

THE DISCIPLINE OF ANESTHESIA

ANNUAL REPORT 2023

**MEMORIAL
UNIVERSITY**

Faculty of Medicine

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1.0 MISSION STATEMENT

To provide excellence in anesthesia care, pain management and perioperative medicine through the formation of competent, culturally sensitive anesthesiologists; the pursuit of discovery through scholarship, research, and innovation; the provision of compassionate, high standard care through professional development, guidance of national and international standards, and continuing quality assurance for all people and communities of Newfoundland and Labrador.

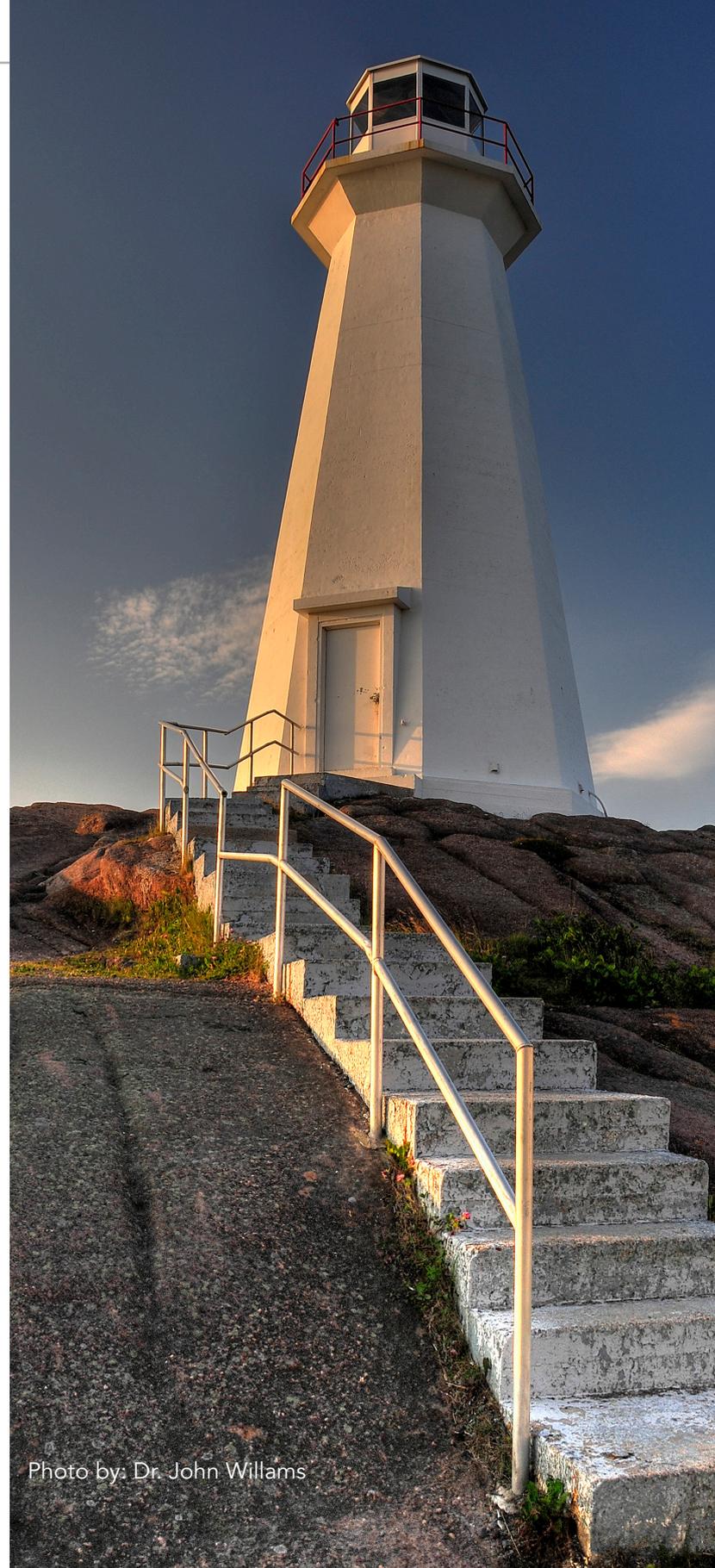


Photo by: Dr. John Williams

2.0 MESSAGE FROM THE CHAIR

As a former trainee from our program, I have always been impressed by how every member of the Anesthesia Department contributes to the academic mission of the Discipline of Anesthesia. The collective efforts of everyone contribute to our ability to train competent Collegial Anesthesiologists for Newfoundland and Labrador, and the rest of Canada. I would like to thank everyone for the support they have shown our undergraduate and postgraduate learners over the past year. Their growth and success is directly related to your efforts.

We have had tremendous fortune in attracting many talented new staff members over the past few years. Once again Dr. Sushil Sancheti, our CPD lead, provided a plethora of engaging topics broadcast across the province, 24 of which are archived on the Anesthesia Residency Program Brightspace account from 2023. Dr. Geoff Warden, our Clinical Research Director, had 20 projects with various undergraduate and postgraduate learners, in addition to supervising a graduate student and lecturing with the Clinical Epidemiology Department. Dr. Noel O'Regan continued to look at new ways of providing simulation learning in the Anesthesia Simulation Lab in addition to heading up the Memorial Anesthesia Simulation Subcommittee with Dr. Jeremy Pridham. Our new residents once again went through our week-long simulation bootcamp to get oriented to the anesthesia machines, local operating room environment, and common intraoperative issues.

Dr. Sonia Sampson and Dr. Kathryn Sparrow continued with their work on the Royal College Anesthesia Exam committee. In addition to her work on the Anesthesia Written Exam Committee, Dr. Sampson was heavily involved in Accreditation work.

In the undergraduate program, due to the dedication of our Distributed Faculty we had 37 Surgery Integrated Clerks complete their anesthesia rotations in Rural Newfoundland, PEI, and New Brunswick in addition to the 41 learners that completed the rotation in St. John's. In 2023 the undergraduate role change from Dr. Amir Gammal to Dr. Michael Bautista, and we look to expanding the exposure of the undergraduate anesthesia rotation in the future. The Anesthesia Faculty provided teaching for 81 undergraduate clinical skills sessions this year. Dr. Barton Thiessen continued in his role as Associate Dean of Admissions.

Dr. Steve Howells continued to chair the competency committee for the residency program, a vital process for competency-based resident education. Dr. Andrew Major is currently working on revising the academic half-day curriculum to link it with national curriculum objectives. Dr. Peter Collins, our Program Director, has worked tirelessly to prepare for our accreditation review in 2024. The past year saw the creation of the Dr. Peter Collins Legacy Award to be given to the recipient. The resident group feels has demonstrated exceptional commitment to the betterment of the residency program. Dr. Kelly Au and Dr. Lesley Bautista introduced new teaching modules for obstetrical anesthesia that have been extremely well received by the residents. Dr. Ainsley Decker continued her work on Wellness and co-ordinating the Mentorship Program for the Discipline of Anesthesia, as well as assisting with the CanNASC scenarios delivery.



2.0 MESSAGE FROM THE CHAIR

Dr. Asoka Samarasena has been working with the Royal College International Residency Program Review and Accreditation committee. Dr. Sonia Sampson is the co-chair of the Royal College International Kuwait Institute of Medical Specialties Anesthesia exam committee. Dr. Jeremy Pridham served as a Site Surveyor for the Royal College.

In addition to her work as the chair and Medical Director of the Canadian Anesthesiologists' Society Canadian Anesthesia Reporting System (CAIRS), Dr. Kathryn Sparrow has also started as the Postgraduate Educational Director for Quality Improvement/Quality Assurance. Dr. Sparrow is also the CPD Editor of the Canadian Journal of Anesthesia.

Global Health continues to be at the forefront of the Discipline of Anesthesia and the Faculty of Medicine. With the support of the Faculty of Medicine many of our residents and staff have contributed to Global Health initiatives, including many Team Broken Earth missions. Dr. Pridham remains on the board of directors for Team Broken Earth and will be heading to Guyana and Dr. Alison Barrett, Dr. Stephen Crummey, Dr. Amir Gammal, and Dr. Lesley Johnston to Guatemala to provide much needed medical care in 2023.

This is just a brief list of some highlights from the Discipline of Anesthesia for 2023. I would like to thank our faculty for their efforts in advancing our specialty, educating our undergraduate learners, and making our residency program a success.

Sincerely,



Dr. Geoff Zbitnew
Academic Chair and Associate Professor of Anesthesia

3.0 LEADERSHIP TEAM

Dr. Dolores McKeen
Interim Dean, Faculty of Medicine
Vice Dean, Education and Faculty Affairs
Past President, Canadian Anesthesiologists' Society

Dr. Geoff Zbitnew
Discipline Chair of Anesthesia

Dr. Peter Collins
Residency Program Director

Dr. Steve Howells
Assistant Residency Program Director
Chair, Competency Committee
Clinical Site Lead - HSC

Dr. Michael Bautista
Undergraduate Director - HSC

Dr. Sushil Sancheti
Continuing Professional Development
Site Chief - HSC

Dr. Noel O'Regan
Dr. Jeremy Pridham
Simulation Co-Directors

Dr. Jadon Harding
Site Chief - St. Clare's

Dr. Matthew Culp
Site Chief - Janeway
Clinical Site Lead - Janeway

Dr. Jeremy Pridham
Clinical Site Lead - St. Clare's

Dr. Amir Gammal
Chief of Obstetrical Anesthesia

Dr. Kelly Au
Dr. Lesley Bautista
Clinical Site Leads - Obstetrical Anesthesia

Dr. Kathryn Sparrow
Quality of Care/Patient Safety
CPD Editor, Canadian Journal of Anesthesia

Dr. Andrew Major
Curriculum Director

Dr. Ainsley Decker
Wellness/Resident Safety

Dr. Asoka Samarasena
Faculty Affairs

Dr. Ken LeDez
Medical Director, Hyperbaric Medical Services

Dr. Robert Bishop
Chief of Anesthesia
Eastern Health Zones

Administrative Support
Marion Barnes
Stephanie Herlidan

4.0 DISCIPLINE ACCOMPLISHMENTS

4.1 AWARDS

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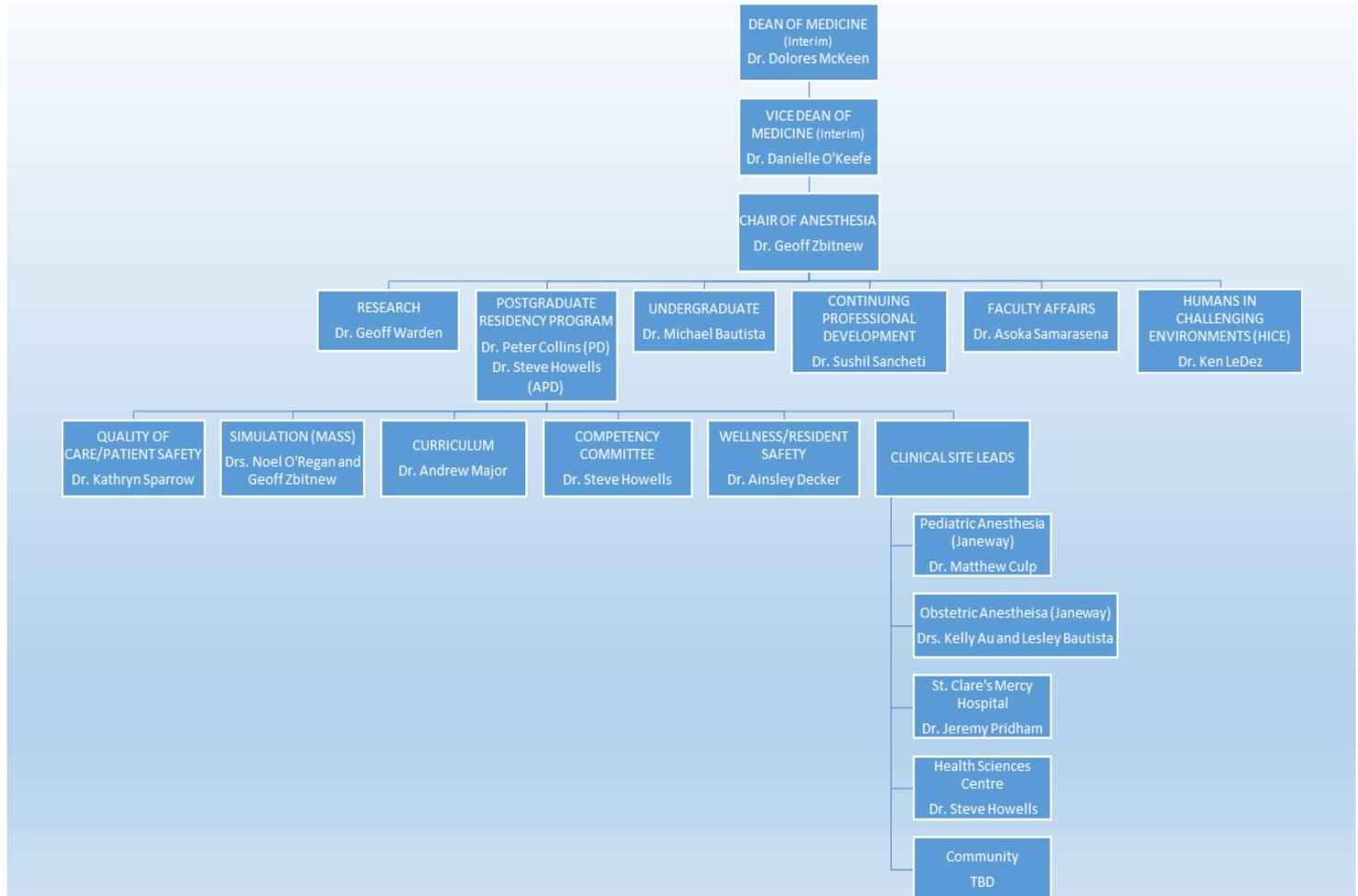
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4.2 DISCIPLINE ORGANIZATIONAL CHART

DISCIPLINE OF ANESTHESIA



5.0 FACULTY PUBLICATIONS

Dr. Kelly Au:

1 Au K, Shippam W, Chau A. Gastric insufflation and high-flow nasal oxygenation in obstetric patients: a reply. *Anaesthesia*. 2020 Sep;75(9):1262-1263. doi: 10.1111/anae.15059. Epub 2020 Jun 25. PMID: 32584422.

2 Au K, Shippam W, Taylor J, Albert A, Chau A. Determining the effective pre-oxygenation interval in obstetric patients using high-flow nasal oxygen and standard flow rate facemask: a biased-coin up-down sequential allocation trial. *Anaesthesia*. 2020 May;75(5):609-616. doi: 10.1111/anae.14995. Epub 2020 Feb 11. PMID: 32048278.

Dr. Lesley Bautista:

1 Bautista L, DiDonato RM, Bennett KP, Bautista M. The Edmonton Frail Scale as a preoperative assessment tool in elective outpatient surgery. *Can J Anaesth*. 2021 Jun; 68(6):925-927. doi: 10.1007/s12630-021-01954-y. Epub 2021 Feb 24. PMID: 33629179.

2 Bautista L, George RB. Epidural analgesia in labour. *CMAJ*. 2020 May 11;192(19):E509. doi: 10.1503/cmaj.191372. PMID: 32575042; PMCID: PMC7234272.

Dr. Michael Bautista:

1 Bautista L, DiDonato RM, Bennett KP, Bautista M. The Edmonton Frail Scale as a preoperative assessment tool in elective outpatient surgery. *Canadian Journal of Anaesthesia*. 2021 Jun; 68(6):925-927. doi: 10.1007/s12630-021-01954-y.

2 Verret M, Lauzier F, Zarychanski R, Perron C, Savard X, Pinard AM, Leblanc G, Cossi MJ, Neveu X, Turgeon AF; Canadian Perioperative Anesthesia Clinical Trials (PACT) Group. Perioperative Use of Gabapentinoids for the Management of Postoperative Acute Pain: A Systematic Review and Meta-analysis. *Anesthesiology*. 2020 Aug; 133(2):265-279. doi: 10.1097/ALN.0000000000003428. Erratum in: *Anesthesiology*. 2020 Aug 21; null. PMID: 32667154.

Dr. Jason Chaulk:

1 Chaulk J. No Person Left Behind: Improving Physician Wellness in Canada. *Can J Physician Leadership* 2021; 7(2) 67-71.

Dr. Peter Collins:

- 1 Collins PAW. A modified device to provide oxygen insufflation during intubations using flexible bronchoscopy. *Paediatr Anaesth*. 2023 Apr;33(4):330. doi: 10.1111/pan.14624. Epub 2023 Jan 16. PMID: 36647603.
- 2 Collins PAW. A modified adjustable oral RAE microcuff® endotracheal tube. *Paediatric Anaesthesia*. 2022 Jan; 32(1):89-90. doi: 10.1111/pan.14322.
- 3 Collins PAW, DiDonato RM, Thomson K, Brazil M. A proof-of-concept assessment in healthy volunteers of stimulated skin wrinkling to determine the presence or absence of digital nerve blockade. *Canadian Journal of Anaesthesia*. 2021 Aug; 68(8):1279-1280. doi: 10.1007/s12630-021-02010-5.
- 4 Meineri M, Arellano R, Bryson G, Arzola C, Chen R, Collins P, Denault A, Desjardins G, Fayad A, Funk D, Hegazy AF, Kim H, Kruger M, Kruisselbrink R, Perlas A, Prabhakar C, Syed S, Sidhu S, Tanzola R, Van Rensburg A, Talab H, Vegas A, Bainbridge D. Canadian recommendations for training and performance in basic perioperative point-of-care ultrasound: recommendations from a consensus of Canadian anesthesiology academic centres. *Canadian Journal of Anaesthesia*. 2021 Mar; 68(3):376-386. doi: 10.1007/s12630-020-01867-2
- 5 Collins PAW . Outsmarting a pulse oximeter: teaching spectrophotometry with a Foley catheter. *Canadian Journal of Anaesthesia*. 2020 Nov; 67(11):1675-1676. doi: 10.1007/s12630-020-01752-y.

Dr. David Flusk:

- 1 Rash JA, Campbell TS, Cooper L, Flusk D, MacInnes A, Nasr-Esfahani M, Mekhael AA, Poulin PA, Robert M, Yi Y. Evaluating the efficacy of intranasal oxytocin on pain and function among individuals who experience chronic pain: a protocol for a multisite, placebo-controlled, blinded, sequential, within-subjects crossover trial. *BMJ Open*. 2021 Sep 23; 11(9):e055039. doi: 10.1136/bmjopen-2021-055039. PMID: 34556520; PMCID: PMC8461687.
- 2 Asamoah-Boaheng M, Badejo OA, Bell LV, Buckley N, Busse JW, Campbell TS, Corace K, Cooper L, Flusk D, Garcia DA, Hossain MA, Iorio A, Lavoie KL, Poulin PA, Skidmore B, Rash JA. Interventions to Influence Opioid Prescribing Practices for Chronic Noncancer Pain: A Systematic Review and Meta-Analysis. *Am J Prev Med*. 2021 Jan; 60(1):e15
- 3 Sihota A, Smith BK, Ahmed SA, Bell A, Blain A, Clarke H, Cooper ZD, Cyr C, Daeninck P, Deshpande A, Ethans K, Flusk D, Le Foll B, Milloy MJ, Moulin DE, Naidoo V, Ong M, Perez J, Rod K, Sealey R, Sulak D, Walsh Z, O'Connell C. Consensus-based recommendations for titrating cannabinoids and tapering opioids for chronic pain control. *Int J Clin Pract*. 2021 Aug; 75(8):e13871. doi: 10.1111/ijcp.13871. Epub 2020 Dec 18. PMID: 33249713; PMCID: PMC8365704.

4 Hossain MA, Asamoah-Boaheng M, Badejo OA, Bell LV, Buckley N, Busse JW, Campbell TS, Corace K, Cooper LK, Flusk D, Garcia DA, Iorio A, Lavoie KL, Poulin PA, Skidmore B, Rash JA. Prescriber adherence to guidelines for chronic noncancer pain management with opioids: Systematic review and meta-analysis. *Health Psychol.* 2020 May; 39(5):430-451. doi: 10.1037/hea0000830. Epub 2020 Jan 30. PMID: 31999179.

5 Bell LV, Cornish P, Flusk D, Garland SN, Rash JA. The Internet Therapy for depression Trial (INTEREST): protocol for a patient-preference, randomised controlled feasibility trial comparing iACT, iCBT and attention control among individuals with comorbid chronic pain and depression. *BMJ Open.* 2020 Feb 28; 10(2):e033350. doi: 10.1136/bmjopen-2019-033350. PMID: 32114466; PMCID: PMC7050318.

Dr. Steven Howells:

1 Mysore K, Sancheti SA, Howells SR, Ballah EE, Sutton JL, Uppal V. Postoperative analgesia with pericapsular nerve group (PENG) block for primary total hip arthroplasty: a retrospective study. *Canadian Journal of Anaesthesia.* 2020 Nov; 67(11):1673-1674. doi: 10.1007/s12630-020-01751-z

Dr. Kenneth LeDez:

1 Linden R, Ledez K, Hopf H, Fife C. Topical Oxygen Therapy is not Hyperbaric Therapy and the Two Treatments Should Not be Confused. *International Wound Journal.* 2014 Apr; 11(2):230-1. doi: 10.1111/j.1742-481X.2012.01069.x

2 LeDez KM, Zbitnew G. Hyperbaric treatment of cerebral air embolism in an infant with cyanotic congenital heart disease. *Canadian Journal of Anaesthesia.* 2005 Apr; 52(4):403-408. doi: 10.1007/BF03016284

3 Yang H, Littleford J, Orser B, Zaccagnini M, Umedaly H, Olsen M, Raazi M, LeDez K, Law A, Giffin M, Foerster J, D'Souza B, Dillane D, Christodoulou C, Buu N, Bryan R. The evolution and formalization of Anesthesia Assistant roles across Canada. *Can J Anaesth.* 2024. In press

4 Goldman S, Solano-Altamirano JM, LeDez KM. *Gas Bubble Dynamics in the Human Body.* Academic Press. 2018

Dr. Dolores McKeen:

1 The incidence and predictors of failed spinal anesthesia after intrathecal injection of local anesthetic for cesarean delivery: A single center, 9-year retrospective review Jin SY, Munro A, Aidemouni M, **McKeen DM**, Uppal V. *Anesth Analg.* 2023 Apr 3. doi: 10.1213/ANE.0000000000006459. Epub ahead of print. PMID: 37014966.

- 2 Clinical Pathway for Cesarean Delivery Enhanced Recovery After Surgery for Cesarean Delivery guidelines -Enhanced Recovery Canada: A Collaborative to Improve Surgical Care. Thomas, J **McKeen DM**, Au K, Nelson G et al. https://www.healthcareexcellence.ca/media/vttlbbbv/20230308_erc_csection_clinicalpathway_en.pdf
- 3 NIHR Global Health Unit on Global Surgery; COVIDSurg Collaborative (inc **McKeen, D**). Elective surgery system strengthening: development, measurement, and validation of the surgical preparedness index across 1632 hospitals in 119 countries. *Lancet*. 2022 Nov 5;400(10363):1607-1617. doi: 10.1016/S0140-6736(22)01846-3. Epub 2022 Oct 31. PMID: 36328042
- 4 Mclsaac DI, Hutton B and the Prehabilitation Knowledge Network Authorship Group (inc **McKeen, DM**). Identifying relative efficacy of components of prehabilitation in adult surgical patients: protocol for a systematic review and component network meta-analysis. (2022) *BMJ Open*. 2022 Nov 17;12(11):e068797. doi: 10.1136/bmjopen-2022-068797. PMID: 36396310; https://mun.primo.exlibrisgroup.com/discovery/openurl?institution=01MUN_INST&vid=01MUN_INST:01MUN&id=pmid:36396310&sid=Entrez:PubMed
- 5 COVIDSurg Collaborative (inc **McKeen, D**) NIHR Global Health Unit on Global Surgery; Elective surgery system strengthening: development, measurement, and validation of the surgical preparedness index across 1632 hospitals in 119 countries. *Lancet*. 2022 Nov 5;400(10363):1607-1617. doi: 10.1016/S0140-6736(22)01846-3. Epub 2022 Oct 31. PMID: 36328042
- 6 **McKeen, DM** Bainbridge, D. Editorial Response - No community left behind: advancing rural anesthesia, surgery, and obstetric care in Canada (2022) DOI 10.1007/s12630-022-02341-x
- 7 Mclsaac DI, Gill M, Boland L, Hutton B, Branje K, Shaw J, Grudzinski AL, Barone N, Gillis C; Prehabilitation Knowledge Network (inc **McKeen, D**) Prehabilitation in adult patients undergoing surgery: an umbrella review of systematic reviews. (2021) *Br J Anaesth*. 2022 Feb;128(2):244-257. doi: 10.1016/j.bja.2021.11.014. Epub 2021 Dec 16. PMID: 34922735.
- 8 COVIDSurg Collaborative (inc **McKeen, D**). Effect of COVID-19 pandemic lockdowns on planned cancer surgery for 15 tumour types in 61 countries: an international, prospective, cohort study. (2021) *Lancet Oncol*. 2021 Nov;22(11):1507-1517. doi:10.1016/S1470-2045(21)00493-9. Epub 2021 Oct 5. PMID: 34624250; PMCID:PMC8492020.
- 9 Singh M, **McKeen DM**. Supporting vulnerable physicians at high risk from COVID-19 during the pandemic: a call for action. (2021) *Can J Anaesth*. 2021 Jul;68(7):943-952. doi: 10.1007/s12630-021-01956-w. Epub 2021 Mar 11. PMID: 33709261;PMCID: PMC7951940.
- 10 **McKeen DM**, Zaphiratos V; Canadian Anesthesiologists' Society. Lack of evidence that epidural pain relief during labour causes autism spectrum disorder: a position statement of the Canadian Anesthesiologists' Society.(2021) *Can J Anaesth*. 2021 Feb;68(2):180-182. English. doi: 10.1007/s12630-020-01840-z. Epub 2020 Oct 27. PMID: 33108637.

11 **McKeen DM**, Zaphiratos,V (2020) Position Statement: Lack of evidence that epidural pain relief during labour causes autism spectrum disorder. *Canadian Journal of Anesthesia* DOI: 10.1007/s12630-020-01840-z

12 Verret M, Lauzier F, Zarychanski R, Perron C, Savard X, Pinard AM, Leblanc G, Cossi MJ, Neveu X, Turgeon AF, and PACT group, **McKeen D** (2020). Perioperative Use of Gabapentinoids for the Management of Postoperative Acute Pain: A Systematic Review and Meta-analysis. *Anesthesiology*, 133(2), 265-279. [Published] PubMed ID: [32667154](#).

13 Kothari R, Ke J, McKeen DM, Bainbridge D (2020). Professional advocacy and citizenship: a continuing journey that begins during residency. *Canadian Journal of Anesthesia*, 1-4. [Published] PubMed ID: 32794064.

14 Ke JXC, Kothari R, **McKeen D**, Bainbridge D (2020). Assessing resident member needs at the Canadian Anesthesiologists' Society: a national survey. *Canadian journal of Anesthesia*. [Published] PubMed ID: 32803469.

15 Uppal V, Retter S, Kehoe E, McKeen DM (2020). Quadratus Lumborum Block for Postoperative Analgesia: A Systematic Review and Meta-analysis. *Canadian Journal of Anesthesia*. [Review - Published] PubMed ID: 32808097

16 **McKeen DM**, Banfield JC, Mclsaac DI, McVicar J, McGavin C, Earle MA, Ward C, Burns KK, Penner D, Blaise G, de Greef T, Cowan K, Laupacis A (2020). Top ten priorities for anesthesia and perioperative research: a report from the Canadian Anesthesia Research Priority Setting Partnership. *Canadian Journal of Anesthesia* 67(6), 641-654. [Published] PubMed ID: 32157588.

17 Roda R, Uppal V, Allen VM, Woolcott CG, **McKeen DM** (2020). The addition of lateral quadratus lumborum block to a multimodal analgesic regimen that includes intrathecal morphine is associated with a longer time to first analgesic request for elective cesarean section. *Journal of clinical anesthesia*, 109667. [Letter to the Editor - Published] PubMed ID: 31759812.

18 Uppal V, **McKeen DM** (2020). In Response. *Anesthesia and Analgesia*. [Letter to the Editor Published] PubMed ID: 32250981.

Dr. Noel O'Regan:

1 Comparing simulation design tools: expecting the unexpected to improve summative assessment integrity.

O'Regan, N.B., Moody, M.A., Fairbridge, N.A. et al.

Canadian Journal of Anesthesiology, Vol 68, Pages 1715–1717 (2021).

2 Patient Handover in Emergency Trauma Situations.

Peer M, O'Regan N B, Evans B, et al.

Cureus 12(8): e9544. DOI, 10.7759/cureus.9544 (August 04, 2020)

3 Anatomical 3D-Printed Silicone Prostate Gland Models and Rectal Examination Task Trainer for the Training of Medical Residents and Undergraduate Medical Students.

Dezeeuw J, O'Regan N B, Goudie C, et al.

Cureus 12(7): e9020. DOI 10.7759/cureus.9020, (July 06, 2020)

4 Pickard V, O'Regan NB, Sheppard G, Dubrowski A. A Post-operative Masquerade: Simulation-based Scenario Challenging Clinical Clerks to Recognize an Atypical Presentation of Myocardial Infarction. Cureus. 2020; 12(4):10. doi:10.7759/cureus.7510

5 Physiologic Storyboarding for Scenario Development in High-Fidelity Simulation.

Noel O'Regan and Heidi Coombs-Thorne

Medical Science Educator. Vol 27, Pages 385–390 (2017).

6 Chiu M, Tarshis J, Antoniou A, Bosma TL, Burjorjee JE, Cowie N, Crooks S, Doyle K, Dubois D, Everett T, Fisher R, Hayter M, McKinnon G, Noseworthy D, O'Regan N, Peachey G, Robitaille A, Sullivan M, Tenenbein M, Tremblay MH. Simulation-based assessment of anesthesiology residents' competence: development and implementation of the Canadian National Anesthesiology Simulation Curriculum (CanNASC). Canadian Journal of Anaesthesia. 2016 Dec; 63(12):1357-1363. doi:10.1007/s12630-016-0733-8

7 Crozier MS, Ting HY, Boone DC, O'Regan NB, Bandrauk N, Furey A, Squires C, Hapgood J, Hogan MP. Use of Human Patient Simulation and Validation of the Team Situation Awareness Global Assessment Technique (TSAGAT): A Multidisciplinary Team Assessment Tool in Trauma Education. Journal of Surgical Education. 2015 Jan-Feb; 72(1):156-63. doi: 10.1016/j.jsurg.2014.07.009

8 The Comprehensive Textbook of Healthcare Simulation.

Noel O'Regan Canadian Journal of Anesthesia. (2014). 61(7) 1. 688-689. Book Review.

9 Detection of Intra-operative Myocardial Ischemia-a comparison among electrocardiographic, myocardial metabolic and hemodynamic measures in patients with reduced ventricular function. Richard Hall Noel O'Regan and Martin Gardiner.

Canadian Journal of Anesthesia (1995). 42(6): 487-94.

10 The effects of dopaminergic agonists and antagonists on the frequency response function for hypothalamic self-stimulation in the rat.

Shinshu Nakajima and Noel O'Regan. Pharmacology Biochemistry and Behavior (1991). 38(2): 465-468.

Dr. Jeremy Pridham:

- 1 Clinical Pathway for Inpatient and Outpatient Hip and Knee Replacement Surgery. Enhanced Recovery Canada: A Collaborative to Improve Surgical Care June 2021
- 2 Norman A, Mahoney K, Ballah E, Pridham J, Smith C, Parfrey P. Sustainability of an Enhanced Recovery After Surgery initiative for elective colorectal resections in a community hospital. Can J Surg. 2020 May 21;63(3):E292-E298. doi: 10.1503/cjs.016018. Erratum in: Can J Surg. 2020 Sep-Oct;63(5):E395. PMID: 32437096; PMCID: PMC7486128.
- 3 Participation of Canadian anesthesiology departments in undergraduate medical education, CJA (2017) 64:16-28 Hamlin, Bhangu ... J. Pridham, B. Thiessen, Memorial University of Newfoundland....
- 4 Quality of Care NL; Enhanced Recovery After Surgery (ERAS) Initiative Poster Presentation Norman, Mahoney, Ballah, Parfrey, Pridham October 2017
- 5 Global patient outcomes after elective surgery: prospective cohort study in 27 low-, middle- and high-income countries, The International Surgical Outcomes Study group. BJA: British Journal of Anesthesia Volume 117, Issue 5, 1 November 2016, Pages 601-609 Local participants Pridham J, Rowe B, Sampson S, Thiessen B, Zbitnew G
- 6 Short communications symposia AMEE Sept 9, 2015. The feasibility of an integrated Anesthesia-Surgery clerkship rotation as a learning experience for perioperative care. J. Pridham, B. Thiessen, H. Coombs-Thorne
- 7 Assessment of the Horizontal Integration of Anesthesia in General Surgery at Memorial University of Newfoundland – A Pilot Project. “Poster Presentation, MESC Forum, St. John’s, NL May 25, 2014 J. Pridham
- 8 A Surgical Waste Audit of Laparoscopic Cholecystectomies at St. Clare’s Mercy Hospital Operating Room. Poster Presentation PriFor September 4, 2014. A. Decker, T. Aylward, J. Pridham, M. Bautista CAS
- 9 A team approach to providing clinical care and medical education in Haiti: Team Broken Earth. “Poster Presentation, Canadian Conference on Global Health, 2013 (Ottawa). A. Furey, J. Rourke, A. Rideout, J. Pridham, N. Bridger, P. Duffy, S. Croft.
- 10 National Curriculum for Canadian Anesthesia Residency. First Edition April 2010. F. Baxter, R. Brown, J. Carrier, F. Girard, C. Goyer, M. Jaeger, R. Kearney, M. Levine, J-P Morin, P. Murphy, J. Pridham, M. Raazi, B. Ramsey, S. Spadafora, J. Todesco, N. Vakharia, C. Wong, L. Wynne. Internet based curriculum for all Anesthesia Departments in Canada

- 11 Prolonged Epidural Infusions of Ropivacaine (2mg/ml) following Colonic Surgery: The Impact of adding Fentanyl. B. Finucane, S. Ganapathy, F. Carli, J. Pridham, Bill Ong, R. Shukla, A. Kristoffersson, K. Huizar, K. Nevin K. Ahlean and the Canadian Ropivacaine Research Group. *Anesthesia and Analgesia* 2001;92:1276-1285
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6.0 RESIDENT RESEARCH

Projects: Resident / Med Student / Supervisor

Alex Norman / Zoe Breen / Geoff Warden

Are We Choosing Wisely? Use of Preoperative Chest X-ray and Electrocardiogram in Patients Undergoing Emergency Surgery at the Health Sciences Centre

-Á Summary/Abstract:

- This ongoing quality improvement study investigates the implementation of Choosing Wisely Canada recommendations related to preoperative electrocardiograms (ECGs) and chest radiographs (CXR) in emergency surgery cases at the Health Science Center during October and November 2023. Data collection is currently underway, starting with a sample of 50 cases, with the potential to expand the sample size for specific surgical subcategories. Additionally, the project includes an educational component involving sessions with relevant stakeholders responsible for ordering tests in the emergency department and various surgical specialties. This study addresses the application of evidence-based recommendations in the urgent context of emergency surgery, offering insights for resource optimization and enhanced patient care.

Jasmine Dezeeuw / Sushil Sanchetti

Knee Deep in Innovation: Genicular Nerve Blocks for Enhanced TKR Recovery

-Á Summary/Abstract:

- This quality improvement project will encompass a two-phase investigation into the effectiveness of genicular nerve blocks (GNBs) for pain management in total knee replacement (TKR) surgeries at the Health Science Center. The first phase is a thorough literature review aimed at gathering current evidence on the use of GNBs and assessing their impact on postoperative pain control and opioid consumption. Following the literature review, the second phase will involve a case series study, retrospectively analyzing the outcomes of patients who underwent TKR with GNBs at our institution, focusing on pain management efficacy, opioid usage, mobilization rates, and the overall recovery process. This project aims to enhance the pain management protocol for TKR by integrating rigorous academic research with practical clinical insights.

Allison Mcpeak / Gail Cowan

Peds Chronic Pain

-Á Summary/Abstract: TBD

Joel Perren / NEEDS SUPERVISOR

Enhancing PACU Handovers: A Quality Improvement Study with a Structured Checklist Approach

-Á Summary/Abstract:

- This Quality Improvement (QI) study evaluates the implementation of a standardized handover checklist within the Post-Anesthesia Care Unit (PACU) to enhance patient safety and handover efficiency. Scheduled for a prospective rollout at a tertiary care center, the initiative will introduce a comprehensive checklist designed to standardize the transfer of care from the operating room to the PACU. Outcome measures to assess the checklist's impact will include the completeness of handover information, duration of the handover process, and healthcare providers' satisfaction with the handover experience. The study will also monitor secondary outcomes such as the frequency of postoperative complications, readmissions to the PACU, and any adverse events attributable to handover miscommunications. Data will be collected through pre- and post-intervention surveys, direct observations, and a review of patient records to compare the pre-implementation and post-implementation phases. The goal of this QI study is to quantify the benefits of a handover checklist and to establish best practices for handover procedures in the PACU setting.

Claire Pratt / Brittanie Labelle / Dani Bahnam / Geoff Warden

A retrospective single-center study comparing discharge time of spinal chloroprocaine and hyperbaric bupivacaine in ambulatory surgery and procedures of short duration

-Á Summary/Abstract:

- In 2017, the FDA sanctioned the use of 1% 2-chloroprocaine for spinal injection. The agent's rapid onset (5-10 minutes) and expedited recovery period (70-150 minutes) render it an optimal choice for short-duration procedures and outpatient surgeries. This retrospective cohort study examines the outcomes of using chloroprocaine versus bupivacaine in patients undergoing urological interventions at the Health Science Centre. The primary outcome measure is the duration from spinal injection to the patient's discharge from the PACU. Secondary outcome measures include the time taken from drug administration to the fulfillment of discharge criteria and the frequency of adverse events associated with the use of these anesthetics.

Billy Toulany / NEEDS SUPERVISOR

-Á Summary/Abstract: TBD

- ? Handover of Anesthesia Residency Curriculum: A Resident-Driven Quality Improvement Project?

Michael Bell / NEEDS SUPERVISOR

Understanding the Complexities of Post-Traumatic Stress Disorder: A Comprehensive Review

-Á Summary/Abstract:

- This proposed project by an anesthesia resident seeks to investigate Post-Traumatic Stress Disorder (PTSD) among peers, stemming from intense experiences like performing CPR on a loved one. The resident, personally affected by such an event, plans to conduct a literature review to understand PTSD's prevalence and impact in the medical field, particularly in high-stress situations common in anesthesia practice. The project aims to explore how these traumatic experiences affect professional behaviour, decision-making, and patient care. The goal is to outline potential strategies for supporting residents facing similar challenges and to initiate a conversation about mental health within the anesthesia community. This project is still in the early stages of idea formation, focusing on gathering insights and developing a framework for further research and discussion.

Christopher Hung / Kathryn Sparrow / Orlando Hung

The clinical utility of the new FIVAFLOW™ monitor to monitor the administration of intravenous fluid in the operating room

-Á Summary/Abstract

- Gravity-fed intravenous (IV) fluid bags often run dry undetected in clinical settings. A previous study reported 50% IV bags ran dry undetected in a dimmed operating room environment and were 100% detected by the Fluid IV Alert (FIVA™, FIVAMed, Halifax, Canada) ¹. A new version of FIVA™ monitor (FIVAFLOW™) has been developed. FIVAFLOW™ has a sensor that detects air in the IV fluid chamber and will stop fluid flow by pinching the IV tubing and sound the alarm. The FIVAFLOW™ has a drip counter sensor and a LED display of the IV fluid infusion rate and the cumulative fluid volume. The FIVAFLOW™ has been approved by Health Canada, is classified as a Class 1 Medical Device, and has been used in our centres since January 2023. Our goal is to conduct a Quality Improvement study to determine the efficacy and functionality of FIVAFLOW™.

Alicia Barron / Lauren Hemphill / Geoff Warden

Patient Recall of the Pre-Anesthetic Clinic Assessment: A Consecutive Cross-Sectional Survey Study

-Á Summary/Abstract

- This prospective study aims to evaluate patients' comprehension of anesthetic risks at a tertiary care center's Pre-Anesthesia Assessment Clinic (PAC). The primary objective is to measure the understanding of anesthetic risks among patients before and after consultation with an anesthesiologist, gauging whether

this knowledge is sufficient for informed consent. We will implement a survey design involving 30 consecutive patients scheduled for elective surgery at the Health Sciences Centre. The survey will assess patients' recall of information provided during PAC consultations and their understanding of the consent process. The literature review will inform the survey content, focusing on patient education in PACs and the informed consent protocol. The outcome will guide improvements in patient education and informed consent procedures, aiming to enhance patient safety and care quality in the perioperative setting.

Darragh Monaghan / Henry Power / Geoff Warden

Preoperative Hyperkalemia: Identification, Management, and Optimization for Surgery

-Á Summary/Abstract:

- This QI study examines the impact of tailored preoperative interventions on patients with hyperkalemia to ensure safe surgical outcomes. The study will examine 10 patients presenting with serum potassium levels over 5.0 mmol/L at a tertiary care facility. Interventions include personalized dietary advice for potassium reduction, strategic hydration plans, and medication management that may involve altering or ceasing potassium-influencing drugs. The primary endpoint is the normalization of potassium levels pre-surgery. Secondary endpoints will assess the interventions' effectiveness in reducing surgery postponements. This research intends to provide actionable data to refine preoperative protocols for hyperkalemic patients, enhancing patient safety and surgical efficacy.

Alexander Badour / Peter Collins

Anesthesia Residency Curriculum: A Resident-Driven Quality Improvement Project

-Á Summary/Abstract:

- The Anesthesia Residency Program at Memorial engages in a transformative, resident-led Quality Improvement (QI) project using the Institute for Healthcare Improvement (IHI) model. This initiative aims to continually enhance the residency curriculum across clinical, academic, and wellness domains through iterative "Plan-Do-Study-Act" (PDSA) cycles. The objectives include integrating QI principles into resident training and developing a scalable improvement process. The project begins with a mixed-methods survey to inform action plans. The effectiveness of these plans will be evaluated using resident performance data, leading to informed adjustments in the curriculum. This QI project represents an innovative effort to advance medical education by actively involving residents in the evolution of their training program.

Soleil Chahine / Kirk Lind Lockyer / Geoff Warden

Monitoring endotracheal tube cuff pressures: A quality improvement project

-Á Summary/Abstract:

- In this cross-sectional quality improvement study titled "Optimizing Endotracheal Tube Cuff Pressures," we aim to enhance patient safety by improving endotracheal tube (ETT) cuff pressure management practices. Healthcare professionals in our institution were included through convenience sampling, with data collected at baseline and post-intervention assessments at three and six months. Initial results indicated that ETT cuff pressures were significantly elevated above recommended guidelines. An educational intervention combined with improved access to manometers was implemented. 3-month sampling is now occurring and will likely reveal a significant improvement in ETT cuff pressure management, leading to a reduction in instances of pressures outside recommended ranges. This study underscores the efficacy of educational interventions and improved equipment access in optimizing ETT cuff pressure management, ultimately enhancing patient care and safety.

Mark Acreman / Noel O'Reagan

Advancing Anesthesia Education: Integrating Dynamic Pharmacokinetic and Hemodynamic Responses with an IoT-Based Simulator

-Á Summary/Abstract:

- This study proposes an advanced IoT-based simulation platform tailored for anesthesia and perioperative care training, which aims to bridge the gap between traditional methodologies and the dynamic nature of medical practice. This simulator integrates real-time dynamic pharmacokinetic modelling and an integrated hemodynamic model (IHM) to replicate patient-specific physiological responses to pharmacological interventions and fluid management. The study, utilizing a controlled, crossover design with blinded evaluations, seeks to measure the educational impact, focusing on enhancing procedural skills, decision-making acumen, and collaborative team dynamics in a simulated, zero-risk environment. With its cost-effective design, the EIIAE study also assesses the potential for broader implementation across diverse medical educational settings, prioritizing accessibility, and affordability to extend high-fidelity simulation training's reach.

Stefanie Goodland / Hayley Walsh / Geoff Warden

Exploring Penicillin Allergy Prevalence and Antibiotic Stewardship in Surgical Care: A Two-Phase Retrospective Study

-Á Summary/Abstract:

- This study proposes a two-phase investigation to address the prevalence of reported penicillin (PCN) allergies in surgical patients and to scrutinize the stewardship of cephalosporin antibiotics in surgeries requiring PCN-related antimicrobial prophylaxis. The first phase will retrospectively determine the frequency of PCN allergy claims among all surgical cases, establishing a prevalence baseline. The second phase will assess the impact of these reported allergies on the choice of antibiotics, especially cephalosporins, in major joint repair surgeries. The study's outcomes aim to inform the potential need for PCN allergy de-labeling in clinical practice and to refine antibiotic prescribing protocols to enhance patient safety and reduce the incidence of surgical site infections, thereby improving the overall quality of care.

Lara Witt / Dolores McKeen

The Incision Decision: Triaging Caesarean Sections to Optimize Decision to Delivery Interval

-Á Summary/Abstract:

- Codifying Caesarean sections is a useful technique which improves communication between the Obstetrics and Anesthesiology teams. This practice also creates auditable data, allowing analysis of current methods and team dynamics to provide objective targets for maintaining best practice. We created a categorization tool for Caesarean sections based off the guidelines established by the National Institute for Health and Care Excellence (NICE) and the Royal Australian and New Zealand College of Obstetrics and Gynaecologists (RANZCOG). Implementation of this tool will allow us to characterize our centre's current decision to delivery intervals (DDIs) and discern areas that would benefit from improved efficiency.

Alyssa Archambault / Kelly Au

Step Counts and Recovery After Surgery: A Path Towards Discharge from Hospital

-Á Summary/Abstract:

- Amidst global healthcare challenges, including an aging population, increasing chronic illnesses, resource constraints, and rapid technological advancements, the growing backlog of surgical waitlists is a critical concern. This underscores the urgent need to devise strategies for reducing hospital stays, particularly at the Health Science Center in St. John's, Newfoundland. Recent research has unveiled a promising avenue: the correlation between physical activity and postoperative health outcomes, with higher daily step counts linked to improved results. A prospective study at the Health Science Center, focusing on gynecology patients, proposes to collect preoperative and postoperative step counts via smartphones, aiming to uncover correlations between daily step counts and hospital stay duration.

Garrett Tingley / Geoff Warden

The impact of anesthesia-led perioperative multimodal analgesia on length of stay after posterior decompression fusion surgery: a single-centre historical cohort study

-Á Summary/Abstract

- The study aimed to assess the impact of anesthesia-led perioperative multimodal analgesia (MMA) on recovery following posterior cervical decompression and fusion (PCDF) surgery. Records from 101 patients undergoing elective PCDF between 2019 and 2022 were analyzed. The primary outcome was the length of hospital stay (LOS). Secondary outcomes included LOS, opioid and antiemetic usage in the postanesthesia care unit (PACU), postoperative pain scores, opioid use on the ward, postoperative complications, and the evaluation of intraoperative and postoperative MMA utilization. The results indicated that anesthesia-led MMA was associated with a shorter LOS (7.0 [4.3-9.9] versus 4.9 [3.8-8.0] days, $P = 0.03$). Additionally, patients in the post-intervention group reported lower pain scores at rest and with activity on postoperative days 0 and 1, with reduced opioid requirements in the PACU. Overall, this study supports the use of anesthesia-led MMA to improve recovery in elective PCDF surgery, particularly for patients at high risk of postoperative surgical pain.

Meghan Wentzell / Pauneez Sadri / Geoff Warden

The Impact of Erector Spine Plane Blocks on Length of Stay after Lumbar Fusion Surgery

-Á Summary/Abstract:

- In this ongoing study, we investigate the use of erector spinae plane blocks (ESPB) as a component of multimodal analgesia in lumbar fusion surgery. Lumbar spine surgery is known for its association with postoperative pain, and improving pain management is a crucial goal. We are conducting a retrospective cohort study at the Health Sciences Centre (HSC) from January 1, 2020, to May 31, 2023, comparing patients who receive ESPB with those who do not undergo this intervention. Data collection is currently in progress, and while initial results suggest negligible differences in hospital length of stay (LOS), we are closely examining secondary outcomes related to pain control and associated medications. By evaluating the ongoing implementation of ESPB in lumbar fusion surgery, we aim to contribute valuable insights into optimizing pain management strategies for these patients.

Nichole Winczura / Geoff Warden

Preoperative Diabetic Medication Management: Current Recommendations

-Á Summary/Abstract:

- This quality improvement project is designed to optimize perioperative diabetes management by creating a unified, evidence-based guideline chart for anesthesiologists. Initially, the project will survey anesthesiology staff to capture current practices in managing key antihyperglycemic medications, including metformin, SGLT2 inhibitors, and insulin. This survey will establish a baseline understanding of existing protocols and identify areas for improvement. The main deliverable, a comprehensive chart, will synthesize current literature and clinical guidelines, providing clear and actionable recommendations for medication management, considering renal function and the type of surgical procedure. Post-implementation, the chart's effectiveness will be assessed through a follow-up survey, measuring its impact on clinical practice and patient outcomes. This project endeavours to standardize and improve the quality of diabetes care in the perioperative environment, aligning with the rising global incidence of diabetes and the need for improved patient safety and surgical care.

7.0 FACULTY RESEARCH/GRANTS

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FOR MORE INFORMATION, PLEASE CONTACT:

Dr. Geoff Zbitnew, Chair
gzbitnew@mun.ca
709 864-3355

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