



ACCOUNTABILITY REPORT

2016

Department of Anesthesia,
Pain Management
& Perioperative Medicine

OFFICE OF RESEARCH



**DALHOUSIE
UNIVERSITY**

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Executive Summary

The Department of Anesthesia, Pain Management & Perioperative Medicine **2016 Research Accountability Report** includes research-related achievements with respect to established targets and goals stated in the *Research Accountability Framework*. The information in this report highlights research productivity from January to December 2016 as well as data from previous years for comparative and trending purposes. Targets that were met, partially met, or not met in 2016 are outlined below in summary.

Areas in which the department **met its targets** in 2016:

- Fifty *new* research projects were initiated in 2016; 32 of which were funded
- The number and value of grants and industry contract funded research are 60 and \$10.5M, respectively increased from \$2.3M in 2012 (Figure 1 and Table 1). Seventy percent of researchers with protected time were designated as principal investigators for at least one grant or contract totaling over \$2.8M
- The proportion of collaborative projects and publications remains high at 88%
- Thirty five percent of researchers chair research related committees with 25%, 20% and 5% serving on local, national and international committees, respectively
- Twenty-five percent of researchers perform editorial activities with 10% serving on national as well as international committees
- The total number of publications reached is 102 in 2016 (Figure 3) with 100% of the publications peer reviewed
- There were 38 abstracts accepted in 2016 with 24% of abstracts were podium
- The number of presentations by researchers invited to present their work included 49 local, 12 national and 24 international invited presentations (Figure 4).
- One research recognition award were conferred in 2016
- Seventy percent of researchers supervise learners as the primary supervisor and 35% supervise graduate students.

Areas in which the department **partially met its targets** in 2016:

- Seventy percent of researchers are members on research related administrative committees with 45%, 35% and 15% serving on local, national and international committees, respectively (Table 6), whereas *the target is 50% and 40% for national and international committees, respectively*

Areas in which the department **did not meet its targets** in 2016:

- Forty percent of researchers reviewed papers in 2016, whereas *the target is 80% of researchers review journal papers for submission*
- Thirty-five percent of researchers reviewed funding applications in 2016, whereas *the target is 80% of researchers review funding applications*
- Sixty percent of researchers are at the rank of Associate Professor or higher, whereas *the target is 75% of researchers have academic rank of Associate or higher*
- Thirty-five percent of all researchers presented an abstract in 2016. *The target is 100% of researchers present an abstract annually*
- Forty-five of researchers were invited to present their work in 2016 as a keynote, plenary and symposium speaker (Figure 4), whereas *the target is 50% are invited to present*
- Fifty-five percent of researchers mentor research learners, whereas *the target is 100% of researchers mentor research learners*

Introduction

The annual **Research Accountability Report** reports on the department's research activities in relation to predetermined targets outlined in the Anesthesia, Pain Management & Perioperative Medicine Research Accountability Framework. The **Research Accountability Framework** was developed by a working group of departmental researchers and administrative staff. Through it, the department attempted to structure the ongoing measurement of the value of the full scope of scholarly research activity, from engaging in the process of creativity to implementing research projects, communicating the results, and influencing clinical best practice.

The framework ties resources devoted to research to the outcomes; identifies the most appropriate indicators of research activity and productivity, our current targets, how to measure the indicators and how to report the results; and outlines an evaluation strategy.

This Research Accountability Report (2016) covers the time period from January to December 2016. It is the product of the Framework's *Measurement and Reporting Plan* in which key indicators and targets were identified in 2010 and revised in 2014 for subsequent measurement and reporting. The results of this report will be used in the implementation of the *Evaluation Strategy*. Consistent with the *Results Chain*, this report reflects the activity of research-oriented clinicians or other professional faculty with protected time (time funded by the department) for research.

The following outlines the 2016 research-related results for each predetermined target. It also provides a comparison to the data from previous years. This is done in graphical and table formats. Lists of protected time for research (FTE), currently held research grants/contracts and peer-reviewed publications are found in **Appendix A, B and C**, respectively.

Engage in the process of creativity

Indicator:	Number of new proposals that are developed into research endeavours
Target:	New research projects reflects maintenance or increase from previous year
Result	Fifty (50) <i>new</i> research projects are underway (funded and unfunded)

Fifty *new* research projects began in 2016; 32 funded and 18 unfunded (**Appendix B**). This is up from 34 in 2015. Pain research including pre-clinical and clinical research studies involving pediatric and adult populations make up most of these new projects. There are several new projects that include medical device development and testing. Research studies involving the effectiveness of regional anesthesia techniques and competency-based medical education have increased from previous years.

The 2016 Anesthesia Research Day saw nineteen research studies presented. These were generated by a variety of learners, including three residents/fellows; seven graduate/post doc students and nine undergraduate students.

Engage in the process of research

Indicator: Number & value (\$) of grants & industry contracts received

Target: Total funding (\$) reflects maintenance or increase from previous year

Result: 60 funded projects totaling over \$10.5M

Since January 2016, 60 ongoing and new grant/industry funded projects amount to over \$10.5M (**Figure 1 and Table 1**). National and international funds make up approximately 86% of this total with 14% of funds from regional, institutional and department organizations. Major contributors to this success are the availability of protected time (**Table 2**), national collaborations as well as the support provided by the Office of Research.

Grant funded research underway in the department since January 2016 includes 15 projects funded by the Tri-Council Agencies (CIHR, NSERC, SSERC), accounting for 62% of the total funds (\$6.5M). Twelve CIHR funded projects are led by department members totaling over \$6.3M. A list of the grants is found in **Appendix B**.

Peer Reviewed Research Funding

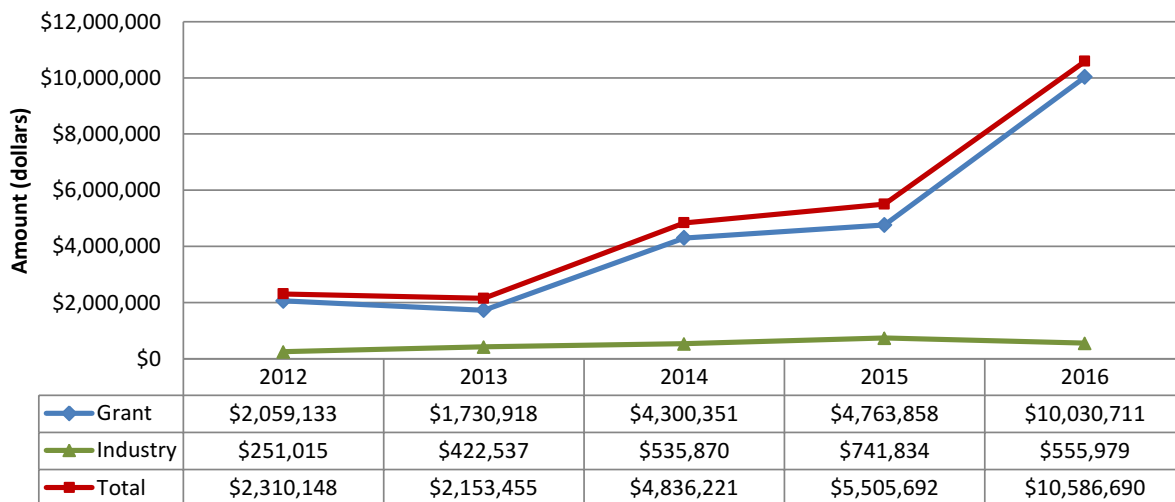


Figure 1: The amount (\$) in external research grant/industry contract funding received (2012-2016).

**Note: The value of research funding each year includes revenue from all research awards generating funds in that year (for multi-year awards, the revenue is reported in the year it is budgeted). All research projects in which a department researcher is a team member are included. Also, the number of grants received reflects the number of grants and contracts generating funds that year (which may be continuing from earlier years).*

Table 1: Number of grants and industry contracts received (2012-2016)

	2012	2013	2014	2015	2016
Grant	22	29	60	51	51
Industry	5	9	11	6	9
Total	27	38	71	57	60

Table 2: Protected time (FTE) for research activities (2012-2016)

	2012	2013	2014	2015	2016
Protected Time	4.0	3.7	3.7	4.6	6.5

**Note: In 2016 total FTE includes all Anesthesia researcher protected time at Central zone-adult, Pediatrics and Women and Obstetrics (Appendix A).*

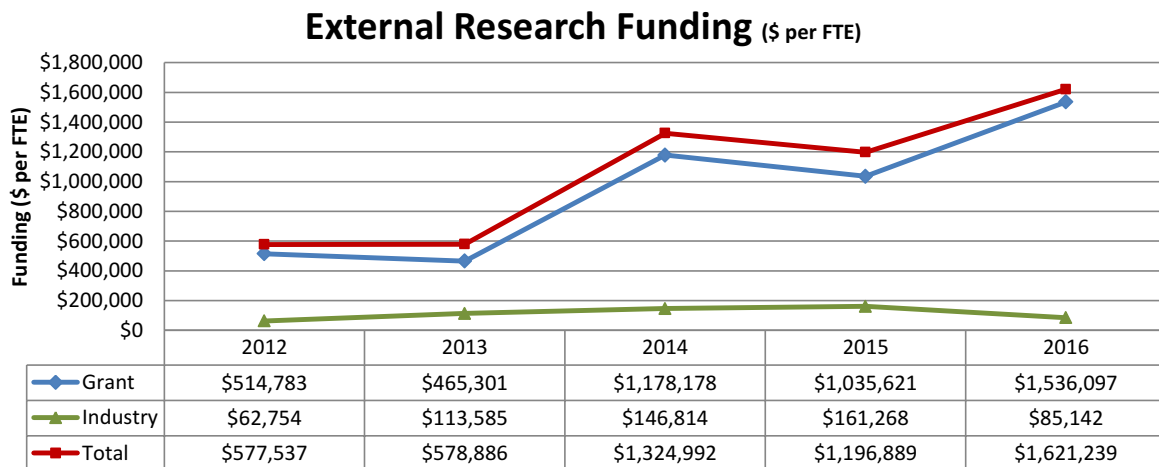


Figure 2: The amount (\$/FTE) in external research grant/industry relative to FTE (**Table 2**) of protected time for research

There was an increase in the FTE from 4.6 in 2015 to 6.5 in 2016 (**Table 2**). This increase in FTE is primarily related to the inclusion of all individuals with protected time for research from both IWK Health Science Center and NSHA Central Zone – adult. See Appendix A for details. Even with this increase in FTE in 2016, the substantial increase in funding dollars resulted in a rise in the relative FTE to external research grant/industry funding.

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- Indicator:** Value (\$) of grants and industry contracts received by departmental principal investigators
- Target:** External funding dollars obtained as a *principal investigator* reflects maintenance or increase from previous year
- Result:** **\$2.8M was obtained by departmental principal investigators**

Fourteen of 20 researchers (70%) with protected time were designated as principal investigators for at least one grant or contract totaling over \$2.8M.

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- Indicator:** Value (\$) of grants & industry contracts received by departmental co-investigators
- Target:** External funding obtained as a *co-investigator* reflects maintenance or increase from previous year
- Result:** **\$7.7M was obtained by departmental co- investigators**

An additional \$7.7M in external grants and contract funding was obtained by researchers with protected time designated as co-investigators.

SCHOLARLY SYNTHESIS

Actively seek collaborative opportunities with interdisciplinary colleagues

- Indicator:** Number of collaborative projects and publications
- Target:** 80% of all projects and publications are collaborative
- Result:** **88% of all projects and publications are collaborative**

Of 102 publications, 99 have co-authors (97%). Of 60 funded grants and industry contracts, 44 have co-investigators (73%). Therefore, 143 out of 162 projects and publications are collaborative (88%). For collaborative projects and publications, 48% and 43% respectively include other department members.

Members of scientific and organizing committees

Indicator: Number of researchers who participate in research committee work

Target: 80% of all researchers are members of research related administrative committees: 50% local, 40% national and 10% international

Result: **70% of all researchers are members of research related administrative committees: 45% local, 35% national and 15% international**

Fourteen of 20 researchers are members of research related administrative committees (70%).

Indicator: Number of researchers who chair research related committees

Target: 25% chair research related committees

Result: **35% of researchers chair research related committees**

Seven of 20 researchers were invited to chair research related committees (35%): 25% local, 20% international and 5% international.

Indicator: Number of researchers who review journal articles

Target: 80% review journal articles

Result: **40% of researchers review journal articles**

Eight of 20 researchers were invited to review journal manuscripts (40%).

Indicator: Number of researchers who review funding applications

Target: 80% review funding applications: 50% at the local, 40% at national level and 10% at international level

Result: **35% review funding applications: 10% local and 20% national**

Seven of 20 researchers were invited to review funding applications (35%).

Indicator: Number of researchers who perform editorial activities

Target: 25% perform editorial activities

Result: **25% of researchers perform editorial activities: 10% national and 10% international**

Five of 20 researchers perform editorial activities (25%).

Engage in the administrative process

Indicator: Engage in planning activities to advance the research mission of excellence

An integral component of the Office of Research’s administrative process is to engage in annual research strategic planning. This year’s (November 2, 2016) focus was research accountability and collective alignment within anesthesia’s groups as well as among relevant institutions’ strategic plans including Dalhousie, Faculty of Medicine, IWK and NSHA. Drs. David Anderson and Mark Filiaggi spoke to the strategic plans at Dalhousie University. A synthesis of research priorities are outlined below.

Table 7: OoR Strategic priority alignment with relevant institutions’ strategic plans.

Strategic Priorities	Dal Med Forward	IWK	NSHA
1. Implementation of the Office of Research <i>governance</i> model for the new Combined Academic Funding Plan (cAFP)	Yes	Yes	Yes
2. Develop an outcomes based resource <i>allocation</i> plan that includes objective evaluative processes.	Deliverable		
3. Support focused <i>team</i> -based research collaborations that are patient centered.	Aligned	Aligned	Aligned
4. Develop effective systems and processes of <i>patient engagement</i> and exchange among the institutions (Dal, NSHA, IWK).	Deliverable Aligned	Aligned	Aligned

Indicator: Number of associate and full professors

Target: 75% of all researchers are associate professor or higher and 60% of research related promotions are successful

Result: **60% of all researchers are ranked as associate professor or higher**

There are eighth full, four associate and eight assistant professors who receive protected time to conduct research in the Department of Anesthesia, Pain Management and Perioperative Medicine.

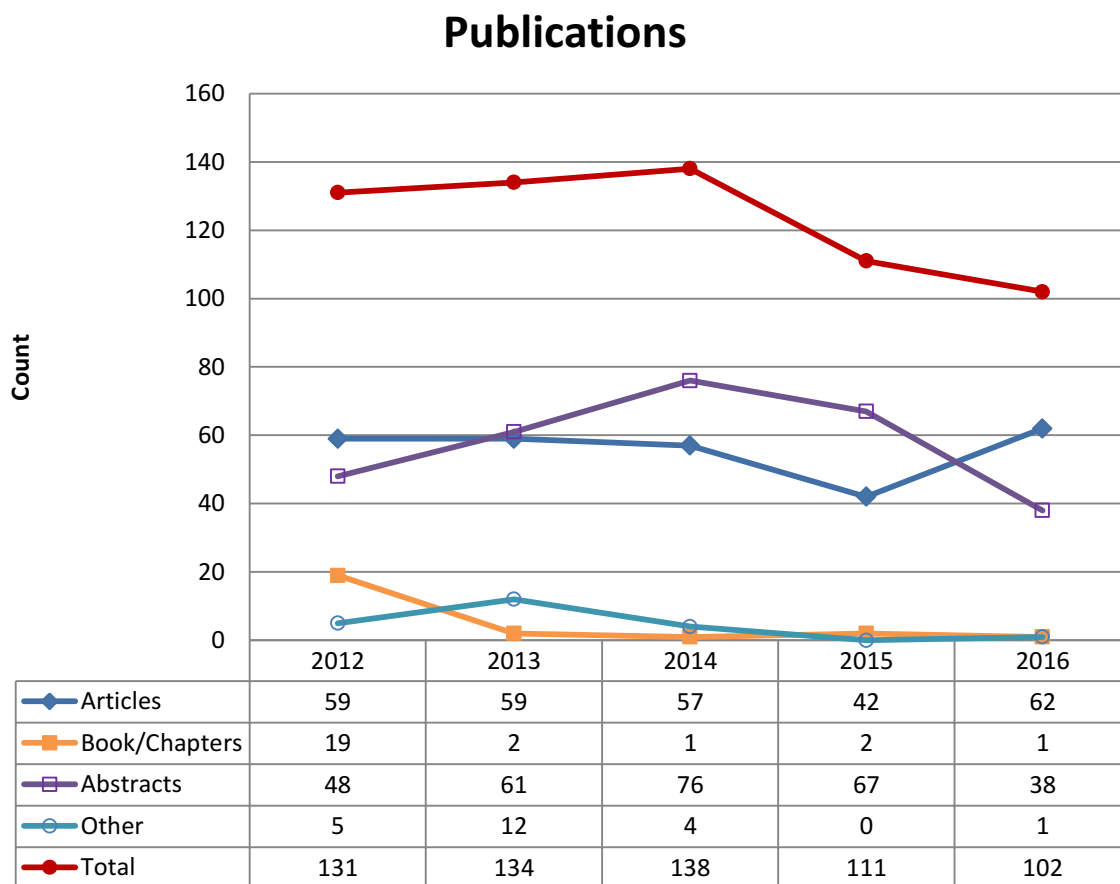
Write and publish

Indicator: Number of accepted and published publications (peer reviewed & non-peer reviewed)

Target: Trending of accepted and published peer and non-peer review papers reflects maintenance or increase from previous year

Result: **102 publications have been submitted and accepted**

Since January, 102 publications have been submitted and accepted (**Figure 3**) with 62 peer-reviewed manuscripts published online (**Appendix C**). **Table 8** shows the relative to protected time with respect to number of publications.



**Note: previous to 2015 invited presentations were categorized as abstract presentation, which may explain the decline in the overall publications category in 2015 and 2016.*

Figure 3: Number of submitted and accepted publications (peer reviewed & non-peer reviewed)

Table 8: Number of submitted and accepted publications (peer reviewed & non-peer reviewed) relative to FTE of protected time for research

	2012	2013	2014	2015	2016
Articles	13	16	16	9	9
Books/Chapters	4	1	0	0	0
Abstracts	11	16	21	15	6
Other	1	3	1	0	0
Total	30	36	38	24	15.6

Indicator: Number of peer-reviewed publications

Target: 90% of publications are peer-reviewed

Result: **100% of the publications were peer reviewed**

Indicator: Number of accepted abstracts

Target: Trending of accepted abstracts reflects maintenance or increase from previous year

Result: **38 abstracts were accepted**

Prepare and deliver presentations

Indicator: Number of all presentations (local, national, international)

Target: Trending of presentations reflects maintenance or increase from previous year

Results: **49 local, 12 national and 24 international invited presentations**

The total number of presentations by researchers is found in **Figure 4** with adjustments relative to protected time for research shown in **Table 9**. While the number of national and international presentations stayed relatively the same, presentations at the local level have noticeably increased.

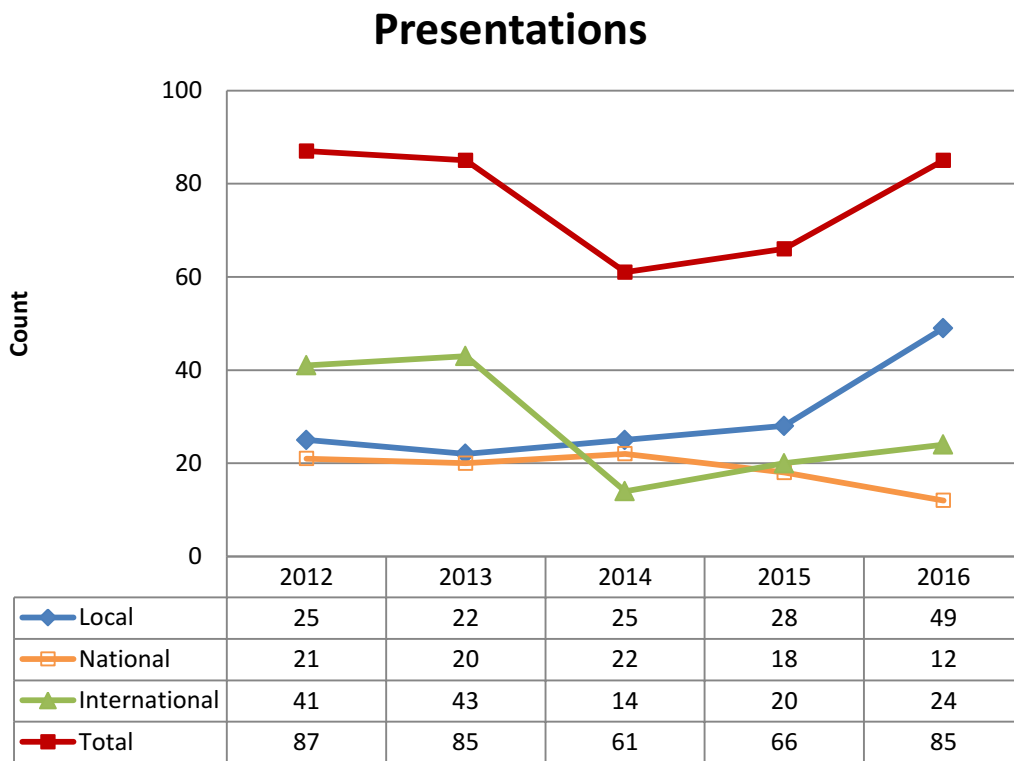


Figure 4: Presentations (count) for local, national and international audiences

Table 9: Number of presentations relative to FTE protected time for research

	2012	2013	2014	2015	2016
Local	2	6	7	6	8
National	4	5	6	4	2
International	5	12	4	4	4
Total	11	23	17	14	13

Indicator: Number of **invited presentations**

Target: 50% of all researchers are invited to present (plenary, keynote or symposium)

Result: **45% of all researchers are invited to present**

Many researchers (45%) were invited to present their work in 2016 as a keynote, plenary and symposium speaker.

Indicator: Number of abstracts presented annually

Target: 100% of all researchers have an abstract presented annually

Result: **35% of all researchers presented an abstract in 2016**

Indicator: Number of abstract presented as a podium

Target: 20% of abstracts are invited to present a podium

Result: **24% of abstracts were invited to present a podium**

Thirty-five percent of all researchers presented an abstract in 2016. There were 38 abstracts accepted in 2016 with 24% of abstracts invited to present as a podium.

Strategically Engaging with External Stakeholders

Indicator: Number of interviews provided to the media
Target: Number of media interviews reflects maintenance or increase
Result: **No media interviews were provided by the researchers**

Indicator: Number of recognition awards
Target: FTE reflects maintenance or increase of research *recognition awards* from previous year
Result: **One research recognition awards was conferred in 2016**

Table 10: Number of recognition awards (2012-2016)

2012	2013	2014	2015	2016
2	1	1	2	1

Table 11: Number of recognition awards relative to FTE of protected time for research (2012-2016)

2012	2013	2014	2015	2016
0.45	0.3	0.3	0.4	0.15

Mentoring, Teaching and Supervision

Indicator: Number of researchers mentor research learners

Target: 100% of researchers mentor research learners

Results: **55% of researchers mentor research learners**

Indicator: Number of researchers supervising trainees (undergraduate, graduate, postgraduate students and research projects for residents and fellows)

Target: 50% of researchers supervise trainees as the primary supervisor

Result: **70% of researchers supervise trainees as the primary supervisor**

Indicator: Number of researchers supervising graduate students (MSc and PhD)

Target: Number of graduate students reflects maintenance or increase

Results: **35% of researchers are supervising graduate students**

Appendix A – 2016 Protected Time for Research

Central Zone - Adult	FTE	Pediatric	FTE	Women & Obstetrics	FTE
J Chorney	0.60	J Chorney	0.20	R. George	0.50
A. Finley	0.20	A. Finley	0.20	D. McKeen	0.20
J. Hashmi	1.00	T. Hackman	0.10	A. Munro	0.10
O. Hung	0.40	A. Vlatten	0.10	V. Uppal	0.20
K. Kwofie	0.20	S. Wright	0.05		
A. Law	0.20				
C. Lehmann	0.60				
M. Lynch	0.40				
J. McDougall	0.33				
A. Milne	0.20				
T. Mullen	0.10				
K. Mukhida	0.20				
M. Schmidt	0.40				
A. Vlatten	0.05				
<i>Total</i>	4.9		0.65		1.0

Please note the research deliverables captured in this report include 20 researchers that have protected time to conduct research in the Department of Anesthesia, Pain Management and Perioperative Medicine.

Individuals with protected time for anesthesia related research who work on national organizations also include Dr. Richard Hall (0.1) that ended June 2016.

Appendix B – 2016 Research Projects

Funded Projects: Note that the bracketed dollar amount is the total value of the award whereby annual amounts are provided in Figure 1.

NEW Funded Projects in 2016

1. Lehmann C, Lynch M, Arora N, Xia Y, Zhou J, Kelly M (2016 - 2017). Cannabinoids in experimental cystitis [Grant] - Innovacorp - \$43,000.
2. Hashmi JA (2016 - 2021). Title [Grant] - CFI - \$364,599.
3. Noel M, Chorney J, Graham S, Rasic N. (2016 - 2017). The Sociolinguistic Context of Pain Memory Development in Young Children [Grant] - American Pain Society (Future Leaders in Pain Research Grant) - \$33,333.
4. Rosen N, George RB, Chorney J, Snelgrove-Clarke E, Pirece M, Andreou P, Binik Y (2016 - 2019). A longitudinal study of biopsychosocial predictors of postpartum genito-pelvic pain: 12 and 24 months later [Grant] - NSHRF - \$150,000.
5. Schmidt M, Roach DC (2016 - 2017). Technical verification of memsorb device performance against industry standard devices [Industry Contract] - NRC-IRAP - \$47,097.
6. Hashmi JA (2016 - 2021). Canada Research Chair Tier II (Pain) [Grant] - CIHR - \$500,000.
7. Uppal V, McKeen D, Doyle P, Allen V, Kwofie K (2016 - 2017). A randomized controlled trial comparing intrathecal morphine with quadratus lumborum block as part of a multimodal analgesia strategy for post-cesarean delivery analgesia [Grant] - Dalhousie - \$5,000.
8. Uppal V, Shanthann H, Prabhakar C, McKeen DM (2016 - 2017). Intrathecal Hyperbaric Versus Isobaric Bupivacaine For Adult Non-Caesarean Delivery Surgery: Systematic Review And Meta-Analysis [Grant] - IWK - \$3,000.
9. Wozney L, Hong P, Chorney J (2016 - 2018). Tonsil-Text-To-Me (Tonsillectomy): utilizing a short message service (SMS) to improve perioperative tonsillectomy care [Grant] - IWK - \$60,000.
10. Curran J, Chorney J, Ritchie K, Lawrence L, Helwig M (2016 - 2017). Mapping the evidence supporting parent engagement in designing health interventions for a paediatric context [Grant] - NSHRF - \$14,996.
11. Uppal V, Kwofie K, Retter S, Ke J, Trenholm A (2016 - 2017). Single dose controlled release hydromorphone as preemptive analgesia to prevent rebound pain after single shot interscalene block for rotator cuff repair surgery: a randomized placebo controlled trial [Grant] - Central Zone - \$5,000.
12. Hung O, Milne A, d'Entremont M (2016 - present). Lightwand prototype [Industry Contract] - Innovacorp Early Stage Venture Capital (Productivity and Innovation Voucher) - \$15,000.
13. Chorney J., Allen S., Smith I (2016 - 2017). Identifying Ways to Improve the Perioperative Experience for Children with Autism Spectrum Disorder [Grant] - Department of Anesthesia, Pain Management and Perioperative Medicine - \$5,000.
14. Lehmann C (2016 - 2017). pulmoPROTECT - Multimodal concepts for pulmonary protection and treatment of lung injury [Grant] - Department of Anesthesia - \$15,000.
15. Lehmann C (2016). Cellular physiology of iron in inflammation and infection processes: Novel Fe chelator responses in experimental model systems [Grant] - MITACS - \$5,000.
16. McDougall J (2016 - 2017). Assessment of Pharmed USA formulation in the control of osteoarthritis pain [Industry Contract] - Pharmed USA - \$22,890.
17. Mullen TJ, Law JA, Malpas G, Tan CH (2016 - 2017). Apneic Oxygenation via Nasal Cannulae: 15 L/min vs High-Flow [Grant] - Dalhousie - \$5,000.

18. Lehmann C, Zhou J, Hoskin DW (2016 - 2019). Iron-related mechanisms in immune cell function [Grant] - NSERC CRD - \$478,602.
19. Noel M, Chorney J, Rasic N. (2016 - 2017). The sociolinguistic context of pain memory development in young children [Grant] - University of Calgary - \$15,000.
20. Chorney J, Hong P, Curran J. (2016 - 2017). Developing an Electronic Decision Aid Tool [Grant] - NSHRF - \$10,000.
21. Buckley DN, Hudspith M, Choinière M, Davis K, Diatchenko L, Finley GA, Fréchette P, Gilron I, Iorio A, Latimer M, MacDermid J, Poulin P, Schneider C, Stevens B, Stinson J (2016 - 2021). SPOR Network: Caring for patients with chronic pain: Connecting patient needs with research and treatment across the lifespan [Grant] - CIHR - \$25,000,000.
22. Lehmann C (2016). Automated video analysis of immune cell activation and microvascular blood flow in the inflamed microcirculation [Grant] - NSERC - \$25,000.
23. Mukhida K (2016 - 2017). Barriers to and facilitators of workplace accommodation for patients with complex regional pain syndrome [Grant] - Dalhousie University Department of Anesthesia Internal Fund - \$5,000.
24. Kelly M, Lynch M (2016 - 2017). Novel formulations for ocular pain and inflammation [Grant] - Early Stage Commercialization Fund (ESCF) - Phase 2 - \$50,000.
25. Lehmann C (2016 - 2019). Strategies of Lung Protection in Acute Lung Injury [Grant] - CFI - \$308,467.
26. Chorney J, El-Hawary R, Campbell L, Taylor K. (2016 - 2017). Understanding family psychosocial needs to prevent postsurgical pain in children [Grant] - Department of Anesthesia, Pain Management and Perioperative Medicine - \$5,000.
27. Beyea S, Hashmi JA (2016 - 2017). Creating a new algorithm for data-driven processing of resting-state fMRI Networks [Grant] - Radiology Research Foundation - \$5,000.
28. Hanly J, Hashmi JA (2016 - 2017). Cognitive dysfunction in systemic lupus erythematosus: a pilot neuroimaging study [Grant] - NSHRF - \$15,000.
29. Kocum L, Loughlin C, Robinson L, Kehoe S, Maheu C, Mukhida K, Parkinson M, Younis T (2016 - 2018). Partnership for a Healthy Workplace Response to Breast Cancer [Grant] - CIHR - \$140,823.
30. Hung OR (2016 - present). Difficult and Failed Airway Videos [Industry Contract] - McGraw-Hill Video Production Grant - \$15,000.
31. Hashmi JA (2016 - 2021). Predictive role of brain networks in pain modulations [Grant] - Natural Sciences and Engineering Research Council (NSERC) Discovery Grants Program - \$150,000.
32. Hong P, Chorney J, Bezuhly M, Roma R, El-Hawary R (2016 - 2018). Shared Decision Making in Pediatric Surgery: Development, Testing and Implementation of Decision Aids [Grant] - Department of Surgery, Dalhousie University - \$150,000.

NEW Scholarly Projects (unfunded)

1. McKeen DM (2016 - 2017). A Canadian National Anesthesia Research Priority Setting Exercise Identification of Clinically Important Questions in Anesthesia and Perioperative Medicine [Development and Innovation]
2. Snelgrove-Clarke E, McKeen D, VanEyck N, West J, Mann C, Hewitt B, Greene E, Langley J, LeDrew M, Boutillier L (2016 - 2017). Lego Serious Play; An evidence-based approach to team building [Development and Innovation]
3. Bailey J, Morgan C, Hayden C, McKeen DM, Kwofie K (2016 - 2017). Pain control with peripheral nerve regional anesthetic techniques compared to thoracic epidurals for abdominal surgery: a systematic review [Clinical]
4. Groleau C, Wong M, Morin S, Vautour L, Yip C, Hung O, Bessissow A (2016 - 2017). Perioperative corticosteroid administration: a survey of internists, endocrinologists, and anesthesiologists [Clinical]

5. Roda R, Uppal V, McKeen D, Allen V, Woolcot C (2016 - 2017). Postoperative analgesia with Quadratus Lumborum Blockade for elective caesarean delivery: A retrospective study [Clinical]
6. George RB, Carvalho B, Chorney J, Eghan E, Snelgrove-Clarke E, Doyle P, Uppal V (2016 - 2017). Are women having a cesarean delivery interested and engaged in shared decision-making regarding postoperative analgesia? An exploratory survey study [Clinical]
7. Munro A, George RB, Habib A (2016 - 2017). Determination of the optimal next bolus interval for programmed intermittent bolus epidural analgesia: A randomized controlled trial [Clinical]
8. Mukhida K, Meisner J (2016 - present). A survey of natural health product use amongst chronic pain patients [Clinical]
9. George RB, Chorney J, Munro A, Doyle P, Ke XC (2016 - 2017). A Patient Responsive Analgesia (PRA) Tool to Assess Pain in Women with Epidural Analgesia during Labour [Clinical]
10. Casey M, Sancheti S, Retter S, Uppal V, McKeen DM (2016 - 2017). Efficacy and safety of intrathecal fentanyl for caesarean delivery: A systematic review and meta-analysis of randomized controlled trials [Clinical]
11. Uppal V, Retter S, Casey M, McKeen D (2016 - 2017). Systematic review and metaanalysis of the effects of intrathecal fentanyl and morphine for cesarean delivery surgery [Database]
12. Doyle P, George RB (2016 - 2017). Labour analgesia: Social media perspectives [Database]
13. Mukhida K (2016 - present). An examination of the portrayal of pain in Hollywood films [Clinical]
14. Vlatten A (2016 - 2017). Current concepts in liver transplantation anesthesia. A comparison between Europe and Canada [Clinical]
15. Vlatten A, Bird S, Law A, Hung O (2016 - 2017). A comparison of the STORZ CMAC Dblade versus direct laryngoscopy in a restricted access pediatric motor vehicle accident victim [Clinical]
16. Vlatten A, Bird S, Law A, Hung O (2016 - 2017). A randomized comparison of the AIRTRAQ versus direct laryngoscopy in a Pierre Robin manikin [Clinical]
17. Hatheway O, Dobson GR, Milne AD (2016). A Survey of Anesthesia Department Quality Assurance and Quality Improvement Programs in Nova Scotia [Clinical]
18. Kwofie MK, Turney K, Szerb J, Uppal V, Prabhakar C (2016). Incidence of hemi-diaphragmatic paresis with single-injection versus double-injection ultrasound-guided supraclavicular brachial plexus blockade [Clinical]

CONTINUING Ongoing Funded Projects

1. Uppal V, Kwofie K, Szerb J, McKeen D (2015 - 2016). Ultrasound Guided Axillary Brachial Plexus Block: Influence of Obesity on Block Failure Rate, Performance Time and Incidence of Acute Complications - A prospective observational study [Grant] - Central Zone - \$5,000.
2. Schmidt M, Roach D (2015 - 2016). Technical and Physical Validation of a Membrane Assembly in an Anesthetic Environment [Industry Contract] - National Research Council- Industrial Research Assistance Program - \$49,993.
3. Szerb J, Kwofie MK, Uppal, V (2015 - 2016). Incidence of Subepineurial Injection with Ultrasound-Guided Supraclavicular Brachial Plexus Block in Cadavers [Pre-Clinical]. Dalhousie Clinical Cadaver Research Program Grant - \$5,000;NSHA - \$14,244
4. Hall R, Eichhorn V, Chisholm J, Witter T, Beed S, Gallacher W, Loubani O, Haroon B, McMullen S, Minor S, Hancock J, Green R, Patrick W (2015 - present). Feasibility study of the antimicrobial hernia repair device for repair of ventral or incisional hernia (Protocol #13-10) [Industry Contract] - Cook BioTech.
5. McDougall JJ (2015 - 2018). Exploring A Neuroprotective Effect of Cannabinoids To Mitigate Osteoarthritis Pain [Grant] - The Arthritis Society - \$360,000.

6. Burkovskiy I, Lehmann C (Supervisor) (2015 - 2016). Cannabinoid 2 Receptor Modulation in Post-Stroke Immunosuppression [Grant] - Heart and Stroke Foundation Canada - \$5,000.
7. Wafa K, Porter R, Kelly M, Lehmann C (Supervisor) (2015 - 2016). Cellular physiology of iron in inflammation and infection processes: Novel Fe chelator responses in experimental model systems [Grant] - Dalhousie - \$2,000.
8. Ritchie K, Snelgrove-Clarke E, Murphy A, George RB, MacPhee S, Versnel J, Matte M (2015 - 2018). Evidence informed practice-related knowledge, attitudes and practices (KAP): Describing nursing, pharmacy, occupational therapy, and medicine [Grant] - NSHRF - \$148,260.
9. Schmidt M, Roach D (2015 - 2016). Optimal Module Designs for Membrane-based Medical Gas Separation Device [Grant] - Industrial Research Program - Business Innovation Access Program - \$46,869.
10. Ke XC, George RB, Chorney J, Chiasson L, Vella K (2015 - 2016). Designing a perioperative telemonitoring mobile application platform: pilot in post-op anesthesiology follow up of Cesarean delivery patients [Grant] - Dalhousie - \$960.
11. Sjaus A, Munro A, Ta M, Ritchie K, George RB (2015 - 2016). Anesthesia residents' experiences with standardized feedback to assess clinical competencies [Grant] - Dalhousie - \$5,000.
12. Schmidt M, Roach D (2015 - 2017). Membrane Optimization [Industry Contract] - Atlantic Canada Opportunities Agency - \$499,995.
13. Schmidt M, Roach D (2015 - 2017). memsorb: CO2 filter for safe, environmentally sound anesthesia [Grant] - Sustainable Development Technologies Canada - \$686,575.
14. Higgins K, Chambers C, Clark AJ, Rosen , Sherry S, Campbell-Yeo M, Lynch M (2015 - present). Risk and resilience in children of parents with chronic pain [Grant] - CDHA - \$4,936.
15. Hall R, Eichhorn V, Chisholm J, Witter T, Beed S, Gallacher W, Loubani O, Haroon B, McMullen S, Minor S, Hancock J, Green R, Patrick W (2015 - 2016). Treatment of septic shock by inhibiting autodigestion and preserving gut integrity with enteric LB1148 (SSAIL study) [Industry Contract] - Leading BioSciences Inc..
16. Schmidt M, Eskes G, George RB, Matwin, S, Bernard A, Drapeau, D, Milne A (2015 - 2017). Is it feasible to evaluate cognitive changes after surgery with computerized neuropsychological assessment in patients aged 55 or older undergoing major surgery?" [Grant] - Nova Scotia Health Authority - \$14,744.
17. Hall R, Eichhorn V, Chisholm J, Witter T, Beed S, Gallacher W, Loubani O, Haroon B, McMullen S, Minor S, Hancock J, Green R, Patrick W (2015 - 2016). Re-Evaluating the Inhibition of Stress Erosions: Gastrointestinal Bleeding Prophylaxis In ICU (REVISE): A feasibility pilot trial [Grant] - CDHA - \$15,000.
18. Munro A, George RB, Allen VA (2015 - 2016). A retrospective cohort assessment of the impact of an anesthetic intervention during the second stage of labour [Grant] - Anesthesia Research Fund, Dalhousie University - \$5,000.
19. Lehmann C (2015 - 2016). Cellular physiology of iron in inflammation and infection processes: novel Fe chelator responses in experimental model systems [Industry Contract] - CRA - \$6,000.
20. Kelly M, Lynch ME (2015 - 2016). Novel formulations for ocular pain and inflammation [Grant] - Early Stage Commercialization Fund (ESCF) - \$50,000.
21. West J, Snelgrove-Clarke E, Mann C, McKeen DM, Kinnear H, Wenning J, Allen V, Courtney E, (2015 - 2017). Second stage labour management: Translating evidence to enhance maternal newborn outcomes: The TEEM Study [Grant] - IWK - \$68,886.

22. Daneman N, Fowler R, Hall R, Loubani O, Eichhorn V, Chisholm J, Witter T, Beed S, Gallacher W, Haroon B, McMullen S, Minor S Hancock J, Green R, Patrick W (2015 - present). Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A pilot randomized controlled clinical trial [Grant] - Ministry of Health and Long-Term Care Academic Health Sciences Alternative Funding Plan Innovation Fund Award - \$8,000.
23. Chorney J, Ellis P. (2015 - 2017). Don't Stumble, Tumble: A motion-detecting videogame to reduce general anesthetics for MRIs in young children [Grant] - IWK - \$85,000.
24. McDougall J (2015 - 2016). Investigation of anti-sodium channel monoclonal antibodies for osteoarthritis pain management [Grant] - NSHRF - \$15,000.
25. Hashmi JA (2015 - 2018). Start-up funds [Grant] - Dalhousie - \$150,000.
26. Hung OR (2015 - present). A comparative study of the McGrath MAC and Glidescope videolaryngoscopes for tracheal intubation in cadavers with simulated oropharyngeal bleeding [Grant] - Clinical Cadaver Program - \$5,000.
27. Hung OR (2015 - present). Management of the difficult and failed airway. 3rd edition [Grant] - McGraw-Hill Book Grant (Editor Grant) - \$5,000.
28. Stinson J, Campbell F, Chorney J, Clark AJ, Dick B, Forgeron P et al (2014 - 2017). ICanCope with pain: An integrated smartphone and web self-management program for adolescents and young adults with chronic pain [Grant] - CIHR - \$383,884.
29. Hung O, Mariotti C, Eichhorn V, Bernard A, Mullen T, Brousseau P, Wood L (2014 - present). A new and innovative method for CO2 removal in anesthesia circuits: Replacing chemical granulate absorbers [Industry Contract] - DMF Medical (Michael Schmidt) - \$1.
30. Curran J, Klassen T, Chorney J, Colwell J, Fitzpatrick E, Jabbour M, MacPhee S, Murphy A, Petrie D (2014 - 2017). Understanding discharge communication in the context of paediatric emergency care in regional and community emergency departments in Nova Scotia [Grant] - NSHRF - \$146,000.
31. Rosen N, George RB, Chorney J, Snelgrove-Clarke E, Pirece M, Andreou P, Binik Y (2014 - 2017). A Prospective Study of the Trajectory and Biopsychosocial Determinants of Postpartum Genito-pelvic Pain [Clinical]. CIHR-NSHRF RPP - \$227,364; NSHRF - \$145,000
32. Hebert PI, Turgeon A, Burns K, Cook D, Gilfoyle E, Lamontagne F, Hutchison J, McIntyre L, Herridge M, Tucci M, Marshall J, Meade MA, Fowler R, Zarychanski R, Hall R, Sinuff T (2014 - 2019). The Canadian Critical Care Trials Group [Grant] - ICRH Community Development Program Grants - Critical Care Clinical Trials and Stroke Clinical Trials - \$1,542,601.
33. McDougall JJ, Marshall J, Bezuhy M, Legare JF, Lin TJ (2014 - 2019). Restitution Enhancement in Arthritis and Chronic Heart Disease [Grant] - CIHR - \$2,337,154.
34. Lynch ME (2014 - 2016). Randomized, double blind, placebo controlled trial with open label extension of Delivra joint health cream in the treatment of pain caused by osteoarthritis of the knee [Industry Contract] - LivCorp, Inc - \$300,000.
35. Kim RB, Carleton B, Tirona R, Ross C, Amstutz U, Dionne F, Dube M-P, Goralski K, Hall RI, et al. (2014 - 2017). Drug Safety and Effectiveness Network (DSEN) - Pharmacogenomics of Adverse Reaction Events National Team (DSEN-PREVENT) [Grant] - CIHR - \$750,000.
36. Chelation Partners Incorporated, Lehmann C, Parquet M, Hoskin D, Ritenour R (2014 - 2016). Novel Iron Chelating Excipients (NICE) [Grant] - AIF - \$2,781,915.
37. Daneman N, Fowler R, Marshall J, Martin C, Hall R, Reynolds S, Stelfox T, Lamontagne F, Bagshaw S, Muscedere J, Dodek P (2014 - 2016). Bacteremia antibiotic length actually needed for clinical effectiveness (BALANCE): A pilot randomized controlled clinical trial [Grant] - Ministry of Health and

Long-Term Care Academic Health Sciences Alternative Funding Plan Innovation Fund Award - \$20,000.

38. Chorney J, Hong P, Curran J, McGrath P, Ritchie K, (2014 - 2017). Supporting Shared decisions in paediatric otolaryngology: Needs assessment and decision aid development [Clinical]. NSHRF - \$159,816; CIHR - \$159,816
39. Stinson J, Cafazzo J, Campbell F, Chorney J, Clark J, Dick B, Forgeron P, Gordon A, Jibb L, Lalloo C, McGillion M, Montgomery L, Palermo T, Rashedi S, Ruskin D, Simmonds M, Tupper S, Victor C, Ware M. (2014 - 2017). iCanCope: an Integrated Smartphone and Web Self-Management Program for Adolescents and Young Adults with Chronic Pain [Grant] - CIHR - \$383,884.
40. Latimer MA, Rudderham S, Finley GA, Harman K, Hutt-MacLeod D, MacKinnon A, Paul K, Perley-Dutcher L (2014 - 2017). Seeing Aboriginal children's pain - Weaving stories, art, and statistics to create ways to reduce the hurt and improve child well-being [Grant] - CIHR - \$439,183.
41. Mazer D, Fergusson DA, Shehata N, Thorpe K, Whitlock R and PACT group, Hall R (2014 - 2018). Transfusion requirement in cardiac surgery III (TRICS III) [Grant] - CIHR - \$3,323,110.
42. Chorney J, Curran J, Hong P, McGrath P, Ritchie K (2013 - 2016). Understanding Shared Decisions in Pediatric Surgery [Grant] - NSHRF - \$147,246.
43. Curran J, Grimshaw J, McGrath P, Chorney J. (2013 - 2016). Understanding Discharge Instructions for Children and Caregivers in the Transition from Pediatric Emergency Care [Grant] - CIHR-NSHRF Regional Partnership Program Operating Grant - \$435,804.
44. Green R, Hall R, Eichhorn V, Chisholm J, Witter T, Beed S, Gallacher W, Loubani O, Haroon B, McMullen S, Minor S, Hancock J, Patrick W (2013 - 2016). Early Determination of Neurological Prognosis in ICU patients with Severe Traumatic Brain Injury: TBI - Prognosis multicenter prospective study [Grant] - CIHR - \$39,878.
45. Lehmann C, Zhou J, Kelly Melanie (2013 - 2017). Manipulation of the Endocannabinoid System in Experimental Sepsis [Grant] - Nova Scotia Health Research Foundation - \$147,960.
46. Shehata N, Mazer D and PACT group, Hall R (2013 - 2016). Transfusion Requirements In Cardiac Surgery II (TRICS II) [Grant] - CIHR - \$293,728.
47. Hall R, Chisholm J, Witter T, Beed S, Gallacher W, Haroon B, Loubani O, McMullen S, Minor S, Hancock J, Green R, Patrick W (2012 - 2016). A randomized, double blind, placebo controlled, Phase 3 study to assess the safety and efficacy of ART-123 in subjects with severe sepsis and coagulopathy (#3-001) [Industry Contract] - Asahi Kasei Pharma America Corporation - \$65,320.
48. Schmidt M (2012 - 2016). Refine and optimize ZEROSORB, a prototype CO2 removal device for anesthesia circuits [Grant] - Atlantic Canada Opportunities Agency - \$1,245,617.
49. Chorney J (2012 - 2016). Establishment of the Child Health and Perioperative Care Laboratory [Grant] - Canadian Foundation for Innovation (CFI) - \$312,177.
50. Chorney J (2011 - 2016). Pain in Children at Home Following Major Surgery: New Investigator Award [Grant] - CIHR - \$300,000.
51. McDougall J (2011 - 2016). The relationship between proteases, protease activated receptors and cytokines in mediating osteoarthritis pain [Grant] - Canadian Institutes of Health Research (CIHR) - \$601,280.
52. Kain ZN, Chorney J, Blount RL (2011 - 2016). Improving pain and anxiety in children undergoing surgery: Changing Healthcare Provider Behavior [Grant] - National Institutes of Health - \$2,730,034.

CONTINUING Scholarly Projects (unfunded)

1. Wong MJ, Wong D, Hung O, Yip CE (2015 - 2017). Perioperative stress dosing for patients taking exogenous corticosteroids: A systematic review [Clinical]
2. Mukhida k, Annan H (2015 - present). The neuroscientific basis of art therapy for chronic pain: a review [Clinical]
3. Vlatten A, Bird S, Law A, Hung O (2015 - 2017). A randomized comparison of the STORZ Miller CMAC to direct laryngoscopy in a Pierre Robin manikin [Clinical]
4. Jewer JK, Wong MJ, Bird SJ, Habib AS, George RB (2015 - 2017). Supplemental perioperative intravenous crystalloids for postoperative nausea and vomiting [Clinical]
5. Ho L, McKeen D, Drysdale S, MacInnis M, Lee R (2015 - 2016). Accuracy of small volume opioid dosages intended for intrathecal injection measured and delivered using a 5mL slip tip syringe [Clinical]
6. Chorney J, Howlett M (2015 - 2016). The Influence of Pain Catastrophizing on Parent Responses to Adolescent Chronic Pain [Clinical]
7. Dunn M, George RB, Matwin S, Wang X, Doyle P, Munro A, Haji Soleimani B, (2015 - 2018). A Novel Method for Predicting Normal Labor Progression in Nulliparous Women using Machine Learning Techniques [Clinical]
8. Uppal V, Retter S, McKeen D (2015 - 2016). Comparison of subarachnoid hyperbaric versus isobaric bupivacaine for adult non-caesarean section surgery- Systematic review and Meta-Analysis [Database]
9. Bailey K, Chorney J, Finley A, McGrath P, Gorodzinsky A (2015 - 2016). Identifying factors predictive of successful and unsuccessful parental presence at induction of anesthesia: A Delphi study [Clinical]
10. Higgins K, Bezuhly M, Chorney J, Morris S, Krauss E, Gillis J, LeBlanc M, Williams J. (2015 - 2016). Psychosocial Impact of Flap Failure Following Autologous Breast Reconstruction in Women with Breast Cancer [Clinical]
11. Mukhida K, (2014 - present). The influence of Wilder Penfield's research experiences in Spain and Germany on the development of his surgical techniques for epilepsy [Clinical]
12. Kwofie K, Philip G, Watton D (2014 - 2017). A retrospective study of primary total knee arthroplasty and multimodal analgesic methods on postoperative opioid requirements and outcome [Clinical]
13. Foss M, Lynch ME (2013 - 2017). Patient-Controlled Analgesia versus Continuous Opioid Infusion for the Treatment of Pain Caused by Oral Mucositis Following Myeloablative Chemotherapy for Hematopoietic Stem Cell Transplantation: A Retrospective Review [Clinical]
14. Pike M, Lynch ME (2013 - 2017). Observational Trial of Qigong as a Complementary Therapy in a Chronic Pain Clinic [Clinical]
15. Schep L, Chorney J (2013 - 2017). Child and parent involvement in decision-making for otolaryngology procedures [Clinical]
16. Maguire E, Chorney J (2013 - 2017). How does perceived parental involvement and actual involvement in decisions concerning ENT surgery for their child contribute to parental decisional conflict? [Clinical]
17. Jewer K, Bird SJ, Habib AS, George RB, Scott J (2013 - 2017). Supplemental perioperative intravenous crystalloids for postoperative nausea and vomiting - Cochrane Systematic Review [Database]
18. Morris I, Law JA, MacQuarrie K, Launcelott G, Butler H (2008 - present). Fiberoptic Learning Curve [Medical Education or Training]

Appendix C – 2016 Publications

Note that this list of publications only includes those *peer-reviewed* articles that are currently *published* and accessible online (62).

1. Hung O, Law JA, Morris IR, Murphy MF (2016). Incomplete airway assessment. *Anesth Analg*, 123(5), 1341. [Letter to the Editor - Published].
2. Emsley J, Hung O (2016). A "VL Tube" for endotracheal intubation using video laryngoscopy. *Canadian Journal of Anesthesia*, 63(6), 782-3. [Published].
3. Emsley JG, Hung OR (2016). Rationale for a modified endotracheal tube for intubation using video laryngoscopy. *Canadian Journal of Anesthesia*, 63(8), 989-90. [Letter to the Editor - Published].
4. Borbely E, Sandor K, Markovics A, Kemeny A, Pinter E, Szolscanyi J, Quinn JP, McDougall JJ, Helyes Z (2016). Role of capsaicin-sensitive nerves and tac1 gene-derived tachykinins in mast cell tryptase-induced inflammation of murine knees. *Inflammation Research*, 65, 725-736. [Published].
5. Botz B, Kemeny A, Brunner SM, Locker F, Csepregi J, Mocsai A, Pinter E, McDougall JJ, Helyes Z (2016). Lack of galanin 3 receptor aggravates murine autoimmune arthritis. *Journal of Molecular Neuroscience*, 59, 260-269. [Published].
6. Botz B, Brunner SM, Kemeny A, Pinter E, McDougall JJ, Kolfer B, Helyes Z (2016). Galanin 3 receptor-deficient mice show minor alteration in the oxazolone-induced contact dermatitis phenotype. *Experimental Dermatology*, 25, 725-727. [Published].
7. Betsch TA, Gorodzinsky AY, Finley GA, Sangster M, Chorney J (2016). What's in a Name? Healthcare Providers' Perceptions of Pediatric Pain Patients Based on Diagnostic Labels. *The Clinical journal of pain*. [Published] PubMed ID: [27922842](#).
8. Kiberd MB, Clarke SK, Chorney J, d'Eon B, Wright S (2016). Aromatherapy for the treatment of PONV in children: a pilot RCT. *BMC complementary and alternative medicine*, 16(1). [Published] PubMed ID: [27829428](#).
9. Doyle JM, Merovitch N, Wyeth R, Stoyek MR, Schmidt M, Wilfart F, Fine A, Croll RP (2016). A simple automated system for appetitive conditioning of zebrafish in their home tanks. *Behavioural Brain Research*, (317), 444-452. [Published] DOI: [10.1016/j.bbr.2016.09.044](#).
10. Maguire E, Hong P, Ritchie K, Meier J, Archibald K, Chorney J (2016). Decision aid prototype development for parents considering adenotonsillectomy for their children with sleep disordered breathing. *Journal of otolaryngology - head & neck surgery = Le Journal d'oto-rhino-laryngologie et de chirurgie cervico-faciale*, 45(1), 57. [Published] PubMed ID: [27809897](#).
11. The International Surgical Outcomes Study group [including George RB, Bernard A] (2016). Global patient outcomes after elective surgery: prospective cohort study in 27 low-, middle- and high-income countries. *British Journal of Anaesthesia*, 117(5), 601-609. [Published] PubMed ID: [27799174](#).
12. Curran JA, Murphy A, Burns E, Plint A, Taljaard M, MacPhee S, Fitzpatrick E, Bishop A, Chorney J, Bourque M (2016). Essential Content for Discharge Instructions in Pediatric Emergency Care: A Delphi Study. *Pediatric emergency care*. [Published] PubMed ID: [27902672](#).
13. Sharawy N, Hussein A, Hossny O, Refaa A, Saka A, Mukhtar A, Whynot S, George R, Lehmann C (2016). Effects of haemoglobin levels on the sublingual microcirculation in pregnant women. *Clinical hemorheology and microcirculation*, 64(2), 205-212. [Published] PubMed ID: [27258200](#).
14. Burkovskiy I, Lehmann C, Jiang C, Zhou J (2016). Utilization of 3D printing for an intravital microscopy platform to study the intestinal microcirculation. *Journal of microscopy*, 264(2), 224-226. [Published] PubMed ID: [27333217](#).

15. Bostick GP, Kamper SJ, Haanstra TM, Dick BD, Stitt LW, Morley-Forster P, Clark AJ, Lynch ME, Gordon A, Nathan H, Smyth C, Ware MA, Toth C, Moulin DE (2016). Pain expectations in neuropathic pain: Is it best to be optimistic? *European journal of pain (London, England)*. [Published] PubMed ID: [27739623](#).
16. Racine M, Moulin DE, Nielson WR, Morley-Forster PK, Lynch M, Clark AJ, Stitt L, Gordon A, Nathan H, Smyth C, Ware MA, Jensen MP. (2016). The reciprocal associations between catastrophizing and pain outcomes in patients being treated for neuropathic pain: a cross-lagged panel analysis study. *Pain*, 157(9), 1946-53. [Published] PubMed ID: [28146042](#).
17. Higgins KS, Gillis J, Williams JG, LeBlanc M, Bezuhly M, Chorney JM (2016). Women's Experiences With Flap Failure After Autologous Breast Reconstruction: A Qualitative Analysis. *Annals of plastic surgery*. [Published] PubMed ID: [27740955](#).
18. Merovitch M, Doyle JM, Wyeth RC, Stoyek MR, Schmidt MK, Wilfart FM, Fine A, and Croll RP (2016). Data on horizontal and vertical movements of zebrafish during appetitive conditioning. *Data in Brief*, 9, 758-763. [Published] PubMed ID: [PMC5097951](#).
19. Hall R, Beattie S, Grocott HP, Mazer CD, Turgeon AF, Denault A, Yang H, Lalu MM, George RB, Sampson S, McDonald H, members of the Canadian Perioperative Anesthesiology Clinical Trials Group (PACT) Steering Committee (2016). Can we create a Canadian Perioperative Anesthesia Clinical Trials Group? We review the first five years and glimpse into the future. *Canadian Journal of Anesthesia*, 63, 1215-1222. [Editorial - Published] DOI: [10.1007/s12630-016-0719-6](#).
20. Lehmann C, Fisher NB, Tugwell B, Szczesniak A, Kelly M, Zhou J (2016). Experimental cannabidiol treatment reduces early pancreatic inflammation in type 1 diabetes. *Clinical hemorheology and microcirculation*. [Published] PubMed ID: [27767974](#).
21. Carvalho B, George RB, Cobb B, McKenzie C, Riley ET (2016). Implementation of Programmed Intermittent Epidural Bolus for the Maintenance of Labor Analgesia. *Anesthesia and analgesia*, 123(4), 965-71. [Review - Published] PubMed ID: [27464978](#).
22. Longard J, Twycross A, Williams AM, Hong P, Chorney J (2016). Parents' experiences of managing their child's postoperative pain at home: an exploratory qualitative study. *Journal of clinical nursing*, 25(17-18), 2619-28. [Published] PubMed ID: [27349504](#).
23. Davidson F, Snow S, Hayden JA, Chorney J (2016). Psychological interventions in managing postoperative pain in children: a systematic review. *Pain*, 157(9), 1872-86. [Published] PubMed ID: [27355184](#).
24. Chorney JM, Warren M, McLaughlin E, Gillespie J, Lee-Baggley D, Vallis TM (2016). Back off, forge ahead, or play the long game: The ethics of working with adolescents who "aren't ready. *Clinical Practice in Pediatric Psychology*, 4(3), 318. [Published].
25. Robert J, Gu Y, Law JA (2016). In reply: Deliberately restricted laryngeal view with GlideScope(®) video laryngoscope: ramifications for airway research and teaching. *Canadian journal of anaesthesia = Journal canadien d'anesthésie*, 63(9), 1103. [Published] PubMed ID: [27328686](#).
26. Duggan LV, Ballantyne Scott B, Law JA, Morris IR, Murphy MF, Griesdale DE (2016). Transtracheal jet ventilation in the 'can't intubate can't oxygenate' emergency: a systematic review. *British journal of anaesthesia*, 117 Suppl 1, i28-i38. [Published] PubMed ID: [27566790](#).
27. Hong P, Maguire E, Gorodzinsky AY, Curran JA, Ritchie K, Chorney J (2016). Shared decision-making in pediatric otolaryngology: Parent, physician and observational perspectives. *International journal of pediatric otorhinolaryngology*, 87, 39-43. [Published] PubMed ID: [27368440](#).
28. Snow SL, Smith IM, Bird SJ, Wright AS, Chorney J (2016). A call to solve the puzzle together by building an evidence base for perioperative management of children with autism spectrum disorder. *Paediatric anaesthesia*, 26(7), 772-3. [Published] PubMed ID: [27277655](#).

29. Ritchie KC, Chorney J, Hong P (2016). Parents' decisional conflict, self-determination and emotional experiences in pediatric otolaryngology: A prospective descriptive-comparative study. *International journal of pediatric otorhinolaryngology*, 86, 114-7. [Published] PubMed ID: [27260593](#).
30. Goodine C, Sparrow K, Asselin M, Hung D, Hung O (2016). The alignment approach to nasotracheal intubation. *Canadian Journal of Anesthesia*, 63(8), 991-2. [Published].
31. Mifflin K, Chorney J, Dick B (2016). Attention and Working Memory in Female Adolescents with Chronic Pain and Healthy Pain Free Female Adolescents: A Preliminary pilot Study. *Clinical Journal of Pain*, 32(7), 609-616. [Published] PubMed ID: [27275532](#).
32. Hong P, Gorodzinsky A, Taylor B, Chorney J. (2016). Parental Shared Decision Making in pediatric Otoplasty. *The Laryngoscope*, 126, S5-S13. [Published] PubMed ID: [27233057](#).
33. Sjaus A, McKeen DM, George RB (2016). Hypertensive Disorders of Pregnancy. *Canadian Journal of Anesthesia*, 63(9), 1075-97. [Review - Published] PubMed ID: [27443376](#).
34. Law JA (2016). Deficiencies in locating the cricothyroid membrane by palpation: We can't and the surgeons can't, so what now for the emergency surgical airway? *Canadian journal of anaesthesia = Journal canadien d'anesthésie*, 63(7), 791-6. [Published] PubMed ID: [27149883](#).
35. Lehmann C, Fisher NB, Tugwell B, Zhou J (2016). An intravital microscopy model to study early pancreatic inflammation in type 1 diabetes in NOD mice. *IntraVital*. [Published] DOI: [10.1080/21659087.2016.1215789](#).
36. Hung OR, Law JA, Morris I, Murphy MF (2016). Airway assessment prior to intervention: What we know and what we do. *Anesthesia and Analgesia*, 122(6), 1752-4. [Editorial - Published].
37. Birnie KA, Chambers CT, Chorney J, Fernandez CV, McGrath PJ (2016). A Multi-Informant Multi-Method Investigation of Family Functioning and Parent-Child Coping During Children's Acute Pain. *Journal of pediatric psychology*. [Published] PubMed ID: [27298298](#).
38. Hong P, Gorodzinsky A, Maguire E, Curran J, Ritchie K, Chorney J (2016). Shared Decision-Making in Pediatric Otolaryngology: Parent, Physician and Observational Perspectives. *International Journal of Pediatric Otorhinolaryngology*, 87, 39-43. [Published].
39. Jewer JK, Bird SJ, Scott JL, Habib AS, George RB (2016). Supplemental perioperative intravenous crystalloids for postoperative nausea and vomiting (Protocol). *Cochrane Database of Systematic Reviews*, (6). [Published] DOI: [10.1002/14651858.CD012212](#).
40. Uppal V, Shanthanna H, Prabharakar C, McKeen D (2016). Intrathecal hyperbaric versus isobaric bupivacaine for adult non-caesarean-section surgery: systematic review protocol. *BMJ Open*, 6(5). [Published] PubMed ID: [010885](#).
41. Yang H, Zhou J, Lehmann C (2016). GPR55 - a putative "type 3" cannabinoid receptor in inflammation. *J Basic Clin Physiol Pharmacol*, 27(3), 297-302. [Published] PubMed ID: [26669245](#).
42. Hung O, McKeen D, Huitink J (2016). Our love-hate relationship with succinylcholine: Is sugammadex any better? *Canadian Journal of Anesthesia*, 64(8), 905-10. [Editorial - Published] PubMed ID: [27142003](#).
43. Burkovskiy I, Zhou J, Lehmann C (2016). Experimental Cannabinoid 2 Receptor Inhibition in CNS Injury-Induced Immunodeficiency Syndrome. *Microcirculation (New York, N.Y. : 1994)*, 23(4), 283-92. [Published] PubMed ID: [26999797](#).
44. Brindley PG, Beed M, Duggan L, Hung O, Murphy MF (2016). Updating our approach to the difficult and failed airway: Time to 'stop and think'. *Canadian Journal of Anesthesia*, 63(3), 373-81. [Editorial - Published].
45. Anderson K, Ritchie K, Chorney J, Bezuhly M, Hong P (2016). The impact of septoplasty on health-related quality of life in pediatric Patients. *Clinical Otolaryngology*, 41(2), 144-148. [Published] PubMed ID: [26096043](#).
46. Pianosi K, Gorodzinsky AY, Chorney JM, Corsten G, Johnson LB, Hong P (2016). Informed Consent in Pediatric Otolaryngology: What Risks and Benefits Do Parents Recall? *Otolaryngology--head and*

- neck surgery : official journal of American Academy of Otolaryngology-Head and Neck Surgery*, 155(5), 332-339. [Published] PubMed ID: [27048666](#).
47. Zaphiratos V, George RB, Macaulay B, Bolleddula P, McKeen DM (2016). Epidural Volume Extension During Combined Spinal-Epidural Labor Analgesia Does Not Increase Sensory Block. *Anesthesia and analgesia*, 123(3), 684-9. [Published] PubMed ID: [27088994](#).
 48. Xia Y, Farah N, Maxan A, Zhou J, Lehmann C (2016). Therapeutic iron restriction in sepsis. *Medical hypotheses*, 89, 37-9. [Published] PubMed ID: [26968906](#).
 49. Deschamps A, Hall R, Grocott H, Mazer CD, Choi PT, Turgeon AF, de Medicis E, Bussi eres JS, Hudson C, Syed S, Seal D, Herd S, Lambert J, Denault A, Deschamps A, Mutch A, Turgeon A, Denault A, Todd A, Jerath A, Fayad A, Finnegan B, Kent B, Kennedy B, Cuthbertson BH, Kavanagh B, Warriner B, MacAdams C, Lehmann C, Fudorow C, Hudson C, McCartney C, Mclsaac D, Dubois D, Campbell D, Mazer D, Neilpovitz D, Rosen D, Cheng D, Drapeau D, Dillane D, Tran D, Mckeen D, Wijeyesundera D, Jacobsohn E, Couture E, de Medicis E, Alam F, Abdallah F, Ralley FE, Chung F, Lellouche F, Dobson G, Germain G, Djaiani G, Gilron I, Hare G, Bryson G, Clarke H, McDonald H, Roman-Smith H, Grocott H, Yang H, Douketis J, Paul J, Beaubien J, Bussi eres J, Pridham J, Armstrong JN, Parlow J, Murkin J, Gamble J, Duttchen K, Karkouti K, Turner K, Baghirzada L, Szabo L, Lalu M, Wasowicz M, Bautista M, Jacka M, Murphy M, Schmidt M, Verret M, Perrault MA, Beaudet N, Buckley N, Choi P, MacDougall P, Jones P, Drolet P, Beaulieu P, Taneja R, Martin R, Hall R, George R, Chun R, McMullen S, Beattie S, Sampson S, Choi S, Kowalski S, McCluskey S, Syed S, Boet S, Ramsay T, Saha T, Mutter T, Chowdhury T, Uppal V, Mckay W (2016). Cerebral Oximetry Monitoring to Maintain Normal Cerebral Oxygen Saturation during High-risk Cardiac Surgery: A Randomized Controlled Feasibility Trial. *Anesthesiology*, 124(4), 826-36. [Published] PubMed ID: [26808629](#).
 50. Twycross A, Forgeron P, Chorney J, Backman C, Finley GA (2016). Pain as the neglected patient safety concern: Five years on. *Journal of Child Health Care*, 20(4), 537-541. [Published] PubMed ID: [27091955](#).
 51. DesRoches J, McKeen DM, Warren A, Allen VM, George RB, Kells C, Shukla R (2016). Anesthetic Management Guided by Transthoracic Echocardiography During Cesarean Delivery Complicated by Hypertrophic Cardiomyopathy. *Anesthesia and Analgesia Case Reports*, 6(6), 154-159. [Case Report - Published] PubMed ID: [26720049](#).
 52. Muley M, Reid A, McDougall JJ (2016). Neutrophil elastase-induced inflammation and pain in mouse knee joints via activation of proteinase activated receptor-2. *British Journal of Pharmacology*, 173, 766-777. [Published].
 53. Lopes F, Graepel R, Reyes JL, Wang A, McDougall JJ, Sharkey KA, McKay DM (2016). Alpha-7 nicotinic receptor agonists exacerbate complete Freund's adjuvant-induced mono-arthritis in mice: involvement of mast cells. *Arthritis and Rheumatology*, 68, 542-552. [Published].
 54. Muley M, Krustev E, McDougall JJ (2016). Preclinical assessment of inflammatory pain. *CNS Neuroscience and Therapeutics*, 22, 88-101. [Published].
 55. Silva CR, Oliveira SM, Hoffmeister C, Funck V, Guerra GP, Trevisan G, Tonello R, Rossato MF, Pesquero JB, Bader M, Oliveira MS, McDougall JJ, Ferreira J (2016). The role of bradykinin B1 receptor and the effect of angiotensin I-converting enzyme inhibition on acute gout attacks in rodents. *Annals of the Rheumatic Diseases*, 75, 260-268. [Published].
 56. Dumbarton TC, Hung O, Kent B (2016). Overinflation of a King LT Extraglottic Airway Device mimicking Ludwig's angina. *Anesthesia and Analgesia Case Report*, 6(4), 80-83. [Case Report - Published] PubMed ID: [26513672](#).
 57. Caes L, Boerner KE, Chambers CT, Campbell-Yeo M, Stinson J, Birnie KA, Parker JA, Huguet A, Jordan A, Chorney J, Schinkel M, Dol J (2016). A comprehensive categorical and bibliometric analysis of published research articles on pediatric pain from 1975-2010. *Pain*, 157(2), 303-313. [Published] PubMed ID: [26529270](#).

58. Fitzcharles MA, Ste-Marie PA, Hauser W, Clauw DJ, Jamal S, Larsh J, Landry T, LeClercq S, McDougall JJ, Shir Y, Shojania K, Walsh Z (2016). Efficacy, tolerability and safety of cannabinoid treatments in the rheumatic diseases: A systematic review of randomized controlled trials. *Arthritis Research & Care*, 68, 681-8. [Review - Published] PubMed ID: [26548380](#).
59. Cerny V, Abdo I, George RB, Maddison L, Sharawi N, Lehmann C (2016). Analysis of microcirculation measurements by novice users trained by a standardized interactive tutorial: An inter-observer variability study. *Clinical Hemorheology and Microcirculation*, 62(2), 123-8. [Published] PubMed ID: [26444590](#).
60. Zhou J, Burkovskiy I, Yang H, Sardinha J, Lehmann C (2016). CB2 and GPR55 Receptors as Therapeutic Targets for Systemic Immune Dysregulation. *Frontiers in pharmacology*, 7, 264. [Published] PubMed ID: [27597829](#).
61. Islam S, Jarosch S, Zhou J, Parquet Mdel C, Toguri JT, Colp P, Holbein BE, Lehmann C (2016). Anti-inflammatory and anti-bacterial effects of iron chelation in experimental sepsis. *The Journal of surgical research*, 200(1), 266-73. [Published] PubMed ID: [26235905](#).
62. Birnie K, Chambers C, Chorney J, Fernandez C, McGrath P (2016). Dyadic analysis of child and parent trait and state pain catastrophizing in the process of children's pain communication. *Pain*, 157(4), 938-348. [Published] PubMed ID: [26713422](#).