Shen H, Shuch B, Signoretti S, Srinivasan R, Tamboli P, Thomas G, Vincent BG, Vocke CD, Wheeler DA, Yang L, Kim WY, Robertson AG; Cancer Genome Atlas Research Network, Spellman PT, Rathmell WK, Linehan WM, ... Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K ... Robinson B, Shelley CS, Godwin EM, Kendall S, Shipman C, Bradford C, Carey T, Haddad A, Moyer J, Peterson L, Prince M, Rozek L, Wolf G, Bowman R, Fong KM, Yang I, Korst R, Rathmell WK, Fantacone-Campbell JL, Hooke JA, Kovatich AJ, Shriver CD, DiPersio J, Drake B,

- Govindan R, Heath S, Ley T, Van Tine B, Westervelt P, Rubin MA, Lee JI, Aredes ND, Mariamidze A. The Cancer Genome Atlas Comprehensive Molecular Characterization of Renal Cell Carcinoma. *Cell Rep*. 2018 Jun 19;23(12):3698. doi: 10.1016/j.celrep.2018.06.032
77. Zer A, Cutz JC, **Sekhon HS**, Hwang DM, Sit C, Maganti M, Sung M, Binnie M, Brade A, Chung TB, Kamel-Reid S, Narinder P, Tsao MS, Waddell T, da Cunha Santos G, Patel M, Carter RF, Leigh NB. Translation of knowledge to practice—Improving awareness in NSCLC molecular testing. *J. Thorac. Oncol*. 2018 Mar 10. pii: S1556-0864(18)30187-4. doi:10.1016/j.jtho.2018.03.005. [Epub ahead of print]
 78. Thorsson V, Gibbs DL, Brown SD, Wolf D, Bortone DS, Ou Yang TH, Porta-Pardo E, Gao GF, Plaisier CL, Eddy JA, Ziv E, Culhane AC, Paull EO, Sivakumar IKA, Gentles AJ, Malhotra R, Farshidfar F, Colaprico A, Parker JS, Mose LE, Vo NS, Liu J, Liu Y, Rader J, Dhankani V, Reynolds SM, Bowlby R, Califano A, Cherniack AD, Anastassiou D, Bedognetti D, Rao A, Chen K, Krasnitz A, Hu H, Malta TM, Noushmehr H, Pedamallu CS, Bullman S, Ojesina AI, Lamb A, Zhou W, Shen H, Choueiri TK, Weinstein JN, Guinney J, Saltz J, Holt RA, Rabkin CE; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfeld L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Lazar AJ, Serody JS, Demicco EG, Disis ML, Vincent BG, Shmulevich L. The Immune Landscape of Cancer. *Immunity*. 2018 Apr 4. pii: S1074-7613(18)30121-3. doi: 10.1016/j.immuni. 2018.03.023. [Epub ahead of print]
 79. Liu J, Lichtenberg T, Hoadley KA, Poisson LM, Lazar AJ, Cherniack AD, Kovatich AJ, Benz CC, Levine DA, Lee AV, Omberg L, Wolf DM, Shriver CD, Thorsson V; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfeld L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Hu H. An Integrated TCGA Pan-Cancer Clinical Data Resource to Drive High-Quality Survival Outcome Analytics. *Cell*. 2018 Apr 5;173(2):400-416.e11. doi:10.1016/j.cell.2018.02.052
 80. Chen H, Li C, Peng X, Zhou Z, Weinstein JN; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfeld L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Liang H. A Pan-Cancer Analysis of Enhancer Expression in Nearly 9,000 Patient Samples. *Cell*. 2018 Apr 5;173(2):386-399.e12. doi:10.1016/j.cell.2018.03.027
 81. Bailey MH, Tokheim C, Porta-Pardo E, Sengupta S, Bertrand D, Weerasinghe A, Colaprico A, Wendl MC, Kim J, Reardon B, Ng PK, Jeong KJ, Cao S, Wang Z, Gao J, Gao Q, Wang F, Liu EM, Mularoni L, Rubio-Perez C, Nagarajan N, Cortés-Ciriano I, Zhou DC, Liang WW, Hess JM, Yellapantula VD, Tamborero D, Gonzalez-Perez A, Suphavitai C, Ko JY, Khurana E, Park PJ, Van Allen EM, Liang H; MC3 Working Group; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfeld L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Lawrence MS, Godzik A, Lopez-

- Bigas N, Stuart J, Wheeler D, Getz G, Chen K, Lazar AJ, Mills GB, Karchin R, Ding L. Comprehensive Characterization of Cancer Driver Genes and Mutations. *Cell*. 2018 Apr 5;173(2):371-385.e18. doi:10.1016/j.cell.2018.02.060
82. Huang KL, Mashl RJ, Wu Y, Ritter DI, Wang J, Oh C, Paczkowska M, Reynolds S, Wyczalkowski MA, Oak N, Scott AD, Krassowski M, Cherniack AD, Houlahan KE, Jayasinghe R, Wang LB, Zhou DC, Liu D, Cao S, Kim YW, Koire A, McMichael JF, Huchtagowder V, Kim TB, Hahn A, Wang C, McLellan MD, Al-Mulla F, Johnson KJ; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Lichtarge O, Boutros PC, Raphael B, Lazar AJ, Zhang W, Wendl MC, Govindan R, Jain S, Wheeler D, Kulkarni S, Dipersio JF, Reimand J, Meric-Bernstam F, Chen K, Shmulevich I, Plon SE, Chen F, Ding L. Pathogenic Germline Variants in 10,389 Adult Cancers. *Cell*. 2018 Apr 5;173(2):355-370.e14. doi:10.1016/j.cell.2018.03.039
 83. Malta TM, Sokolov A, Gentles AJ, Burzykowski T, Poisson L, Weinstein JN, Kamińska B, Huelsken J, Omberg L, Gevaert O, Colaprico A, Czerwińska P, Mazurek S, Mishra L, Heyn H, Krasnitz A, Godwin AK, Lazar AJ; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Stuart JM, Hoadley KA, Laird PW, Noushmehr H, Wiznerowicz M. Machine Learning Identifies Stemness Features Associated with Oncogenic Dedifferentiation. *Cell*. 2018 Apr 5;173(2):338-354.e15. doi:10.1016/j.cell.2018.03.034
 84. Sanchez-Vega F, Mina M, Armenia J, Chatila WK, Luna A, La KC, Dimitriadou S, Liu DL, Kantheti HS, Saghafein S, Chakravarty D, Daian F, Gao Q, Bailey MH, Liang WW, Foltz SM, Shmulevich I, Ding L, Heins Z, Ochoa A, Gross B, Gao J, Zhang H, Kundra R, Kandath C, Bahceci I, Dervishi L, Dogrusoz U, Zhou W, Shen H, Laird PW, Way GP, Greene CS, Liang H, Xiao Y, Wang C, Iavarone A, Berger AH, Bivona TG, Lazar AJ, Hammer GD, Giordano T, Kwong LN, McArthur G, Huang C, Tward AD, Frederick MJ, McCormick F, Meyerson M; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Van Allen EM, Cherniack AD, Ciriello G, Sander C, Schultz N. Oncogenic Signaling Pathways in The Cancer Genome Atlas. *Cell*. 2018 Apr 5;173(2):321-337.e10. doi:10.1016/j.cell.2018.03.035
 85. Ding L, Bailey MH, Porta-Pardo E, Thorsson V, Colaprico A, Bertrand D, Gibbs DL, Weerasinghe A, Huang KL, Tokheim C, Cortés-Ciriano I, Jayasinghe R, Chen F, Yu L, Sun S, Olsen C, Kim J, Taylor AM, Cherniack AD, Akbani R, Suphavilai C, Nagarajan N, Stuart JM, Mills GB, Wyczalkowski MA, Vincent BG, Hutter CM, Zenklusen JC, Hoadley KA, Wendl MC, Shmulevich L, Lazar AJ, Wheeler DA, Getz G; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.). Perspective on Oncogenic Processes at the End of the Beginning of Cancer Genomics. *Cell*. 2018 Apr 5;173(2):305-320.e10. doi:10.1016/j.cell.2018.03.033

86. Hoadley KA, Yau C, Hinoue T, Wolf DM, Lazar AJ, Drill E, Shen R, Taylor AM, Cherniack AD, Thorsson V, Akbani R, Bowlby R, Wong CK, Wiznerowicz M, Sanchez-Vega F, Robertson AG, Schneider BG, Lawrence MS, Noushmehr H, Malta TM; Cancer Genome Atlas Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Lechan R, Powers J, et al.), Stuart JM, Benz CC, Laird PW. Cell-of-Origin Patterns Dominate the Molecular Classification of 10,000 Tumors from 33 Types of Cancer. *Cell*. 2018 Apr 5;173(2):291-304.e6. doi:10.1016/j.cell.2018.03.022
87. Liu Y, Sethi NS, Hinoue T, Schneider BG, Cherniack AD, Sanchez-Vega F, Seoane JA, Farshidfar F, Bowlby R, Islam M, Kim J, Chatila W, Akbani R, Kanchi RS, Rabkin CS, Willis JE, Wang KK, McCall SJ, Mishra L, Ojesina AI, Bullman S, Pedamallu CS, Lazar AJ, Sakai R; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Thorsson V, Bass AJ, Laird PW. Comparative Molecular Analysis of Gastrointestinal Adenocarcinomas. *Cancer Cell*. 2018 Apr 9;33(4):721-735.e8. doi:10.1016/j.ccell.2018.03.010. Epub 2018 Apr 2.
88. Wang Z, Yang B, Zhang M, Guo W, Wu Z, Wang Y, Jia L, Li S; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Xie W, Yang D. lncRNA Epigenetic Landscape Analysis Identifies EPIC1 as an Oncogenic lncRNA that Interacts with MYC and Promotes Cell-Cycle Progression in Cancer. *Cancer Cell*. 2018 Apr 9;33(4):706-720.e9. doi:10.1016/j.ccell.2018.03.006. Epub 2018 Apr 2.
89. Berger AC, Korkut A, Kanchi RS, Hegde AM, Lenoir W, Liu W, Liu Y, Fan H, Shen H, Ravikumar V, Rao A, Schultz A, Li X, Sumazin P, Williams C, Mestdagh P, Gunaratne PH, Yau C, Bowlby R, Robertson AG, Tiezzi DG, Wang C, Cherniack AD, Godwin AK, Kuderer NM, Rader JS, Zuna RE, Sood AK, Lazar AJ, Ojesina AI, Adebamowo C, Adebamowo SN, Baggerly KA, Chen TW, Chiu HS, Lefever S, Liu L, MacKenzie K, Orsulic S, Roszik J, Shelley CS, Song Q, Vellano CP, Wentzensen N; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Weinstein JN, Mills GB, Levine DA, Akbani R. A Comprehensive Pan-Cancer Molecular Study of Gynecologic and Breast Cancers. *Cancer Cell*. 2018 Apr 9;33(4):690-705.e9. doi:10.1016/j.ccell.2018.03.014. Epub 2018 Apr 2.
90. Taylor AM, Shih J, Ha G, Gao GF, Zhang X, Berger AC, Schumacher SE, Wang C, Hu H, Liu J, Lazar AJ; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett

- G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Cherniack AD, Beroukhir R, Meyerson M. Genomic and Functional Approaches to Understanding Cancer Aneuploidy. *Cancer Cell*. 2018 Apr 9;33(4):676-689. e3. doi:10.1016/j.ccell.2018.03.007. Epub 2018 Apr 2.
91. Ricketts CJ, De Cubas AA, Fan H, Smith CC, Lang M, Reznik E, Bowlby R, Gibb EA, Akbani R, Beroukhir R, Bottaro DP, Choueiri TK, Gibbs RA, Godwin AK, Haake S, Hakimi AA, Henske EP, Hsieh JJ, Ho TH, Kanchi RS, Krishnan B, Kwaitkowski DJ, Lui W, Merino MJ, Mills GB, Myers J, Nickerson ML, Reuter VE, Schmidt LS, Shelley CS, Shen H, Shuch B, Signoretti S, Srinivasan R, Tamboli P, Thomas G, Vincent BG, Vocke CD, Wheeler DA, Yang L, Kim WT, Robertson AG; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Spellman PT, Rathmell WK, Linehan WM. The Cancer Genome Atlas Comprehensive Molecular Characterization of Renal Cell Carcinoma. *Cell Reports*. 2018 Apr 3;23(1):313-326.e5. doi:10.1016/j.celrep.2018.03.075
 92. Chiu HS, Somvanshi S, Patel E, Chen TW, Singh VP, Zorman B, Patil SL, Pan Y, Chatterjee SS; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Vincent B, Eyra E, Chen K, Shmulevich I, Chen F, Ding L. Systematic Analysis of Splice-Site-Creating Mutations in Cancer. *Cell Reports*. 2018 Apr 3;23(1):270-281.e3. doi:10.1016/j.celrep.2018.03.052
 - Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Sood AK, Gunaratne PH, Sumazin P. Pan-Cancer Analysis of lncRNA Regulation Supports Their Targeting of Cancer Genes in Each Tumor Context. *Cell Reports*. 2018 Apr 3;23(1):297-312.e12. doi:10.1016/j.celrep.2018.03.064
 93. Seiler M, Peng S, Agrawal AA, Palacino J, Teng T, Zhu P, Smith PG; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Buonamici S, Yu L. Somatic Mutational Landscape of Splicing Factor Genes and Their Functional Consequences across 33 Cancer Types. *Cell Reports*. 2018 Apr 3;23(1):282-296.e4. doi:10.1016/j.celrep.2018.01.088
 94. Jayasinghe RG, Cao S, Gao Q, Wendl MC, Vo NS, Reynolds SM, Zhao Y, Climente-González H, Chai S, Wang F, Varghese R, Huang M, Liang WW, Wyczalkowski MA, Sengupta S, Li Z, Payne SH, Fenyö D, Miner JH, Walter MJ; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Vincent B, Eyra E, Chen K, Shmulevich I, Chen F, Ding L. Systematic Analysis of Splice-Site-Creating Mutations in Cancer. *Cell Reports*. 2018 Apr 3;23(1):270-281.e3. doi:10.1016/j.celrep.2018.03.052

95. Peng X, Chen Z, Farshidfar F, Xu X, Lorenzi PL, Wang Y, Cheng F, Tan L, Mojumdar K, Du D, Ge Z, Li J, Thomas GV, Birsoy K, Liu L, Zhang H, Zhao Z, Marchand C, Weinstein JN; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Bathe OF, Liang H. Molecular Characterization and Clinical Relevance of Metabolic Expression Subtypes in Human Cancers. *Cell Reports*. 2018 Apr 3;23(1):255-269.e4. doi:10.1016/j.celrep.2018.03.077
96. Knijnenburg TA, Wang L, Zimmermann MT, Chambwe N, Gao GF, Cherniack AD, Fan H, Shen H, Way GP, Greene CS, Liu Y, Akbani R, Feng B, Donehower LA, Miller C, Shen Y, Karimi M, Chen H, Kim P, Jia P, Shinbrot E, Zhang S, Liu J, Hu H, Bailey MH, Yau C, Wolf D, Zhao Z, Weinstein JN, Li L, Ding L, Mills GB, Laird PW, Wheeler DA, Shmulevich I; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Monnat RJ Jr., Xiao Y, Wang C. Genomic and Molecular Landscape of DNA Damage Repair Deficiency across The Cancer Genome Atlas. *Cell Reports*. 2018 Apr 3;23(1):239-254.e6. doi:10.1016/j.celrep.2018.03.076
97. Gao Q, Liang WW, Foltz SM, Mutharasu G, Jayasinghe RG, Cao S, Liao WW, Reynolds SM, Wyczalkowski MA, Yao L, Yu L, Sun SQ; Fusion Analysis Working Group; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Chen K, Lazar AJ, Fields RC, Wendl MC, Van Tine BA, Vij R, Chen F, Nykter M, Shmulevich I, Ding L. Driver Fusions and Their Implications in the Development and Treatment of Human Cancers. *Cell Reports*. 2018 Apr 3;23(1):227-238.e3. doi:10.1016/j.celrep.2018.03.050
98. Ge Z, Leighton JS, Wang Y, Peng X, Chen Z, Chen H, Sun Y, Yao F, Li J, Zhang H, Liu J, Shriver CD, Hu H; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Piwnica-Worms H, Ma L, Liang H. Integrated Genomic Analysis of the Ubiquitin Pathway across Cancer Types. *Cell Reports*. 2018 Apr 3;23(1):213-226.e3. doi:10.1016/j.celrep.2018.03.047
99. Campbell JD, Yau C, Bowlby R, Liu Y, Brennan K, Fan H, Taylor AM, Wang C, Walter V, Akbani R, Byers LA, Creighton CJ, Coarfa C, Shih J, Cherniack AD, Gevaert O, Prunello M, Shen H, Anur P, Chen J, Cheng H, Hayes DN, Bullman S, Pedamallu CS, Ojesina AJ, Sadeghi S, Mungall KL, Robertson AG, Benz C, Schultz A, Kanchi RS, Gay CM, Hegde A, Diao L, Wang J, Ma W, Sumazin P, Chiu HS, Chen TW, Gunaratne P, Donehower L, Rader JS, Zuna R, Al-Ahmadie H, Lazar AJ, Flores ER, Tsai KY, Zhou JH, Rustgi AK, Drill E, Shen R, Wong CK; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M,

- Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Sanchez Y, Greene CS. Machine Learning Detects Pan-cancer Ras Pathway Activation in The Cancer Genome Atlas. *Cell Reports*. 2018 Apr 3;23(1):172-180.e3. doi:10.1016/j.celrep.2018.03.046
100. Saltz J, Gupta R, Hou L, Kurc T, Singh P, Nguyen V, Samaras D, Shroyer KR, Zhao T, Batiste R, Van Arnam J; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Shmulevich I, Rao AUK, Lazar AJ, Sharma A, Thorsson V. Spatial Organization and Molecular Correlation of Tumor-Infiltrating Lymphocytes Using Deep Learning on Pathology Images. *Cell Reports*. 2018 Apr 3;23(1):181-193.e7. doi:10.1016/j.celrep.2018.03.086
101. Way GP, Sanchez-Vega F, La K, Armenia J, Chatila WK, Luna A, Sander C, Cherniack AD, Mina M, Ciriello G, Schultz N; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Ito Y, Ahmed A, Schwartzentruber JA, Beaulieu CL, Aberg E, Majewski J, Bulman DE, Horsting-Wethly K, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.), Sanchez Y, Greene CS. Machine Learning Detects Pan-cancer Ras Pathway Activation in The Cancer Genome Atlas. *Cell Reports*. 2018 Apr 3;23(1):172-180.e3. doi:10.1016/j.celrep.2018.03.046
102. Schaub FX, Dhankani V, Berger AC, Trivedi M, Richardson AB, Shaw R, Zhao W, Zhang X, Ventura A, Liu Y, Ayer DE, Hurlin PJ, Cherniack AD, Eisenman RN, Bernard B, Grandori C; Cancer Genome Atlas Network. Pan-cancer Alterations of the MYC Oncogene and Its Proximal Network across the Cancer Genome Atlas (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.). *Cell Systems*. 2018 Mar 28;6(3):282-300.e2. doi:10.1016/j.cels.2018.03.003
103. Ellrott K, Bailey MH, Saksena G, Covington KR, Kandath C, Stewart C, Hess J, Ma S, Chiotti KE, McLellan M, Sofia HJ, Hutter C, Getz G, Wheeler D, Ding L; MC3 Working Group; Cancer Genome Atlas Research Network (members Caesar-Johnson SJ, denchok JA ... Albert M, Alexopoulou I, Arnaout A, Bartlett J, Engel J, Gilbert S, Parfitt J, **Sekhon HS**, Thomas G, Rassl DM, Rintoul RC, Bifulco C, Tamakawa R, Urba W, Hayward N, Timmers H, Antenucci A, Facciolo F, Grazi G, Marino M, Merola R, de Krijger R, Gimenez-Roqueplo AP, Piché A, Chevalier S, McKercher G, Birsoy K, Barnett G, Brewer C, Farver C, Naska T, Pennell NA, Raymond D, Schilero C, Smolenski K, Williams F, Morrison C, Borgia JA, Liptay MJ, Pool M, Seder CW, Junker K, Omberg L, Dinkin M, Manikhas G, Alvaro D, Bragazzi MC, Cardinale V, Carpino G, Gaudio E, Chesla D, Cottingham S, Dubina M, Moiseenko F, Dhanasekaran R, Becker KF, Janssen KP, Slotta-Huspenina J, Abdel-Rahman MH, Aziz D, Bell S, Cebulla CM, Davis A, Duell R, Elder JB, Hilty J, Kumar B, Lang J, Lehman NL, Mandt R, Nguyen P, Pilarski R, Rai K, Schoenfield L, Senecal K, Wakely P, Hansen P, Lechan R, Powers J, et al.). Scalable Open Science Approach for Mutation Calling of Tumor Exomes Using Multiple Genomic Pipelines. *Cell Systems*. 2018 Mar 28;6(3):271-281.e7. doi:10.1016/j.cels.2018.03.002
104. Smith AC, Ito Y, Ahmed A, Schwartzentruber JA, Beaulieu CL, Aberg E, Majewski J, Bulman DE, Horsting-Wethly K,

- Koning DV; Care4Rare Canada Consortium, Rodenburg RJ, Boycott KM, Penney LS. A family segregating lethal neonatal coenzyme Q10 deficiency caused by mutations in COQ9. *J Inher Metab Dis*. 2018 Mar 20. doi:10.1007/s10545-017-0122-7. [Epub ahead of print] PMID: 29560582
105. Kanaan GN, Ichim B, Gharibeh L, Maharsy W, Patten D, Xuan JY, Reunov A, Marshall P, **Veinot J**, Menzies K, Nemer M, Harper ME. Glutaredoxin-2 controls cardiac mitochondrial dynamics and energetics in mice and protects against human cardiac pathologies. *Redox Biology*. 2018;14:509-521
 106. Zakhari N, Taccone MS, Torres C, Chakraborty S, Sinclair J, **Woulfe J**, Jansen G, Nguyen T. Diagnostic accuracy of centrally restricted diffusion in the differentiation of treatment-related necrosis from tumour recurrence in high grade glioma. *A J Neuroradiol*. 2018;39(2):260-264.
 107. Jagow MC, Tremblay V, Bondy-Chorney E, Paris G, Savard A, Palidwor G, Barry F, Zinman L, Keith J, Rogaeva E, Robertson J, Lavallée-Adam M, **Woulfe J**, Couture J-F, Côté J, Gibbins D. A complex of C9ORF72 and p62 uses arginine methylation to eliminate stress granules by autophagy. *Nat. Commun*. 2018;9(7):2794.
 108. Cora EA, Finitis S, **Woulfe J**, Essbairheem F, AlQhatani H, Drake B, Lesiuk H, Iancu D. Stent Assisted Coiling of PICA Aneurysm Complicated by Arterial Avulsion. *Interventional Neuroradiol*. 2018. doi:10.1177/159109918793353
 5. Christians JK, **Grynspan D**. Placental villous hypermaturation is associated with improved neonatal outcomes. *Placenta*. 2019 Jan;76:1-5.
 6. Bourque DK, et al. Neu-Laxova syndrome presenting prenatally with increased nuchal translucency and cystic hygroma: The utility of exome sequencing in deciphering the diagnosis. *Am. J. Med. Genet. A*. Mar. 2019.
 7. Benton SJ, Lafreniere AJ, **Grynspan D**, Bainbridge SA. A synoptic framework and future directions for placental pathology reporting. *Placenta*. 2019 Feb;77:46-57.
 8. **Halwani F**, Halil A, Ramsay T, Banerjee D. Comparison of four commonly used guidelines for workload measurement in Pathology. *Can J Pathol*. 2019;11(2):29-40.
 9. Ghani M, Nfonsam L, Pranckeviciene E, Daoud H, Potter R, Chisholm C, Harper P, Schaffer A, Little L, Sinclair-Bourque E, McGowan-Jordan J, Smith S, Bronicki L*, **Jarinova O*** (* share senior authorship). Adopting High-Resolution Allele Frequencies Substantially Expedites Variant Interpretation in Genetic Diagnostic Laboratories. 2019. *Journal of Molecular Diagnostics* [Impact Factor (IF): 4.9]. pii: S1525-1578(18)30357-X. doi:10.1016/j.jmoldx.2019.02.009
 10. Daoud H, Ghani M, Nfonsam L, Potter R, Ordorica S, Haslett V, Antoniuk B, Vasli N, Chisholm C, Mettler G, Sinclair-Bourque, McGowan-Jordan J, Smith A, Robert R, **Jarinova O**. Genetic Diagnostic Testing for Inherited Cardiomyopathies: Considerations for Offering Multi-gene Tests in a Health Care Setting. 2019. *Journal of Molecular Diagnostics* [IF: 4.9]. doi:10.1016/j.jmoldx.2019.01.004
 11. Gerstein HC, **Nair V**, Chaube R, Stoute H, Werstuck G. Dysglycemia and the Density of the Coronary Vasa Vasorum. *Diabetes Care*. 2019 Mar 12. pii: dc182483. doi:10.2337/dc18-2483. [Epub ahead of print] PubMed PMID: 30862652.
 12. Nair V, Belanger EC, **Veinot JP**. Lysosomal storage disorders affecting the heart: A review. *Cardiovascular Pathology*. 2019;39:12-24.
 13. Naugler C, Allard M, Barron J, Boag A, Chakrabarti S, Fischer G, Gaboury L, Gao ZH, Kandel R, Magee F, Masson JY, Mengel M, Potter M, Rizcallah E, Sadek I, **Veinot JP**. Subspecialty Sign-Out in anatomical Pathology: A Canadian Chairs of Pathology position statement. *Canadian J Pathology*. 2019;11:22-27.
 14. Ma I, Allard M, Barron J, Boag A, Chakrabarti S, Fischer G, Gaboury L, Gao ZH, Kandel R, Magee F, Mengel M, Potter M, Tanguay R, Tetu B, Rizcallah E, Sadek I, **Veinot JP**, Vaska M, Naugler C. Subspecialty Sign-Out: A Scoping Review and Survey of Canadian Academic Centres of Pathology. *Canadian J Pathology*. 2019;11:28-42.

2019

1. Ferretti E, Pilon S, Boland M, **El Demellawy D**. Early Onset Allergic Proctitis in a Preterm Neonate-A Case Report and Review of the Literature. *Pediatr Dev Pathol*. 2019 Mar-Apr;22(2):152-156. doi:10.1177/1093526618803770. Epub 2018 Oct 4. Review.
2. Chan AD, **Grynspan D**, Jankov RP. Fractal Dimension Does Not Correlate As Well With Models of Neonatal Chronic Lung Injury as It Does With Placental Distal Villous Hypoplasia. *Pediatr. Dev. Pathol.*, p. 1093526618782499, Feb. 2019.
3. Viel-Thériault I, Saban J, Lewis A, Bariciak E, **Grynspan D**. A Case of Fulminant *Bacillus cereus* Lung Necrosis in a Preterm Neonate. *Pediatr. Dev. Pathol.*, p. 1093526619825895, Feb. 2019.
4. Barapatre N, Haeussner E, **Grynspan D**, Schmitz C, Edler von Koch F, Frank H-G. The Density of Cell Nuclei at the Materno-Fetal Exchange Barrier is Sexually Dimorphic in Normal Placentas, but not in IUGR. *Sci. Rep*. 2019 Dec;9(1):2359.

Grants 2018–2019

Name	Source	Amount	Date
Banerjee, Diponkar	Ontario Centres of Excellence, Health Technology Fund	\$412,526	2017–2018
	Ontario Centres of Excellence, Advancing Education Program	\$286,446	2017–2018
	PALM Research Fund	\$10, 000	2017–2018
Berardi, Philip	PALM Academic Enhancement Funds	\$10, 000	2017–2018
Gomes, Marcio	PALM Enhancement funds	\$9665	2018
Grynspan, David	CIHR	\$726 750	2018–2022
	CIHR	\$74 983	2018–2020
El Demellawy, Dina	PALM	\$9850	2018
	PALM Academic Enrichment Fund	\$10 000	2018
	Translational Research	\$37 500	2018
Kumar, Ashok	CIHR	\$8.76 million	2014–2019
Moyana, Terence	Pathology Research Network		
	Cancer Pathology Translational Research		
	Ontario Institute of Cancer Research	\$42 450	2018
Nair, Vidhya	Heart and Stroke Foundation	\$277.122	2017–2020
Purgina, Bibianna	OMPRN	\$44 300	2019
Sekhon, Harman	Genome Canada Grant	\$2, 020, 134.00	2016–2021
	Joan Sealy Trust Grant	\$44, 000	2017–2018
Veinot, John	CIHR	\$1, 150, 572	2016–2020
Woulfe, John	Canadian Institutes of Health Research	\$152,235 per year	2017–2022
	Partners Investing in Parkinson's Research	\$50,000	2017–2018
	Joan Seely Trust	\$45, 000	Nov 18–Oct 19

Annual Research Day Winners 2019

Nadia Mikhael Award for Best Paper presented by a Junior Resident

Winner: Dr. Kristina-Ana Klaric

SOX10 as a Marker of Basal Like Breast Cancer

Klaric, Kristina-Ana¹, Karama Asleh-Aburaya², Xiu Qing Wang², Tadros Atalla¹, Sarah Strickland¹, Torsten O. Nielsen² and Zuzana Kos¹

¹Department of Pathology and Laboratory Medicine, Faculty of Medicine, University of Ottawa, ON, Canada

²Department of Pathology and Laboratory Medicine, Genetic Pathology Evaluation Centre, University of British Columbia, Vancouver, BC, Canada

2nd Best paper by a Junior Resident

Winner: Dr. Anthea Lafreniere

Implementation of a Data-Driven Approach to Continuous Quality Improvement in the Grossing Laboratory

Lafreniere, Anthea, Pyatibrat, S., Purgina, B., Parks, W., Swift, J., MLT, Stinson, J., Teo, I.Y.H.

Department of Pathology and Laboratory Medicine, The Ottawa Hospital, Ottawa, ON

Virbala Acharya Award for Best Presentation by a Senior Resident or Fellow

Winner: Dr. Ashley Flaman

Immunohistochemical Evaluation of Gata3, Ck13 And Ck17 as Markers for the Diagnosis of Differentiated Vulvar Intraepithelial Neoplasia

Flaman, Ashley N., Strickland, S., and Paliga, A.

Department of Pathology and Laboratory Medicine, The Ottawa Hospital, Ottawa, ON

Best Poster Presentation by a Resident

Winner: Dr. Vincent Deslandes

Time from Drawing to Loading of Blood Culture Bottles, and Time to Positivity in the Context of Laboratory Consolidation: A One Year Retrospective Study

Vincent Deslandes¹, N. Sant^{1,2,3} and M. Desjardins^{1,2,3}

¹University of Ottawa, Ottawa, ON

²The Ottawa Hospital Research Institute, Ottawa, ON

³Eastern Ontario Regional Laboratory Association

Best Poster/Platform presentation by an undergraduate/graduate student

Winner: Brittany Ann Ruschkowski

Gastroschisis is Associated with Placental Distal Villous Immaturity

Ruschkowski, Brittany Ann, Anthea Lafreniere, Dina El Demellawy, David Grynspan

Department of Pathology and Laboratory Medicine, University of Ottawa Faculty of Medicine, Children's Hospital of Eastern Ontario

2nd Best Poster/Platform presentation by an undergraduate/graduate student

Winners: Ashley Esteves, Chloé Rozon, William Phillips

Oocyte Donation and Abnormal Placental Pathological Findings

Ashley Esteves, BScH¹, Chloé Rozon, BScH1, Jennifer Clancy, BSc², Karen Fung Kee Fung, MD, FRCSC², Dina El Demellawy, MD, PhD, FRCPC³

¹The University of Ottawa

²Department of Pathology; The Children's Hospital of Eastern Ontario

³The Children's Hospital of Eastern Ontario's Research Institute

⁴The Children's Hospital of Eastern Ontario

The Risk of Intrauterine Growth (IUGR) in Oocyte Donation Pregnancies Compared to Other Methods of Assisted Reproductive Technology (ART) and Natural Conception: A Systematic Review

Chloé Rozon¹, Mofeedah Al Shammery¹, Ashley Shaw², Vanessa Bacal¹, Danielle Menzies-Toman², Arielle Weir², Ken Tang³, Joseph de Nanassy⁴, Dina El Demellawy²

¹Faculty of Medicine, University of Ottawa

²Department of Obstetrics and Gynecology, The Ottawa Hospital

³Department of Pathology and Laboratory Medicine, CHEO

High Levels of Neuroendocrine Differentiation Distinguishes basaloid Variant of Squamous Cell Carcinoma; Immunohistochemical and Molecular Evidence

Kianoosh Keyhanian, Presented by **William J. Phillips**, Chi Lai, Marcio Gomes, Bryan Lo, Harman S. Sekhon Department of Pathology and Laboratory Medicine, The Ottawa Hospital, Ottawa, ON

Best Peer reviewed publication in clinical pathology and laboratory medicine sponsored by Dr. Jean Michaud

Winner: Kianoosh Keyhanian

Combination of MCM2 with Ki67 and P16 Immunohistochemistry Can Distinguish Uterine Leiomyosarcoma

Kianoosh Keyhanian, MD, MSc¹, Janice M. Lage, MD, FRCPC, FCAP², Elizaveta Chernetsova, MD³, Harman Sekhon, MD, MSc, PhD, FCAP⁴, Zohreh Eslami, MD, PhD, FRCPC⁵, Shahidul Islam, MD, PhD, FCAP⁶

^{1-4,6}Department of Pathology and Laboratory Medicine, University of Ottawa, Ottawa, Ontario, Canada

⁵The Scarborough Hospital, Pathology Department, Scarborough, Ontario, Canada

Dr. M. Orizaga Award for Best Teacher

Winner: Dr. Aleksandra Paliga

Financial Statements of

**EASTERN ONTARIO
REGIONAL LABORATORY
ASSOCIATION INC.**

Year ended March 31, 2019

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Financial Statements

Year ended March 31, 2019

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INDEPENDENT AUDITORS' REPORT

To the Members of Eastern Ontario Regional Laboratory Association Inc.

To the Board of Governors of Trustees/Board of Directors of the Eastern Ontario Regional Laboratory Association

Opinion

We have audited the financial statements of the Eastern Ontario Regional Laboratory Association, which comprise:

- the statement of financial position as at March 31, 2019
- the statement of operations for the year then ended
- the statement of changes in net assets for the year then ended
- the statement of cash flows for the year then ended
- and notes to the financial statements, including a summary of significant accounting policies

(Hereinafter referred to as the “financial statements”).

In our opinion, the accompanying financial statements, present fairly, in all material respects, the financial position of the Eastern Ontario Regional Laboratory Association as at March 31, 2019, and its results of operations and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the “*Auditors’ Responsibilities for the Audit of the Financial Statements*” section of our auditors’ report.

We are independent of the Eastern Ontario Regional Laboratory Association in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from

material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Eastern Ontario Regional Laboratory Association's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Eastern Ontario Regional Laboratory Association or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Eastern Ontario Regional Laboratory Association's financial reporting process.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Eastern Ontario Regional Laboratory Association's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast

significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Eastern Ontario Regional Laboratory Association to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Ottawa, Canada

[Date]

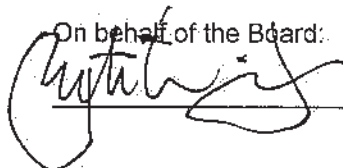
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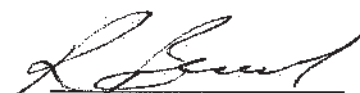
Statement of Financial Position

March 31, 2019, with comparative information for 2018

	2019	2018
Assets		
Current assets:		
Cash	\$ 3,760,592	\$ 8,400,771
Due from member hospitals (note 2)	2,019,957	1,475,676
Taxes recoverable	2,252,249	1,925,630
Other receivables	307,123	522,650
Prepaid expenses	785,973	906,934
	9,125,894	13,231,661
Due from member hospitals (note 2)	1,653,966	1,700,298
Prepaid occupancy costs (note 2)	5,484,020	5,679,920
Capital assets (note 3)	16,044,054	14,757,274
Funds held in trust (note 4)	369,077	330,094
	<u>\$ 32,677,011</u>	<u>\$ 35,699,247</u>
Liabilities and Net Assets		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 5,360,710	\$ 6,145,450
Due to The Ottawa Hospital - operations (note 2)	4,963,468	4,405,811
Due to The Ottawa Hospital - capital (note 2)	5,493,777	6,273,777
Due to member hospitals (note 2)	1,152,953	900,900
Deferred revenue (note 5)	—	38,342
	16,970,908	17,764,280
Due to member hospitals (note 2)	1,732,187	2,598,281
Employee future benefits (note 6)	4,658,000	4,382,000
Deferred capital contributions (note 7)	5,494,132	8,114,762
Funds held in trust (note 4)	369,077	330,094
Net assets:		
Unrestricted deficiency	(7,097,215)	(4,132,682)
Invested in capital assets	10,549,922	6,642,512
	3,452,707	2,509,830
Contingencies (note 10)		
	<u>\$ 32,677,011</u>	<u>\$ 35,699,247</u>

See accompanying notes to financial statements.

On behalf of the Board:

 Chairman


 Director

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Statement of Operations

Year ended March 31, 2019, with comparative information for 2018

	2019	2018
Revenue:		
Medical laboratory services	\$ 113,935,520	\$ 112,729,296
Government of Ontario contributions	4,626,224	5,109,888
Other income	1,327,851	1,710,278
Amortization of deferred capital contributions (note 7)	2,656,861	848,054
	122,546,456	120,397,516
Expenses:		
Salaries and wages	62,851,349	62,728,246
Medical and scientific remuneration	22,122,124	22,126,806
Supplies	27,398,061	26,769,068
Referred out services	2,308,148	2,286,028
Amortization of capital assets	4,705,634	2,974,460
Courier and delivery	968,615	986,704
Professional services	1,053,748	926,733
Amortization of prepaid occupancy costs	195,900	195,900
	121,603,579	118,993,945
Excess of revenue over expenses	\$ 942,877	\$1,403,571

See accompanying notes to financial statements.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Statement of Changes in Net Assets

Year ended March 31, 2019, with comparative information for 2018

	Investment in capital assets	Unrestricted (deficiency)	Total 2019	Total 2018
Balance, beginning of year	\$ 6,642,512	\$(4,132,682)	\$ 2,509,830	\$ 1,106,259
Excess of revenue over expenses	–	942,877	942,877	1,403,571
Purchase of capital assets	5,992,414	(5,992,414)	–	–
Amortization of capital assets	(4,705,634)	4,705,634	–	–
Deferred capital contributions received (note 7)	(36,231)	36,231	–	–
Amortization of deferred capital contributions (note 7)	2,656,861	(2,656,861)	–	–
Balance, end of year	\$10,549,922	\$(7,097,215)	\$ 3,452,707	\$ 2,509,830

See accompanying notes to financial statements.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Statement of Cash Flows

Year ended March 31, 2019, with comparative information for 2018

	2019	2018
Cash provided by (used for):		
Operating activities:		
Excess of revenue over expenses	\$ 942,877	\$ 1,403,571
Items not involving cash:		
Amortization of capital assets	4,705,634	2,974,460
Amortization of deferred capital contributions (note 7)	(2,656,861)	(848,054)
Amortization of prepaid occupancy costs	195,900	195,900
Net increase in employee future benefits liability	276,000	295,200
Change in non-cash operating working capital items:		
Decrease (increase) in due from member hospitals	(544,281)	330,602
Increase in taxes recoverable	(326,619)	(832,597)
Decrease in other receivables	215,527	648,780
Decrease (increase) in prepaid expenses	120,961	(112,585)
Decrease in accounts payable and accrued liabilities	(784,740)	(814,583)
Decrease in deferred revenue	(38,342)	(84,315)
Decrease in due to member hospital	252,053	—
Increase in due to The Ottawa Hospital - operations	557,657	538,012
	2,915,766	3,694,391
Investing activities:		
Purchase of capital assets	(5,992,414)	(2,021,875)
Financing activities:		
Decrease in long-term due to/from member hospital	(819,762)	(777,767)
Decrease in due to The Ottawa Hospital - capital	(780,000)	(780,000)
Deferred capital contributions received (note 7)	36,231	7,686
	(1,563,531)	(1,550,081)
Net increase in cash	(4,640,179)	122,435
Cash, beginning of year	8,400,771	8,278,336
Cash, end of year	\$ 3,760,592	\$ 8,400,771

See accompanying notes to financial statements.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements

Year ended March 31, 2019

Eastern Ontario Regional Laboratory Association Inc. ("EORLA") was incorporated on April 15, 2003, as a shared services corporation without share capital. The member hospitals voluntarily joined EORLA to foster continued and increased cooperation between members and to support the integration of laboratory service in the region. EORLA is an integrated hospital laboratory network with sixteen acute care hospital facilities having on-site laboratories configured to meet program needs while referring specialized services to regional laboratory sites. EORLA began active operations as of April 1, 2012 and was previously considered a development stage enterprise.

These financial statements reflect the assets and liabilities and results of operations of EORLA. They do not include the assets, liabilities or operations of its member hospitals, which, although associated, are separately managed, and report to separate Boards of Directors. Note 2 provides details on related party transactions.

1. Significant accounting policies:

The financial statements have been prepared by management in accordance with the Canadian public sector accounting standards including the 4200 standards for government not-for-profit organizations and include the following significant accounting policies:

(a) Revenue recognition:

EORLA follows the deferral method of accounting for contributions.

Operating grants are recorded as revenue in the period to which they relate. Where a portion of a grant relates to a future period, it is deferred and recognized in that subsequent period.

Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

Externally restricted contributions are recognized as revenue in the year in which the related expenses are incurred. Contributions restricted for the purchase of capital assets are deferred and amortized into revenue on a straight-line basis, at rates corresponding with the amortization rates for the related capital assets.

Revenue derived from laboratory services are recognized when services are rendered.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

1. Significant accounting policies (continued):

(b) Financial instruments:

EORLA's financial instruments consist of cash, accounts receivable and accounts payable and accrued liabilities.

EORLA's financial instruments are measured as follows:

Cash	Fair value
Due from member hospitals	Amortized cost
Taxes recoverable	Amortized cost
Other receivables	Amortized cost
Funds held in trust	Fair value
Accounts payable and accrued liabilities	Amortized cost
Due to The Ottawa Hospital – operations	Amortized cost
Due to The Ottawa Hospital – capital	Amortized cost
Due to member hospitals	Amortized cost

Unrealized changes in fair value are recognized in the statement of remeasurement gains and losses until they are realized. When the financial instrument is derecognized, the unrealized gains and losses previously recognized in the statement as remeasurement gains and losses are reversed and recognized in the statement of operations.

Financial instruments are adjusted by transaction costs incurred on acquisition and financing costs, which are amortized using the straight-line method.

All financial assets are assessed for impairment on an annual basis. When a decline is determined to be other than temporary, the amount of the loss is reported in the statement of operations and any unrealized gain is adjusted through the statement of remeasurement gains and losses.

EORLA does not have any amounts to record on the statement of remeasurement gains and losses and therefore this statement has not been included in these financial statements.

(c) Prepaid occupancy costs:

Prepaid occupancy costs are amortized on a straight-line basis over 40 years.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

1. Significant accounting policies (continued):

(d) Capital assets:

Purchased capital assets, other than minor equipment, are recorded at cost. Minor equipment replacements are expensed in the year of replacement. Computer hardware and software under development and construction in progress are capitalized until placed in service, at which point they will be amortized.

Capital assets are reviewed for impairment whenever events or changes in circumstances indicate that their carrying amount may not be recoverable. When a capital asset no longer contributes to EORLA's ability to provide services, its carrying amount is written down to its residual value.

Construction in progress is not amortized until the project is complete and the assets come into use. Capital assets are amortized on a straight-line basis over their expected useful lives as follows:

Computer hardware and software	5 to 10 years
Major equipment	5 to 10 years
Lab renovation	20 years

(e) Employee future benefits:

EORLA provides defined retirement and other future benefits for substantially all retirees and employees. These future benefits include life insurance and health care benefits.

EORLA accrues its obligations for employee benefit plans as the employees render the services necessary to earn the benefits. The cost of non-pension post-retirement and post-employment benefits earned by employees is actuarially determined using the projected benefit method pro-rated on service and management's best estimate of retirement ages of employees and expected health care costs.

Adjustments arising from plan amendments, including past service costs, are recognized in the year that the plan amendments occur. Actuarial gains or losses are amortized over the average remaining service period of active employees.

The average remaining service period of active employees covered by the employee benefit plan is 12.6 years (2018 - 13.2 years).

EORLA is an employer member of the Healthcare of Ontario Pension Plan, which is a multi-employer, defined benefit pension plan. EORLA has adopted defined contribution plan accounting principles for this Plan because insufficient information is available to apply defined benefit plan accounting principles.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

1. Significant accounting policies (continued):

(f) Funds held in trust:

EORLA holds resources and makes disbursements on behalf of certain third party groups. EORLA has no discretion over such transactions; hence, resources received are reported as liabilities, not revenue, and subsequent distributions are reported as decreases to the liability, not expenses.

(g) Use of estimates:

The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the period. Actual results could differ from these estimates. These estimates are reviewed annually and, as adjustments become necessary, they are reported in the periods in which they become known. The most significant estimates used in preparing these financial statements include the assumptions underlying the employee future benefit liability

2. Related party transactions:

The Ottawa Hospital entered into an agreement with the Ministry of Health and Long-Term Care of Ontario to construct a regional laboratory, including investment in capital equipment. The Ottawa Hospital completed the project in September 2006 at a total cost of \$25,375,812. EORLA's share of the project's total cost was \$7,833,777 and is accounted for as prepaid occupancy costs. In return for this capital investment, EORLA is permitted to occupy the premises at The Ottawa Hospital, General Campus, under the provisions set out in the related agreements. The accumulated amortization as at March 31, 2019 is \$2,349,757 (2018 - \$2,153,857).

The amount due to The Ottawa Hospital - capital, bears interest at prime and is payable on demand.

EORLA is related to all member hospitals due to the composition of its Board of Directors. Unless otherwise stated, transactions occur in the normal course of operations and are recorded at fair value.

Medical laboratory services are invoiced to member hospitals at pre-established rates.

The long-term receivable from members is non-interest bearing with no fixed terms of repayment.

The balance due to The Ottawa Hospital operations bears interest at a rate of 3.1% (2018 - 3.1%) with no fixed term of repayment.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

2. Related party transactions (continued):

Billing adjustment and member assessment:

Effective March 31, 2016, EORLA entered into an agreement with one of its members to repay \$4,330,470 related to the billing adjustment over a five-year period. The amount bears interest at prime minus 0.25% and requires EORLA to make annual principal payments of \$866,094. The balance due to the member hospital as at March 31, 2019 is \$2,598,281 (2018 - \$3,464,375).

3. Capital assets:

	Cost	Accumulated amortization	2019 Net book value	2018 Net book value
Computer hardware and software	\$ 14,239,070	\$ 8,675,136	\$ 5,563,934	\$ 8,164,145
Equipment	20,250,268	11,072,322	9,177,946	5,213,111
Lab renovation	1,606,182	304,008	1,302,174	1,380,018
	\$ 36,095,520	\$ 20,051,466	\$ 16,044,054	\$14,757,274

Cost and accumulated amortization of capital assets at March 31, 2018 amounted to \$30,103,106 and \$15,345,832, respectively.

4. Funds held in trust:

Funds held in trust are held in EORLA's bank account and represent education funds held in trust for third parties (employees).

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

5. Deferred revenue:

	Balance, beginning of year	Funds/ interest received	Funds used	Balance, end of year
NaN Ontario Centres	38,342	19,776	(58,118)	–
	\$ 38,342	\$ 20,881	\$ (59,223)	\$ –

6. Employee future benefits:

(a) Non-pension benefits:

EORLA offers a defined benefit plan which provides extended health care and dental insurance benefits to certain of its employees and extends this coverage to the post-retirement period. The most recent actuarial valuation of employee future benefits was completed as at March 31, 2019. The next actuarial valuation is expected to take place as at March 31, 2022.

As at March 31, 2019, EORLA's liability associated with the benefit plan is as follows:

	2019	2018
Accrued benefit obligation	\$ 5,097,800	\$ 4,739,000
Unamortized experience losses	(439,800)	(357,000)
Employee future benefit liability	\$ 4,658,000	\$ 4,382,000

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

6. Employee future benefits (continued):

(a) Non-pension benefits (continued):

EORLA's defined benefit plan is not funded, resulting in a plan deficit equal to the accrued benefit obligation. The significant actuarial assumptions adopted in estimating EORLA's accrued benefit obligation are as follows:

	2019	2018
Discount rate to determine accrued benefit obligation	3.18%	3.37%
Dental cost increases	3.50%	3.50%
Extended health care cost escalations	7.50%	7.50%
Expected average remaining service life of employees	12.6 years	13.2 years

The employee future benefit liability change for the year ended March 31, 2019 is \$276,000 (2018 - \$295,200). This amount is comprised of:

	2019	2018
Current service cost	\$ 267,000	\$ 262,000
Amortization experience losses	28,300	31,500
Benefit payments	(180,500)	(160,400)
Interest on accrued benefit obligation	161,200	162,100
	\$ 276,000	\$ 295,200

(b) Pension:

Substantially all of the employees of EORLA are members of the Healthcare of Ontario Pension Plan (the "Plan"), which is a multi-employer defined benefit pension plan available to all eligible employees of the participating members of the Ontario Hospital Association. Contributions to the Plan made during the year by EORLA on behalf of its employees amounted to \$5,569,503 (2018 - \$5,504,690) and are included in the statement of operations.

In consultation with its actuaries, pension expense is based on Plan management's best estimates of the amount required to provide a high level of assurance that benefits will be fully represented by fund assets at retirement, as provided by the Plan. The funding objective is for employer contributions to the Plan to remain a constant percentage of employees' contributions.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

6. Employee future benefits (continued):

(b) Pension (continued):

Variances between actuarial funding estimates and actual experience may be material and any differences are generally to be funded by the participating members. The most recent triennial actuarial valuation of the Plan as at December 31, 2017 indicates the plan is fully-funded.

7. Deferred capital contributions:

	Balance, beginning of year	Contributions received	Amortization	Balance, end of year
Ontario Buys project:				
LIS integration and connectivity	\$ 250,102	\$ —	\$ (250,102)	\$ —
Front end automation	645,293	—	(645,293)	—
Telepathology	402,043	—	(402,043)	—
Ministry of Health and Long-Term Care of Ontario:				
Start-up funding	8,216	—	(8,216)	—
Contingency fund:				
Foundation	1,514	—	(1,514)	—
eHealth - OLIS funding	6,700,365	27,500	(1,349,693)	5,378,172
Cancer Care Ontario	76,293	—	—	76,293
BD Life Sciences	23,250	—	—	23,250
Microscope	7,686	8,731	—	16,417
	\$ 8,114,762	\$ 36,231	\$ 2,656,861	\$ 5,494,132

8. Bank indebtedness:

EORLA has an available line of credit of \$10,000,000 with its corporate bankers, of which no amount was drawn against at March 31, 2019 (2018 - \$nil). This line of credit is unsecured and bears interest at prime less 0.25%.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

9. Financial instruments:

Establishing fair value:

The following classification system is used to describe the basis of the inputs used to measure the fair values of financial instruments in the fair value measurement category:

Level 1 – Unadjusted quoted market prices in active markets for identical assets or liabilities;

Level 2 – Observable or corroborated inputs, other than Level 1, such as quoted prices for similar assets or liabilities in inactive markets or market data for substantially the full term of the assets or liabilities; and

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of these assets and liabilities.

Cash and funds held in trust are a Level 1 hierarchy. There have been no movements between levels during the year.

Risk management:

EORLA is exposed to various financial risks through its transactions in financial instruments.

Credit risk:

Credit risk relates to the potential that one party to a financial instrument will fail to discharge an obligation and incurs a financial loss. EORLA is exposed to credit risk on its accounts receivable. Management does not believe it is exposed to any significant credit risk due to the nature of the counterparties of its receivables.

Liquidity risk:

Liquidity risk is the risk EORLA will not be able to meet its financial obligations when they come due. EORLA manages its liquidity risk by forecasting cash flows from operations and anticipating investing and financing activities and maintaining credit facilities to ensure it has sufficient available funds to meet current and foreseeable financial requirements.

Market risk:

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate as a result of market factors. Market factors include three types of risk: interest rate risk, currency risk and other price risk.

EORLA believes it is not subject to significant interest rate, foreign currency or other price risks arising from its financial instruments.

There have been no significant changes from the previous year in the exposure to risk on policies, procedures and methods used to measure credit risk.

EASTERN ONTARIO REGIONAL LABORATORY ASSOCIATION INC.

Notes to Financial Statements (continued)

Year ended March 31, 2019

10. Contingencies:

The nature of EORLA's activities are such that there may be litigation pending or in prospect at any time. With respect to claims as at March 31, 2019, management believes EORLA has valid defenses and appropriate insurance coverage in place. In the event any claims are successful, management believes that such claims are not expected to have a material effect on EORLA's financial position.

A group of healthcare organizations formed the Healthcare Insurance Reciprocal of Canada ("HIROC"), of which EORLA is a member. HIROC is registered as a Reciprocal pursuant to provincial Insurance Acts which permit persons to exchange with other persons reciprocal contracts of indemnity insurance. HIROC facilitates the provision of liability insurance coverage to healthcare organizations in the provinces and territories where it is licensed. Subscribers pay annual premiums, which are actuarially determined, and are subject to assessment for losses in excess of such premiums, if any, experienced by the group of subscribers for the year in which they were a subscriber. No such assessments have been made to March 31, 2019.

