



Chiropractic Academy for Research Leadership

NEWSLETTER

Issue 8 - March 2021

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

CARL 2.0 by David McNaughton

It is my pleasure to welcome the new CARL II cohort in issue 8 of the CARL newsletter. Our first CARL year has been interesting to say the least. Much like the rest of world, plans were changed in the blink of an eye. It began with the excitement and anticipation for our first residential in Sydney over April 2020. The residential are an opportunity for the group to develop friendships, as well as foster collaboration in many research projects. Unfortunately due to COVID-19, we were forced to cancel these plans and 'pivot' during these 'unprecedented' times.

We, like many institutions, began monthly zoom calls within the group. These calls became a highlight of your week, even if you got the night shift. More recently, we have begun meeting in a program called Virbella, which is a virtual meeting place, where your avatar can interact with others in virtual forum. These regular meetings have three key components:

1) Group networking - This is an important part to get to know one another's' research interests, hobbies and personality. This has been an exciting part of CARL thus far, making new international pen-pals and sharing the highs and lows of early career research.

2) Guest Speakers - Throughout this year we have been lucky to hear from three very accomplished guest speakers;

Prof Manuela Ferreira, Prof Andre Bussieres and A/Prof Tasha Stanton. These talks are less about their extensive academic works, but more about the struggles and obstacles they have overcome throughout their career. These intimate talks highlight the issues and challenges in academia we all are facing, and it is encouraging to hear people share similar struggles, yet succeed.

3) Research projects - Notwithstanding the virtual environment, the group has gotten off to a flying start and have multiple projects in the works, which are outlined in the newsletter. The projects utilise a number of existing data sets, in an effort to answer important Chiropractic related research questions. We are all extremely grateful for the opportunity CARL has given us, and excited to lead in a new wave of Chiropractic research.

To cap off an amazing first year with CARL, the group undertook our an exciting leadership project - CARLoquium. Hosted online, we brought together over 200 delegates from 13 different countries, submitting over 100 research posters. The quality of research submitted was outstanding and it was inspiring to see so many Chiropractic researchers from around the world present their research. This is especially important during an extremely isolating time in academia.

Highlights

*Welcome the CARL II Cohort. For more information and bio's on the Cohort, visit our website:
<https://www.carlresearchfellows.org/>

*Congratulations to Dr Sasha Aspinall for completing her PhD

*Congratulations to Dr Aron Downie for completing his PhD

*Congratulations to Dr Steen Harsted for successfully defending his PhD

*Congratulations to Amy Miller for submitting her PhD

*Congratulations to Casper Nim for defending his PhD

*CARLoquium March 2021 Wrap up - Look out 2022!

Mentor's Note - A New Beginning

By Jon Adam, Greg Kawchuck and Jan Hartvigsan

2020 has been a remarkable year for everyone. For CARL, it was the year we said goodbye to the first cohort of Fellows and welcomed CARL II – a new cohort of 14 talented early career researchers from 7 countries who introduce themselves in this newsletter. CARL began as a grass-roots initiative with sparse year-to-year funding aiming to grow research capacity and evidence-based leadership in chiropractic. Against all odds, it has evolved into a well-known and established initiative with substantial funding from large organizations and institutions in chiropractic, and with secretariat at the Chiropractic Knowledge Hub in Denmark. The remarkable success of the first CARL cohort has been documented (Chiropr Man Therap 2021 ;29:9) and the bar is set high for the new cohort. The CARL initiative is also gaining attention and praise worldwide both within and beyond the chiropractic profession.

New beginnings are always exciting and filled with expectations. CARL evolves around the yearly residentials, and we were preparing to hold a joint CARL I and CARL II residential in Sydney, Australia in April of 2020 to properly wrap up the first cohort and kick-off the new cohort to a flying start. This residential was planned to include seminars and outreach to Australian chiropractors in addition to workshops for the fellows with invited Australian academics and leaders. We all know how 2020 went, and, unfortunately, we have not yet been able to meet in person. Instead, we have arranged regular meetings online with guests and workshops, and we are very happy to see that despite obvious difficulties the new CARL cohort is already a group developing productive collaborations and brimming with potential and expertise. The cohesion of the latest cohort has been evidenced by their first leadership project: CARLoquium 2021. A virtual conference, CARLoquium was held online in March 2021 and played host to 200 attendees from 14 countries, 3 keynote speakers and 108 scientific poster presentations. Please read more about this fantastic event from the reports of our Fellows found in this newsletter. Clearly, collaborations and friendships are being formed that will all over time contribute to the ultimate goal of CARL: To build critical mass and a mature research infrastructure in chiropractic globally.



Meet your CARL Fellows

David McNaughton PhD Candidate, Department of Psychology, Macquarie University

I am a Chiropractor in clinical practice in Sydney, Australia. I am also finalising my PhD at Macquarie University. My research investigates the role of thoughts and feelings in a number of chronic pain conditions, such as fibromyalgia, back pain and irritable bowel syndrome. My key research interest is understanding the role of psychological processes in persistent physical symptoms. I hope to bring these expertise in psychological processes to the CARL program. CARL has been a great opportunity to connect with some amazing chiropractic researchers and I am excited to work with the team.



Aron Downie Senior lecturer, Department of Chiropractic, Macquarie University

2020 was a great year to begin new research projects as member of the CARL family. The highlight of 2020 was being awarded my PhD from University of Sydney, even though we all graduated in absentia! My thesis investigated screening for pathology, and early recovery patterns when people present with low back pain. I was also recently promoted to Senior Lecturer at Macquarie University in the Department of Chiropractic.

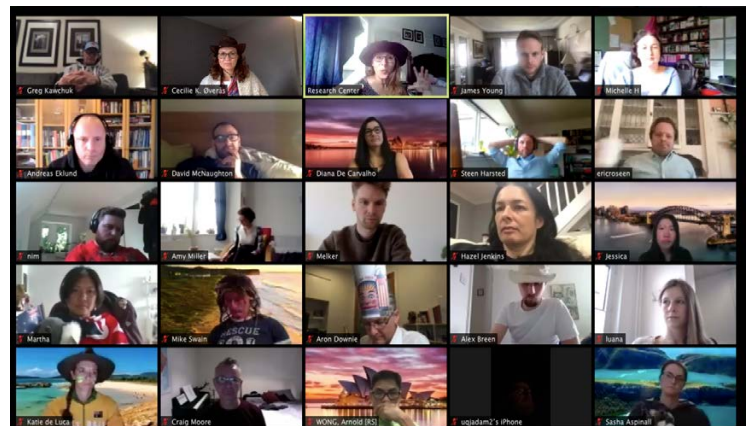
Hazel Jenkins Senior lecturer, Department of Chiropractic, Macquarie University; ANZBACK post- doctoral research fellow, Department of Health Professions, Macquarie University

The first year of being a CARL fellow has been an eventful one. Teaching became a focus as courses needed to move online, with the added challenges of teaching practical classes without face-to-face contact. My highlights include starting a post-doctoral research fellowship with ANZBACK, being awarded grant funding to perform a pilot RCT on the use of X-rays in chiropractic, and being promoted to senior lecturer.



Sasha Aspinall Lecturer, Clinical Chiropractic, Murdoch University Australia

My most recent highlight is definitely finishing my PhD in August. I've taken a little time to myself to rest and refocus, as it's been a very busy year alongside lecturing during the pandemic. With my PhD chapter now closed, I'm excited to get started working on some research projects, including a CARL project looking at gender diversity at chiropractic conferences, and some other work looking at sham manipulation techniques.



Meet your CARL Fellows (cont.)



Steen Harsted
*Assistant Professor,
University of Southern
Denmark*

Apart from my master's degree and Ph.D., I have practiced for almost 15 years in primary practice as a Chiropractor.

During my Ph.D. I have developed the software package mocapr, allowing researchers to import, plot, and analyze motion capture data in the programming language R. My research interests are broad, but at the moment, I focus on various aspects of biomechanics such as markerless motion capture, motion patterns and future risk of injury, and spinal stiffness.

Cecile Øverås
*PhD Fellow
University of Southern
Denmark*

Despite the pandemic my PhD Fellow life has proceeded almost as normal, but with less travel and more time spent on digital meetings and in my home office. Too bad everyone in CARL could not meet up as planned in Australia, but we have managed to get to know each other slightly better and started on some collaborations despite not having met in person. A recent milestone for me has been the submission of a systematic review I been working on for a long time. It was just re-submitted after 'minor revision' and I hope to see it accepted soon. The EU-project selfBACK, which I have been lucky to be part of, is also coming to an end. All the participants have been through their 9 months follow up and we have started the data analysis of the results. I am currently working on 2 papers related to selfBACK besides work on my doctoral thesis.



Luana Nyirö
*PhD Candidate, Balgrist
University, Zurich
Switzerland*

This past fall was an important time for me, I passed my postgraduate exams and submitted my doctoral thesis to successfully receive my doctoral degree as a chiropractor. At the same time, the last months have been very busy with pilot testing and preparations of the experimental set-up for my PhD project, not to forget about online lectures, ethical approvals, and manuscripts; now I am looking forward to start data acquisition in 2021.

Andrée-Anne Marchand
*LTA, Department of
Chiropractic, Université du
Québec à Trois-Rivières*

The past few months were both challenging and rewarding. The main focus has been put towards developing new teaching skills in radiology and on the planning and early work on projects related to the effect of chiropractor informed triaging in tertiary care settings. This new research initiative, funded by the CCRF, has allowed me to welcome two new graduate students.



Meet your CARL Fellows (cont.)



James Young
PhD Candidate,
University of Southern
Denmark

Over the quarter, much of my work has been focused on my PhD-related projects exploring the relationship between multimorbid lumbar spinal stenosis and knee or hip osteoarthritis. We are also wrapping up data collection on a large project aimed at developing a musculoskeletal health policy blueprint for global use and a systematic review on interpretability thresholds for patient-reported outcome measures in anterior cruciate ligament injury.

Jessica Wong
PhD Candidate,
Epidemiology Division,
Dalla Lana School of
Public Health, University of
Toronto

Assistant Professor,
Graduate Studies,
Canadian Memorial
Chiropractic College
Since starting CARL, I have been focusing on my PhD thesis, working on two funding applications, and teaching undergraduate students at the University of Toronto Scarborough. It's been wonderful connecting with CARL mentors and fellows and exploring new project ideas in such a collaborative environment.



Eric Roseen
PhD candidate, Rehabilitation
Science, MGH Institute of
Health Professions
Assistant Professor of Family
Medicine, Boston University /
Boston Medical Center

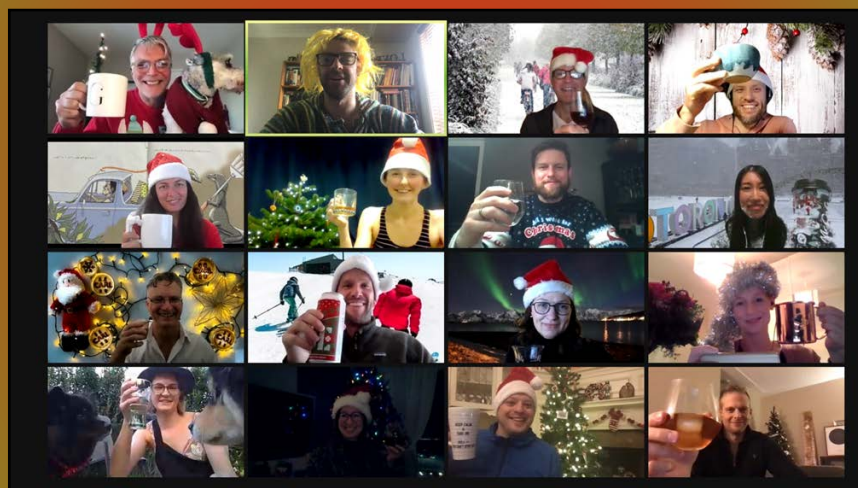
This year I've added to my expertise in epidemiology/clinical trials with new work and training in implementation science. I recently completed the first year of a five-year career development award entitled: Improving Access to Chiropractic Care for Low Back Pain in Underserved Primary Care Settings: Development and Evaluation of a Multi-level Implementation Strategy. I was also selected as a scholar for the Training Institute for Dissemination and Implementation Research in Health (TIDIRH) which I completed in January at the National Institutes of Health in Bethesda, Maryland, USA.

Kenneth Weber
Instructor in the
Department of
Anesthesiology,
Perioperative and Pain
Medicine at Stanford
University

CARL has helped me reconnect my research with chiropractic, and this has been an amazing year of growing collaborations. A major accomplishment for me was beginning recruitment for my National Institutes of Health funded study investigating changes in the brain and spinal cord in people with cervical radiculopathy. I was also a recipient of a student loan repayment renewal award from the National Institutes of Health.



Christmas with the CARL fellows



Meet your CARL Fellows (cont.)

Ongoing CARL projects



Amy Miller
PhD Candidate, Bournemouth University UK

My research interests include Infant manual therapy, infant feeding, interprofessional education and collaborative practice, pragmatic mixed-methods research
My highlights have been coming to the end of my PhD (which has been submitted), and, in peak 2020 fashion, sitting in a wetsuit on a Zoom meeting for The Big CARL meeting of both cohorts and the mentors, which had an Aussie fancy dress code!

Casper Nim
PhD Candidate, University of Southern Denmark

The last couple of months has been devoted to submitting the final manuscripts of my PhD (4 under peer-review) and defending my PhD I have also received a grant to work on pain trajectories using ChiCo and GLA:D back data alongside CARL-fellow Aron Downie. At the same time, I continue to prepare for a more structured Post-doc project.



Gender distribution of speakers at chiropractic conferences (CARL project with Sasha Aspinall, Eric Roseen, Casper Nim, Cecilie K Øverås, Steen Harsted, James Young, Amy Miller, Greg Kawchuk, and Jan Hartvigsen)

Selection of therapeutic interventions in patients presenting for chiropractic care in Australia and Canada: secondary analysis of COAST and OCOAST data (CARL project with Hazel Jenkins, Aron Downie, James Young, Jessica Wong, David McNaughton, Cecile K Øverås, Eric Roseen, and Jan Hartvigsen)

A project centred around spinal stiffness and patient characteristics using data collected from the Spine Center of Southern Denmark (CARL project with Steen Harsted, Casper Glissmann Nim, Luana Nyirö, Aron Downie, and Greg Kawchuk)

Epidemiology of musculoskeletal conditions among older adults (CARL project with Eric Roseen, James Young, Jessica Wong, Cecile K Øverås, Hazel Jenkins, David McNaughton, Steen Harsted, and Aron Downie)

Deep-Learning Models for Automated Segmentation of Muscles (CARL project with Kenneth Weber and Hazel Jenkins)

CARL Fellows - Individual publications 2020

Finucane, L. M., Downie, A., Mercer, C., Greenhalgh, S. M., Boissonnault, W. G., Pool-Goudzwaard, A. L., Beneciuk, J. M., Leech, R. L. & Selfe, J. International framework for red flags for potential serious spinal pathologies. *Journal of Orthopaedic and Sports Physical Therapy*. 2020;50(7): p350-372.

Young, A., Swain, M. S., Kawchuk, G. N., Wong, A. Y. L. & Downie, A. S. The bench-top accuracy of the VerteTrack spinal stiffness assessment device. *Chiropractic & manual therapies*. 2020;28(9):p.42.

Weber II KA, Chen Y, Paliwal M, Law CS, Hopkins BS, Mackey S, Dhaher Y, Parrish TB, Smith ZA. Assessing the Spatial Distribution of Cervical Spinal Cord Activity during Tactile Stimulation of the Upper Extremity in Humans with Functional Magnetic Resonance Imaging. *NeuroImage*, 2020; 217:116905.

Smith ZA, Weber II KA, Paliwal M, Hopkins B, Barry A, Cantrell D, Ganju A, Koski TR, Parrish TB, Dhaher Y. MRI atlas-based volumetric mapping of the cervical cord gray matter in cervical canal stenosis. *World Neurosurgery*, 2020;13:e497-e504.

O'Dell DR, Weber KA, Berliner JC, Connor JR, Cummins DP, Heller KA, Hubert JS, Kates MJ, Mendoza KR, Smith AC. Midsagittal tissue bridges are associated with walking ability in incomplete spinal cord injury: a magnetic resonance imaging case series. *Journal of Spinal Cord Medicine*. 2020;42(2):268-271.

Downie, A. S., Hancock, M., Abdel Shaheed, C., McLachlan, A. J., Kocaballi, A. B., Williams, C. M., Michaleff, Z. A. & Maher, C. G. An electronic clinical decision support system for the management of low back pain in community pharmacy: development and mixed methods feasibility study. *JMIR Medical Informatics*. 2020;8(5):e17203.

CARL Fellows - Individual publications

Young JJ, Hartvigsen J, Jensen RK, Roos EM, Ammendolia C, Juhl CB. Prevalence of multimorbid degenerative lumbar spinal stenosis with knee and/or hip osteoarthritis: protocol for a systematic review and meta-analysis. *Systematic reviews*. 2020;9(1):232.

Young JJ, Skou ST, Koes BW, Grønne DT, Roos EM. Proportion of patients with hip osteoarthritis in primary care identified by differing clinical criteria: a cross-sectional study of 4699 patients. *Osteoarthritis and Cartilage*. 2020: Accepted.

Young JJ, Vazić O, Cregg AC. Management of knee and hip osteoarthritis: an opportunity for the Canadian chiropractic profession. *Journal of the Canadian Chiropractic Association*. 2020. Accepted.

Aspinall SL, Losco BE, Drummond PD, Walker BF. Effect of Lumbar Spinal Manipulation on Local and Remote Pressure Pain Threshold and Pinprick Sensitivity in Asymptomatic Individuals: A Randomised Trial. *Chiropractic & Manual Therapies*. 2016. 24:47. doi: 10.1186/s12998-016-0128-5.

Aspinall SL, Leboeuf-Yde C, Etherington SJ, Walker BF. Manipulation-induced hypoalgesia in musculoskeletal pain populations: A systematic critical review and meta-analysis. *Chiropr Man Ther*. 2019;27(7). doi:10.1186/s12998-018-0226-7.

Aspinall SL, Jacques A, Leboeuf-Yde C, Etherington SJ, Walker BF. Pressure pain threshold and temporal summation in adults with episodic and persistent low back pain trajectories: A secondary analysis at baseline and after lumbar manipulation or sham. *Chiropr Man Ther*. 2020;28(36). doi: 10.1186/s12998-020-00326-5

Jenkins H, Moloney N, French S, Maher C, Dear B, Magnussen J, Hancock M; General practitioner experiences using a low back pain management booklet aiming to decrease non-indicated imaging for low back pain; *Implementation Science Communications*

Parthipan S, Bowles C, De Luca K, Jenkins H; Does guideline appropriate radiographic imaging increase the diagnostic yield of clinically significant radiographic findings?; *Journal of the Canadian Chiropractic Association*

Marchand AA, Houle M, O'Shaughnessy J, Châtillon CE, Cantin V, Descarreaux M. Effectiveness of an exercise-based prehabilitation program for patients awaiting surgery for lumbar spinal stenosis: a randomized clinical trial (submitted)

Côté P, Hartvigsen J, Axén I, Leboeuf-Yde C, Corso M, Cassidy JD, French S, Kawchuk GN, Mior S, Poulsen E, Srebyl J, Wong JJ, Ammendolia C, Blanchette M, Busse J, Bussièrès A, Cancelliere C, Christensen HW, De Carvalho D, De Luca K, Du Rose A, Eklund A, Engel R, Goncalves G, Hebert J, Hestbæk L, Hincapié CA, Hondras M, Kimpton A, Lauridsen HH, Innes S, Marchand A, Meyer A, Newell D, O'Neill S, Pagé I, Passmore S, Perle SM, Quon J, Rezai M, Shearer H, Stupar M, Swain M, Vitello A, Weber K, Young KJ, Yu H. The Global Summit on the Efficacy and Effectiveness of Spinal Manipulative Therapy for the Prevention and Treatment of Non-musculoskeletal Disorders A Systematic Review of the Literature. Submitted to *Chiropractic & Manual Therapies*.

Shover CL, Vest NA, Chen D, Stueber A, Falasinnu TO, Hah JM, Kim J, Mackey I, Weber II KA, Ziadni M, Humphreys K. Association of State Policies Allowing Medical Cannabis for Opioid Use Disorder With Dispensary Marketing for This Indication. *JAMA Netw Open*, 2020;3(7):e2010001.

Elliott JM, Smith AC, Hoggarth MA, Albin SR, Weber KA II, Haager M, Fundaun J, Wasielewski M, Courtney DM, Parrish TB. Muscle Fat Infiltration following Whiplash: A Computed Tomography and Magnetic Resonance Imaging Comparison. *PLOS ONE*,

Aspinall SL, Leboeuf-Yde C, Etherington SJ, Walker BF. Feasibility of using the Neuropen for temporal summation testing. *Pain Manag*. 2019;9(4):361-8. doi:10.2217/pmt-2018-0063.

Wong JJ, Kwong JC, Tu K, Butt DA, Wilton AS, Shah BR, Murray BJ, Kopp A, Chen H. Ethnic and immigrant variations in the time trends of dementia and parkinsonism. Submitted to the *Canadian Journal of Neurological Sciences* (in revisions).

Wong JJ, Côté P, Tricco AC, Watson T, Rosella LC. The effect of low back pain on healthcare utilization and costs: A population-based matched cohort study on the health system burden of low back pain. Submitted to *PAIN*.

Papaconstantinou E, Cancelliere C, Verville L, Wong JJ, Connell G, Yu H, Shearer H, Timperley C, Chung C, Porter B, Myrtos D, Barrigar M, Taylor-Vaisey A. Effectiveness of non-pharmacological interventions on sleep characteristics among adults with musculoskeletal pain and a comorbid sleep problem: A systematic review.

McNaughton D, Barigalupo C, Georghiades A, Hush J, Beath A, Jones M. Design, Development and Functionality of a Haptic Force-Matching Device for Measuring Sensory Attenuation. Under review *Behaviour Research Methods*

Downie A, Hancock M, Jenkins H, Buchbinder R, Harris I, Underwood M, Goergen S, Maher CG. How common is imaging for low back pain in primary and emergency care? Systematic review and meta-analysis of over 4 million imaging requests across 21 years. *British journal of sports medicine*. 2020 Jun 1;54(11):642-51

Rigney C, Whillier S, Jenkins H; Comparative Analysis of Quantitative Whole Body Orthostatic Postural Measures: A Systematic Review; *Gait & Posture*

Hancock M, Maher C, Jarvik J, Battie M, Elliott J, Jensen T, Panagopoulos J, Jenkins H, Pardey M, McIntosh J, Magnussen J; Reliability and validity of reporting temporal changes in MRI findings over time; *European Spine Journal*

Houle M, Bonneau JD, Marchand AA, Descarreaux M. Physical and psychological factors associated with walking capacity in patients with symptomatic lumbar spinal stenosis: a systematic scoping review (submitted).

Franettovich Smith MM, Collins NJ, Mellor R, Grimaldi A, Elliott J, Hoggarth M, Weber K, Vicenzino B. Foot Exercise Plus Education Versus Wait and See for the Treatment of Plantar Heel Pain (FEET Trial): A Protocol for a Feasibility study. *Journal of Foot and Ankle Research*, 2020;13(1):20.

Roseen EJ, Ward RE, Keysor JJ, Atlas SJ, Leveille SG, Bean JF, The Association of Pain Phenotype with Neuromuscular Impairments and Limited Mobility Among Older Primary Care Patients: A Secondary Analysis of the Boston Rehabilitative Impairment Study of the Elderly. *PM&R*. 2020.

O'Dell DR, Weber KA, Berliner JC, Connor JR, Cummins DP, Heller KA, Hubert JS, Kates MJ, Mendoza KR, Smith AC. Midsagittal tissue bridges are associated with walking ability in incomplete spinal cord injury: a magnetic resonance imaging case series. *Journal of Spinal Cord Medicine*. 2020;42(2):268-271.

Garland EL, Brintz CE, Hanley AW, Roseen EJ, et al. Mind-Body Therapies for Opioid-Treated Pain: A Systematic Review and Meta-analysis. *JAMA Intern Med*. 2019.

CARL Fellows - Individual publications

Back pain in adolescence: Validation of the Young Spine Questionnaire and relation to life quality. Luana Nyirö, M Chiro Med, Tobias Potthoff, M Chiro Med, Mette Hobaek Siegenthaler, DC, Fabienne Riner, MSc, Petra Schweinhardt, MD, PhD, Brigitte Wirth, PT, PhD Submitted to: BMC Pediatrics

Berlowitz J*, Hall DL, Joyce C, Fredman L, Sherman K, Saper RB, Roseen EJ. Changes in Perceived Stress after Yoga, Physical Therapy, and Education Interventions for Chronic Low Back Pain: A Secondary Analysis of a Randomized Controlled Trial. Pain Med. 2020.

Roseen EJ, Gerlovin H, Felson DT, Delitto A, Sherman KJ, Saper RB. Which Chronic Low Back Pain Patients Respond Favorably to Yoga, Physical Therapy, and a Self-care Book? Responder Analyses from a Randomized Controlled Trial. Pain Med. 2020.

Roseen EJ, Conyers EG, Atlas SJ, Mehta D. Initial Management of Acute and Chronic Low Back Pain: Responses from Brief Interviews of Primary Care Providers. In press at Journal of Alternative and Complementary Medicine

Roseen, EJ, Purtle J, Zhang W, Miller DW, Shwartz AW, Ramanadhan S, Sherman K. Dissemination research, acupuncture, and Medicare's coverage of acupuncture for chronic low back pain. In press at Global Advances in Health and Medicine. Revise and resubmit.

Sandal LF, Øverås CK, Nordstoga AL, et al. A digital decision support system (selfBACK) for improved self-management of low back pain: a pilot study with 6-week follow-up. Pilot Feasibility Stud. 2020;6:72. Published 2020 May 23. doi:10.1186/s40814-020-00604-2

Øverås CK, Villumsen M, Axén I, Cabrita M, Leboeuf-Yde C, Hartvigsen J, Mork PJ. Association between objectively measured physical behaviour and neck- and/or low back pain: a systematic review. Eur J Pain. 2020 Feb 24. Doi.org/10.1002/ejp.1551

Meisingset I, Ottar Vasseljen O, Vøllestad NK, Hilde Stendal Robinson HS, Woodhouse A, Engebretsen KB, Glette M, Øverås CK, Nordstoga AL, Evensen KAI, Skarpsno ES. Novel approach towards musculoskeletal phenotypes. Eur J Pain. 2020 Feb 10. Doi: 10.1002/ejp.1541.

Roseen EJ, Gerlovin H, Femia A, et al. Yoga, Physical Therapy, and Back Pain Education for Sleep Quality in Low-Income Racially Diverse Adults with Chronic Low Back Pain: a Secondary Analysis of a Randomized Controlled Trial. J Gen Intern Med. 2020;35(1):167-176.



CARLoquium 2021 Poster Winners

Best Protocol/In Progress Idea Poster

1st - Cesar Hincapié

Spinal manual therapy versus nerve root injection for lumbar radiculopathy: vanguard phase of the SALuBRITY randomised clinical trial

2nd - Peter Emary

The association of chiropractic integration in an Ontario Community Health Centre with prescription opioid use for chronic non-cancer pain: a mixed methods study protocol

3rd - Melanie Häusler

Association of a clinical journal club with knowledge, attitudes, and behaviour of evidence-based practice among chiropractic students: a before-and-after pilot study

Best Published Work

1st - Michael Meier

Fear avoidance beliefs limit lumbar spine flexion during object lifting in pain-free adults – A protective strategy with negative consequences?

2nd - Paul Nolet

Exposure to a motor vehicle collision and the risk of future back pain: a systematic review and meta-analysis

3rd - Christopher A Malaya

Immediate impact of extremity manipulation on dual task performance: a randomized, crossover clinical trial

Best Published Work

1st - Rikke Krüger Jensen

The development in surgery rates for lumbar spinal stenosis in Denmark between 2002 and 2018: A retrospective registry-based cohort study

2nd - Malin Mühlemann

Descriptive epidemiology and costs of chiropractic care in Switzerland: a nationwide health insurance database analysis

3rd - Joel Carmichael

Feasibility and initial efficacy of a multimodal swelling intervention after total knee arthroplasty: a pilot study with cohort comparison

Best Student Poster

1st - Maarten van Ittersum

Data mining subgroups of low back pain patients

2nd - Stine Haugaard Clausen

Prognostic Factors Of Hip Replacement During A 2-Year Period In Participants Enrolled In Supervised Education And Exercise Therapy: A Prognostic Study Of 3,657 Participants With Hip Osteoarthritis

3rd - Simon Dyrlov Madsen

Low Back Pain Management by Chiropractors, Physiotherapists and General Practitioners: a prospective survey in primary care

Best Early Career Researcher Poster

1st - Léonie Hofstetter

Musculoskeletal health care at a Swiss specialized outpatient hospital chiropractic polyclinic in 2019: a health services research study

2nd - Mette Sørensen & Nina Engmark

Are chiropractors' characteristics associated with the number of referred patients from general practitioners? A cross-sectional study of Danish chiropractors

3rd - Melissa Corso

Are non-pharmacological interventions delivered through synchronous telehealth effective and safe for the management of patients with musculoskeletal conditions? A systematic rapid review

DONORS AND FUNDERS



The Australian Chiropractors Association (ACA) is the peak body representing chiropractors and with over 3,000 members, the ACA is the largest chiropractic health body in Australia.



Vancouver Foundation is Canada's largest community foundation, working throughout British Columbia to harness the gifts of ideas, money, time and energy to build a lasting legacy: healthy, vibrant, livable communities.



The Canadian Chiropractic Association (CCA) serves over 8,400 licensed Doctors of Chiropractic (DCs) and 10 Provincial Chiropractic Associations as the national voice for the chiropractic profession in Canada.



The American Chiropractic Association (ACA) is the largest professional chiropractic organization in the United States. ACA attracts the most principled and accomplished chiropractors, who understand that it takes more to be called an ACA chiropractor.



Kiropraktorernes Videnscenter (formerly NIKKB) is a modern research centre. It's vision is to be an internationally leading centre for research, knowledge dissemination and quality development in the chiropractic profession.



European Centre for
Chiropractic Research Excellence

ECCRE is a European research centre established through a co-operation between the European Chiropractors' Union (ECU), the Danish Chiropractic Association (DKF) and the Nordic Institute of Chiropractic and Clinical Biomechanics (NIKKB).



The Chiropractic Research Council (CRC) was established in 2013 to provide leadership and unity in chiropractic research. The CRC aims to increase the chiropractic evidence base, by promoting research, increasing the research capacity and supporting researchers. It will also raise the profile of research relevant to the practice of chiropractic.



Parker University offers a unique learning environment. Parker students are ambitious, compassionate, energetic, and prepared. Prepared for their career, and to become industry leaders. Prepared with techniques and knowledge gained with real-world experience.



The Clinical Compass (CCGPP) mission is to gather and evaluate existing evidence-based practice information; to facilitate the development of new information where existing evidence is lacking; and to distribute and assist in implementation of evidence-based practice information that is relevant to the chiropractic profession.



The Forward Thinking Chiropractic Alliance is a network of doctors who use the best scientific evidence to help their patients enjoy healthy, active lives.