

L'Association  
chiropratique  
canadienne



Canadian  
Chiropractic  
Association™/MC

---

CANADIAN CHIROPRACTIC ASSOCIATION

---

*Chair* Robert David, BSc, DC

---

JCCA STAFF

---

*Editor* Kent Stuber, DC, MSc  
Division of Graduate Education & Research  
Canadian Memorial Chiropractic College, Calgary, Alberta

*Editor Emeritus* Allan Gotlib, C.M., DC  
Toronto, Ontario

*Associate Editors* Jeffrey Quon, DC, PhD  
School of Population & Public Health  
Faculty of Medicine, University of British Columbia, Vancouver, British Columbia

André Bussi eres, DC, FCCS(C), PhD  
Faculty of Medicine, McGill University, Montr al, Qu bec  
D partement chiropratique, Universit  du Qu bec   Trois-Rivi eres, Trois-Rivi eres, Qu bec

Dana J. Lawrence, DC, MMedEd, MA  
Palmer College of Chiropractic, Davenport, Iowa

*Assistant Editors* Pierre C t , DC, PhD  
University of Ontario Institute of Technology, Oshawa, Ontario

B. Kim Humphreys, DC, PhD  
Head of Chiropractic Medicine, Faculty of Medicine, University of Zurich and  
University Hospital of Balgrist, Zurich, Switzerland

Gregory N. Kawchuk, DC, PhD  
University of Alberta, Edmonton, Alberta

Mohsen Kazemi, RN, DC, MSc, FRCCSS(C), FCCPOR(C)  
Faculty of Clinical Education, Graduate Studies and Research,  
Canadian Memorial Chiropractic College, Toronto, Ontario

Jill Hayden, DC, PhD  
Department of Community Health & Epidemiology  
Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia

*Production Co-ordinator* Tami Ehrlich

*Advertising* Editor, Journal of the Canadian Chiropractic Association  
186 Spadina Avenue, Suite 6, Toronto, Ontario M5T 3B2  
Tel: 416-585-7902 877-222-9303 Fax: 416-585-2970

Email: Dr. Kent Stuber <kstuber@jcca.ca>  
Website: www.jcca-online.org

---

TYPESETTING

---

Thistle Printing Limited  
35 Mobile Drive, Toronto, Ontario M4A 2P6

# JCCA

## Journal of the Canadian Chiropractic Association

*(Formerly the Canadian Chiropractic Association Journal)*

*Copyright Registered © by the Canadian Chiropractic Association 1961*

*Copyright: The Canadian Chiropractic Association, 2016*

All rights reserved. Without limiting the rights under copyright above, no part of this publication may be reproduced, stored in or introduced into any retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording or otherwise), without the prior written permission with the copyright owner and the publisher.

Published by the Canadian Chiropractic Association and issued quarterly

EDITORIAL AND EXECUTIVE OFFICES,  
186 SPADINA AVENUE, SUITE 6, TORONTO, CANADA M5T 3B2

General Information: The Journal of the Canadian Chiropractic Association is the official quarterly publication by the Canadian Chiropractic Association. The JCCA is published quarterly by the Canadian Chiropractic Association as a medium of communication between the Association and its members and is a forum for fair comment and discussion of all matters of general interest to the chiropractic profession and the Association. Readers are invited to comment and express their opinions on relevant subjects. Views and opinions in editorials and articles are not to be taken as official expression of the Association's policy unless so stated. Publication of contributed articles does not necessarily imply endorsement in any way of the opinions expressed therein and the Journal and its publisher does not accept any responsibility for them. Business correspondence should be addressed to: the Editor of JCCA, 186 Spadina Avenue, Suite 6, Toronto, Canada M5T 3B2.

### INDEXING SERVICES

JCCA is indexed by PubMed Central, Scopus, CINAHL (Cumulative Index to Nursing and Allied Health Literature), MANTIS (formerly CHIROLARS), AMED, PASCAL, Index to Chiropractic Literature, and selectively by SPORTDiscus.

# Contents

JCCA Vol 60 No 1 ISSN 0008-3194 (Print) and ISSN 1715-6181 (Electronic)

## *Commentary*

6 Immunization in Canada: Update for 2015

Donna M. MacDougall, PhD, RN

Scott A. Halperin, MD

## *Original Articles*

13 Relationship between Ontario chiropractors' attitudes toward drug prescription rights and Canadian versus non-Canadian college of graduation: results from an online survey

Peter Charles Emary, DC, MSc

Kent Jason Stuber, DC, MSc

21 Benign sacrococcygeal teratoma incidentally found on routine scoliosis radiographs in a 12-year-old female: a case report

Kelly M. Cunningham, MD, MA, BSc

Govind B. Chavhan, MD, DABR

Kelly E. Ainsworth, DC, MD, FRCP(C)

26 Clinical evaluation tools: a survey of doctors of chiropractic and students at one chiropractic college

Barbara A. Mansholt, DC, MS

Robert D. Vining, DC

36 The reliability of palpating the posterior superior iliac spine: a systematic review

Robert Cooperstein, MA, DC<sup>1</sup>

Michael Hickey, DC

47 Extra-articular hip impingement: a narrative review of the literature

Scott W. Cheatham, PT, DPT, PhD(c), OCS, ATC, CSCS

57 Differentiating giant cell tumor of bone from patellofemoral syndrome: a case study

Jason Bonar, BScKin, DC

Shannon Clutton Carr, BKin, MPT, MCPA

Diana De Carvalho, DC, PhD

Jay S. Wunder, MD, FRCSC

66 Primary spontaneous pneumothorax presenting to a chiropractic clinic as undifferentiated thoracic spine pain: a case report

Ryan Larson, BSc, DC

73 A jurisdictional review of the legislation governing informed consent by chiropractors across Canada

Pierre B. Boucher, DC, PhD

Danica Brousseau, DC, MSc

Sarah Chahine, LL.B.<sup>2</sup>

# Contents

JCCA Vol 59 No 3 ISSN 0008-3194 (Print) and ISSN 1715-6181 (Electronic)

- 81 Pathological burst fracture in the cervical spine with negative red flags: a case report  
Jocelyn Cox, DC  
Chris DeGraauw, DC FRCCSS(C)  
Erik Klein, DC
- 88 A single cohort prospective trial of the immediate effects of spinal manipulation on visual acuity  
Michelle Athaide, BSc, DC, MSc  
Carol Rego, B.Kin (Hons), DC  
Brian Budgell, DC, PhD
- 93 Evaluating the feasibility of using online software to collect patient information in a chiropractic practice-based research network  
Ania Kania-Richmond, PhD, RMT  
Laura Weeks, PhD  
Jeffrey Scholten, BSc, DC  
Mikaël Reney, BSc, DC

## *Chiropractic History*

- 106 Allan C. Gotlib, DC, CM: A worthy Member of the Order of Canada  
Douglas M. Brown, DC

## *Book Reviews*

- 123 Fascia in Sport and Movement  
Matt Wentzell, B.Kin, DC, RCCSS(C) Res.
- 123 Fascial Dysfunction – Manual Therapy Approaches  
Matt Wentzell, B.Kin, DC, RCCSS(C) Res.
- 124 Faster, Higher, Stronger – How Sports Science is Creating a New Generation of Superathletes – and What We Can Learn from Them  
Matt Wentzell, B.Kin, DC, RCCSS(C) Res.
- 125 Fatigue in Sport and Exercise  
Matt Wentzell, B.Kin, DC, RCCSS(C) Res.

## *Erratum*

- 126 Correction: Initial integration of chiropractic services into a provincially funded inner city community health centre: a program description.  
Steven R. Passmore, DC, PhD  
Audrey Toth, DC  
Joel Kanovsky, DC  
Gerald Olin, BSc, DC

## Editorial Board

*Alan H Adams*, DC  
Texas Chiropractic College  
Pasadena, Texas

*Kelly E. Donkers Ainsworth*, DC, MD,  
FRCPC  
Staff Pediatric Radiologist  
McMaster University  
Hamilton, Ontario

*Carlo Ammendolia*, DC, PhD  
University of Toronto

*Samuel Bederman*, MD, PhD, FRCSC  
Department of Orthopedic Surgery  
University of California at Irvine  
Orange, CA

*Paul Bruno*, DC, PhD  
Faculty of Kinesiology and Health  
Studies  
University of Regina

*Brian Budgell*, DC, PhD  
CMCC

*Jason Busse*, DC, PhD  
McMaster University

*J David Cassidy*, DC, MSc, PhD, FCCS(C),  
Dr Med Sc  
University of Southern Denmark

*Scott Cheatham*, PT, DPT, PhD(C), ATC  
California State University  
Dominguez Hills  
Carson, California.

*Raphael K Chow*, MD, FRCP(C)  
University of Toronto

*Colin M Crawford*, B App Sc (Chiro),  
FCCS(C), MSc, Grad Dip Neuro, MB BS  
Perth, Australia

*Edward Crowther*, DC, EdD  
International Medical University  
Kuala Lumpur, Malaysia

*Diana De Carvalho*, DC, PhD  
Memorial University  
St. John's, Newfoundland

*Martin Descarreaux*, DC, PhD  
Université du Québec à Trois-Rivières

*John A. Dufton*, DC, MSc, MD, FRCPC  
Staff Radiologist  
University Hospital of Northern  
British Columbia  
Prince George, British Columbia

*Mark Erwin*, DC, PhD  
University of Toronto

*Brian Gleberzon*, DC, MHSc  
CMCC

*Richard Goldford*, BSc, DC, MBA,  
FRCCSS(C), FCCP(C)  
Toronto, Ontario

*Bart Green*, DC, MEd, DACBSP  
Naval Medical Center, San Diego  
San Diego, California

*François Hains*, DC, FCCS(C), MSc  
Dorval, Québec

*Scott Haldeman*, DC, MD, PhD, FRCP(C)  
University of California  
Irvine, California

*Jill Hayden*, DC, PhD  
Dalhousie University  
Halifax, NS

*Walter Herzog*, PhD  
University of Calgary

*Thomas E Hyde*, BA, DC, DACBSP  
N Miami Beach, Florida

*Claire Johnson*, DC, MEd, DACBSP  
National University of Health Sciences  
Lombard, Illinois

*Mohsen Kazemi*, RN, DC, FRCCSS(C),  
FCCP(C), MSc, PhD(c)  
CMCC

*Clark R Konczak*, MSc, DC, DABCO,  
FCCO(C), FRCCSS(C)  
Victoria, BC

*Deborah Kopansky-Giles*, DC, FCCS(C),  
FICC, MSc  
St. Michael's Hospital  
Toronto, Ontario

*Doug M Lawson*, BA, DC, MSc  
D'Youville College

*Cynthia Long*, PhD  
Palmer Centre for Chiropractic Research  
Davenport, Iowa

*Marion McGregor*, DC, PhD  
CMCC  
Toronto, Ontario

*William C Meeker*, DC, MPH  
Palmer Chiropractic University System  
San Jose, CA

*Michelle Mick*, DC, DACBR  
St. Paul, Minnesota

*Silvano Mior*, DC, FCCS(C), PhD  
CMCC

*Robert D Mootz*, DC  
Associate Medical Director for  
Chiropractic, State of Washington  
Department of Labor and Industries  
Olympia, WA

*Bernadette Murphy*, DC, PhD  
University of Ontario Institute of  
Technology

*Martin Normand*, DC, PhD  
UQTR

*John Papa*, DC, FCCP(C)  
New Hamburg, Ontario

*Steven Passmore*, DC, PhD  
Faculty of Medicine  
University of Manitoba

*Stephen Perle*, DC, MS  
University of Bridgeport  
Bridgeport, CT

*Reed B Phillips*, DC, PhD, DACBR  
Southern California University of  
Health Sciences

*Mathieu Piché*, DC, PhD  
UQTR

*John J Riva*, DC, MSc  
Department of Family Medicine  
McMaster University  
Hamilton, Ontario

*Sandy Sajko*, DC, MSc, RCCSS(C)  
Oakville, Ontario

*John Z Srbely*, DC, PhD  
University of Guelph

*Igor Steiman*, MSc, DC, FCCS(C)  
CMCC

*John S Stites*, DC, DACBR  
Palmer College of Chiropractic  
Davenport, Iowa

*John A M Taylor*, DC, DACBR, FCCR(C)  
D'Youville College  
Buffalo, NY

*Haymo Thiel*, DC, MSc (Orth), FCCS(C),  
Dip Med Ed, PhD  
Anglo-European College of  
Chiropractic  
Bournemouth, England

*Gabrielle M van der Velde*, BSc, DC,  
FCCS(C), PhD  
Toronto Health Economics  
and Technology Assessment  
Collaborative  
University of Toronto

*Marja J Verhoef*, PhD  
University of Calgary