



CARL

Chiropractic Academy of Research Leadership

NEWSLETTER

Issue 7 - January 2020

<https://www.carlresearchfellows.org/>

Just like that, three years go by...

by Katie Pohlman

Just like that, three years go by and the first cohort of CARL Fellows approaches the end of its program. In this time, the inaugural CARL Fellows have gone from barely knowing each other to becoming a true team. From our first meeting in Odense, Denmark, our bonds have solidified over the 3 years we have spent supporting and learning from one another. Within this team, we've found that a wise and sympathetic ear is always available and a travel buddy (or two) is always on call, but most importantly, we've discovered that a desire for success in each other's careers results in success for us all. The CARL program was designed to push existing boundaries of chiropractic research leadership by strengthening early career researchers' skills and performance, and it did that beautifully. Just as importantly—perhaps even more so—the CARL program also created a culture change, incorporating a demand for excellence with a spirit of kindness and respect.

Since the last CARL newsletter in September, the year of 2019 came to a close and 2020 doors were opened. During this time period, forty-one impressive applications were received for CARL II. The mentors had the difficult task of identifying the fourteen individuals who were to be offered the opportunity to take part in CARL II. To the new members of CARL, I give our warmest welcome. To the inaugural CARL fellows, I offer a reminder that a key component of CARL is not exclusivity, but opportunity. While we are fortunate to have each other, we also know that we need to share what we have learned by building longer tables, not taller fences (or maybe as an American, I should say "walls").

In April of this year, the thirty of us (the thirteen inaugural CARL Fellows, fourteen CARL II Fellows, and three mentors) will be together in one room in the land of Oz. We can anticipate a range of emotions, from sadness for those of us at the end of our tenure to trepidation from those not sure what they are getting themselves into. For the inaugural CARL Fellows in Sydney, we will have time to reflect on all of the highs that we have had, as well as (and likely more importantly) all of the things that might have been done differently. In addition, we will have a time to set the stage for our new paths outside of and beyond the official program (even as we know that we will ALWAYS be CARL Fellows). For the new Fellows, the Sydney residential will be a time to bond, identify, and start to form your relationships and your legacy within the CARL program. For the mentors, I hope this residential allows time to reflect on how you identified a need, developed a program, and continuously supported that program. Through your work, the CARL program has not only advanced the chiropractic profession, but also enriched so many early career researchers' lives. From all of us in the CARL program: thank you.

As we reflect on ways to extend to others the CARL mentorship we have received, we can also celebrate the first official grant that has been received for a project developed within the CARL program. I had the honor to be the Co-Principal Investigator with Dr. Martha Funabashi, of which we were awarded a Canadian Chiropractic Research Foundation (CCRF) grant for the project titled: *Advancing Patient Safety for Special Populations: Active Surveillance Reporting to Identify*

Highlights

- * Welcome to the 14 new CARL II Fellows! For more information, visit our CARL website: <https://www.carlresearchfellows.org/>
- * Congratulations to CARL Fellow **Katie Pohlman** for being awarded the American Chiropractic Association's Researcher of the year!
- * Congratulations CARL Fellows **Melker Johansson and Craig Moore** for submitting their PhD theses!
- * Congratulations to CARL Fellows **Martha Funabashi, Katie Pohlman, Katie de Luca and Diana De Carvalho** for being awarded the Canadian Chiropractic Research Foundation grant!
- * **Five** more CARL papers accepted for peer-reviewed publication!
- * **Sixteen** more CARL abstracts accepted for international conference presentations!
- * **Two** CARL conference proposals accepted for international conference workshops!

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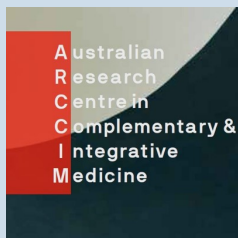
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Adverse Events Following Chiropractic Care in Older Adults. Co-investigators include CARL Fellows Diana De Carvalho and Katie de Luca, along with CMCC investigators, Drs. Silvano Mior and Sheila Hogg-Johnson.

In this last CARL newsletter for the inaugural Fellows, I express my confidence that the CARL Fellows (both old and new) will continue to work around the clock, form collaborative research studies, write manuscripts, and receive grant funding. We will be the first to say congratulations, the first to network each other, and the first to back each other up on Twitter. I am also confident that we will support each other through engagements, marriages, babies born, children losing teeth (with the tooth fairy remembering to do her/his job!), the arrival of new furry family members, and homes being moved (across town, across jurisdictions, to new countries). For all of

this, I am so grateful. On a personal note, I know that this cohort has been what has been my saving grace over the last three years, in spite of all of life's transitions and stressful demands.

I'll end this newsletter with a quote from America's second first lady, Mrs. Abigail Adams: "Great necessities call out great virtues." I believe this statement sums up the need to push the boundaries of chiropractic research, as well as describing what the CARL program has become over the past three years. The CARL program fills a great need in the chiropractic profession, and while it has required each of us to take bold steps, the program has brought out great virtues in each one of us. I look forward to seeing where the future takes our research and this wonderful program.

See you all in Sydney!

- Katie P

Mentor's Note by Jon Adams, Greg Kawchuk and Jan Hartvigen

Three years is a fairly short time within the context of a full academic or clinical career and it certainly feels like only yesterday that the first CARL cohort joined us on the campus of the University of Southern Denmark for the very first session of the first annual CARL residential. Excitement, enthusiasm and trepidation were all present across the first CARL Cohort (and the Mentors!) at that initial meeting. As with all mentorship initiatives, real success was far from guaranteed – would the CARL Fellows and the program produce outputs and a research culture worthy of the task at hand? Well, as this newsletter shows, things have worked out - in fact the Fellows have all individually and collectively helped exceed even our most ambitious aims for the Program. As we move quickly towards the 2020 residential in Sydney in April, we know a strong and rich platform for success has been established and it is an exciting en-

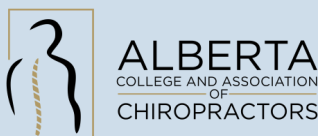
vironment for the new CARL Cohort (CARL II) to be formally introduced to the program and for the next batch of promising chiropractic scholars to develop into future leaders for the profession. We look forward to reuniting with our CARL I Fellows and becoming acquainted with the CARL II Fellows in Sydney in a few months – it's going to be a lot of intense, hard work and play. Enjoy.

We invite you all to browse this newsletter and reflect upon the wonderful achievements and growth of the first CARL Fellows as they now transition into their own mentorship roles (both within and beyond the CARL program). There is much more work to do, and the next few years will be just as busy as the last but we could not have asked for a more able, committed, open and hard-working first cohort of Fellows. We are extremely proud of our inaugural cohort to not only count each and every one of you as great colleagues, but also as friends. The journey so far has been our pleasure.

A final thank you to every person and sponsor who has helped make CARL a reality and we look forward to seeing further advances and achievements over the next few years that will provide inspiration and impact for chiropractic scholarship, chiropractors as well as the patients and communities they serve.

With best wishes to all for 2020 and beyond

CARL Mentors
Professor Greg Kawchuk
Professor Jan Hartvigen
Professor Jon Adams



Highlights from CARL fellows



Andreas Eklund

Much focus over the past period has been spent on the planning and initial work on the new exciting projects relating to the development of a clinical decision tool to select patients for maintenance care. Presenting the findings from the Nordic Maintenance Care Program to the SWISS Chiropractic association at their annual convention in Brunnen was an absolute pleasure, having the opportunity to support clinicians in translating evidence into practice is always very rewarding.



Melker Johansson

I visited Gothenburg (Sweden) for the Nordic Seminar on Technical Measurements of Physical Activity and Sedentary behaviour 2019, where I presented results from my PhD project. In addition to a PhD course, the last months of work has mainly consisted of finalizing studies and writing my PhD thesis, which is finding its form towards submission on New Year's Eve!

Diana De Carvalho

This past fall was very busy with teaching, manuscript and grant submissions and data collections. Two big highlights are successes for my team: my PhD student Mona Frey received the Canadian Society of Biomechanics Graduate Student Travel Grant which will fund her travel to the AECC University College this winter to collaborate on a CARL research study and our CCRF Active Surveillance in Older Adults proposal, led by Martha and Katie P, being selected as only 1 of 4 funded projects!



Michelle Holmes

At the end of last year I was focused on submitting publications (4 in submission/review process) and grant applications (2 submitted). I hope to continue this work. I am excited about my travel this year as I will be heading to the CARL residential in Australia, the ECU conference in Utrecht, and teaching research methods in Norway later in the year.



Alex Breen

November marked the end of the data collection for the AECC University Colleges collaborative project with the European Space agency and Kings College London investigating the effect of 4-hour partial axial reloading "SkinSuit" upon recumbent lumbar geometry and kinematics after 8-hour hyperbuoyancy flotation. Not only is this a fascinating study to undertake for its implications for prolonged spinal unloading (e.g. space flight) but also provided us with the funding to bring in undergraduate Chiropractic students as to assistant in this data collection. Exposing them to academic research at a whole new level.

Craig Moore

My recent highlight has been submitting my doctoral thesis. This month has also seen our manuscript exploring the epidemiology of headache within a chiropractic patient population accepted for publication. Findings from this interesting study bring forward new knowledge about the substantial level of headache burden in those seeking help from chiropractors and highlights important implications for the interdisciplinary role of chiropractors in managing this important public health challenge.



CARL fellows and mentors at the very first CARL residential in Odense, Denmark

Highlights from CARL fellows



Katie de Luca

In the last quarter I have submitted several grants, the highlight being an application to the Australian National Health and Medical Research Council Investigator Grants program, a very competitive fellowship program with <10% success rate – watch this space! I also received two grants as lead; a Visiting Researcher Fellowship for Katie Pohlman to visit Macquarie University in 2020 and a Macquarie University seeding grant for a pilot trial of exercise for older adults with low back pain and comorbidities. I am overseeing the grant round for Sports Chiropractic Australia research funding and enjoying running the BACE: Chiropractic – Australia cohort study on older adults who visit a chiropractor for treatment of their back pain. I have won several prizes at Australian conferences for abstracts for our COAST analysis, BACE protocol and sitting and back pain systematic review – all CARL collaborations.

Matt Fernandez

In mid-November, Macquarie University hosted the first ever GLA:D Back course in Sydney, Australia. Through a number of generous grants, we were able to bring Professor Alice Kongsted and physiotherapist Jesper Hoag from Denmark, who guided the 20 chiropractic and physiotherapy participants throughout the weekend. It was a very engaging course, which also included presentations from Professors Simon French and Mark Hancock, as well as Associate Professor Christian Barton – who leads the GLA:D (hip and knee) Australia. Participants are now actively recruiting patients over the next couple of months within their clinics, to implement the feasibility study Australia wide. I was recently invited to present at the Sports Medicine Australia conference in early February 2020 (in Victoria). The theme is back pain in the athlete and I will discuss ‘Manual therapy and maintenance care for back pain - can it work?’



Katie Pohlman

The highlight this past quarter was being asked to be a visiting scholar at AECC University College (Bournemouth, England) and Macquarie University (Sydney, Australia). Both of these invitations were from CARL collaborations, of which I am most thankful. Throughout this quarter I also submitted several manuscripts related to patient safety. This initiative has taken years to get traction, but the hard work is starting to pay off as Dr. Martha Funabashi and I were awarded a grant on this topic through the Canadian Chiropractic Research Foundation. While certainly not a highlight, Parker University’s campus took a direct hit from an E-3 tornado that destroyed my office building (along with several other campus buildings). We are #ParkerStrong with ongoing plans to rebuild. These events allow you to truly see the resiliency and leadership within one’s community. I am very proud of Parker and look forward to all 2020 has to offer.

Mike Swain

In September I visited Parker University to develop some new projects with Katie Pohlman. Whilst there I presented to the wonderful students and faculty on chiropractic professional issues in Australia. In November I attended a research course on causal inference from pragmatic trials and observational data with Eleanor Murray and Miguel Hernán at Neuroscience Research Australia (NeuRA). I was also awarded an Outside Studies Program (OSP) grant to work on a new program of research entitled: The course of spinal pain in adolescents. This grant will allow me to solely focus on research projects in the first half of 2020. It includes an academic visit to collaborate with researchers at the University of Southern Denmark.

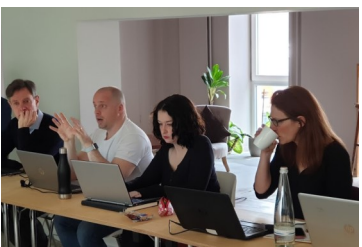


CARL fellows at the CARL workshop in Berlin



CARL fellow Melker Johansson and his ECCRE Young Investigator award in Berlin

Highlights from CARL fellows



CARL fellows working hard at the three previous residentials (Odense, Edmonton and Berlin)



Arnold Wong

This Fall was a busy teaching season. I taught 3 days per week for 10 weeks. In between classes, I prepared two grant applications related to gerontechnology and scoliosis. I got a small grant from the British Council to investigate the financial and medical needs of older people in Hong Kong, which will inform the preparation of a larger grant application. I got a Nanshan Postdoctoral Fellowship to employ a postdoctoral fellow to work on a multidisciplinary knee osteoarthritis project. Several abstracts submitted to SpineWeek 2020 have been accepted for oral (n = 5) and poster presentations (n = 3). One of the submitted abstracts has been nominated for an award competition by SOSORT in SpineWeek 2020. I'll moderate one general poster session on "Stenosis", and a symposium on "Outcomes in Spine Care" for ISSLS. I'll also serve as a secretary for a focus group meeting during the SpineWeek 2020.



CARL fellows and CARL mentors at the second residential in Edmonton

Isabelle Pagé

The recent months have been dedicated to my new position at UQTR. Finding the balance between my family, teaching, and research is definitely not piece of cake! I was also granted a research associate status at the Center for Interdisciplinary Research in Rehabilitation and Social Integration (CIRRSI) to pursue the collaborations initiated during my postdoc training. The first undergraduate student who I have supervised and I have both been accepted for a platform presentation at ACC-RAC 2020. It feels so great to mentor young researchers! Being a CARL fellow surely provided me with important leadership and mentorship skills that help me being a positive mentor for my students.



Martha Funabashi

This past fall I attended the US Bone and Joint Young Investigator Initiative Workshop in Toronto, where I had the opportunity to expand my network as well as receive one-on-one grant mentoring to develop my grant writing skills. I also had the pleasure to be awarded a Canadian Chiropractic Research Foundation grant together with my Safety-sister Katie Pohlman and in collaboration with a wonderful team that includes CMCC faculty (Silvano Mior and Sheilah Hogg-Johnson) and CARL fellows Katie de Luca and Diana De Carvalho. I was also very excited to see the new CARL II cohort being announced and I am looking forward to meeting them in person in Sydney in a few months!

Welcome to the CARL II Cohort!



Sasha Aspinall—Australia (Murdoch University)

Aron Downie—Australia (Macquarie University)

Steen Hardted—Denmark (University of Southern Denmark)

Hazel Jenkins—Australia (Macquarie University)

Andrée-Anne Marchand—Canada (Ontario Tech University; University of Quebec at Trois-Rivières)

David McNaughton—Australia (Macquarie University)

Amy Miller—United Kingdom (Bournemouth University)

Casper Nim—Denmark (University of Southern Denmark)

Luana Nyirö—Switzerland (Balgrist University Hospital; University of Zurich)

Cecilie K. Øverås—Norway (Norwegian University of Science and Technology; University of Southern Denmark)

Eric Rosen—United States (Boston University)

Ken Weber—United States (Stanford University)

Jessica Wong—Canada (Ontario Tech University; Canadian Memorial Chiropractic College)

James Young—Canada (Canadian Memorial Chiropractic College; University of Southern Denmark)

CARL I fellows are looking forward to meeting all CARL II fellows in person at the next residential!



CARL I fellows welcoming CARL II fellows to the CARL family!



CARL Projects - Publications since September 2019

1. **Moore C**, Leaver A, Sibbritt D, **Adams J**. Prevalence and factors associated with the use of primary headache diagnostic criteria by chiropractors. *Chiropractic & Manual Therapies* 2019, vol. 27, no. 1, p. 33.
2. **Moore C**, Leaver A, Sibbritt D, **Adams J**. The features and burden of headaches within a chiropractic clinical population: a cross sectional analysis. *Complementary Therapies in Medicine* 2020, vol. 48, p. 102276
3. **Wong AYL**, Parent EP, Dhillon SS, Prasad N, Samartzis D, **Kawchuk GN**. Differential patient responses to spinal manipulative therapy and their relation to spinal degeneration and post-treatment changes in disc diffusion. *European Spine Journal* 2019 [Accepted].
4. **Funabashi M**, **Breen Ax**, **De Carvalho D**, Henry A, Murnaghan K, **Pagé I**, **Wong AY**, **Kawchuk G**. Center of rotation locations during lumbar spine movements: a scoping review protocol. *JBIM Database of Systematic Reviews and Implementation Reports*, 2019; 17(0):1–8
5. **De Carvalho D**, **de Luca K**, **Funabashi M**, **Breen Ax**, **Wong A**, **Johansson M**, **Ferreira M**, **Swab G**, **Adams J**, **Hartvigsen J**. Are exposures to seated postures associated with immediate increases in back pain? A systematic review of studies, *Journal of Manipulative & Physiological Therapeutics* (Accepted 30 Oct 2019)



CARL fellows Katie Pohlman and Martha Funabashi and Dr. Alan Breen at the Interdisciplinary World Congress on Low Back and Pelvic Girdle Pain

CARL Projects - Conference Abstracts since Sept. 2019

1. **de Luca K**, **Funabashi M**, Hogg-Johnson S, Mior S, French S. Conditions and management of the older chiropractic patient: a secondary analysis of 6927 adult-patient encounters from Australian (COAST) and Canadian (O-COAST) studies. Podium presentation at ACC-RAC 2020, March 19-21, 2020, San Diego, California, USA.
2. Mikhail J, **Funabashi M**, Descarreaux M, **Pagé I**. Factors influencing the transmission of force in human tissues during manual therapy: a crossover study. Podium presentation at ACC-RAC 2020, March 19-21, 2020, San Diego, California, USA.
3. **Pohlman K**, **Funabashi M**, **Kawchuk G**, Hogg-Johnson S, Mior S. Patients' and interns' expectations of adverse events: data from an electronic active surveillance study at a teaching clinic. Podium presentation at ACC-RAC 2020, March 19-21, 2020, San Diego, California, USA.
4. **Pagé I**, **Kawchuk G**. Correlation between lumbar spinal stiffness and muscle activity in healthy adults: an investigation using a novel rolling device. Podium presentation at ACC-RAC 2020, March 19-21 2020, San Diego, California, USA.
5. Johnson C, Green B, **Pohlman K**, **de Luca K**, Petrucco-Napoli K. Women's health and chiropractic: a publication analysis and scoping review to identify research gaps. Podium presentation at ACC-RAC 2020, March 19-21 2020, San Diego, California, USA.
6. **Funabashi M**, **Pohlman K**, Lee A, Tibbles A, Mior S, **Kawchuk G**. Exploring patient and clinician experiences and beliefs about benign adverse responses to spinal manipulation in chiropractic teaching clinics: a cross-sectional survey. Podium presentation at ACC-RAC 2020, March 19-21 2020, San Diego, California, USA.
7. **Funabashi M**, **Pohlman K**, Lee A, Tibbles A, Mior S, **Kawchuk G**. Strategies to mitigate benign adverse events for spinal manipulation: exploring clinicians and patients perceptions. Podium presentation at ACC-RAC 2020, March 19-21 2020, San Diego, California, USA.
8. **Funabashi M**, **de Luca K**, Howarth S, Tran S, Starmer D, **Kawchuk G**. Manipulation force characteristics for older adults using mannequin simulators. Poster presentation at ACC-RAC 2020, March 19-21 2020, San Diego, California, USA.

CARL Projects - Conference Abstracts cont'd



CARL fellows Mike Swain, Diana De Carvalho, Katie de Luca, Martha Funabashi, Katie Pohlman and CARL mentor Greg Kawchuk in Toronto

9. **Wong AYL**, Li LMK., Lui SSY, Lau MPW, Wong CKS., Ip JY, **Swain M**, **Kawchuk GN**. Mechanical changes in the spine following two lumbopelvic traction approaches on asymptomatic individuals – A randomized crossover study. Podium presentation at the International Society for the Study of the Lumbar Spine, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia.
10. **Breen Ax**, **De Carvalho D**, **Funabashi M**, **Kawchuk G**, **Pagé I**, **Wong AYL**, Breen A. Lumbar inter-vertebral motion sharing during spine flexion and return to neutral: replacing assumptions with data. Podium presentation at the International Society for the Study of the Lumbar Spine, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia
11. **Funabashi M**, **Breen Ax**, **De Carvalho D**, **Page I**, Nougrou F, Descarreaux M, **Kawchuk G**. Force distribution within spinal tissues during posterior to anterior spinal manipulative therapy. Special Poster presentation at the International Society for the Study of the Lumbar Spine, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia
12. **Fernandez M**, French S, **Hartvigsen J**, Kongstead A, Hancock M, Kent P, Barton C, **Kawchuk G**. GLA:D Back Australia: improving self-management for people with persistent or recurrent low back pain through the implementation of evidence-based patient education and exercises. A feasibility study . ePoster presentation at the Australian Chiropractic Association & Chiropractic Australia meeting, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia
13. **Swain M**, **Pohlman K**. Practice characteristics of certified paediatric chiropractors: A workforce study. ePoster presentation at the Australian Chiropractic Association & Chiropractic Australia

meeting, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia

14. Montgomery L, **Swain M**, **Hartvigsen J**. The relationship between sedentary behaviour and spinal pain in children and adolescents: a systematic review and meta-analysis. Podium presentation at the Australian Chiropractic Association & Chiropractic Australia meeting, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia
15. **Funabashi M**, **Pohlman K**, Lee A, Tibbles A, Mior S, **Kawchuk G**. Beliefs, perceptions and practice on mitigation strategies for benign adverse events after spinal manipulation therapy. ePoster presentation at the Australian Chiropractic Association & Chiropractic Australia meeting, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia
16. **Funabashi M**, **de Luca K**, Howarth S, Tran S, Pecora GC, **Kawchuk G**. Characteristics of forces transmitted through older adults during thoracic spinal manipulation therapy—preliminary results. Podium presentation at the Australian Chiropractic Association & Chiropractic Australia meeting, SpineWeek 2020, April 27–May 1 2020, Melbourne, Australia
17. **de Luca K**, **Pohlman K**, Napoli-Petrucco K, Johnson C. Impacting Women's Health Through Wellness, Prevention, and Pain Management Across the Lifespan. Workshop presentation at ACC-RAC 2020, March 19-21, 2020, San Diego, California, USA.
18. **Pohlman K**, **Funabashi M**, **de Luca K**, **Pagé I**, **Weber K**. A session with CARL: fostering the fundamental resources to support early career researchers. Workshop presentation at ACC-RAC 2020, March 19-21, 2020, San Diego, California, USA.



CARL fellows and CARL mentors

Ongoing CARL Research Projects

SafetyNET Investigations – Advancing patient safety research for SMT providers

This work involves a series of projects, with current focus on the implementation of the data collection instruments. This has been done within a chiropractic teaching institute. Plans are to reach out to expand on the population, including other teaching institutions and community-based practices on an international platform.

Title: Determine the incidence of mild, moderate, and serious adverse events following SMT administered by chiropractic interns using the SafetyNET active surveillance reporting paper-based system. Status: Manuscript submitted.

Title: Determine the incidence of mild, moderate, and serious adverse events following SMT administered by chiropractic interns using the SafetyNET active surveillance reporting electronic system. Status: Data is being analyzed.

Title: Qualitative evaluation of open-ended questions on SafetyNET’s Survey to Support Quality Improvement, which was conducted at teaching institutions and among practicing SMT providers. Status: Manuscript submitted.

Title: SafetyNET’s survey to Support Patient Safety and Quality Improvement—Re-evaluation. Status: Data being analyzed

Title: Survey regarding mitigation strategies for benign adverse events following SMT. Status: Manuscript in preparation.

Title: Patient Safety Learning System implementation at teaching clinic. Status: data collection will start in 2020.

Title: Active Surveillance Reporting System implementation at a teaching institution—electronic system with expansion to patients’ perceptions. Status: Data being collected.

Title: Advancing Patient Safety for Special Populations: Active

Surveillance Reporting to Identify Adverse Events Following Chiropractic Care in Older Adults. Status: Funding secured; data collection to start in 2020

Lead: Martha Funabashi and Katie Pohlman

Working group: Mike Swain, Andreas Eklund, Katie de Luca, Diana De Carvalho, Greg Kawchuk, Michelle Holmes, Sheila Hogg-Johnson, Silvano Mior, Sunita Vohra, Maeve O’Beirne, Stacie Salsbury

Title: The diagnosis and Management of Headache: A survey of senior chiropractic students. Status: Manuscript under preparation.

Lead: Craig Moore

Working group: Stephney Whillier, Diana De Carvalho, Martha Funabashi, Katie Pohlman, Matt Fernandez, Rosemary Giuriato, Michael Swain, Jon Adams

Title: Lifestyle factors that influence headaches in school children. Study design in development. Status: Data collection

underway

Lead: Craig Moore

Working group: Michael Swain, Katie Pohlman, Jan Hartvingsen, Jon Adams

Title: Job Analysis of Chiropractors with a Pediatric Specialty. Status: Manuscript in preparation

Lead: Katie Pohlman

Working group: Michael Swain

Title: Adverse events following chiropractic treatment in the pediatric population: an active surveillance study. Status: Manuscript in preparation.

Lead: Katie Pohlman

Working group: Michael Swain, Lise Hestbaek, Sunita Vohra, Linda Carroll

Title: Profiling Australian chiropractors who frequently discuss pain medication in practice: Analyses of chiropractors from the ACORN practice-based research network. Status: Protocol under development



Conference call with CARL fellows and mentors

Ongoing CARL Research Projects (cont'd)

Lead: Matt Fernandez

Working Group: Michelle Holmes, Martha Funabashi, Arnold Wong, Katie de Luca, Isabelle Page, Katie Pohlman, Jon Adams

Title: GLA:D Back Australia: improving self-management for people with persistent or recurrent low back pain through the implementation of evidence-based patient education and exercises. A feasibility study

Lead: Matt Fernandez

Working group: Simon French, Alice Kongsted, Jan Hartvigsen, Christian J Barton, Mark Hancock, Greg Kawchuk and Peter Kent

Title: Challenges in recruitment of chiropractors to collect data from their patients. Status: Manuscript preparation.

Lead: Michelle Holmes

Working group: Martha Funabashi, Isabelle Pagé, Craig Moore

Title: Global student identity. Status: Data being analyzed.

Lead: Michelle Holmes

Working group: Katie de Luca, Mike Swain, Dave Newell, Jordan Gliedt

Title: Errors associated with soft tissue displacement when measuring spine kinematics - A comparison of continuous kinematic measures to assess spine motion; comparing motion tracking, accelerometers and fluoroscopy. Status: Data collection to start in 2020.

Lead: Alex Breen

Working group: Diana De Carvalho, Martha Funabashi, Isabelle Page, Greg Kawchuk, Arnold Wong

Title: Forces applied and transmitted through the body during thoracic spinal manipulation and mobilization: the influence of force-time characteristics and neuromuscular responses. Status: Manuscript in preparation.

Lead: Martha Funabashi

Working group: Isabelle Pagé, Steven Tran, Tom Murphy, Martin Descarreaux, Jeremie Mikhail.



CARL fellow Katie Pohlman presenting her work at the Interdisciplinary World Congress on Low Back and Pelvic Girdle Pain

Title: Complaints in the Elderly: Chiropractic—Australia. Status: Ongoing data collection

Lead: Katie de Luca

Working group: Manuela Ferreira, Sidney Rubinstein, Jan Hartvigsen, Simon French

Title: A pilot study of comorbidity-adapted exercise for older adults with low back pain. Status: Funding secured; pilot study to start in 2020

Lead: Katie de Luca

Working group: Manuela Ferreira, Sita Bierna-Zeinstra, Jan Hartvigsen, Simon French

Title: Risk stratification and long-term clinical course after an initial manual treatment package for patients with low back pain, a secondary analysis of a randomized clinical trial.

Lead: Andreas Eklund

Working group: Greg Kawchuck,

Jan Hartvigsen, Jon Adams, Katie de Luca, Isabelle Pagé, Martha Funabashi, Diana De Carvalho, Arnold Wong, Michael Swain, Katie Pohlman, Melker Johansson

Title: Clinical differences between psychological subgroups. A 12-month longitudinal analysis of the clinical course in a care seeking low back pain population, a secondary analysis of a randomized clinical trial.

Lead: Andreas Eklund

Working group: Greg Kawchuk, Jon Adams, Mike Swain, Melker Johansson, Michelle Holmes, Diana De Carvalho, Katie de Luca, Matt Fernandez, Martha Funabashi.

Title: What's behind the development of Transient Sitting-Induced Back Pain in Healthy Participants? Status: Manuscript in preparation



CARL fellows Diana De Carvalho and Martha Funabashi finalizing some work prior to the Holidays

Ongoing CARL Research Projects (cont'd)



CARL fellows Katie de Luca and Mike Swain presenting at Parker University with Dr. Dana Lawrence

Lead: Diana De Carvalho

Working group: Alex Breen, Arnold Wong, Martha Funabashi, Isabelle Pagé, Greg Kawchuk

Title: Characterizing lumbar spine multifidus activity during exercise and activities of daily living: a laboratory study of surface and indwelling EMG recordings. Status: Data being collected

Lead: Diana De Carvalho

Working group: Alex Breen, Arnold Wong, Martha Funabashi, Isabelle Pagé, John Charles Snow, Greg Kawchuk

Title: Center of rotation location during lumbar spine movements: a scoping review. Status: Screening full-text papers

Lead: Martha Funabashi

Working group: Diana De Carvalho, Tom Murphy, Isabelle Pagé, Arnold Wong, Alex Breen, Greg Kawchuk

Title: Reported adverse events following manual therapy of the spine: a scoping review of the hypothesized causal mechanisms. Status: Data collection

Lead: Isabelle Pagé

Working group: Marc-André Blanchette, Hugo Masse-Alarie, Gabrielle Swait, Martha Funabashi

Title: Development of a predictive model by finite element methods for the risk of vertebral fracture during thoracic spinal manipulative therapy. Status: Data collection.

Lead: Isabelle Pagé

Working group: Nathaniel Maeda, Michael Pagé, Martha Funabashi, Stéphane Sobczak, Jean-Christophe Cuillière, Vincent François.

Title: Force vectors during posterior-to-anterior Spinal Manipulative Therapy (SMT). Status: data being analyzed

Lead: Martha Funabashi

Working group: Diana De Carvalho, Alex Breen, Isabelle Pagé, Greg Kawchuk

Title: Applied and transmitted forces during spinal manipulation therapy (SMT) in older adults. Status: Data collection completed, data being analyzed

Lead: Martha Funabashi

Working group: Katie de Luca, Greg Kawchuk, Samuel Howarth, James Son

Title: The risk factors for low back pain in older adults. A systematic review. Status: data extraction

Lead: Arnold Wong

Working group: Martha Funabashi, Luciana Macedo, Susan Armijo Olivo, Katie de Luca.

Title: Radiographic phenotypes and spinal stiffness in people with and without low back pain. Status: manuscript preparation

Lead: Arnold Wong

Working group: K. Li, M. Law, K. Chim, Greg Kawchuk

Title: A randomized controlled trial on the effects of manual massage, massage chair, and sham massage on physical responses of patients with chronic low back pain. Status: manuscript preparation

Lead: Arnold Wong

Working group: A. Lui, E. Chan, V. Chan, Greg Kawchuk.

Title: Life experience of older adults with low back pain.

Lead: Arnold Wong

Working group: Michelle Holmes, Katie De Luca, Veronika Schoeb

Title: Physical and psychosocial risk factors for low back pain among physiotherapy students. Status: manuscript preparation

Lead: Arnold Wong

Working group: Martha Funabashi, Greg Kawchuk



CARL fellow Andreas Eklund presenting to the SWISS Chiropractic Association in Brunnen

Ongoing CARL Leadership Initiatives

Conference Organizing Committee:

SpineWeek 2020: I've been working on the organizing committee for the Chiropractic Program at SpineWeek 2020. The chiropractic stream is a joint-venture between Chiropractic Australia and the Australian Chiropractors' Association, a watershed initiative. For more information see the [CA News December 2019](#)

Led by: Michael Swain

ACA Women's Health Council – Vice President. This council was developed to evaluate Women's Health throughout the lifespan.

Led by: Katie Pohlman

Executive committee member for the Society for Back Pain Research (SBPR) Annual General Meeting 2020.

Led by: Alex Breen

Invited Presentations:

Katie Pohlman: Pediatric Population and Chiropractic care, at IFEC in February 2020

Andreas Eklund: The Nordic Maintenance Care Program: effectiveness, subgroups and mechanisms, at SWISS Chiropractic Association's Annual Convention in Brunnen

Isabelle Pagé: Invited researcher at the 20th Forum International Science et Société organized by the ACFAS. Trois-Rivières, Québec, Canada.

Committee Membership:

Diana De Carvalho: Faculty of Medicine, Memorial University of Newfoundland, Destination Excellence Strategic Plan Implementation, Wellness Project

Arnold Wong: Secretary of the International Taskforce on the Diagnosis and Management of Lumbar Spinal Stenosis.

New student supervision:

Alex Breen: supervising a new PhD starting in January entitled "Quantitative imaging biomarkers for nonspecific low back pain".

Isabelle Pagé: supervising two undergraduate students from the Chiropractic Program at UQTR

Force-Sensing Table Technology (FSTT®) Consortium

A collaboration between all institutions that have the FSTT® and are interested in jointly developing educational programs and conducting collaborative high-quality research using this technology. The research initiative is led by Martha Funabashi

Women in Chiropractic Research Mentorship Group

Increasing diversity on teams leads to creative problem solving and improved outputs. Currently, our group is developing the brand for this initiative and we are gathering statistics worldwide to better understand the current capacity of women in leadership, education and research roles.

Led by: Diana De Carvalho

Working group: Michelle Holmes, Katie Pohlman, Katie de Luca, Martha Funabashi, Michael Swain, Isabelle Pagé

I led the application of a successful Macquarie University Faculty of Science and Engineering Visiting Researcher Fellowship for Katie Pohlman to attend Macquarie University from 14th – 17th April, meeting with staff and industry and discussing establishing a program of research in Australia using SafetyNET.

Led by: Katie de Luca

I led the invitation for Katie de Luca to be invited to ACC-RAC to conduct a Women@ACC-RAC breakfast networking-event to support women in chiropractic research.

Led by: Katie Pohlman

Production of a continuing education module for Chiropractors on the GEN-C platform, with the topic "Maintenance Care".

Led by: Andreas Eklund

I am a participant on an international Delphi panel designed to assess the utilisation of indicators and treatments for the management of headaches by physiotherapists, chiropractors and osteopaths - Ghent University, Belgium.

Led by: Craig Moore



CARL fellow Matt Fernandez and colleagues at the GLA:D Back course in Australia

CARL Fellows - Individual Publications since July 2019



CARL fellows at the CCA convention in Calgary in 2018

Breen Ax, Breen A. Dynamic interactions between lumbar intervertebral motion segments during forward bending. *Journal of Biomechanics* 2020

Breen Ax, Claerbout E, Hemming R, Ayer R, Breen AC. Comparison of intra-subject repeatability of quantitative fluoroscopy and static radiography for the measurement of lumbar intervertebral flexion translation. *Scientific Reports* (2019)

Gallagher K, Cameron L, **De Carvalho D** and Boule, M. Does using multiple computer monitors for office tasks affect health- and productivity-related outcomes? A Systematic Review. In Press *Human Factors*, December 2019

Eklund A, Jensen I, Leboeuf-Yde C, Kongsted A, Jonsson M, Lövgren P, Petersen-Klingberg J, Calvert C, Axén I. The Nordic Maintenance Care Program: Does psychological profile modify the treatment effect of a preventive manual therapy intervention? A secondary analysis of a pragmatic randomized controlled trial. *PloS one* 2019 14;10 e0223349-

Holmes M, Stanescu S C, Bishop F. The use of measurement systems to support patient self-management of long-term conditions: an overview of opportunities and challenges. *Patient Related Outcome Measures* 2019.

Weis CA, **Pohlman KA**, Draper C, da Silva-Oolup S, Stuber K, Hawk C. Best practices for chiropractic care of adults with pregnancy-related low back and pelvic girdle pain: A systematic review (Part 1). *J Manipulative Physiol Ther* (in submission)

Weis CA, **Pohlman KA**, Draper C, da Silva-Oolup S, Stuber K, Hawk C. Best practices for chiropractic care of adults with postpartum-related low back pain, pelvic girdle pain and combination pain: A systematic review (Part 2). *J Manipulative Physiol Ther*

(in submission)

Lo C, Brodie MA, Tsang WWN, Lord SR, Yan CH. **Wong AYL**. Pain, balance and mobility in people one year after total knee arthroplasty: a pilot study contrasting posterior-stabilized and medial-pivot designs. *Journal of Arthroplasty* [accepted]



CARL fellows Martha Funabashi and Katie Pohlman and CARL mentor Jan Hartvigsen at the Interdisciplinary World Congress on Low Back and Pelvic Girdle Pain

Upcoming Events

[ACC-RAC](#) 27th Educational Conference and Research Agenda Conference, March 19-21, 2020 – San Diego, CA, USA.

SBPR 2020 at [BRITSPINE](#), 1st - 3rd April 2020, Glasgow

[SpineWeek 2020](#), 27th April—1st May 2020, Melbourne, Australia.

The European Academy of Chiropractic (EAC), [ECU 2020 Convention](#), 22-24 May 2020, Utrecht, The Netherlands.

Applied Prognostic Research – How to make sense of longitudinal health data, May 26-29th, 2020, SDU Denmark.

WFC-ACC Education Conference, San Francisco, CA, Oct. 28-31, 2020. Abstract submission deadline: May 01, 2020

21st Meeting of the Canadian Society of Biomechanics, Montreal, August 11-14, 2020. Abstract submission deadline: February 1, 2020. <https://www.csb-scb2020.com/>

North American Spine Society 35th Annual Meeting, Oct 07-10, 2020, San Diego, USA. Abstract submission deadline: Feb 3, 2020

Call for Papers: VIII Queen María Cristina Award, deadline for the call of papers will be April 17, 2020. More information [here](#).

International Congress on Manual Therapies, April 30-May 02, 2021, Phoenix, AZ, USA