

**CURRICULUM VITAE**

**Stuart Michael McGill**

**Spine Biomechanist and “University Professor Emeritus”**

**Retired July 1 2017**

**Home clinic: 150 Evans Ave W., Gravenhurst, On, P1P 1A8, 705-718-5585**

July1 2017

Formerly: Spine Biomechanics Laboratories  
Department of Kinesiology  
Faculty of Applied Health Sciences  
University of Waterloo  
Waterloo, Ontario, Canada  
N2L 3G1

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Other Appointments

*Cross Appointed:*

Professor, School of Public Health

University of Waterloo

*Member:*

University of Waterloo

Research Institute for Aging

University of Waterloo

Centre for Research Excellence: Musculoskeletal Disorders

Chief Scientific Officer:  
Backfitpro Inc.

K:/mcgill/personal/McGill Full Nov 2014

## STUART MICHAEL MCGILL

### **Brief Description**

Stuart McGill is a University Professor Emeritus (Spine Biomechanics) at the University of Waterloo. As a professor for 32 years he explored low back mechanics of both intact humans (both normal and injured people) and harvested tissues (where specific injuries are created and analysed). He has been the author of many scientific journal papers that address the issues of lumbar function, low back injury mechanisms, investigation of tissue loading during rehabilitation programs, the formulation of work-related injury avoidance strategies and high performance training. He mentored over 40 graduate students. This work has received several international awards including the “Volvo Bioengineering Award for Low Back Pain Research” in 1986. As a consultant, he has provided expertise on low back injury to various government agencies, many corporations and legal firms and professional/international athletes and teams world-wide. He is regularly referred special patient cases from the international medical community for opinion (Clinic now in Gravenhurst Ontario). At the University of Waterloo he taught courses in Occupational Biomechanics (reducing the risk of occupationally related musculoskeletal disorders), General Biomechanics, Injury Biomechanics, Low Back Disorders, and graduate level courses in Advanced Biomechanics, and Instrumentation and Signal Processing. He was the President of the Canadian Society for Biomechanics for 1999-2000, was an elected member of the executive for the International Society for Biomechanics 1999-2001, and was Chair of the Department of Kinesiology 2003-2009. He sat on the editorial boards of the journals SPINE, Clinical Biomechanics, and Journal of Applied Biomechanics. He has authored four books: one for the lay public with back pain, *Back Mechanic*; and for clinical readers: “*Low Back Disorders: Evidence Based Prevention and Rehabilitation*”, “*Ultimate Back Fitness and Performance*” and co-authored a textbook for high school students on personal fitness. He is married, has two children, and lives in Gravenhurst, Ontario.

### **Degrees**

Ph.D. (Kinesiology (Biomechanics))  
University of Waterloo, 1986

M.Sc. (Kinanthropology (Biomechanics))  
University of Ottawa, 1982

BPHE, University of Toronto, 1980

### **Certification**

C.K. Certified Kinesiologist, Ontario Kinesiology Association, 2002 - 2013

### **Professional Positions Held**

2010- Present	"University Professor" - University of Waterloo
2002-Present	Chief Scientific Officer - Backfitpro Inc.
2014-Present	Cross-appointed, School of Public Health
2003May-2009July	Chair – Department of Kinesiology
2002July-2003April	Associate Chair for Graduate Studies, Department of Kinesiology, University of Waterloo
1999-2009	Graduate Faculty, University of Toronto, Institute of Medical Science
1998-2006	Graduate Faculty, Southern California University of Health Sciences, Los Angeles
1996-2010	Professor, Department of Kinesiology, University of Waterloo
1995-2013	Cross-Appointed, Dept. of Mechanical Engineering, University of Waterloo
1994	“Guest Professor” - Faculty of Medicine, University of Bern, Switzerland
1991-1996	Associate Professor (tenured), Department of Kinesiology, University of Waterloo
1987-1991	Assistant Professor - Biomechanics, University of Waterloo
1986-1987	Research Assistant Professor - Biomechanics, University of Waterloo
1986	Research Associate - Occupational Biomechanics, University of Waterloo
1985-Present	Part time consultant, S.M. McGill and Associates

### **Academic Awards and Honors**

2016	Best fitness articles of 2016 in PTDC.com (Personal Trainers Development Centre). A Trainer’s Guide to Help Manage and Fix Lower Back Pain.
2016	Basic Research Paper Award for 2015, Global Spine Journal, “ <i>Annulus Fibrosus Can Strip Hyaline Cartilage End Plate from Subchondral Bone: A Study of the Intervertebral Disk in Tension</i> ”
2016	The 2016 Liberty Mutual Award, Top paper published in Ergonomics for the year “Can fitness and movement quality prevent back injury in elite task force police officers? A 5-year longitudinal study.”
2015	Fellow: Canadian Academy of Health Sciences (CAHS)
2013	Award of Excellence in Graduate Supervision, University of Waterloo
2013	Top Presentation Award (Sidorkewicz, Cambridge, McGill), Int Society for Study of the Lumbar Spine, Phoenix USA
2013	Top Poster Presentation Ontario Kinesiology Association (Sidorkewicz, Cambridge, McGill)
2010	Research Excellence Award, Ontario Kinesiology Association

- 2010 Appointed “University Professor” at University of Waterloo- one of 14 active professors university-wide. “To recognize exceptional scholarly achievement and international pre-eminence of UW’s most accomplished faculty members.”
- 2009 Appointed by the Minister of Health to form the College of Kinesiology for professional practice
- 2009 Listed in Global Directory of Who’s Who
- 2009 Best Presentation Award, International Society for Study of the Lumbar Spine, Miami, USA
- 2008 President’s Award, Ontario Kinesiology Association
- 2008 Outstanding Performance Award, University of Waterloo
- 2007 Awarded designation “Speaker of the Royal College of Physicians and Surgeons of Canada”
- 2005 Outstanding Performance Award, University of Waterloo
- 2005 R. Tait McKenzie Award, AAPHERD, USA
- 2004 Elected Fellow, Canadian Society for Biomechanics
- 2004 Career Award: Canadian Society for Biomechanics
- 2002 “Richard W. Stow Visiting Lectureship”, Ohio State University College of Medicine, Department of Phys. Med. And Rehab.
- 2002 “Presidents Circle Lecture for 2002”, University of Waterloo
- 2002 Hallman Professorship – University of Waterloo
- 2002 “Inaugural Professor”, Opened the first Masters in Physical Therapy Program in Portugal, Technical University of Lisbon.
- 2001 “Steven Rose Lecturer”, Washington University School of Medicine, Program in Physical Therapy, St. Louis, U.S.A.
- 2001 “President’s Lecturer”, American College of Sports Medicine, Baltimore, U.S.A.
- 2001 Ontario Innovation Trust Award - for the “Live Fire Research Facility” P.I. Dr. E. Weckman, with Drs. A. Strong, D. Johnson, M. Sharratt, R. Hughson and S. McGill.
- 1998 Wood Distinguished Visiting Lectureship in Joint Injury Research, Dept. of Orthopaedics, Faculty of Medicine, University of Calgary
- 1997 EJ Wells Bequest Lecturer - University of Queensland, Australia
- 1989 3M Award for Presentation Excellence (top paper - Human Factors Association of Canada)
- 1988 Listed in Canadian Who's Who
- 1986 Volvo Bioengineering Award for Low Back Pain Research (International Society for Study of the Lumbar Spine)
- 1986 Waterloo Alumni Gold Medal (top graduating Ph.D. student, university-wide)
- 1986 Julian Christensen Award for Ph.D. level ergonomics research (Human Factors Association of Canada)
- 1985-1986 University of Waterloo Graduate Scholarship

1983-84/1984-85	NSERC Postgraduate Scholarship
1983-84, 1984-85	Ontario Graduate Scholarship
1982	University of Waterloo Entrance Scholarship
1978-1979	Alumni Prize, University of Toronto (top male student in class)

**Scholarly and Professional Activities**

a) Professional Activities:

Canadian Society of Biomechanics:

Fellow	2004-Present
President	1999-2000
Member	1981-2004
Elected member at large - executive council	1994-1996
Conference Chair	1996-1998

International Society for Study of the Lumbar Spine (Closed Membership)

Member	1996-2017
Regional Representative for Canada (Executive Committee)	2013 - 2016

Association of Canadian Ergonomists  
(formerly: Human Factors Association of Canada)

Full Member	1985-2008
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International Society of Biomechanics

Member	1983-2015
Elected to the Executive Board (Awards Portfolio)	1999-2001

International Sport and Spine Society – Board of Directors 2005-Present

Member of the International Advisory Board – The New Zealand Centre for Physiotherapy Research 2005-Present

Member of Advisory Board – Ontario Kinesiology Association 2007-2011

Member of Advisory Board – Boston Sports Medicine and Performance Group  
Basketball Advisory Board 2010 - Present

b) Refereeing:

Journal of Biomechanics  
Spine  
Clinical Biomechanics

Journal of Biomedical Engineering  
International Journal of Industrial Ergonomics  
Ergonomics  
Canadian Journal of Rehabilitation  
Journal of Orthopaedic Research  
Gait and Posture  
Journal of Applied Biomechanics  
American Industrial Hygiene Association Journal  
Occupational Medicine  
IEEE Transactions on Rehabilitation Engineering  
European Spine Journal Applied Ergonomics  
Physical Therapy  
CRC Press  
Journal of Biomechanical Engineering  
Research Quarterly for Exercise and Sport  
Human Factors  
Applied Mechanics Reviews  
Journal of Applied Physiology  
Human Kinetics Publishers  
Journal of Neurophysiology  
Lancet  
Medical Engineering and Physics  
Journal Physiology  
Journal of Orthopaedic and Sports Physical Therapy  
Medicine Science Sports and Exercise  
Physiotherapy Theory and Practice  
European Spine Journal  
Archives of Physical Medicine and Rehabilitation

c) International Review Panels:

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|---------------------------------|------|
| 1. NIOSH-NIH Grant Review Panel | 2002 |
|---------------------------------|------|

d) National Review Panels:

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|---|-----------|
| 1. NSERC Member of Biological Systems and Functions Evaluation Group                        | 2012-2015 |
| 2. CIHR (Canadian Institute for Health Research), Movement and Exercise Grants Review Panel | 2008-2009 |

e) Grant Reviews:

1. Netherlands organization for Health Research and Development, Holland
2. National Health and Medical Research Council, Australia

3. National Institute for Health (NIH), USA
4. Natural Sciences and Engineering Research Council of Canada
5. Health and Welfare Canada
6. Science Council of British Columbia
7. Medical Research Council, Canada
8. Alberta Heritage Foundation for Medical Research
9. Whitaker Foundation for Medical Research, U.S.A.
10. Réseau provincial de research en adaptation - réadaptation - IRRST, Quebec
11. Canadian Institutes for Health Research
12. Workplace Safety and Insurance Board, Ontario
13. National Institute of Occupational Safety and Health, U.S.A.
14. The Wellcome Trust, England.

f) Editing:

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| 1. Member of Editorial Board - SPINE                   | 1993-2016 |
| 2. Member of Editorial Board - Clinical Biomechanics   | 1990-2016 |
| 3. Consulting Editor – Journal of Applied Biomechanics | 2002-2016 |

g) External Reviewer for Tenure, Promotion and Program Review:

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|--|------|
| 1. Harvard Medical School  | 2015 |
| 2. University of Oregon, Labour Education and Research Center                    | 2015 |
| 3. Queen's University, School of Rehabilitation Therapy                          | 2014 |
| 4. McMaster University, Department of Kinesiology                                | 2013 |
| 5. University of Alberta, Department of Physical Therapy                         | 2013 |
| 6. Colorado State University, School of Biomedical Engineering                   | 2013 |
| 7. Washington University, St. Louis, Dept. of Medicine                           | 2013 |
| 8. University of Massachusetts, Dept. of Kinesiology                             | 2010 |
| 9. University of Pennsylvania, Dept. of Bioengineering                           | 2010 |
| 10. University of Bristol, Medical Sciences                                      | 2010 |
| 11. University of Vermont, Rehabilitation Sciences                               | 2008 |
| 12. University of Alberta, Dept. of Physical Therapy                             | 2008 |
| 13. University of Vermont, School of Physical Therapy                            | 2008 |
| 14. Washington University at St. Louis, School of Physical Therapy               | 2007 |
| 15. University of Delaware, Dept. of Mechanical Engineering                      | 2007 |
| 16. University of Calgary, Civil Engineering                                     | 2007 |
| 17. University of Regina, Faculty of Kinesiology                                 | 2007 |
| 18. University of Dayton, Dept. of Biomedical Engineering                        | 2006 |
| 19. University of Utah, Dept. of Physical Therapy                                | 2005 |
| 20. Program Review – University of Queensland – School of Human Movement Studies | 2005 |
| 21. University of Pittsburgh, Dept. of Physical Therapy                          | 2005 |

22. University of Southern California, Department of Kinesiology	2005
23. University of Vermont, Dept. of Mechanical Engineering	2004
24. Ohio State University, College of Medicine and Public Health	2003
25. University of Delaware, Dept. of Physical Therapy	2003
26. University of Cincinnati, Dept. of Environmental Health	2003
27. University of Southern California, Dept of Biokinesiology and Physical Therapy	2003
28. University of Calgary, Department of Mechanical Engineering	2002
29. University of Vermont, Department of Mechanical Engineering	2002
30. University of Texas, School of Medicine	2002
31. Southern Cross University, School of Exercise Science & Sports Management, Australia	2002
32. University of Queensland, School of Human Movement Studies	2002
33. Program Review – Department of Kinesiology, University of Calgary	2002
34. University of Washington, Department of Mechanical Engineering	2002
35. University of Calgary, Faculty of Engineering	2002
36. University of Virginia, School of Medicine	2001
37. University of Iowa, Department of Biomedical Engineering	2001
38. University of British Columbia	2000
39. Arizona State University, U.S.A., Department of Exercise Science	2000
40. British Guidelines - Occupational Health Guidelines for management of low back pain - Evidence review	2000
41. Program Review - Danish National Institute of Occupational Health- Department of Physiology	2000
42. Ohio State University, USA, Dept. of Industrial Engineering	1998
43. University of Alberta, Department of Physical Therapy	1997
44. Ohio State University, USA, Department of Industrial and Welding Engineering	1996
45. Queen’s University, Department of Mechanical Engineering	1995

h) Expert Knowledge Source

1. CSEP - PATH, Canadian Society for Exercise Physiology- Physical activity training for health	2013
2. Movement/Fitness Charts and Teachers Resource, and Functional Fitness Charts grades 9-12. Thompson Educational Publications.	2012
3. Movement/Fitness Charts and Teachers Resource, for kindergarten to grade 6 students, Thompson Educational Publications.	2012
4. and Functional Fitness Charts grades 9-12. Thompson Educational Publications.	2012
5. American Physical Therapy Association Subject Matter Expert: “Low Back Assessment, Injury Mechanisms and Therapeutic Exercise Prescription”	2011
6. American Physical Therapy Association Content Expert Reviewer: “Clinical practice	

guidelines linked to the international classification of functioning, disability, and health.”  
2011

a) Government:

1. US Navy 2011-2012, 2017
2. Canadian Military (Special Forces) 2012
3. Ontario College of Kinesiology: Transitional Council to establish the professional college  
2009  
- 2011
4. Institute for Occupational Medicine, U.K. 2001
5. National Research Council - Commission on Behaviour and Social Sciences and  
Education, Washington, U.S.A. 2000
6. Danish National Institute of Occupational Health, Copenhagen, Denmark 2000
7. National Institute for Occupational Safety and Health, Morgantown, West Virginia,  
U.S.A. 1996
8. Government of Manitoba, Labour, Winnipeg 1994
9. Government of Alberta, Occupational Health and Safety, Edmonton 1993
10. Province of British Columbia, Workers Compensation Board 1993, 1998
11. Ontario Ministry of Labour, Toronto, Ontario 1991
12. Ontario Ministry of Health, Toronto, Ontario 1991

b) Industry

1. Ongoing – many recent consults
2. Dr. Ho Muscle Therapy
3. TRX USA 2012
4. Power Hoop Norway 2012
5. Hayabusa Canada 2012
6. Baylis Medical 2011 - 2012
7. Comfort Solutions 2007
8. Hydro One 2005
9. American Council on Exercise 2003
10. Samarit Medical 2003
11. Volvo Canada 2002
12. Emergency Responders, Hydro One, Ontario 2001
13. Innotec, Orillia, Ontario 1999
14. Dr. Ho’s Muscle Therapy 1999, 2001
15. Ontario Hydro 1998, 1999
16. Consumer Reports on Health, Consumer Union, Yonkers, New York 1997
17. Nightline, NBC Television 1996
18. 20/20, ABC Television 1996
19. Global Entrepreneurship Centre – Waterloo 1995

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|---|---|
| 20. Ontario Hydro   | 1995                                    |
| 21. Natura Beds – Cambridge                               | 1995                                    |
| 22. Canadian Pacific Rail - Ontario South Division        | 1995                                    |
| 23. Ontario Hydro, Toronto, Ont                           | 1986, 1988, 1989,1990, 1991, 1992, 1993 |
| 24. Noranda Forest Recycled Papers, Thorold, Ontario      | 1992                                    |
| 25. Canadian Industrial Innovation Centre, Waterloo, Ont. | 1990                                    |
| 26. Noranda Forest Products, Montreal, Que.               | 1990                                    |
| 27. Paperboard Products, Trenton, Ont.                    | 1990                                    |
| 28. Imperial Tobacco, Montreal, Que.                      | 1989                                    |
| 29. Lifestyles Fitness, Waterloo, Ont.                    | 1988                                    |
| 30. Humansystems, Guelph, Ont.                            | 1987                                    |
| 31. Ergosystems Inc., Vancouver, B.C.                     | 1986-1987                               |

c) Legal:

Ongoing – provided expertise in many legal cases involving low back injury, medical malpractice, and compensation issues.

d) Clinical:

Ongoing - evaluations of many referred patients, opinions requested on medical management. These tend to be for patients who have not responded to any type of therapy or they are elite athletes.

e) Military:

- |   |            |
|---|------------|
| 1. US Navy  | 2011-2012  |
| 2. Canadian Military (Special Forces)                                   | 2012       |
| 3. Defence and Civil Institute of Environmental Medicine, Toronto, Ont. | 1988, 1989 |

Major Conference Organization:

1. Program Committee, Fifth Interdisciplinary World Congress on Low Back and Pelvic Pain – Effective Diagnosis, and Treatment, Melbourne, Australia, November 2004.
2. Conference Chair, North American Conference on Biomechanics, Waterloo, ON, August 14-19, 1998.
3. Program Chair, Human Factors Association of Canada Annual Conference, Waterloo, ON, October 23-26, 1996.

National and International Committees:

1. Canadian Chiropractic Association - Research Committee, March 1997 - March 2001.

2. National Institute for Occupational Safety and Health (NIOSH), USA, Review of Back Belts, 1996.

Other:

Producer of Video “Low Back Exercises for Seniors”,  
University of Waterloo, 1996.

**PUBLICATIONS**

Summary: Books = 3  
Chapters in books = 25  
Full refereed journal papers = >235  
Refereed conference papers = >140  
Keynote addresses = >70  
Other invited addresses = 400 plus  
Self-initiated addresses = 150 plus

A) **Books**

1. **McGill, S.M., (2015)** Back Mechanic: The step-by-step McGill method to manage back pain. Backfitpro Inc, ([www.backfitpro.com](http://www.backfitpro.com)).  
Now printed in German, Dutch, Czech, Spanish, Italian, Korean, Chinese.
2. Augaitis, R. Kell, R. Kourtis, G., **McGill, S.M.**, Whitmarsh, L. Springle, N. Personal Fitness: Faster, Stronger, Smarter. Textbook for High School Curriculum, Thompson Books, Toronto, 2013
3. **McGill, S.M.** Ultimate back fitness and performance, Backfitpro Inc., Waterloo, Canada, 2004. ISBN 0-9736018-0-4 ([www.backfitpro.com](http://www.backfitpro.com)). Sixth edition 2017.
4. **McGill, S.M.** Low back disorders: Evidence based prevention and rehabilitation, Human Kinetics Publishers, Champaign, IL, U.S.A., 2002. ISBN 0-7360-4241-5, Third Edition, 2016.  
Now also printed in Japanese, 2003  
Now also printed in Chinese, 2009.

B) **Clinical Videos's**

1. **McGill, S.M.**, Back exercises for Seniors, Univ of Waterloo, 1996.

2. **McGill, S.M.**, The Ultimate Back: Enhancing Performance ([www.backfitpro.com](http://www.backfitpro.com)), 2010
3. **McGill, S.M.**, Clinical Techniques for the Ultimate Back: Assessment and Therapeutic Exercise ([www.backfitpro.com](http://www.backfitpro.com)), 2007. Second Edition 2012.
4. Stuart McGill, Gray Cook & Craig Liebenson, Assessing Movement Video, On target publications, (<http://www.otpbooks.com>). 2014
5. Stuart McGill & Lee Brandon, New Science of Golf, ([www.backfitpro.com](http://www.backfitpro.com)), 2015

**C) Commissioned Papers and Position Papers**

1. **McGill, S.M.** There is no such thing as non-specific back pain. A position paper written for the Centre of Research Excellence: Musculoskeletal Disorders. Faculty of Applied Health Sciences, University of Waterloo, 2016.
2. **McGill, S.M.** On the link between occupationally related musculoskeletal loading and low back injury. Commissioned paper for the Commission on Behavioral and Social Sciences and Education, National Research Council and Institute of Medicine, USA, March, 2000.

**D) Full Refereed Journal Papers**

\*Indicates first authors who were students at time of development of the paper.

1. Stuart McGill, and Brad Schoenfeld, (2017) Master Class- Choosing Exercises: An example with “the crunch”, NSCA Personal Trainer Quarterly.
2. Balkovec, C., Veldhuis, J., Baird, J., Brodland, W., McGill, S.M., (2017) A Videofluoroscopy-Based Tracking Algorithm for Quantifying the Time Course of Human Intervertebral Displacements. Computer Methods in Biomechanics and Biomedical Engineering. Mar 15:1-9. doi: 10.1080/10255842.2017.1302435.

3. Lee B and **McGill SM**. (2016) The Effect of Core Training on Distal Limb Performance During Ballistic Maneuvers. *J Sport Sci.*, <http://dx.doi.org/10.1080/02640414.2016.1236207>
4. Lee B and **McGill SM**. (2016) The effect of short term isometric training on core/torso stiffness. *J Sport Sci.* <http://dx.doi.org/10.1080/02640414.2016.1235791>
5. Balkovec, C., Vernengo, J., Stevenson, P., McGill, S.M., (accepted June 2016) Evaluation of an injectable hydrogel and PMMA in restoring mechanics to compressively fractured spine motion segments, *The Spine Journal*.
6. Balkovec, C., Vernengo, J., McGill, S.M., (2016) Disc height loss and restoration via injectable hydrogel influences adjacent segment mechanics in-vitro *Clinical Biomechanics*, 36:1-7.
7. A Bateman, C Balkovec, M Akens, A Chan, W Oakden, R Harrison, A Yee, S McGill, (2016) Closure of the annulus fibrosus using a novel suture application device – in vivo porcine and ex-vivo biomechanical evaluation, *The SPINE Journal*. 16:889-895.
8. Giangregorio LM, Ashe MC, Shipp K, Cheung AM, Heinonen A, Papaioannou A, McGill S, Laprade J, Jain R, Leller K, MacIntyre N, Wark J. (2016) Intensity is a subjective construct", *Osteoporosis International*. *Osteoporos. Int.*, 27:2391–2392. DOI 10.1007/s00198-016-3507-9
9. Frost DM, Beach TAC, Crosby I, McGill SM. (In Press, Jan, 2016) The cost and distribution of firefighter injuries in a large Canadian fire department, *WORK: A Journal of Prevention, Assessment & Rehabilitation*.
10. Cannon, J., Emond, D., McGill, S.M., (2016) Evidence on the ability of a pneumatic decompression belt to restore spinal height following an acute bout of exercise. *Journal of Manipulative and Physiological Therapeutics*, 39(4):304-310.
11. Santana, J.C., Brown, L., McGill, S.M., (2015) The Anterior and Posterior Serape: The rotational core. *Strength and Conditioning Journal*.37(5):8-13.
12. Frost DM, Beach TAC, Campbell TL, Callaghan JP, **McGill SM**.(2015) An appraisal of the Functional Movement Screen grading criteria – Is the composite score sensitive to risky movement behavior? *Phys Ther Sport* 2015 Nov 17;16(4):324-30. Epub 2015 Feb 17.
13. Frost DM, Beach TAC, Callaghan JP, **McGill SM**. (2015) Exercise-based performance enhancement and injury prevention for firefighters: Contrasting the fitness- and

movement-related adaptations to two training methodologies. *J Strength Cond Res* 2015 Sep;29(9):2441-59.

14. Frost DM, Beach TAC, **McGill SM**, Callaghan JP. (2015) A proposed method to detect kinematic differences between and within individuals. *J. Emg. Kinesiol.* Volume 25(3): 479–487.
15. Kushner A., M., Brent, J. L., Schoenfeld B., Hugentobler, J., Lloyd, R. S., Vermeil, A., Chu, D., Harbin, J., **McGill, S. M.**, Myer, G. D., (2015) The Back Squat Part 2: Targeted Training Techniques to Correct Functional Deficits and Technical Factors that Limit Performance, *J. Strength and Condit. Res.* 37(2):13-60.
16. **McGill SM**, Frost DM, Finlay T, et al. (2015) Can fitness and movement quality prevent back injury in elite task force police officers? A 5 year longitudinal study, *Ergonomics* 2015 Oct 8;58(10):1682-9. Epub 2015 May 8. Winner: **Liberty Mutual award for top paper in 2015.**
17. Balkovec C, Adams M, Dolan P, **McGill SM.** (2015) Annulus fibrosus can strip hyaline cartilage endplate from subchondral bone: a study of the intervertebral disc in tension. *Global Spine J* 2015 Oct 25;5(5):360-5. Epub 2015 Feb 25. **Won the top paper of the year for 2015 in the Global Spine Journal.**
18. Frost DM, Crosby I, **McGill SM** (2015). Firefighter injuries are not just a fireground problem. WORK. 09/2015; DOI:10.3233/WOR-152111
19. Vera-Garcia, F., Ruiz-Pérez, I., Barbado, D., Juan-Recio, C., **McGill, S.M.**, (2014) Trunk and shoulder EMG and lumbar kinematics of medicine-ball side throw and side catch and throw. *European J. Human Movement*, **33**:93-109
20. **McGill SM**, Cannon, J., Andersen J (2014). Muscle activity and spine load during pulling exercises: Influence of stable and labile contact surfaces and technique coaching. J.EMG.Kines. DOI 10.1016/j.jelekin.2014.06.002 24(5): 652-665
21. Sidorkewicz, N., & McGill, S. M. (2014). Documenting female spine motion during coitus with a commentary on the implications for the low back pain patient. *European Spine Journal*, 1-8.
22. Frost DM, Beach TAL, Callaghan J, **McGill SM.** (2015) A proposed method to detect kinematic differences between and within individuals. *J EMG. Kin.* 03/2015; 25(3). DOI:10.1016/j.jelekin.2015.02.012.

23. McGill, SM, Cambridge, E., Anderson, J., (2015). A six week trial of hula hooping using a weighted hoop: Affects on skinfold, girths, weight and torso muscle endurance. *J. Strength Cond. Res.* 29(5):1279–1284.
24. Lee B, McGill SM. (2014) Striking dynamics and kinetic properties of boxing and MMA gloves. *RAMA*. (Revista de Artes Marciales Asiaticas), 9(2): 106-115.
25. Frantzis E, Druelle P, Ross K, McGill SM (accepted Sept 2014). The accuracy of osteopathic adjustments of the lumbar spine: A Pilot Study. *Int. J Osteopathic Medicine* 18 (2015), pp. 33-39 DOI information: 10.1016/j.ijosm.2014.09.001
26. Balkovec C, Carstensen M, Leung A, McGill SM (2014). *A Preliminary Investigation into the Morphology of Trabecular Bone Damage Associated with Intervertebral Disc Herniation*. *J Spine Neurosurg* 3:6 doi:10.4172/2325-9701.1000162
27. Lee, B and McGill, S.M. (2015) The effect of long term isometric training on core/torso stiffness. *J. Strength Condit. Res.* 29 (6):1515-1526.  
doi: [10.1519/JSC.0000000000000740](https://doi.org/10.1519/JSC.0000000000000740)
28. Frost DM, Beach TAL, Callaghan J, McGill SM (2015). FMS scores change with performer's knowledge of the grading criteria- Are general whole body movement screens capturing "dysfunction". *J Strength Cond Res* 2015 Nov;29(11):3037-44
29. Frost DM, Beach TAL, Callaghan J, McGill SM (2015). The influence of load and speed on individual's movement behaviour. *J Strength Cond Res* 2015 Sep;29(9):2417-25
30. McGill SM, Cannon J, Anderson J, (2014) Muscle activity and spine load during anterior chain whole body linkage exercises: The body saw, hanging leg raise and walkout from a pushup. *J. Sport Sci.* DOI 10.1080/026 40414.2014.946 437
31. Dejanovic A, Balkovec C, McGill SM (2015). Head posture influences low back muscle endurance tests in 11 year old children. *J Mot Behav* 2015 25;47(3):226-31. Epub 2014 Nov 25.
32. Sidorkewicz N and McGill SM (2014). Male spine motion during coitus: Implications for the low back pain patient. *SPINE* 39(20): 1633-1639.
33. Giangregorio LM, Ashe MC, Shipp K, Cheung AM, Heinonen A, Papaioannou A, McGill S, Laprade J, Jain R, Leller K, MacIntyre N, Wark J. "Is this exercise safe?" – Building consensus around responses to common questions about physical activity posed by people with osteoporosis. *J Bone Miner Res* 28 (Supp1). Available at: <http://www.asbmr.org/education/AbstractDetail?aid=ccf88652-3d98-4a0d-843fba44e6593d5f>

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**D) Full Refereed Journal Papers Submitted**

1. Biomechanics of the Male Orgasm during Coitus: A study of EMG, kinematics and kinetics of seven cases, Natalie Sidorkewicz, MSc, Edward DJ Cambridge, BKin, DC, PhD(c), and Stuart McGill, PhD
2. Spine and Hip Biomechanics of the Male Human Orgasm during Coitus: A study of muscle activity, kinematics and kinetics of seven cases, Natalie Sidorkewicz, MSc, Edward D J Cambridge, BKin, DC, PhD(c), and Stuart M McGill, PhD
3. Balkovec, Christian, Veldhuis, Jim, Baird, John W., Brodland, Wayne, McGill, Stuart M., Digital Tracking Algorithm Reveals the Influence of Disc Height Loss on Joint Movements in the Human Cervical Spine, SPINE
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9. Cannon, J., McGill, S.M., Spine curvature during lying postures: Effect of a pneumatic support, Journal of Sleep Research.
10. Aleksandar Dejanovic<sup>1</sup>, Bojana Petrovacki Dejanovic <sup>1</sup>, Edward D J Cambridge<sup>2</sup>, Stuart McGill<sup>2</sup>, Does squat technique influence low back muscle endurance and hamstring flexibility in adolescents?

**E) Manuscripts in Preparation**

**F) Book Chapters**

1. **McGill, S.M.** Spinal stability: Mechanism of injury and re-stabilization, in: Rehabilitation of the Spine - A Practitioners Manual – 3rd Edition (ed. C.L. Liebenson), Lippincott, Williams and Wilkins, Baltimore, 2016.
2. **McGill, S.M.** Analysis of the forces on the lumbar spine during activity in Kinesiology: Mechanics and Pathomechanics of Human Motion (ed. C. Oatis, third edition), Lippincott Williams and Wilkins, Philadelphia, 2016.
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**G) Refereed Conference Proceedings**

1. McGill, S.M., Frost, D., Lam, T., Finlay, T., Darby. K., Cannon, J., Can fitness and movement quality predict back injury in elite task force police officers? A 5-Year longitudinal trial. Int. Soc. For Study of the Lumbar Spine, San Francisco, 2015.
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4. Giangregorio LM, Cheung AM, Heinonen A, **McGill SM**, Laprade J, Ashe MC, Shipp K, Wark JD, MacIntyre NJ, Keller H, Jain R, Papaioanou A. Too Fit to Fracture: International consensus to establish recommendations on exercise and safe movement for individuals with osteoporosis and spine fractures. International Osteoporosis Foundation. Seville Spain. April 2014
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7. Balkovec C, Carstensen M, Leung A, **McGill SM**. A characterization of sub endplate damage during intervertebral disc herniation. Int. Soc. Study of the Lumbar Spine, 40th Annual Meeting, Scottsdale AZ. May 13-17, 2013. Proceedings pages 61-62.
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10. Sidorkewicz N, Cambridge E, **McGill SM**. Female lumbar spine kinematics during coitus: Initial recommendations for the low back pain patient. 37th Annual meeting of the American Society for Biomechanics, Omaha, NB USA 2013
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  15. Frost D, Gooyers C, Campbell T, **McGill SM**. Does the elimination of thigh markers influence the between-day variation in joint angles? Canadian Society for Biomechanics. Vancouver 2012
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  18. Moreside J, **McGill SM**. Newfound joint movement obtained from stretching protocols may not translate to range of motion in functional tasks. International Society for Biomechanics, Brussels July 3-7 2011
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  23. **McGill SM**, Frost DM, Hubrecht T. Muscle activation/relaxation and the speed/strength paradox. Submitted to present at the 16<sup>th</sup> Biennial Conference of the Canadian Society for Biomechanics, Kingston, Ontario, Canada, June 9-12, 2010

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155. **McGill SM** (1991). Lumbar loads from moments about three orthopaedic axes: Developing the architecture of a 3-D occupational low back model, in the proceedings of the XIIIth International Congress on Biomechanics, University of Western Australia, Perth, Australia, 9-13 December, pp. 545-547.
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161. **McGill SM**, Kane SL (1989). Torsional strength and muscle activity during axial twisting of the trunk. In Proceedings of the XII International Congress of Biomechanics, Los Angeles, 26-30 June, pp. 255.
162. Potvin JR\*, Norman RW, **McGill SM**, Eckenrath MF (1989). L4/L5 shear force reduction by low back musculature during lifting. In Proceedings of the XII International Congress of Biomechanics, Los Angeles, 26-30 June, pp 258.
163. **McGill SM**, Norman RW, Sharratt MT (1989). Lifting with an abdominal belt: Effects on trunk muscle activity and intra-abdominal pressure. In the Proceedings of the 22nd

- annual meeting of the Human Factors Association of Canada, Toronto, Nov 26-29, pp. 193-198. This paper was awarded the 3M Award for Presentation Excellence.
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180. **McGill SM**, Dainty D (1982). A computer analysis of swing through crutch gait. Locomotion II, Proceedings of the Second Biannual Conference of the Canadian Society for Biomechanics, September, Kingston, Ontario, pp. 18-19.
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#### **H) Technical and Consulting Reports**

1. **McGill SM**, Andersen J. Review of the Powerhoop, Powerhoop Norway 2012.
2. **McGill SM**, Andersen J. Assessment of TRX training systems. Fitness Anywhere, 2012.

3. **McGill SM**, Fenwick C. Assessment of Massage Therapists, Disability Assessment Services, 2007.
4. **McGill SM**, Fenwick C. Evaluation of a novel sleeping technology, Comfort Solutions, USA, 2006.
5. **McGill SM**, Karpowicz A. Evaluation of the MacNaughton Lifting Device, 2005.
6. **McGill SM**, Karpowicz A, Vera-Garcia F. Quantifying the effects of a neck brace for overhead observation work. Hydro One, Ontario, 2005.
7. **McGill SM**, Kavic N. Quantifying the frictional forces and biomechanical loading on the lumbar spine during patient handling transfers using different transfer devices. For Samarit Medical Canada, 2003.
8. Ross K, Bereznick D, **McGill SM**. Joint “crack” sounds during spinal manipulation, Bruel and Kjaer Sound and Vibration, 2003.
9. **McGill SM**, Kavcic N. Evaluation of a modulated TENS unit, Dr. Ho submission to the FDA, USA, 2002.
10. **McGill SM**. Enhancing low back health for Emergency Responders, Hydro One - Nuclear, 2001.
11. **McGill SM**. Review of injured worker management procedure, Ontario Power Generation Inc. - Nuclear, 1999.
12. **McGill SM**. Review of back injury prevention training module, Ontario Power Generation Inc., 1999.
13. **McGill SM**. Quantitative investigation of the embrace insert, Innotec, Orillia, Ontario, 1999.
14. **McGill SM**. Evaluation of Dr. Ho’s muscle therapy unit, Markham, Ontario, 1999.
15. **McGill SM**. Review of fall arrest system, Ontario Hydro, 1998.
16. **McGill SM**. Review of Kinex machine, 1997.
17. **McGill SM**, Yingling VR, Peach JP. Assessment of the pitch and catch chest control pack: Recommendations for re-design. Canadian Pacific Rail, January 1996, 10 pages.
18. **McGill SM**. Technical Information: Abdominal Belts for use in industry. Report for Government of Alberta - Occupational Health and Safety, 1993.
19. **McGill SM**. Human Factors Reports to Ontario Hydro, Ontario, 1993.
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20. Wells RP, Norman RW, **McGill SM**. Review of the proposed Province of British Columbia Code of Practice for physical handling. Worker's Compensation Board of British Columbia, December 1993. 22 pages.
21. **McGill SM**. Assessing the risk of injury of specific jobs and implementing an ergonomics program. Report for Noranda Recycled Papers, Thorald, Ontario, 1992. 35 pages.
22. **McGill SM**. Human Factors Reports to Ontario Hydro, Ontario 1992.
  - Design recommendations for changing 4160 kV breakers, 16 pages.
  - Review of coal scrapers, 16 pages.
23. **McGill SM**. Human Factors Reports to Ontario Hydro, Ontario, 1991
  - Changing windbox pulverizer balls, 6 pages.
  - Design recommendations for the lime hopper operations, 9 pages.

24. **McGill SM.** Human Factors Reports to Ontario Hydro, Toronto, Ontario, 1990. •Review of Coalyard Operations, 17 pages.
  - Vertical Heater Overhaul, 15 pages.
  - Changing Forklift Propane Tanks, 4 pages.
  - Review of Stockkeepers' Tasks, 6 pages.
  - Design Suggestions for Welding Tank Carts, 4 pages.
  - Coal Burner Nozzle Tip Servicing, 12 pages.
  - Boiler Safety Valve Overhaul, 8 pages.
25. Norman RW, **McGill SM.** Development of Objective Methods for Evaluating the Safety of Lifting Tasks: Biomechanical Modelling. Submitted to the Defense and Civil Institute of Environmental Medicine, Toronto, April, 1989. 60 pages.
26. **McGill SM.** The relationship of exercise to the incidence of low back pain. For Lifestyle Fitness Inc., Kitchener, Ontario, June, 1988.
27. **McGill SM.** A qualitative assessment of the posibelt III and posibelt IV pole strap with special emphasis on the low back. For Ontario Hydro, Toronto, Ontario. December, 1988. 6 pages.
28. **McGill SM.** An evaluation of female's performance on isometric strength tests. Report submitted to Humansystems Inc., Guelph, 1987.
29. **McGill SM,** Norman RW, Potvin J. Analysis of low back loads and other joint moments sustained by emergency ambulance attendants. Report to Ergo Systems Canada Inc., Vancouver, 1987. 55 pages.
30. **McGill SM,** Holmes S. Report on the slip resistance of kitchen staff footwear. Prepared for Health and Safety Services, University of Waterloo, October, 1987.
31. Norman RW, Sharratt MT, Eckenrath ME, Wolfe DL, Meyer PF, **McGill SM.** Back stress and respirator analyses at Hudson Bay Mining and Smelting, WRI Report #509-02, 1986. 146 pages.
32. Dainty DA, Cotton C, Morrison WE, **McGill SM,** Mason M. A final report on the Evaluation of Window Opening Capacities. NRC report, contract #080-082/0-4424, 1981.

**I) Editorials, Commentaries, Letters to the Editor**

1. L. M. Giangregorio, A. Papaioannou, A. Heinonen, A. M. Cheung, J. Laprade, M. C. Ashe, N.J.MacIntyre, K. Shipp, S. McGill, J. Ravi, H. Keller, J. D. Wark, Intensity is a subjective construct, Letter to the Editor, Osteoporosis International, 2016.
- 2.
3. **McGill, S.M.,** Editorial on Low Back Pain treatment, Resource platform for PT's in Primary/Family Health Care teams, Ontario Physical Therapy Association, 2015.
4. **McGill SM.** Letter to editor regarding Wei et al., Occupational lifting is not related to low back pain. Spine Journal. 11, 365, 2011.

5. Podcast on Physicians Network with Dr. Vijay Goel. Topic: Review of biomechanics literature and back pain.
6. Howarth S, Allison A, Grenier S, Cholewicki J, **McGill SM**. "Letter to the Editor." Comment on letter by Gardner-Morse, Stokes, Huston. J. Biomech. 39(2): 392-394, 2005.
7. Brown SH, Howarth S, **McGill SM**. Comment on article by Marshall and Murphy, Arch. Phys. Med., 86: 1890, Sept. 2005.
8. **McGill SM**. < **Invited "Point of View"** > On abdominal belt research and future directions. SPINE. 27(16): 1754-1755, 2002.
9. **McGill SM**, Lehman G. Comment on letter by D. Seaman regarding our work. J. Manip. Physiol. Ther.
10. **McGill SM**, Lehman G. Comment on letter by R. Nicholson regarding our work. J. Manip. Physiol. Ther. 23(5): 369-370, 2000.
11. **McGill SM**. < **Invited Journal Commentary** > Commentary on lifting papers. J. Orthop. Sports Phys. Ther. 30(5): 258-259, 2000.
12. Cholewicki J, Juluru K, **McGill SM**. Comment on letter by Dr. Pietrek regarding our work. J. Biomech. 33: 789-790, 2000.
13. **McGill SM**. Editorial - North American Congress on Biomechanics. J. Biomech. 32(11): 1137, 1999.
14. **McGill SM**, Callaghan JP, Gunning J. Comment on letter by D. Saunders regarding our work. Physical Therapy 78(7): 874, 1998.
15. **McGill SM**. Invited "Point of View" on article "The importance of intersegmental muscles for the stability of the lumbar spine: A biomechanical study in vitro." SPINE 23(18): 1995, 1998.
16. **McGill SM**, Kippers V. Response to the letter of Drs. Newman and Gracovetsky, SPINE 1995.
17. Norman RW, **McGill SM**. Comment on our work reported by Delleman et al, "On biomechanical models and work related low back injury", Clin. Biomech. 8(5):277-278, 1993.

18. Potvin J, **McGill SM**, Norman RW. Comment on review by R. Burgess-Limerick, B. Abernathy, R. Neal, SPINE 17(9):1124-1125, 1992.
19. **McGill SM**, Norman RW. Clarification of our work as cited by M.S. Sullivan in: Physical Therapy, 70(6):394-296, 1990.
20. **McGill SM**, Norman RW. Response to the critique of S. Gracovetsky, Spine, 15(11): 1239-1240, 1990.
21. **McGill SM**, Norman RM. Response to the critique of Dr. S. Gracovetsky of Potential of Lumbodorsal Fascia Forces to Generate Back Extension Moments During Squat Lifts. J. Biomed. Engng. 11: 172-175, 1989.

**J) Other Publications**

1. **McGill SM**. Why everyone needs core training. National Strength and Conditioning Association, Connect Newsletter, Issue August 20, 2014
2. **McGill SM**. Why everyone needs core training. P.T. On the Net. Also on StrengthFirst.com. 2013
3. **McGill SM**, Chaimberg J. Strike like a pro. Inside MMA, Blitz Martial Arts Magazine, Australia, August 2009. Vol 1 Number 1.
4. **McGill SM**. Super stiffness, article for “The Magazine” by Perform Better, Issue: Spring 2006.
5. **McGill SM**. Building the ultimate back: Progressing from corrective exercise to high performance training, Part II, American Council on Exercise – Certified News II(2): 3-5, 2005.
6. **McGill SM**. Super stiffness, article for Dragon Door Com.
7. **McGill SM**. Ultimate back fitness and performance, Part I, American Council on Exercise, Certified News Vol. II, Number 1, pp: 10-13, December 2004.
8. Ross JK, Bereznick DE, **McGill SM**. The use of accelerometers to locate the source of cavitation during spinal manipulation. Bruel and Kjaer Monthly Publication, 2003.
9. **McGill SM**. Update on backbelts in industry: more data, same conclusion. Article in CAHR News, Summer, No. 15, 1996.

10. **McGill SM.** Update on the use of back belts in industry: more data - same conclusion. Lead article in *Communique*, Newsletter of the Human Factors Association of Canada, October, vol. 25(6), 1995.
11. Norman RW, **McGill SM.** WATBAK - USER'S MANUAL, Version 3.0, 1989. 46 pages. Also WATBAK - Version 5.1, 1993.
12. Norman RW, **McGill SM.** 3D WATBAK - USER'S MANUAL, Version 1.0, 35 pages.
13. **McGill SM.** Lifting sense and nonsense. In *Ergonomics '88: Attacking workplace issues*, Department of Kinesiology Continuing Education, University of Waterloo, June, 1988. 12 pages. Also updated for 1989-1996.
14. **McGill SM.** Issues in biomechanical modelling of the low back to determine the safe task. Lead article in *Communique*, Newsletter of the Human Factors Association of Canada, February, 1987.
15. Norman RW, **McGill SM.** Back to back problems in industry. Article in *CAHR News* (3), July 1987.
16. **McGill SM.** Low Back Pain: A Biomechanical Approach. Teaching Resources and Continuing Education, University of Waterloo, May, 1987. 41 pages.

## **Presentations**

### **A. Invited Presentations to Scholarly Groups**

1. **McGill, S.M.,** Back pain: Obtaining a precise diagnosis to guide the optimal approach, KW Academy of Medicine, Waterloo, April 26, 2017.
2. **McGill S.M.** Tuning the body for performance enhancement and injury resilience, Society for Weight Training Injury specialists, Mississauga, Oct 13-15, 2016.
3. **McGill S.M.** <7 hour course> Enhancing Performance: From back pain to high performance. Society for Weight Training Injury specialists, Mississauga, Oct 13-15, 2016.
4. **McGill S.M.** There is no such thing as non-specific back pain. Webinar hosted by Canadian Chiropractor. May 4, 2016.

5. **McGill, S.M., <John Sutton Memorial Lecture>** Back Pain: Obtaining a precise diagnosis to reduce pain and enhance performance, Ontario medical Association, February 6, 2016.
6. **McGill, S.M.** Determinants of Elite Performance in the Athletic spine, Singapore Institute for Sport, Singapore, Nov 9, 2015.
7. **McGill, S.M., <Feature Presentation>** What I have learned from studying and working with the great athletes, National Athletic Trainers Association 2015 Convention, St Louis, USA, June 24, 2015.
8. **McGill, S.M., <Advanced Track Clinical course>** The back pained athlete: Assessment, rehabilitation and progressions to ultimate performance. 6 hour course National Athletic Trainers Association 2015 Convention, St Louis, USA, June 25, 2015.
9. **McGill, S.M.,** Injury Mechanisms Initiating the Painful Spine, and Pain Provocation Assessment, World Federation of Chiropractic, Athens, Greece, May 14, 2015
10. **McGill, S.M.,** Spine Biomechanics: Assessment for Pain Reduction & Performance Enhancement, Clinical session, World Federation of Chiropractic, Athens, Greece, May 14, 2015
11. **McGill, S.M., <Keynote address 1>** Causes of injury: Pathways to the degenerative cascade. Washington University School of Medicine Sahrman retreat, St Louis, Feb 28-March 1, 2015
12. **McGill, S.M., <Keynote address 2>** Addressing pain and compromised ability through improved mechanics. Washington University School of Medicine Sahrman retreat, St Louis, Feb 28-March 1, 2015
13. **McGill, S.M., <8 Hour Clinical course>** Back Injury and the strength athlete: From Rehabilitation, to strength progressions and ultimate performance, Canadian Strength Symposium, University of Saskatchewan, Jan 23-25, 2015.
14. **McGill, S.M., <Keynote address>** What makes the great athletes great?, Canadian Strength Symposium, University of Saskatchewan, Jan 23-25, 2015.
15. Sidorkewicz N, **McGill SM** (2014). Towards the development of coital movement technique and position guidelines for low back pain patients. 2014 Canadian Sex Research Forum Annual Meeting. Kingston, Canada. November, 2014

16. **McGill SM.** <Keynote Address> Studying the great ones- What I have learned about function from the strongest and fastest athletes. Ontario Biomechanics Conference. Barrie, March 14, 2014
17. **McGill SM.** <Keynote Course> Building a high performance back. American Chiropractic Association. Las Vegas. March 1, 2014
18. **McGill SM.** <Debate>. McGill and Cook: A contrast in approaches. Stanford University. Palo Alto, USA January 25, 2014.
19. Sidorkewicz N, Cambridge EDJ, **McGill SM** (2013). Female lumbar spine kinematics during coitus: initial recommendations for the low back pain patient. 37<sup>th</sup> Annual Meeting of the American Society of Biomechanics, Omaha, USA
20. Giangregorio LM, Ashe MC, Shipp K, Cheung AM, Heinonen A, Papaioannou A, **McGill SM**, Laprade J, Jain R, Keller H, MacIntyre NJ, Wark JD. Too Fit To Fracture: Exercise recommendations for individuals at high risk of fracture based on the Grading of Recommendations, Assessment, Development and Evaluation process, and expert consensus. Canadian Society for Exercise Physiology. 2013
21. **McGill SM.** <Keynote Address> Why everyone needs core training. Boston Sports Medicine. Boston, May 17-18, 2013.
22. **McGill SM.** <Keynote Address> Lumbar spine assessment and rehabilitation: Recent developments. Update on the Lumbar Spine Conference. USC, Los Angeles. Dec 1-2, 2012.
23. **McGill SM.** <Preconference Course> <Keynote Lecture> 4 Hours- From back pain to performance: Building progressive training programs. What I learned from the great athletes. Can. Soc., Exercise Physiology. Kananaskis, Alberta. November 2-3, 2012.
24. Giangregorio L, **McGill SM** and others. Osteoporosis Initiative - Minneapolis, October 11, 2012
25. **McGill SM.** Assessing movement assessments. Warrior athlete conference, Uniformed Services University, Bethesda, Maryland USA, September 10-11, 2012.
26. **McGill SM.** <Keynote Lecture> How do great athletes optimize their backs? National Strength and Conditioning Association, Las Vegas, July 6-10, 2011.
27. **McGill SM.** <Keynote Lecture> Producing elite back performance, United Kingdom Strength and Conditioning Association. Stirling, Scotland, June 17-19, 2011.

28. **McGill SM.** <Keynote Lecture> What I have learned from the great athletes, IUTAM Symposium on Human Body Dynamics: From multi body systems to biomechanics, Waterloo, June 5-8, 2011
29. **McGill SM.** Links between spine radiological findings and specific injury mechanisms, and pain patterns. Neuroradiology Group, London University Hospital, November 25, 2010.
30. **McGill SM.** <Keynote Lecture> Stability or stiffness: Linking the lab and the clinic, International Symposium on Musculoskeletal pain and motor control: Assessment and management, Naples, Florida, The Central Institute for Human Performance, January 8-10, 2010.
31. **McGill SM.** The disconnect between the lab based science and clinical practice, State of the art Symposium on low back pain and Motor Control, Toronto, August 28, Montreal August 29, 2010
32. **McGill SM.** Spine Stability- Let's clear the air. Canadian Physiotherapy Association, St. John's, July 23, 2010
33. **McGill SM.** Challenges of longitudinal trials: wish I knew then what I know now. Centre for Research Expertise in Musculoskeletal Disorders, Queen's University. Kingston, Ontario, June 9, 2010
34. **McGill SM.** There is no such thing as non-specific back pain, My Aching Back- Strategies for the family practitioner in the care of back pain. Trillium Spine Institute. Port Credit, Ontario, April 17, 2010
35. **McGill SM.** <Keynote Lecture> Thoughts on the links between ventilation and spine function, International Symposium on Musculoskeletal pain and motor control: Assessment and management, Naples, Florida, The Central Institute for Human Performance, January 8-10, 2010.
36. **McGill SM.** There is no such thing as non-specific back pain. Philadelphia Spine Research Society, Dec , 2009.
37. **McGill SM.** The disconnect between back pain science and clinical practice, State of the art Spine Symposium of Research Leaders, Brisbane Australia, Nov 13-15, 2009.
38. Frost DM, Beach TAC, **McGill SM**, Callaghan JP. Injury prevention in the occupational athlete. John P. Redmond Symposium-Occupational Health and hazards in the fire service. Los Angeles, Nov. 8-12, 2009

39. **McGill SM.** Therapeutic and corrective exercise for the painful back. Am. Assoc. Neuromuscular & Electrodiagnostic Medicine 56th Annual Meeting, San Diego, Oct 7-10, 2009.
40. **McGill SM.** Corrective Exercise Workshop. Am. Assoc. Neuromuscular & Electrodiagnostic Medicine 56th Annual Meeting, San Diego, Oct 7-10, 2009.
41. **McGill SM.** Building the ultimate back: from rehabilitation to high performance. Distinguished Lecture Series in Sports Medicine, Northeastern University, Boston, June 5-6, 2009
42. **McGill SM.** Back and spine health for the dental team. 153rd Annual Meeting of the North Carolina Dental Society, May 14-17, 2009
43. **McGill SM.** <Keynote Lecture> Reducing back pain: Myths, Truths and Therapeutic Exercise, 4<sup>th</sup> Annual Control Virginia Spine Symposium, Virginia Commonwealth University Medical Centre, Richmond, Virginia, April 17, 2009.
44. **McGill SM.** <Keynote Lecture> Lumbar mobilization vs stabilization: Which patient, why and how. British Chiropractic Association Conference, Bournemouth, England, April 4, 2009.
45. **McGill SM.** Building the ultimate back: From rehabilitation to high performance. Anglo European Chiropractic College Continuing Professional Development Course, 3.5 hours, Bournemouth, England, April 3, 2009.
46. **McGill SM.** <Keynote Lecture> Building the ultimate back: From rehabilitation to high performance. Canadian Society for Exercise Physiology: Banff, October 16-18, 2008.
47. **McGill SM.** Low back disorders: Assessment and design of appropriate corrective exercise. Int. Soc Clin. Rehab. Specialists, National University of Health Sciences, Chicago, Sept 6-7, 2008.
48. **McGill SM.** Building the ultimate back: From rehabilitation to high performance, 1 day course, British Association of Sport and Exercise Medicine, Kilmarnock, Scotland, July 19, 2008.
49. **McGill SM.** The ultimate back: From rehabilitation to high performance, 1 day course, Trinity College, Centre for Health Sciences, Dublin, Ireland, July 10, 2008.
50. **McGill SM.** Rehabilitating low back disorders: Considering corrupted motor patterns. Int. Soc. Electrophysiological Kinesiology, Niagara Falls, June 19, 2008.

51. **McGill SM.** Cutting edge spinal stabilization, 4 hour course, Chiropractic Orthopaedists of North America, Palm Springs, USA, June 7, 2008.
52. **McGill SM.** Building the ultimate back: from rehabilitation to high performance, 1 day course, Canadian Physiotherapy Association Annual Meeting, Ottawa, May 28, 2008.
53. **McGill SM.** Building the ultimate back: From rehabilitation to high performance, Medical Commission, Spanish Olympic Committee, Madrid, September 29, 2007.
54. **McGill SM.** Inestabilidad lumbopelvica, Espalda, mitos y realidades, Centro de Estudios, Investigacion y Medicina del Deporte, Pamplona, Spain, September 28, 2007.
55. **McGill SM.** Building the ultimate back: From rehabilitation to high performance, Ontario Kinesiology Association Annual Conference, Waterloo, October 19-21, 2007.
56. **McGill SM.** <Keynote Lecture> Low back disorders: Clinical decision making, Quebec Orthopaedic Division – Canadian Physiotherapy Association, November 10, 2007.
57. **McGill SM.** The ultimate back: From rehabilitation to high performance, 1 day course, Quebec Orthopaedic Division – Canadian Physiotherapy Association, November 11, 2007.
58. **McGill SM.** Low back disorders: Making better clinical decisions, 1 day course for the New Zealand Manipulative Physiotherapy Association, Rotorua, New Zealand, August 27, 2007.
59. **McGill SM.** <Keynote Address> Appropriate back exercise: Myths and truths. New Zealand Manipulative Physiotherapy Association, Rotorua, New Zealand, August 24-26, 2007.
60. **McGill SM.** The seated worker, CRE-MSD Researcher Day, U. of Waterloo, June 28, 2007.
61. **McGill SM.** <Keynote: Royal College of Physicians and Surgeons of Canada Speaker> Back Pain: Biomechanical perspectives on etiology and treatment. Can. Assoc. of Physical Medicine and Rehabilitation, London, June 13-16, 2007.
62. **McGill SM.** Beyond Ergonomics: Evolving to achieve fewer back injuries in the future. Human Factors and Ergonomics Society, 50<sup>th</sup> Annual Meeting, San Francisco, October 16-22, 2006.

63. **McGill SM.** Choosing safer work methods to reduce back injury, Occupational Biomechanics Symposium: Celebrating 35 Years of Progress and Looking Toward the Future, University of Michigan, Ann Arbor, November 16-17, 2006.
64. **McGill SM.** <Keynote Address> Low back disorders: Dispelling the myths, Joint meeting of the Society of Orthopaedic Medicine, and British Institute of Musculoskeletal Medicine, London, England, December 2, 2006.
65. Vera-Garcia FJ, Flynn JM, **McGill SM.** Activación independiente de diversas porciones de los músculos rectus y obliquus externus abdominis en Bailarinas del Vientre. Proceeding of the IVth Congress of the Spanish Association of Sport Sciences. La Coruña, Spain, October 24-27, 2006.
66. Vera-Garcia FJ, Flynn JM, **McGill SM.** Activación muscular, estabilidad raquídea y compresión lumbar durante la utilización de un instrumento de acondicionamiento muscular: El Body-Blade. Proceeding of the IVth Congress of the Spanish Association of Sport Sciences. La Coruna, Spain, October 24-27, 2006.
67. **McGill SM.** Building the ultimate back: From rehabilitation to high performance, 14 hour course, British Association of Sport and Exercise Medicine, Kilmarnock, Scotland, May 20-21, 2006.
68. **McGill SM.** <Keynote Lecture> Restablization of the unstable lumbar spine: From rehabilitation to ultimate performance, clinical symposium on low back pain. University of Washington, School of Medicine, Seattle, April 1-2, 2006.
69. **McGill SM.** Stabilization exercise progressions. 7 hour course, Orthopaedic Division, Canadian Physiotherapy Association, London, October 31, 2005.
70. **McGill SM.** <Keynote Lecture> Designing spine stabilization exercise. Orthopaedic Division, Canadian Physiotherapy Association, London, October 28-30, 2005.
71. Ross JK, Bereznick DE, **McGill SM.** Evaluating the mechanistic assumptions of spinal manipulation. Invited lecture 11<sup>th</sup> Annual Conference on Advancement in Chiropractic October 15-16, 2005.
72. Ross JK, Bereznick DE, **McGill SM.** 1. Evaluating the mechanistic assumptions of spinal manipulation. 2. Core stability exercises: An evidence-based approach. 3. The reflex responses associated with spinal manipulation. Are they part of the mechanism or simply a consequence of manipulation. Invited lectures at the Annual Swiss Chiropractors Continuing Education Conference, September 10-11, 2005, Montreux, Switzerland.

73. **McGill SM.** Spine stability: From rehabilitation to ultimate performance, American College of Sports Medicine, Nashville, June 1-4, 2005.
74. **McGill SM.** <**R. Tait McKenzie Award Lecture**> Low back exercise – dispelling the myths, AAAPHERD, Chicago, April 12, 2005.
75. **McGill SM.** <**Keynote Lecture**> Low back exercise: From rehabilitation to ultimate performance, Northland Chapter of the American College of Sports Medicine, St. Cloud, Minnesota, April 1, 2005.
76. Ross JK, Bereznick DE, **McGill SM.** “How Specific are Chiropractic Adjustments?” Invited lecture at the Association of Chiropractic Colleges/Research Agenda Conference in Las Vegas, March 17, 2005.
77. Ross JK, Bereznick DE, **McGill SM.** The accuracy and specificity of lumbar and thoracic spinal manipulation. Lecture for The Association of Chiropractic Colleges/Research Agenda Conference in Las Vegas, March 12, 2004.
78. Ross JK, Bereznick DE, **McGill SM.** Evaluating the mechanistic assumptions of spinal manipulation. Invited lecture at the American Chiropractic Association Council on Rehabilitation February 27, 2005.
79. **McGill SM.** Ultimate back fitness: An evidence based approach to back pain management through rehabilitation. 8 hour course to the Society of Musculoskeletal Manual Practitioners, Regina, Feb. 9, 2005.
80. **McGill SM.** <**Keynote Lecture**> The functional anatomy of lumbar stability – what are the critical components? In the proceedings of the 5<sup>th</sup> Interdisciplinary World Congress on Lumbopelvic Pain, Melbourne, Nov. 10-13, 2004.
81. **McGill SM.** Appropriate back exercise: From rehabilitation to high performance, In the proceedings of the 5<sup>th</sup> Interdisciplinary World Congress on Lumbopelvic Pain, Melbourne, Nov. 10-13, 2004.
82. **McGill SM.** <**Career Award Lecture**> Building the ultimate back: A Journey in progress. Canadian Society for Biomechanics, Halifax, NS, August 4-8, 2004.
83. **McGill SM.** <**Keynote Lecture**> Back fitness myths and truths. National Strength and Conditioning Association, Minneapolis, July 14-17, 2004.
84. **McGill SM, Gray JR.** Ultimate back fitness and performance. National Strength and Conditioning Association, Minneapolis, July 14-17, 2004.

85. **McGill SM.** <Keynote Lecture> Back rehabilitation to performance enhancement – Background for exercise design and the need for attention to detail. National Academy of Sports Medicine, Functional Training: From reactivation to performance enhancement, Calabasas, California, April 2-4, 2004.
86. **McGill SM.** Low back disorders: Improving prevention strategies and rehabilitation approaches. Belfast, Ireland, October 8, 2003.
87. **McGill SM.** <Keynote Lecture> Low back pain: What happens and why? British Association for Sports and Exercise Medicine, Belfast, Ireland, October 7, 2003.
88. **McGill SM.** A reasoned approach to rehabilitation, British Association for Sports and Ex. Med., Belfast, Ireland, October 7, 2003.
89. **McGill SM.** <Keynote Clinic Workshop> Low back rehabilitation, British Association for Sports and Exercise Medicine, Belfast, Ireland, October 7, 2003.
90. **McGill SM.** Low back disorders: Improving prevention strategies and rehabilitation approaches. 8 Hour course for the British Association for Sports and Exercise Medicine, Glasgow, Scotland, October 5, 2003.
91. **McGill SM.** Low back disorders: Improving prevention strategies and rehabilitation approaches. 12 Courses for The Canadian Chiropractic Association Annual Meeting, Maritimes, Charlottetown, PEI, September 13-14, 2003.
92. **McGill SM.** <Keynote Lecture> Using biomechanical evidence to prevent and rehabilitate back disorders, International Society for Biomechanics, XIXth Congress, Dunedin, New Zealand, July 6-11, 2003.
93. **McGill SM.** Improving strategies and rehabilitation approaches for low back disorders, American Kinesiotherapy Association Annual Meeting, 8 hour course, San Diego, July 26, 2003.
94. **McGill SM.** The pathways of low back disorders and evidence based prevention. State of Art Research Symposium: Perspectives on musculoskeletal disorders causation and control. Ohio State University, Columbus, USA, May 21-22, 2003.
95. **McGill SM.** The scientific basis of low back stability: Minimal pain, maximal performance, 2 hours, American College of Sports Medicine Summit, Reno, USA, April 9-12, 2003.
96. **McGill SM.** <Keynote Lecture> Spine Stability: Myths and Realities, The Calgary Pain Conference: Trends and Treatments, Calgary, December 6, 2002.

97. **McGill SM.** Progressive low back stabilization exercise, The Calgary Pain Conference, Calgary, December 6, 2002.
98. **McGill SM.** Evidence based prevention of low back disorders, Ministry of Transportation Safety Conference, Toronto, November 14, 2002.
99. **McGill SM.** Clinical Workshop: Evaluation and decision making for low back disorders, British Association for Sports and Exercise Medicine. Windermere England, October 11, 2002.
100. **McGill SM.** <**Keynote Lecture**> Evidence based low back exercise, British Association for Sports and Exercise Medicine. Windermere England, October 10, 2002.
101. **McGill SM.** Low back stabilization - myths, realities and an evidence based program, Ontario Association of Kinesiologists, London, Ontario, September 29, 2002.
102. **McGill SM, Grenier S, Kavcic N, Cholewicki J, Howarth S.** Coordination of muscle activation to assure stability of the lumbar spine, IV World Congress on Biomechanics, Calgary, August 4-9, 2002.
103. **McGill SM.** Cumulative load - toward the metric for optimal occupational health-CSB symposium comments and conclusions, IV World Congress on Biomechanics, Calgary, August 4-9, 2002.
104. **McGill SM.** <**Inaugural Speech**> Evidence based practice for low back therapy, Opening the new Master's Program in Physical Therapy, Technical University of Lisbon, Portugal, January 21, 2002.
105. **McGill SM.** Scientific basis for low back rehabilitation exercises, 3<sup>rd</sup> Annual International Weight Training Injury Symposium, Toronto, Canada, November 16-18, 2001.
106. **McGill SM.** <**Keynote Address**> Achieving Spine Stability: bending engineering and clinical approaches, 4<sup>th</sup> Interdisciplinary World Congress on Low Back and Pelvic Pain, Montreal, November 8-10, 2001.
107. **McGill SM.** Myths and realities: preventing and rehabilitating low back troubles, Occupation Hygiene Association Symposium, Black Creek Pioneer Village, Ontario, October 25, 2001.

108. **McGill SM.** Low back injury: Improving prevention strategies and rehabilitation approaches, 8 hour course, Schwann Medical Centre, University of Regina, Regina, Saskatchewan, October 19, 2001.
109. **McGill SM.** Reducing low back disorders, 8 hour course, Rural Community Therapy Association, Saskatoon, Saskatchewan, October 18, 2001
110. **McGill SM.** <**Guest Lecturer**> Myths and realities for lumbar spine stabilization, 8<sup>th</sup> Annual Academic Day for Ontario Physiatrists, Toronto, October 12, 2001.
111. **McGill SM.** What really causes low back injury - A mechanical basis, 19<sup>th</sup> Conference - Ontario Inter-Urban Pain Association, Freeport Health Centre, Kitchener, Ontario, October 12, 2001.
112. **McGill SM.** <**Steven Rose Lecture**> Low back stability, Washington University, St. Louis, September 28, 2001.
113. **McGill SM.** <**President's Lecture**> Low back exercise: the scientific foundation for building the best program. American College of Sports Medicine, Baltimore, May 30-June 2, 2001.
114. **McGill SM.** Myths and realities of lumbar spine stabilization. 13<sup>th</sup> Annual Orthopaedic symposium, Canadian Physical Therapy Association, Ottawa, May 13, 2001.
115. **McGill SM.** < **Keynote Lecture** > Preventing low back troubles in athletes. Rehabilitation Sports Medicine XIII - The role of manual medicine and exercise in sports and industry. December 7-9, Chicago, 2000.
116. **McGill SM.** < **Keynote Lecture** > Progressive spine stabilization training for elite sports specific function. Rehabilitation Sports Medicine XIII - The role of manual medicine and exercise in sports and industry. December 7-9, Chicago, 2000.
117. **McGill SM.** Physical exercise in low back pain. Inter Urban Pain Association of Ontario, London, October 27, 2000.
118. **McGill SM.** <**Keynote Lecture**> Regional spine biomechanics - where to from here. Canadian Consortium of Chiropractic Research, Toronto, October 19, 2000.
119. Norman RW, Wells R, Neumann P, **McGill SM**, Frazer M. Predictions of low back pain reporting in industry from estimates of cumulative loading on the spine. International Ergonomics Association, San Diego, August, 2000.

120. **McGill SM.** < **Keynote Lecture** > Low back injury biomechanics: Is there a “proper” way to lift, sit and work. Irish Ergonomics Society, Dublin, June 13, 2000.
121. Bereznick D, Ross K, **McGill SM.** Is the thoracic skin-fascial interface frictionless: Implications for live of drive, Research Day, Canadian Memorial Chiropractic College, Toronto, February 2, 2000.
122. **McGill SM.** Towards reducing low back injury through better prevention and rehabilitation - invited as a grant awardee. Connecting occupational health and safety research to the workplace: Focus on Priorities, Research Advisory Council - Workplace Safety Insurance Board, Toronto, November 16, 1999.
123. **McGill SM.** <**Featured Speaker**> The science of low back exercise. 13<sup>th</sup> World Congress of the International Federation of Physical Medicine and Rehabilitation, and American Academy of Physical Medicine and Rehabilitation, Washington, DC, November 11-14, 1999.
124. **McGill SM.** <**Invited Topic Lecture**> Low back exercise: the scientific foundation for building the best program. American College of Sports Medicine (New England Chapter), Providence, Rhode Island, October 27-29, 1999.
125. **McGill SM.** <**Keynote Lecture**> Exercise - State of the Science, Functional Approach to Musculoskeletal Medicine, Buffalo, New York, October 15-17, 1999.
126. **McGill SM.** Challenging biomechanical spine models to enhance healthy backs. International Society for Biomechanics XVIIth Congress, Calgary, Canada, August 8-13, 1999, p. 37.
127. **McGill SM.** New perspectives in low back injury prevention and rehabilitation. University of Pittsburgh, Physical Therapy Education Series, March 13, 1999.
128. **McGill SM.** Prescribing exercise for the low back: Issues, evidence and a program. Perspectives in Exercise Testing and Prescription Conference, Banff, Alberta, March 5-7, 1999.
129. **McGill SM,** Lehman G, Vernon H, Bereznick D, Ross K. **Keynote Lecture** Chiropractic research: musings from an outsider, with the help of his friends. 1<sup>st</sup> Scientific Conference of the Canadian Chiropractic Association, Calgary, November 14-15, 1998.
130. **McGill SM.** Techniques for low back stabilization exercises. IVth Scandinavian Congress on Medicine and Science in Sports. Lahti, Finland, November 5-8, 1998.

131. **McGill SM. Keynote Lecture** Low back injury: recent developments in prevention and rehabilitation. IVth Scandinavian Congress on Medicine and Science in Sports. Lahti, Finland, November 5-8, 1998.
132. **McGill SM. Wood Distinguished Lectureship in Joint Injury Research** Back Pain: Causes, Prevention and Treatment. Department of Orthopaedics, University of Calgary, October 29, 1998.
133. **McGill SM.** Low back injury: Laying the foundation for prevention and rehabilitation. Biomedical Engineering Seminar, Dept. of Orthopaedics, University of Calgary, October 18, 1998.
134. **McGill SM. Keynote Address** Designing work to reduce the risk of low back injury. Human Factors Association of Canada 30<sup>th</sup> Annual Conference, Mississauga, Ontario, October 19-22, 1998.
135. **McGill SM.** Exercise: Scientifically justifiable low back exercises incorporating functional anatomy, injury mechanics, intra-muscular EMG and spine loading, The Lumbar Spine “State of the art in effective assessment and treatment approaches”, Visiting Scholar’s Program, Los Angeles College of Chiropractic, Los Angeles, October 9-11, 1998.
136. **McGill SM.** Research Symposium: Low Back Exercise - Issues and Evidence. American Physical Therapy Association, Orlando, June 5-8, 1998.
137. **McGill SM. Keynote Lecture** Scientifically justifiable low back exercises. Annual Research Day, Canadian Memorial Chiropractic College, Toronto, February 18, 1998.
138. **McGill SM. EJ Wells Bequest Lecture (An endowed public lecture).** Low back injury: Causes, prevention and conservative treatment. University of Queensland, Australia, November 27, 1997.
139. **McGill SM. Keynote Address** Occupational low back injury: Using biomechanics to reduce the risk. Ergonomics Society of Australia, Gold Coast, November 25, 1997.
140. **McGill SM.** Linking biomechanics with a better clinical practice. Advancements in Chiropractic “Spinal Pain”, Toronto, October 25, 1997.
141. **McGill SM. Keynote Address** Low back injury: The contribution of biomechanics for prevention and rehabilitation. American Society of Biomechanics, 21st Annual Meeting, Clemson University, South Carolina, September 24-27, 1997.

142. **McGill SM.** Low back biomechanics. 3 hour Conference Course for the International Society for Biomechanics, Tokyo, Japan, 24 August, 1997.
143. **McGill SM.** Using biomechanical models to reduce occupationally related low back injury. International Ergonomics Association, Tampere, Finland, June 29-July 4, 1997.
144. **McGill SM. Keynote Address** Reducing the risk of low back injury, at “What’s New in Workplace Health and Safety”, University of Alberta Hospitals - Capital Health, Edmonton, 28 November, 1996.
145. **McGill SM.** Treat thyself: A guide for self reduction of low back pain, at “What’s New in Workplace Health and Safety”, University of Alberta Hospitals - Capital Health, Edmonton, 28 November, 1996.
146. **McGill SM.** Back Belts - Should we be prescribing them to workers? Low Back Pain Prevention, Control and Treatment Symposium, St. Louis, March 11-13, 1996.
147. **McGill SM.** Searching for the safe biomechanical envelope for maintaining health tissue, Biomechanics Symposium, International Society for Study of the Lumbar Spine, Burlington, Vermont, June 24-29, 1996.
148. **McGill SM.** Occupational low back injury: Using biomechanics to reduce the risk, in the panel discussion on: Biomechanics in the Workplace - chair S. McGill. Canadian Society for Biomechanics - IX Biennial Conference, Simon Fraser University, Vancouver, August 21-24, 1996.
149. **McGill SM.** Low back injury from sitting at work - as part of roundtable entitled “The Seated Worker” - chair S. McGill. Human Factors Association of Canada, 28th Annual Conference, Kitchener, 23-26 October, 1996.
150. **McGill SM. Keynote Address:** Role of workers and management in successful ergonomics, Human Factors Association of Canada - Effective application of ergonomics in the workplace, Vancouver, June 9, 1995.
151. **McGill SM. Keynote Address:** Biomechanics of low back injury, International Society for Biomechanics, Jyväskylä, Finland, July 2-8, 1995.
152. **McGill SM. Keynote Address:** Biomechanics of low back injury. Australian conference of Science and Medicine in Sport, Hobart, Australia, Oct. 17-20, 1995.
153. **McGill SM. Keynote Workshop:** Reducing the risk of low back injury, Australian conference of Science and Medicine in Sport, Hobart, Australia, Oct. 17-20, 1995.

154. **McGill SM. Keynote Workshop:** Choosing the optimal low back rehabilitation exercise based on indwelling and surface EMG, Australian conference of Science and Medicine in Sport, Hobart, Australia, Oct. 17-20, 1995.
155. **McGill SM. Keynote Lecture:** What actually causes low back injury? at “A practical approach to the management of mechanical low back pain”, Musculoskeletal health council (University of Ottawa), Ottawa, Oct 27, 1995.
156. **McGill SM. Keynote Lecture:** Reducing low back injury: Strategies for the Kinesiologist. 14th Annual Conference, Ontario Kinesiology Association, Burlington, Ontario, Nov. 3-4, 1995.
157. **McGill SM.** Biomechanics of the Lumbar Spine: Toward reduction of the risk of injury. Los Angeles Chiropractic College 7th Interdisciplinary Symposium. "New Insights into the Clinical Application of Biomechanics in Spinal Manipulation". March 5-6, Los Angeles, 1994.
158. **McGill SM, Norman RW, Cholewicki J.** Using EMG to predict tissue loads: An example using the low back, 12th Triennial Congress of the International Ergonomics Association, Toronto, August 15-19, 1994.
159. **McGill SM.** Back Belts: Should we be prescribing them? The Inter-Urban Pain Conference, Kitchener, October 14, 1994.
160. **McGill SM. Keynote Address:** Reducing the risk of low back injury using biomechanics. Ontario Physiotherapy Association '93 Convention. Ottawa, March 8, 1993.
161. **McGill SM.** Dynamic modelling of the low back, State-of-the-art symposium on low back injury. Ohio State University, Columbus, Ohio, April 14-15, 1993.
162. **McGill SM.** Biomechanics of back belts, State-of-the-art symposium on low back injury. Ohio State University, Columbus, Ohio, April 14-15, 1993.
163. **McGill SM.** 1½ hr workshop: Biomechanics of the low back: Recent research on form, function and injury mechanisms. 1993 International Conference on Spinal Manipulation. Montreal, Quebec, April 29-May 1, 1993.
164. Norman RW, Wells RP, **McGill SM.** 3 hr. workshop: Biomechanical assessment of worksite tasks. Pre-congress course, XIVth International Society for Biomechanics, Paris, France, July 3, 1993.

165. **McGill SM.** Modelling of the Low Back: Reducing the Risk of Injury. Delivered at Biomechanics of Spinal System, International Centre for Biocybernetics, Polish Academy of Sciences, Warsaw, Poland, November 15-20, 1993.
166. **McGill SM.** **Keynote Address:** The role of biomechanics in the prevention of work related low back disorders. Nordic Conference on Occupational Health, Nyborg, Denmark, September 1991.
167. **McGill SM.** Using biomechanics to reduce low back injury. Fourth International Conference of the Physical Medicine Research Foundation, Toronto, September 26-29, 1991.
168. **McGill SM.** Biomechanics of the Spine, Annual Meeting of the Canadian Association of Sports Science (CASS), Kingston, October 24-26, 1991.
169. **McGill SM.** Recent advances in lumbar mechanics, delivered at the Symposium: "The Scientific Basis of Back Injury Prevention, Queen's University, Kingston, October 26, 1991.
170. **McGill SM.** Low Back Mechanics: Recent advances and implications for therapists, 3 Hr. workshop, Florida Physical Therapy Association, Tampa, March 10, 1990.
171. **McGill SM.** Clinical Implications of Loads on Low Back Tissues, First North American Orthopaedic Symposium, Ottawa, May, 1990.
172. Norman RW, **McGill SM.** An EMG driven low back model, First World Congress on Biomechanics. San Diego, August, 1990.
173. **McGill SM.** Recent Advances in Lumbar Mechanics with Relevance to Chiropractic. 9th International Conference on Back Pain and Manipulative Sciences. Toronto, October, 1990.
174. **McGill SM.** **Keynote Address:** Recent Advances in Spinal Mechanics: Clinical Applications, Wisconsin Physical Therapy Association Conference. Madison, Wisconsin, October, 1989.
175. **McGill SM.** **Keynote Address** - Biomechanics of the Spine. Biannual Conference of the Canadian Society of Biomechanics, Ottawa, Canada, August, 1988.
176. **McGill SM.** Anatomy and Biomechanics of the Lumbar Spine. Symposium: Managing Low Back Pain, St. Joseph's Hospital, London, Canada, November, 1988.

177. **McGill SM.** Mathematical Modelling of the Lumbar Spine, 6th Annual Conference of the Ontario Association of Applied Kinesiology, Toronto, Canada, November, 1987.
178. **McGill SM,** Norman RW. **Volvo Award Lecture** - Partitioning of the L4/L5 Dynamic Moment into Disc, Ligamentous and Muscular Forces During Lifting. International Society for Study of the Lumbar Spine, Dallas, Texas, June, 1986.
179. **McGill SM.** **Keynote Presentation** - A Biomechanical Theory of Sacroiliac Pain. 5th International Low Back Pain and Manipulative Sciences Conference, Toronto, Canada, August, 1986.

#### **B. Invited Presentations to University Groups**

1. **McGill, SM.** Assisting the back pained client, Class on Skype at University of California at Northridge. Nov 2, 2016
2. **McGill, S.M.,** Back Mechanics, Department of Bioengineering, UFABC in São Bernardo do Campo, Sao Paulo, Brazil, March 1, 2016.
3. **McGill, SM.** Designing back training programs, Class on Skype at University of California at Northridge. March 23, 2015
4. **McGill, SM.** Injury mechanisms and back exercise. Class on Skype: Cal. State University – East Bay. Feb 25, 2015
5. **McGill SM.** Designing performance enhancement training programs: Progressions and regressions. Department of Athletics, Univ of Waterloo, Nov 18, 2014.
6. **McGill, SM.** On Core stiffness and abdominal training. University of California at Northridge. Nov 17, 2014
7. **McGill SM.** <Panel Speaker> Making a difference: The influence of applied health research from cell to society. Graduate Research Conference. University of Waterloo. May 2, 2013.
8. **McGill SM.** There is no such thing as non-specific low back pain. Department of Comparative Anatomy, Medical School, University of Bristol, April 22, 2013.
9. **McGill SM.** Update on spine mechanics/injury mechanisms and the essentials for successful load bearing. Dalhousie University. March 4, 2013.

10. **McGill SM.** An evening with a spinophile: Recount findings, musings, and application to clinical technique. Canadian Memorial Chiropractic College. Toronto. January 28, 2013.
11. **McGill SM.** What I have learned from the great athletes. Department of Biomedical Sciences, Queen's University, December 12, 2012
12. **McGill SM.** The athletic back. Laurentian University, November 9, 2012.
13. **McGill SM.** A systematic approach to patient assessment: Provocative testing with motions, postures and loads. Canadian Memorial Chiropractic College, Toronto, Dec 6, 2011.
14. **McGill SM.** What I've learned from the greatest athletes, Waterloo Unlimited Program, Waterloo Nov16, 2011
15. **McGill SM.** Training the back: Myths and truths, Department of Athletics, University of Waterloo, March 22, 2011
16. **McGill SM.** Enhancing Chiropractic with spine biomechanics. Canadian Memorial Chiropractic College, Toronto May 13, 2010.
17. **McGill SM.** Advanced training methods to enhance performance of the back. Anglo European Chiropractic College, Bournemouth, England march 26, 2010.
18. **McGill SM.** Back pain-Myths and truths. Canadian Federation of University Women, Waterloo, January 19, 2010
19. **McGill SM.** Optimal performance from the back. Southern California University for Health Sciences, Los Angeles, October 6, 2009.
20. **McGill SM.** What I have learned from the great athletes about back performance, Canadian Memorial Chiropractic College, Toronto, March 18, 2009
21. **McGill SM.** The ultimate back, All School Assembly, Palmer College of Chiropractic, Davenport, Iowa, December 7, 2007.
22. **McGill SM.** Building the ultimate back, Queen's University, Kingston, October 31, 2007.
23. **McGill SM.** Therapeutic exercise for the low back, Otago University, Dunedin, New Zealand, August 18, 2007.

24. **McGill SM.** Designing low back therapeutic exercise, Canadian Memorial Chiropractic College, Toronto, April 18, 2006.
25. Ross JK, Bereznick DE, **McGill SM.** Invited lecture at CMCC New Building Opening Ceremonies, September 18, 2005. Evaluating the mechanistic assumptions of spinal manipulation.
26. Ross JK, Bereznick DE, **McGill SM.** Invited lecture MacQuarie University, Sydney, Australia, August 8, 2005. Evaluating the mechanistic assumptions of spinal manipulation.
27. **McGill SM.** Recent developments in spine function and manual approaches for rehabilitation. Logan University of Health Sciences, St. Louis, May 20, 2005.
28. Ross JK, Bereznick DE, **McGill SM.** Lecture at Western States Chiropractic College, Portland Oregon Guest Lecturer Invited by Dr. David Peterson DC March 15, 2005.
29. Ross JK, Bereznick DE, **McGill SM.** Invited lecture at the University of Toronto Clinical Rounds on Low Back injury, February 4, 2005. Evaluating the mechanistic assumptions of spinal manipulation.
30. **McGill SM.** Designing low back exercise progressions: From rehabilitation to performance training. McMaster University, Medical School, September 29, 2004.
31. **McGill SM.** Designing ultimate exercise for the back, University of Waterloo, Dept. of Athletics, March 8, 2004.
32. **McGill SM.** Evidenced based low back disorder prevention and rehabilitation. Canadian Memorial Chiropractic College, Toronto, April 15, 2003.
33. **McGill SM.** <**Richard W. Snow Visiting Lecturship**> Evidence based rehabilitation for the low back, Ohio State University College of Medicine, Department of Physical Medicine and Rehabilitation, November 8, 2002.
34. **McGill SM.** <**President's Circle Lecture for 2002**> Myths and realities in preventing and rehabilitating low back troubles, University of Waterloo, March 25, 2002.
35. **McGill SM.** Myths and realities – preventing and rehabilitating low back troubles, Occupational Health, Hygiene and Toxicology Rounds, McMaster University Medical School, Hamilton, February 13, 2002.

36. **McGill SM.** <Inaugural Professor> Evidence Based Practice in Low Back Therapy - series of 5 lectures, 15 hrs. total, new Master's Program in Physical Therapy, Technical University of Lisbon, Portugal, January 21-25, 2002.
37. **McGill SM.** Invited as "Visiting Scholar", Southern California University of Health Sciences for 2 lectures, March 5, 2001:
  - Functional aspects of low back anatomy
  - The foundation for low back stabilization exercise
38. **McGill SM.** What really causes low back injury: The scientific foundation for evidence based rehabilitation, RIC - Northwestern University Medical School, Chicago, November 3, 2000.
39. **McGill SM.** Building a scientific foundation for better low back injury prevention and rehabilitation. Dept. of Physical Therapy, SUNY-Buffalo, Buffalo, New York, April 13, 1999.
40. **McGill SM.** Biomechanics and Human Performance in the workplace. Faculty of Engineering Science, University of Western Ontario, M.Eng. Program., London, May 9, 1996.
41. **McGill SM.** Biomechanics and Motor control issues in low back injury. University du Quebec a Montreal, Montreal, May 16, 1996.
42. **McGill SM.** Invited as a "Visiting Scholar", Los Angeles College of Chiropractic, June 10, 1996 for 3 lectures:
  - What causes low back injury?
  - Scientifically based back exercises
  - A commentary on Chiropractic - from the outside
43. **McGill SM.** Integrating recent developments in lumbar mechanics - the challenge for rehabilitation specialists. Alberta Heritage Foundation for Medical Research, University of Alberta, September 12, 1996.
44. **McGill SM.** What really causes low-back injury? Alberta Heritage Foundation for Medical Research, University of Alberta, September 13, 1996.
45. **McGill SM.** Recent advances in low back injury biomechanics: Implications for rehabilitation and prevention. Neuromuscular Research Center, Boston University, Boston, October 11, 1996.
46. **McGill SM.** Biomechanics of Low Back Injury, University of Michigan, Ann Arbor, April 14, 1995.

47. **McGill SM.** The physics of low back injury, Department of Physics, University of Waterloo, Oct. 10, 1995.
48. **McGill SM.** The lumbar spine: Normal and Injury Mechanics, School of Medicine and Department of Physical Therapy, University of Pittsburgh, Pittsburgh, Nov. 18, 1995.
49. **McGill SM.** Invited as a "Visiting Scholar" Los Angeles College of Chiropractic, March 4-8, Los Angeles, 1994 for four lectures:
  - Abdominal Belts - Assets, Liabilities and a formula for prescription
  - Safe Lifting Techniques - Recent Developments
  - Lumbar Tissue Failure Mechanics: Injuries to discs, vertebral bodies and ligaments
  - Lumbar Mechanics - Muscle and ligament interplay and tissue loading
50. **McGill SM.** Integration of computer methods in Reducing Low Back Injury. Institute of Applied Mathematics, University of Bern, March 19, Bern, 1994.
51. **McGill SM.** Quantitative Electromyography: Modelling tissue loading to assess musculoskeletal function. Physiology Institute, University of Bern, March 23, Bern, 1994.
52. **McGill SM.** Using Electromyographic signals to assess lumbar function. Anatomical Institute - Faculty of Medicine, University of Bern, April 20, Bern, 1994.
53. **McGill SM.** Spine tolerance and modelling, Ohio State University, Columbus, Ohio, October 7, 1994.
54. **McGill SM.** Workplace evaluation: Recent biomechanical evidence to reduce the risk of low back injury. Rehabilitation Engineering Centre, University of Vermont, Burlington, Vermont, December 14, 1994.
55. **McGill SM.** Biomechanical behaviour of the spine and its musculature: A challenge to equilibrium and stability. Department of Orthopaedics, University of Vermont, Burlington, Vermont, December 15, 1994.
56. **McGill SM.** Modelling of the low back: Critical components to reduce the risk of injury. University of Bern-Institute for Information and Applied Mathematics. Bern, Switzerland, July 12, 1993.
57. **McGill SM.** Clinical considerations of sophisticated low back biomechanical models, Department of Orthopaedic Surgery, McGill University, December 14, Montreal, 1993.

58. **McGill SM.** Instrumentation in Biomechanics, Danish National Institute for Occupational Health, Copenhagen, September 12, 1991.
59. **McGill SM.** Modelling in Biomechanics - Assets and Liabilities, Danish National Institute of Occupational Health, Copenhagen. September 14, 1991.
60. **McGill SM.** Using biomechanics to reduce work-related low back injury, August Krogh Institute, University of Copenhagen, Copenhagen, September 17, 1991.
61. **McGill SM.** Intra-abdominal pressure and its relationship to the lumbar spine, August Krogh Institute, University of Copenhagen, Copenhagen, September 19, 1991.
62. **McGill SM.** Understanding your back: Anatomy, Biomechanics and Physiology, presented to Faculty and Graduate students, School of Human Biology, University of Guelph, April, 1989.
63. **McGill SM.** Recent developments in lumbar mechanics, presented to medical students, Faculty of Medicine, University of Toronto, April 1989.
64. **McGill SM.** Knowing your back - Lumbar mechanics. Presented to Faculty and Graduate students at the University of Toronto, October, 1988.
65. **McGill SM.** Biomechanical Techniques in Ergonomics. Presented to Faculty and Graduate Students from the University of Guelph, February, 1987.

**C) Invited Presentations to Professional Groups**

1. **McGill SM.** Exercise programming for those with back pain (4 lectures), Perform Better, Providence RI, June 23, 2017
2. **McGill, S.M.** There is no such thing as non-specific back pain, Seoul National University Hospital, College of Medicine, June 7, 2017.
3. **McGill SM.** Building the Ultimate Back (16 hr course), Seoul Korea, June 3-4, Beijing China, June 10-11, 2017.
4. **McGill SM.** Assessment of the Back Pained patient, 8-Hour course, Seoul Korea, June 6, Beijing China, June 12, 2017.
5. **McGill, S.M,** Building Ultimate back performance, Beijing China, June 14, 2017.
6. **McGill, SM,** Working with the back pained client, Barcelona webinar, May 3, 2017.
7. **McGill SM, <KEYNOTE lecture>**, Enhancing Injury resilience and performance in NFL players, NFL Combine, Indianapolis, USA, March 1, 2017
8. **McGill, S.M,** Building the Human Ferarri, Central Institute for Human Performance, Jupiter Florida, Feb 24, 2017.

9. **McGill S.M.** There is no such thing as non-specific back pain – there is always a cause. Institute for Human Machine Cognition, Pensacola Florida, Feb 16, 2017.
10. **McGill SM,** Back Pain: Obtaining a precise diagnosis to guide the optimal approach, Royal Free Hospital, London, UK Jan 31, 2017.
11. **McGill SM,** The back pained athlete: From pain to high performance, London UK, Feb 2, 2017.
12. **McGill SM,** Back Pain: Obtaining a precise diagnosis to guide the optimal approach, Rehab Grand Rounds, Freeport Hospital, Kitchener, Oct 18, 2016
13. **McGill SM.** Building the Ultimate Back (16 hr course), Prague Czech Republic Jan 21-22, Amsterdam Holland Jan 27-27, US Navy Pensacola Florida Feb 14-15, Port Orange Florida Feb 18-19, 2017.
14. **McGill SM.** Assessment of the Back Pained patient, 8-Hour course, Amsterdam Holland Jan 29, AECC Bournemouth UK Feb 4, Port Orange Florida Feb 21, 2017.
15. **McGill SM,** Tuning the body for performance enhancement and injury resilience, TRX-Canfitpro Fitness summit, Toronto, Nov 20, 2016.
16. **McGill SM,** The trainers role in reducing clients back pain, Canfitpro Fitness summit, Toronto, Nov 20, 2016.
17. **McGill SM,** Back Pain: Obtaining a precise diagnosis to guide the optimal approach, Rehab Grand Rounds, Freeport Hospital, Kitchener, Oct 18, 2016
18. **McGill, S.M., <7 hour course>** Assessing back pain to reach a precise diagnosis, Sunnybrook hospital, Toronto, Oct 1, 2016.
19. **McGill SM. <Keynote Lecture>** From back pain to performance: Building progressive training programs. Federal Bureau of Investigation (FBI), Quantico VA., July 28, 2016.
20. **McGill SM.** Exercise programming for those with back pain (4 lectures), Perform Better, Orlando, June 3-5, Munich Germany, July 8-9, Long Beach, August 11-14, 2016.
21. **McGill SM.** Building the Ultimate Back (16 hr course), Sao Paulo Brazil, Feb 27-28, Bournemouth April 16-17, Hamar Norway April 22-23, San Jose Costa Rica, May 7-8, Rome Italy, 2016.
22. **McGill SM.** From back pain to performance: Building progressive training programs. PerformanceRX, London, UK., April 19 2016.
23. **McGill SM.** Assessment of the Back Pained patient, 8-Hour course, Rio de Janeiro Brazil, Feb 24, Hamar Norway April 26, San Jose Costa Rica, May 14, 2016.
24. **McGill, SM.** The Building Blocks of Athleticism: Starts in Physical education. Webinar for the school teachers of Canada. Thompson Educational publishers, Jan 19, 2015.
25. **McGill SM.** Building the Ultimate Back (16 hr course), Hong Kong Oct 31-Nov1, Singapore, Nov 7-8, Sydney Australia, Nov 14-15, Melbourne, Nov 21-22, 2015.
26. **McGill SM.** Assessment of the Back Pained patient, 8-Hour course, Sydney, Australia, Nov 16, 2015.
27. **McGill SM.** Building the Ultimate Back (16 hr course), Portland Oregon, Oct 3-4, Reykevic Iceland, Sep 11-12, Dublin Ireland, Sept 18-19, 2015.
28. **McGill SM.** Exercise programming for those with back pain (4 lectures), Perform Better, Chicago, June 25-26, 2015.

29. **McGill SM**, Painful backs through the lifecycle: Cause, corrective exercise and progression for resilience. Canadian Professional Trainers Network, Toronto, June 4, 2015.
30. **McGill SM**, The back pained athlete: From pain to high performance, Adrenaline performance centre, Montreal, April 25, 2015.
31. **McGill SM**. Building the Ultimate Back (16 hr course), Winnipeg, April 10-11, 2015.
32. **McGill SM**. Assessment of the painful back (8 hr course), Winnipeg, April 12, 2015.
33. **McGill SM**. Assessment of the painful back (8 hr course), University of British Columbia with RED, Vancouver, March 29, 2015.
34. **McGill, S.M.**, Building the Ultimate Machine, Central Institute for Human Performance, St Louis, March 27, 2015.
35. **McGill SM**. What makes the great athletes GREAT? Waterloo Region Chiropractic Association, Jan 14, 2015.
36. **McGill SM**. Programming training for Elite MMA athletes, Adrenaline Performance, Montreal, Dec 5, 2014.
37. **McGill SM**. Building the Ultimate Back (16 hr course), Chicago, November 22-23, 2014.
38. **McGill SM**. Building the Ultimate Back (16 hr course), University of Calgary, September 27-28, 2014.
39. **McGill SM**. Exercise programming for those with back pain (4 lectures), Perform Better, Providence, Rhode Island, June 13-15, 2014.
40. **McGill SM**. Building the Ultimate Back (16 hr course), Santa Paula University, San Jose, Costa Rica, May 17-18, 2014.
41. **McGill SM**. Assessing the painful back (7 hr course) Multispa San Jose, Costa Rica, May 16, 2014
42. **McGill SM**. Assessing the painful back (8 hr course) Montana health Network, Billings Montana, May 4, 2014.
43. **McGill SM**. Building the ultimate back (16 hr course) Montana Health network, Billings Montana, May 2-3, 2014.
44. **McGill SM**. Building the Ultimate Back (16 hr course), University of Southern California, Los Angeles, April 26-27, 2014.
45. **McGill SM**. The 3 hour back assessment: Reducing pain and enhancing performance. Buffalo NY, April 5-6, 2014.
46. **McGill SM**. 16 hour course: Building the ultimate back. , Bournemouth, England. February 22-23, 2014.
47. **McGill SM**. 16 hour course: Building the ultimate back. Hamar, Norway. February 19-20, 2014.
48. **McGill SM**. <Keynote Lecture> Retiring without back injury. Toronto Fire Service Health and Wellness Seminar 2013, Toronto November 13, 2013.
49. **McGill SM**. 16 hour course: Building the ultimate back. New Rochelle, NY. USA November 9-10, 2013
50. **McGill SM**. 16 hour course: Building the ultimate back. Victoria, BC October 5-6, 2013

51. **McGill SM.** 10 hour course: The 3 hour patient assessment, Toronto, September 28, 2013
52. **McGill SM.** 2 lectures: 1) Designing exercise for Low Back Pain, 2) Variable defining elite athletic performance. Perform Better Summit, Long Beach. August 9-10, 2013
53. **McGill SM.** 16 hour course: Building the ultimate back. Barcelona, Spain. April 20-21, 2013
54. **McGill SM.** 16 hour course: Building the ultimate back. Hartford, CT April 12-13, 2013.
55. **McGill SM.** 16 hour course: Building the ultimate back. Halifax, NS March 2-3, 2013.
56. **McGill SM.** 16 hour course: Building the ultimate back. Vaughan ON February 23-24, 2013
57. **McGill SM.** 16 hour course: Building the ultimate back. Washington DC January 26-27, 2013
58. **McGill SM.** Re-building the painful athletic back, 8 hour course, National du sport du Quebec, Montreal, November 16., 2012.
59. **McGill SM.** <Preconference Course> <Keynote Lecture>4 Hours- From back pain to performance: Building progressive training programs. What I learned from the great athletes. Can. Soc., Exercise Physiology. Kananaskis, Alberta. November 2-3, 2012.
60. **McGill SM.** 16 hour course: Building the ultimate back. Winnipeg, Ontario. October 20-21, 2012.
61. **McGill SM.** Training principles for Muay Thai, University of Waterloo Muay Thai, October 17, 2012
62. **McGill SM.** 16 hour course: Building the ultimate back. Portland, Maine, Orthoassociates September 8-9, 2012.
63. **McGill SM.** 16 hour course: Building the ultimate back. Minneapolis May 12-13
64. **McGill SM.** 16 hour course: Building the ultimate back. Edmonton, April 21-22
65. **McGill SM.** 16 hour course: Building the ultimate back. Regina April 20
66. **McGill SM.** 16 hour course: Building the ultimate back. Bournemouth, England Feb 25-26
67. **McGill SM.** 16 hour course: Building the ultimate back. Hamar, Norway Feb 22-23
68. **McGill SM.** 16 hour course: Building the ultimate back. Phoenix Jan 14-15
69. **McGill SM.** 16 hour course: Building the ultimate back. Canada Armed Forces, Ottawa Jan 20
70. **McGill SM.** Lecture 1: Exercises for low back pain. Lecture 2: Techniques used for exceptional athletic performance, Perform Better Summit, Chicago. June 29-July1, 2012.
71. **McGill SM.** (1) Progressive exercise for the painful back. (2) What we learned from the great athletes. (both lecture and workshop sessions. Perform Better Summit, Chicago. June 29-July1, 2012.
72. **McGill SM.** Achieving Podium Performance at London Olympics. Canadian Olympic Committee, Lond, Nov 11, 2011.
73. **McGill SM.** There is no such thing as non-specific back pain: Implications on assessment and matched treatment approaches, SOS Physiotherapy Celebrating 20 years, Kitchener, Nov 8, 2011

74. **McGill SM.** Assessment and Therapeutic exercise for the athletic back. Canadian Sport Massage Therapist's Association, 8 hour course, Ottawa, October 21, 2011.
75. **McGill SM.** Assessment and corrective exercise of the painful back, 2 day course, Mount St. Mary's College, Los Angeles, October 15-16, 2011.
76. **McGill SM, Frost D, Crosby I.** Functional Fitness: Reaching retirement with a healthy back, Int. Association of Firefighters, 2011 Redmond Health and Safety Symposium, New York, August 14-17, 2011
77. **McGill SM.** Building the Ultimate Back, 16 hour clinical course. Manchester, UK, June 11-12, 2011
78. **McGill SM.** Training maximum performance , Perform Better Summit, Providence, Rhode Island, June 3-5, 011
79. **McGill SM.** Painful backs: Addressing the cause with corrective exercise, Perform Better Summit, Providence, Rhode Island, June 3-5, 011
80. **McGill SM.** Building the ultimate back: 16 hour course, MSK Plus, Toronto, February 5-6, 2011.
81. **McGill SM.** The new science of low back pain, Central Institute for Human Performance, St. Louis, January 21, 2011
82. **McGill SM.** Building the ultimate back: From rehabilitation to ultimate performance, 16 hour course, Institute for Human Performance, St. Louis, January 22-23, 2011
83. **McGill SM.** Preparing the Olympic Gymnast/Trampoline athlete, A day course for the Canadian National Team, March 5, 2011.
84. Beach TAC, Frost DM, **McGill SM, Callaghan JP.** Developing an evidence based approach to physical preparation of firefighters: Ontario Professional Firefighters Association Annual Health & Safety Seminar, Toronto 2010
85. **McGill SM.** Building the ultimate back: 16 hour course, MSK Plus, Toronto, November 20-21, 2010.
86. **McGill SM.** Low back disorders: From clinical presentation to Kinesiological intervention: Ontario Kinesiology Association, Niagara Falls, October 15-17, 2010
87. **McGill SM.** Building the ultimate back: 2 day course Colorado Chiropractic Annual Convention, Denver, September 10-11, 2010
88. **McGill SM.** 2 Lectures: 1) Therapeutic exercise design for the painful back and 2) What I have learned from great athletes: Perform Better Summit, Long Beach, USA August 6-7, 2010
89. **McGill SM.** Rehabilitation of the painful back: 8 hour course for the Canadian Physiotherapy Association, July 22, 2010
90. **McGill SM.** Building the ultimate back: 9 hour course , Certified Professional Trainers Network, Toronto May 14, 2010
91. **McGill SM.** Building the ultimate back: 12 hour course, Anglo European Chiropractic College, Bournemouth, England March 27-28.
92. **McGill SM.** Building the ultimate back: 12 hour course, Hamar Norway March 23-24, 2010.

93. **McGill SM.** Building the ultimate back: 7 hour course, Toronto Athletic Club, Toronto, February 6, 2010.
94. **McGill SM.** Building the ultimate back: 16 hour course, Ottawa General Hospital, October 24-25, 2009
95. **McGill SM.** Preventing and rehabilitating low back pain: The kinesiological approach, St John, NFLD, December 12, 2009
96. **McGill SM.** Building the ultimate back: From rehabilitation to performance, 16 hour course. Star Rehabilitation Clinics, Nashville, October 17-18, 2009
97. **McGill SM.** Building the ultimate back, Central Institute for Human Performance, 16 hour course. St. Louis, October 3-4, 2009
  
98. **McGill SM.** Building the ultimate back. Buffalo Sport and Spine Center, 12 hour course. September 26-27, 2009
99. **McGill SM.** There is no such thing as non-specific back pain: Enhancing clinical efficacy. Cambridge Family Doctors, Cambridge Memorial Hospital, September 8, 2009
100. **McGill SM.** Building the ultimate back, 12 hour course sponsored by the Nova Scotia Workers Compensation Board and Nova Scotia Chiropractic Association, Halifax, May 23-24, 2009
101. **McGill SM.** Enhancing back health of elite skaters. Sport Canada – Olympic Skaters and Coaches, Toronto, May 21, 2009.
102. **McGill SM.** 1. Exercises for the painful back, 2. What I have learned about performance from the great athletes. Perform Better Summit, Providence, Rhode Island, May 9-10, 2009
103. **McGill SM.** Mastercourse: Low Back Disorders: Dispelling the myths and reducing the risks. Industrial Accident Prevention Association Conference, Toronto, April 20-22, 2009.
104. **McGill SM.** Low Back Disorders: Dispelling the myths and reducing the risks, 3 Hour course, Workers Compensation Board Institute Annual Meeting, Saskatoon, March 23-24, 2009.
105. **McGill SM.** Building the ultimate back: From rehabilitation to high performance, 9 Hour course, University of Saskatchewan, Saskatchewan Kinesiology and Exercise Science Association, Saskatoon, March 22, 2009.
106. **McGill SM.** Building the ultimate back: From rehabilitation to high performance (Lecture), Connexion, 8<sup>th</sup> Annual Fitness Conference, Ottawa, February 28, 2009.
107. **McGill SM.** Corrective exercise for the back, (Clinical Workshop), Connexion, 8<sup>th</sup> Annual Fitness Conference, Ottawa, February 28, 2009.
108. **McGill SM.** Spine stability and strength, (Clinical Workshop), Connexion, 8<sup>th</sup> Annual Fitness Conference, Ottawa, February 28, 2009.
109. **McGill SM.** Low back disorders: Dispelling the myths and reducing the risks, 3 Hours, Saskatchewan Safety Council, Regina, February 3, 2009.
110. **McGill SM.** Building the ultimate back <2 day course>, Montreal, QC, November 15-16, 2008.

111. **McGill SM.** Building the ultimate back <2 day course>, Moncton, NB, October 25-26, 2008.
112. **McGill SM.** Low back injury: Patient assessment, rehabilitation, prevention and performance training <2 day course>, Solihull, England, July 12-13, 2008.
113. **McGill SM.** Super stiffness, Perform better functional training summit, Long Beach, USA, June 14, 2008.
114. **McGill SM.** Designing exercise for the painful low back. Perform better functional training summit, Long Beach, USA, June 13, 2008.
115. **McGill SM.** Master course – Low back disorders: Prevention and rehabilitation, Industrial Accident Prevention Association, Toronto, April 21, 2008.
116. **McGill SM.** Building the ultimate back <1 day course>, University of Waterloo, April 19, 2008.
117. **McGill SM.** A regional approach to rehabilitation: Lumbar spine <14 hour course>, Anglo European Chiropractic College, Bournemouth, England, March 8-9, 2008.
118. **McGill SM.** Enhancing back injury prevention with personal work technique. Canadian Society of Safety Engineering, Kitchener, February 20, 2008.
119. **McGill SM.** Low back disorders: The foundation for evidence-based clinical decision making <16 hour course>, BRPT-Lake Rehabilitation Centres, Baton Rouge, LA, USA, February 16-17, 2008.
120. **McGill SM.** Building the high performance back <10 hour course>, Central Institute for Human Performance,, St. Louis, USA, January 19, 2008.
121. **McGill SM.** Building the ultimate back: From rehabilitation to high performance <8 hour course>, Palmer College of Chiropractic Continuing Education, Davenport, Iowa, December 8, 2007.
122. **McGill SM.** Building the ultimate back, <one day course>, Connecticut Chiropractic Association, Hartford, October 12, 2007.
123. **McGill SM.** Building the ultimate back, <one day course>, English Institute for Sport, Bisham Abbey, England, October 1, 2007.
124. **McGill SM.** Building the runners back: Corrective exercise, <two day course>, UK Athletics and Olympic Medical Group, Lee Valley, England, October 2-3, 2007.
125. **McGill SM.** Building the ultimate back, stabilization: From science to the clinic, A Rehab Summit, National University of Health Sciences, Chicago, September 15-16, 2007.
126. Marshall L, **McGill SM.** The effect of axial torsion on disc herniation injury mechanisms, Centre for Research Excellence in the Prevention of Musculoskeletal Disorders Research Day, Waterloo, June 28, 2007.
127. **McGill SM.** Building the ultimate back: From rehabilitation and prevention to performance, 2 day 16 hour course, Vancouver, June 2-3, 2007 and Calgary, May 5-6, 2007.
128. **McGill SM.** “Designing exercise for the painful low back” and “Super stiffness: Transitional exercise for ultimate performance”, Perform Better Summit, Chicago, May 11-13, 2007.

129. **McGill SM.** Building the ultimate back, 14 hour, 2 day course, University of Edinburgh, Edinburg, April 20-21, 2007.
130. **McGill SM.** Prevention and rehabilitation of occupational low back disorders, 14 hour course, St. Vincent's Hospital, Dublin, April 17-18, 2007.
131. **McGill SM.** Enhancing back injury prevention with personal work techniques, advanced 3.5 hour course, Ohio Safety Congress, Cleveland, March 20-22, 2007.
132. **McGill SM.** Assessment, rehabilitation and prevention of low back disorders, 8 hour course, The Jackson Clinics, Virginia, February 24, 2007.
133. **McGill SM.** Reducing occupation low back disorders: Occupational Health Nurses, Kitchener, November 23, 2006.
134. **McGill SM.** Making better clinical decisions, Lexington, USA, November 18, 2006.
135. **McGill SM.** Treating and preventing low back disorders, 16 hour course for physicians and physical therapists, Genesee Grand Hotel, Syracuse, NY, October 14-15, 2006.
136. **McGill SM.** Fusion of stabilization and mobilization, 8 hour course, Canadian Memorial Chiropractic College, Toronto, September 23-24, 2006.
137. **McGill SM.** Designing exercise for the painful low back. Perform Better Symposium, Rhode Island, July 21-23, 2006.
138. **McGill SM.** Superstiffness: Transitional exercise for ultimate performance. Perform Better Symposium, Rhode Island, July 21-23, 2006.
  
139. **McGill SM.** Ultimate Back Fitness, 8 hour course, Certified Professional Trainers Network, International Center, Toronto, June 16, 2006.
140. **McGill SM.** <Keynote Lecture> Low back exercise – Separating myth from fact. Certified Professional Trainers Network, International Center, Toronto, June 17, 2006.
141. **McGill SM.** Lingering back troubles: Where is the failure – What is the solution? Occupational Health: Continuing Medical Education, sponsored by WSIB-Ontario and Goodyear. Cranberry Inn, Collingwood, June 13, 2006.
142. **McGill SM.** Mastercourse – Low back disorders: Dispelling the myths and reducing the risks. Industrial Accident Prevention Association, Toronto, May 1-3, 2006.
143. **McGill SM.** Lower back exercise: From rehabilitation to ultimate performance, 7 hour course, Low back shoulder and nutrition symposium, Poliquin Performance Centre East, Woburn, Massachusetts, March 11-12, 2006.
144. **McGill SM.** A regional approach to rehabilitation: Lumbar spine, 12 hour course, Anglo-European Chiropractic College, Bournemouth, England, February 25-26, 2006.
145. **McGill SM.** Clinical biomechanics of the low back, 8 hour course, Southern California University of Health Sciences, Austin, TX, January 21, Hartford, CT, March 11, 2006.
146. **McGill SM.** Ultimate back fitness and performance, 2 day course, Hamar, Norway, November 17-18, 2005.
147. **McGill SM.** Building the ultimate back—from rehab to high performance, Chambersberg, PA. Hospital-Summit Health, 7 hr. course. September 24, 2005.
148. **McGill SM.** Designing back exercise: From rehabilitation through to ultimate performance, CanFitPro Fitness Conference, 6 hr. course, Toronto, August 18-21, 2005.

149. **McGill SM.** Evidence based back exercise: From stability to ultimate performance, Central Institute for Human Performance, St. Louis, May 21, 2005.
150. **McGill SM.** Progressive spine stabilization exercise, functional training Summit, Los Angeles, April 29, Repeated June 2, Rhode Island, 2005
151. **McGill SM.** Santana, J.C. Functional training: From science to practice, Pre Summit Course, Functional training Summit, Los Angeles, April 29, Repeated June 2, Rhode Island, 2005.
152. **McGill SM.** Master course – Low back disorders – Dispelling the myths and reducing the risks, Industrial Accident Prevention Association, Toronto, April 4, 2005.
153. **McGill SM.** Low back disorders: The foundation for evidence based clinical decision making, 2 day course, Nova Scotia Orthopaedic Division, Canadian Physiotherapy Association, Halifax, March 5-6, 2005.
154. **McGill SM.** Low back biomechanics, 8 hr. course, Southern California University of Health Sciences Graduate Program, Pittsburg, Feb. 12, 2005, Nashville, December 3, 2005.
155. **McGill SM.** Low back disorders: Dispelling the myths and reducing the risks, Saskatchewan Safety Council Industrial Safety Seminar, Regina, Feb. 8, 2005.
156. **McGill SM.** Designing low back exercise: From rehabilitation to performance training, Palmer Chiropractic Fountainhead Experience, Daytona Beach, January 2005.
157. **McGill SM.** Low back Symposium, 8 hr. course, Virginia State Chiropractic Association, Richmond, Dec. 4, 2004.
158. **McGill SM.** Low back exercise: From rehabilitation to ultimate performance, 8 hr. course, World Congress on Lumbopelvic Pain. Melbourne, Australia, Nov. 14, 2004.
159. **McGill SM.** Training the high performance back. 8 hr. course, Australian Institute for Sport, Canberra, Australia, Nov. 8-9, 2004.
160. **McGill SM.** Evidence based decision making to rehabilitate back injury, 16 hr. course, Hamar, Norway, Oct. 28-29, 2004.
161. **McGill SM.** Low back Symposium, 8 hr. course, Washington State Chiropractic Association, Seattle, Sept 11, 2004.
162. **McGill SM.** Designing back exercise: From rehabilitation through ultimate performance, 6 hr. course, Canfitpro Conference, Toronto, Aug. 19, 2004.
163. **McGill SM.** Low back disorders: Evidence based clinical decision making, 8 hr. course, Peterboro, ON, June 12, 2004.
164. **McGill SM.** Low back disorders: Improving prevention strategies and rehabilitation approaches, University of Quebec a Trois Rivieres, 8 hr. course, May 8, 2004.
165. **McGill SM.** Preventing low back disorders. Dispelling the myths. Pulp and Paper Health and Safety Conference, Toronto, May 4-6, 2004.
166. **McGill SM.** Prescribing low back exercise: From rehabilitation to ultimate performance, at Functional Training and Rehabilitation Symposium – North East Seminars, Boston, April 30-May 2, 2004.
167. **McGill SM.** Mastercourse: Low back disorders: Dispelling the myths and reducing the risks. 3 hr. course, IAPA, Toronto, April 26-28, 2004.

168. **McGill SM.** Low back disorders: Evidence based prevention and rehabilitation, 8 Hour Course, Association of Canadian Ergonomists, Toronto, Feb. 25, 2004.
169. **McGill SM.** Stability training: How to groove functional motor patterns, LA Sport and Spine, Los Angeles, Jan. 23, 2004.
170. **McGill SM.** Low back function, rehab and performance, 8 Hour Clinical Course, Southern California University of Health Sciences, Los Angeles, Jan. 24, 2004.
171. **McGill SM.** Prevention and Treatment of Lumbar Spine Disorders. Southern California University of Health Sciences Graduate Program, 8 Hour course, Chicago, IL November 8, 2003.
172. **McGill SM.** Low Back Disorders: Improving Prevention Strategies and Rehabilitation Approaches, Northeast Seminars, 16 Hour course, Chicago, October 25-26, 2003.
173. **McGill SM, Kavcic N, Gray J.** Evidence Based Low Back Exercise – Protecting the Technique (Part II – Practical Workshop), The Canadian Association of Fitness Professionals, Toronto, August 14-17, 2003.
174. **McGill SM.** Evidence Based Low Back Exercise – Dispelling the Myths (Part I – Lecture). The Canadian Association of Fitness Professionals, Toronto, August 14-17, 2003.
175. **McGill SM.** Low Back Disorders: Evidence based prevention and rehabilitation, 8 hr. course, Brisbane, Australia, July 11, 2003.
176. **McGill SM.** Low Back Disorders: Evidence based prevention and rehabilitation, 8 hr. course, Association of Canadian Ergonomists, Windsor, ON., June 19, 2003.
177. **McGill SM.** Low Back Disorders: Evidence based prevention and rehabilitation, 8 hr. course, Association of Canadian Ergonomists, Halifax, N.S., June 7, 2003.
178. **McGill SM.** Low Back Disorders: Evidence based prevention and rehabilitation, 8 hr. course, Association of Canadian Ergonomists, Victoria, B.C., April 25, 2003. Repeated in Vancouver April 26, 2003.
179. **McGill SM.** Low back disorders and seated work. Industrial Accident Prevention Association (IAPA) Conference, Toronto, Canada, April 14-16, 2003.
180. **McGill SM.** Low Back Disorders: Evidence based prevention and rehabilitation, 6 hr. course, Laurentian University and the Ontario Mines Association, Sudbury, ON., March 6, 2003.
181. **McGill SM.** Low Back Disorders – Evidence based prevention and rehabilitation, 8 hr. course, St. John's, Newfoundland, November 23, 2002.
182. **McGill SM.** Low Back Disorders. Improving prevention strategies and rehabilitation approaches, 8 hour Course. Accredited by Canadian Physical Therapy Association, Toronto Orthopaedic and Arthritic Hospital, November 2, 2002.
183. **McGill SM.** Low Back Disorders. Improving prevention strategies and rehabilitation approaches, 8 hr. course for the Association of Canadian Ergonomists, Ottawa, ON., September 27, 2002.
184. **McGill SM.** Low Back Disorders: Evidence based prevention, 4 hr. update course for Workplace Safety and Insurance Board (Ontario) Ergonomists, Minet, Ontario, September 18, 2002.

185. **McGill SM.** <Hallman Professor Lecture> Clinical approaches for low back disorders, 4 hr. course delivered to clinical staff at University of Waterloo, April 27, 2002.
186. **McGill SM.** Clinical Biomechanics of the Lumbar Spine, 7 hr. course delivered for the Southern California University of Health Sciences - Graduate Program, St. Louis, January 13, Raleigh, February 10, 2002, San Francisco, March 9, 2002, Newark, September 21, 2002.
187. **McGill SM.** The Scientific Foundation for Presentation and Treatment of Low Back Pain, 8 hr. course, Association of Canadian Ergonomists, Edmonton, December 5, Calgary, December 6, 2001.
188. **McGill SM.** A scientific foundation to guide decisions in low back exercise prescription, Profitness, Toronto, November 11, 2001.
189. **McGill SM.** Preventing low back troubles, Saskferco, Moose Jaw, Saskatchewan, June 21, 2001.
190. **McGill SM.** Myths and realities for preventing low back troubles, Saskatchewan Association of Health Organizations, Delivered in Regina June 19 and in Saskatoon June 20, 2001.
191. **McGill SM.** Low back injury: improving prevention strategies and rehabilitation approaches. Ontario Kinesiology Association 8 hr credit course, Toronto, Ontario, May 12, 2001.
192. **McGill SM.** Clinical biomechanics of the lumbar spine. 7 hour course delivered for the Southern California University of Health Sciences - Graduate Program, Long Island, New York, April 22, 2001.
193. **McGill SM.** <Keynote Lecture> Guidelines for back injury prevention. Newfoundland and Labrador Employer's Council, Annual Spring Conference, St. John's, Newfoundland, April 6, 2001.
194. **McGill SM.** Preventing and rehabilitating occupational low back injury. Kruger Pulp and Paper Mill, Cornerbrook, Newfoundland, April 5, 2001.
195. **McGill SM.** Myths and realities for preventing low back injury. Newfoundland and Labrador Employer's Council, Cornerbrook, Newfoundland, April 5, 2001.
196. **McGill SM.** Myths and realities - preventing and rehabilitating low back troubles. Industrial Accident Prevention Association 2001 Conference, Toronto, Ontario, April 2-4, 2001.
197. **McGill SM.** Reducing the risk of low back troubles in firefighters. Ontario Professional Firefighters Association Annual Health and Safety Meeting, Collingwood, Ontario, February 8, 2001.
198. **McGill SM.** Low back injury prevention. 28<sup>th</sup> Annual Industrial Safety Seminar, Saskatchewan Safety Council, Regina, Saskatchewan, February 6, 2001.
199. **McGill SM.** Occupational Biomechanics and low back injury prevention and management, 7 hr course for Los Angeles Chiropractic College, Philadelphia, January 20, 2001.
200. **McGill SM.** Can firefighters retire with better low back health? Section 21 Meeting - Ontario Firefighters, Collingwood, Ontario, January 11, 2001.

201. **McGill SM.** Developing rehabilitation protocols for low back injured workers. Workplace Safety and Insurance Board, Toronto, Ontario, January 4, 2001.
202. **McGill SM.** Low back injury research initiatives related to fire fighter health, Fire Training Officers Seminar, Ontario Firefighters Training Facility, Gravenhurst, November 22, 2000.
203. **McGill SM.** Low back injury: Improving prevention strategies and rehabilitation approaches, 8 hr course, St. Thomas-Elgin General Hospital, June 24, 2000.
204. **McGill SM.** The scientific foundation of low back exercise and rehabilitation approaches - Special 3 hr Symposium, Workers Compensation Board of Manitoba, and Manitoba Public Insurance, Winnipeg, June 2, 2000.
205. **McGill SM.** Workshop - prescribing low back exercise, Workers Compensation Board of Manitoba, Winnipeg, June 2, 2000.
206. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 7 hr course delivered for the Los Angeles College of Chiropractic Postgraduate Program in Rehabilitation, New York City, February 27, and Pittsburgh, July 23, 2000.
207. **McGill SM.** Low back injury: Improving presentation strategies and rehabilitation approaches, 8 hour clinic course. University of Regina, February 2, 2000.
208. **McGill SM.** Optimizing Low Back Health, 8 hour clinical course, Columbia Rehabilitation Centre, Calgary, February 19, 2000.
209. **McGill SM.** Preventing and Rehabilitating Low Back Troubles. "Chew on this". Series for co-op employers, University of Waterloo, October 21, 1999.
210. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 7 hr course delivered for the Los Angeles College of Chiropractic Postgraduate Program in Rehabilitation, Toledo, February 27, Chicago, June 27, 1999.
211. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 6 hr course delivered for the University of Waterloo - Professional Development, Waterloo, 26 September 1998.
212. **McGill SM.** Scientifically justified low back exercises: Issues, evidence and a low tech program. Future Recovery Centres, Kitchener, Ont., March 25, 1998.
213. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 7 hr course delivered for the Los Angeles College of Chiropractic Postgraduate Program in Rehabilitation, Oakland, February 21, Denver, March 21, 1998.
214. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 7 hr course delivered for Advanced Masters in Clinical Practice, School of Health and Rehabilitation Science: University of Pittsburgh, March 14, 1998.
215. **McGill SM.** Workshop - Manual Handling and the Spine. Ergonomics Society of Australia, Gold Coast, November 26, 1997.
216. **McGill SM.** A balanced view on back belt prescription to workers. One of the 4 debators at the National Safety Council. Chicago, Illinois, October 27-29, 1997.
217. **McGill SM.** <Keynote Address>: Reducing low back injury: Strategies for the Kinesiologist, British Columbia Association of Kinesiologists, Vancouver, March 1, 1997.

218. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 6 hr course delivered for the University of Waterloo - Professional Development, Waterloo, March 22 (also September 13), 1997.
219. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 6 hr course delivered for the Los Angeles College of Chiropractic - Postgraduate Program in Rehabilitation: Atlanta, February 8; Austin, March 8; Las Vegas, May 3, 1997.
220. **McGill SM.** Clinical Biomechanics of the Lumbar Spine - 7 hr course delivered for Advanced Masters in Clinical Practice, School of Health and Rehabilitation Science: University of Pittsburgh, April 5, 1997.
221. **McGill SM.** Low Back Injury, Considerations for disability management. Canada Life Insurance Company, Toronto, April 8, 1997.
222. **McGill SM.** Clinical Biomechanics of the Lumbar Spine, Human Factors Association of Canada - Manitoba-Saskatchewan Chapter, University of Manitoba, Winnipeg, April 19, 1997.
223. **McGill SM.** Presentation 1: Latest developments to reduce low back injuries; Presentation 2: Should workers wear abdominal belts? Adding value with Ergonomics - Industrial research assistance program - NRC, Waterloo, February 18-19, 1997.
224. **McGill SM.** Strategies for reducing low back problems from prolonged sitting. The Women's Association of University of Waterloo, November 27, 1996.
225. **McGill SM.** Ergonomic failures and how to prevent them. Alberta chapter of the Human Factors Association of Canada, Edmonton, November 28, 1996.
226. **McGill SM.** The senior's spine: Avoiding low back pain and loss of function, Kitchener-Waterloo Retired Businessman's Association, Kitchener, Ontario, March 28, 1996.
227. **McGill SM.** Clinical Biomechanics of the lumbar spine - 6 hr course delivered for the Los Angeles College of Chiropractic - Graduate Program: San Jose, April 13; Los Angeles, June 8; Philadelphia, Sept. 28; Boston, Oct. 12; Seattle, Nov. 2, 1996.
228. **McGill SM.** Reducing Low Back Problems for the Seated Worker, Seminar delivered to the University Community at large, University of Waterloo, April 25, 1996.
229. **McGill SM.** Update on biomechanics of low back injury and rehabilitation, Occupational Medicine Practitioners, Campbell River, BC, August 26, 1996.
230. **McGill SM.** Reducing the risk of low back injury at work, Fletcher Challenge, Campbell River, BC, August 26, 1996.
231. **McGill SM.** Low Back Mechanics: How does it work and how does it become injured? 11th Annual CFA Conference, Kananaskis, Alberta, January 20-22, 1995.
232. **McGill SM.** Reducing the risk of low back injury, 11th Annual CFA Conference, Kananaskis, Alberta, January 20-22, 1995.
233. **McGill SM.** Avoiding Low Back Pain, Third Age Learning Series, Illness and Injury Prevention: The Quality of our lives, Kitchener, Ontario, March 2, 1995.
234. **Juker D, McGill SM.** Psoas Major: Stabilizer or challenger of the lumbar spine. Rehabilitationszentrum, Valens, Switzerland, March 7, 1995.

235. **McGill SM.** Abdominal Belts in industry - should they be prescribed? Human Factors Association of Canada - Effective application of ergonomics in the workplace. Vancouver, June 9, 1995.
236. **McGill SM.** Scientific applications to reduce low back injury. Human Factors Association of Canada - Effective application of ergonomics in the workplace. Vancouver, June 9, 1995.
237. **McGill SM.** Clinical Biomechanics of the lumbar spine - 6 hour course delivered for Los Angeles College of Chiropractic - Graduate Program, University of Pittsburgh, June 3, 1995. (Also repeated in Chicago Oct. 14, 1995).
238. **McGill SM.** Cause and prevention of low back injury. Ottawa Ergonomics Group, Ottawa, Oct. 26, 1995.
239. **McGill SM.** The senior's spine: Avoiding low back pain. Victoria Park - Fergus Seniors, Fergus, Ontario, Nov. 23, 1995.
240. **McGill SM.** Clinical implications of recent developments in low back biomechanics. Leukerbad Hospital, April 14, Leukerbad, Switzerland, 1994.
241. **McGill SM.** Biomechanics, Ergonomics and Your Future. Lord Elgin High School, Burlington, May 24, 1994.
242. **McGill SM.** 4 Hour Workshop, A workshop to identify strategies for reducing occupationally-related low back injuries. For the Occupational Health and Safety Forum of Metropolitan Toronto, Toronto East General Hospital, Toronto, October 4, 1994.
243. **McGill SM.** Choosing movement strategies to reduce the risk of low back pain and injury. The Inter-Urban Pain Conference, Waterloo. Feb. 5, 1993.
244. **McGill SM.** Low back biomechanics to reduce the risk of injury, 3 hour course in Sudbury, Ontario, May 28, 1993.
245. **McGill SM.** Abdominal belts in industry: should they be prescribed? Sudbury, Ontario, May 28, 1993.
246. **McGill SM.** Reducing the risk of low back injury during automotive assembly, 3 1/2 hour course for General Motors, Oshawa, Ontario, August 17, 1993.
247. **McGill SM.** Evaluating the risk of occupationally related low back injuries, 3 hr. course at "Ergonomics at work - A Canadian Perspective - HFAC", Winnipeg, October 4-5, 1993.
248. **McGill SM.** Strategies to reduce the risk of occupational low back injuries, 3 hr. course at "Ergonomics at work - A Canadian Perspective - HFAC", Winnipeg, October 4-5, 1993.
249. **McGill SM.** Back Injury Prevention, Federal Mogul Health and Safety Conference, Southfield, Michigan, November 2-3, 1993.
250. **McGill SM.** Developing strategies to reduce the risk of low back injury, Waterloo County-Home Care Division, Waterloo, March 5, 1992.
251. **McGill SM.** Reducing the risk of low back injury during manual handling of patients, Sunbeam Residential Centre, Waterloo, April 15, 1992.

252. **McGill SM.** Lifting sense and nonsense: Reducing the risk of work-related low back injury. St. Michael's Hospital, Ontario Physiotherapy Association, Toronto. May 23, 1992.
253. **McGill SM.** Low back biomechanics and the prevention of injury. Canadian Memorial Chiropractic College (Department of postgraduate and continuing education). Toronto, December 5, 1992.
254. **McGill SM.** Recent advances in spine biomechanics and their implications, part of BACK PAIN - Continuing Medical Education, McMaster University, Hamilton, Jan. 9, 1991. (Approved for credit by the College of Family Physicians of Canada).
255. **McGill SM.** Professional Update for Ministry of Labour Ergonomics Consultants: Estimating the risk of low back injury. 6 Hours. Kitchener, Feb. 14, 1991.
256. **McGill SM.** Advances in Lumbar Biomechanics, Ontario Physiotherapy Association, Convention '91, Kitchener, March 8, 1991.
257. **McGill SM.** Lifting sense and nonsense, St. Joseph's Hospital, Hamilton, April 3, 1991. 4 Hours.
258. **McGill SM.** Use your head-not your back, University of Waterloo Employees Association, Waterloo, June 11, 1991.
259. **McGill SM.** The Ergonomics degree option at University of Waterloo, Ontario Meat Council, Toronto, June 18, 1991.
260. **McGill SM.** Lifting Sense and Nonsense, North Western Ontario District of the Canadian Physiotherapy Association, Thunder Bay, November 16, 1991, 4 Hour Workshop.
261. **McGill SM.** Low Back Pain: A Mechanical basis for assessing the risk of injury and understanding prevention, 6 hour workshop, Department of Kinesiology professional development symposium. Waterloo, May 3, 1990.
262. **McGill SM.** Low Back Biomechanics Applied to Work and Exercise, Department of Kinesiology Professional Development Symposium. Waterloo, Canada, May 13, 1988.
263. **McGill SM.** Lifting Sense and Nonsense, presented at Ergonomics '88; Attacking Workplace Issues. Waterloo, Canada, June, 1988. (also 1990, 1991, 1992, 1993).
264. **McGill SM.** Low Back Pain: A Biomechanical Approach. Invited seminar delivered to the participants of the Department of Kinesiology Professional Development Symposium, Waterloo, Ontario, May, 1987.
265. **McGill SM.** Program Costs and Impacts of Back Disability, presented at the Corporate Benefits of Health Promotion Workshop. Toronto, Canada, November, 1987.
266. **McGill SM.** Muscle, Ligament and Disc Forces During Lifting of Loads. Invited lecture delivered at the Defence and Civil Institute of Environmental Medicine (DCIEM), Toronto, Ontario, February 27, 1986.
267. **McGill SM.** Biomechanics in Bioengineering. Presented to the Shad Valley Summer Program in Bioengineering, Waterloo, Canada, July, 1986.
268. **McGill SM.** Watch Your Muscles Work. Invited lecture delivered to Women and Science in Engineering, Seminar Day Workshop, Waterloo, Ontario, October, 1986.

269. Norman RW, **McGill SM**. Biomechanical Models in the Estimation of Lumbar Stress. Invited presentation to the Ontario Chiropractic Association, Kitchener, Ontario, September, 1985.

**D) Self-initiated Presentations to Scholarly Groups**

1. Cambridge, E.D.J., & McGill, S.M. Hip-Spine Synergy: A myoelectric based, three dimensional, hybrid model of the Hip and Spine to predict joint loads in vivo. Canadian Chiropractic Association National Convention and Tradeshow, Niagara Falls, ON, CAN., September 2015.
2. Sidorkewicz N, Cambridge EDJ, McGill SM. Evidence-based advice for low back pain patients with elevated pain during sex: What the Chiropractor needs to know. Canadian Chiropractic Association National Convention and Tradeshow, Niagara Falls, ON, CAN., September 2015.
3. McGill, S.M., Frost, D., Lam, T., Finlay, T., Darby. K., Cannon, J., Can fitness and movement quality predict back injury in elite task force police officers? A 5-Year longitudinal trial. Int. Soc. For Study of the Lumbar Spine, San Francisco, 2015.
4. Bateman A, Balkovec C, Akens M, Harrison R, Yee A, **McGill SM**. Closure of the intervertebral disc annulus fibrosus using a novel suture application device – in vivo porcine and ex-vivo biomechanical evaluation. Int. Soc. For Study of the Lumbar Spine, San Francisco, 2015.
5. Bateman A, Balkovec C, Akens M, Harrison R, Oadken W, Yee A, **McGill SM**. Repair of the disc annulus fibrosus using a novel suture closure device – In vivo porcine and ex-vivo biomechanical evaluation. Canadian Orthopaedic Association meeting Vancouver 2015
6. Cannon, J., Cambridge, E., McGill, S., Residual Passive Stiffness of the Spine In Response to An Acute Bout of Core Training, Ontario Biomechanics Conference, Alliston, 2015
7. Antony Bateman, Christian Balkovec, Margerete Akens, Andrea Chan, Robert Harrison, Stuart McGill, Albert Yee, Closure of the intervertebral disc annulus fibrosus using a novel suture application device – in vivo porcine and ex-vivo biomechanical evaluation, AO North America Spine Fellow Symposium.
8. Gooyers CE, Frost DM, **McGill SM**, Callaghan JP. Partial rupture of the Achilles tendon during simulated fire ground tasks: assessment of lower-limb coordination using a dynamical systems approach. Thirty-Seventh Annual Meeting of the American Society of Biomechanics. Omaha Nebraska, University of Nebraska. 2013.

9. Giangregorio LM, Ashe M, Shipp K, Cheung AM, Heinonen A, Papaionnou A, **McGill SM**, Laprade J, Jain R, Keller H, MacIntyre NJ, Wark JD. "Is this exercise safe?": Building consensus around the answers to patients' questions. American Society for Bone Mineral Research. 2013.
10. Giangregorio LM, Ashe M, Shipp K, Cheung AM, Heinonen A, Papaionnou A, **McGill SM**, Laprade J, Jain R, Keller H, MacIntyre NJ, Wark JD. "Is this exercise safe?": Building consensus around responses to common questions about physical activity posed by people with osteoporosis. Can. Society for Exercise Physiology. 2013.
11. Sidorkewicz N, **McGill SM**. Male and female spine motion during coitus: A basis for initial recommendations for the low back patient. Ontario Kinesiology Conference, London Ontario. October 2013.
12. Gooyers C, Frost DM, **McGill SM**, Callaghan J. Partial rupture of the achilles tendon during a simulated fireground task: Insights obtained from a case report from the prevention and reporting of musculoskeletal injury. Ont. Biomech. Conf. Barrie. March 2013.
13. Sidorkewicz N, Cambridge E, **McGill SM**. Male Spine motion during coitus: Implications for the low back pain patient. Int. Soc. Study of the Lumbar Spine, Scottsdale AZ. May 13-17, 2013.
14. Balkovec C, Carstensen M, Leung A, **McGill SM**. A characterization of sub endplate damage during intervertebral disc herniation. Int. Soc. Study of the Lumbar Spine, Scottsdale AZ. May 13-17, 2013.
15. Sidorkewicz N, Cambridge EDJ, **McGill SM** (2013). Female lumbar spine kinematics during coitus: initial recommendations for the low back pain patient. 37<sup>th</sup> Annual Meeting of the American Society of Biomechanics, Omaha, USA
16. Sidorkewicz N\*, Cambridge E, **McGill SM** (2012). Can gluteus medius be targetted over TFL muscle activation during common non weight bearing hip rehabilitation exercises. Ontario Kinesiology Conference. October 2012. Niagara Falls.
17. Cambridge E\*, Sidorkewicz N, **McGill SM** (2012). Hip and spine motion during progressive hip rehabilitation - Implications for the low back pain patient. Ontario Kinesiology Conference. October 2012. Niagara Falls.
18. Giangregorio LM, Papaioannou A, MacIntyre NJ, Ashe M, Heinonen A, Shipp K, Wark J, **McGill SM**, Keller H, Jain R, Laprade J, McLeod M, Cheung A. Too fit to fracture: A consensus on exercise recommendations for individuals with osteoporosis and osteoporotic vertebral fractures. Amer. Osteoporosis Soc. Minneapolis, USA 2012

19. Ikeda D, **McGill SM**. Can Altering motions, postures and loads provide immediate low back pain relief: A study of four cases investigating spine load, posture and stability. Canadian Society of Biomechanics. Vancouver. 2012
20. Frost D, Gooyers C, Campbell T, **McGill SM**. Does the elimination of thigh markers influence the between-day variation in joint angles? Canadian Society for Biomechanics. Vancouver, 2012
21. Lee B, **McGill SM**. Striking dynamics and kinetic properties of boxing and MMA gloves. Canadian Society for Biomechanics. 2012
22. Sidorkewicz N, Cambridge EDJ, **McGill SM**. Gluteus Medius and TFL muscle activation interplay during hip abduction and external rotation exercise. Canadian Society for Biomechanics. 2012
23. Carstensen M, Balkovec C, **McGill SM**, Leung A. High resolution imaging of the vertebral end-plate region in intervertebral disc herniation using a porcine model. American Roetgen Ray Society, Vancouver, April 29- May 4, 2012.
24. Moreside J, **McGill SM**. Newfoundland joint movement obtained from stretching protocols may not translate to range of motion in functional tasks. Int. Society for Biomech. Brussels July 2011.
25. Frost D, Beach T, **McGill SM**, Callaghan J. Protecting our public protectors: A worker centred approach to injury prevention and job performance. CRE-MSD, Annual Meeting of the Centre for Research Excellence in Musculoskeletal Disorders, Windsor, ON June 1, 2011.
26. Balkovec C, Vernengo J, **McGill SM**. Preliminary mechanical evaluation of a novel hydrogel as a viable nucleus pulposus replacement in a disc following injury. Ontario Biomechanics Conference, Barrie, ON, March 11-13, 2011.
27. Cambridge E, Sidorkewicz N, Ikeda D, **McGill SM**. Progressive hip rehabilitation: the effects of resistance band placement on gluteus medius activation. Ontario Biomechanics Conference, Barrie, ON, March 11-13, 2011.
28. Sidorkewicz N, Cambridge E, **McGill SM**. Altering the hip angle in common non weight-bearing gluteus medius rehabilitation exercises. Ontario Biomechanics Conference, Barrie, ON, March 11-13, 2011.
29. Moreside J, **McGill SM**. Back mechanics and the elliptical. Canadian Physiotherapy Association, St John's, July 22-25, 2010.

30. Frost DM, Beach TAC, Callaghan JP, **McGill SM**. How should we best use a movement screen to guide long-term athletic development? NSCA National Conference, Orlando, Florida, July 14-17, 2010.
31. Moreside J, **McGill SM**. Lumbar motion and muscle activity on the elliptical trainer differs from walking: 16<sup>th</sup> Biennial Conference of the Canadian Society for Biomechanics, Kingston, Ontario, June 9-12, 2010.
32. McGill SM, Frost DM, Hubrecht T. Muscle activation/relaxation and the speed/strength paradox. 16<sup>th</sup> Biennial Conference of the Canadian Society for Biomechanics, Kingston, Ontario, June 9-12, 2010.
33. Frost DM, Beach TAC, Callaghan JP, **McGill SM**. Should a movement screen be used to guide exercise prescription? 16<sup>th</sup> Biennial Conference of the Canadian Society for Biomechanics, Kingston, Ontario, June 9-12, 2010.
34. Frost DM, Beach TAC, Fenwick CM, Callaghan JP, **McGill SM**. Hip-centric mini-band exercise: Spine friend or foe? Proceeding of the 7<sup>th</sup> Annual Ontario Biomechanics Conference, Barrie, Ontario, March 12-14, 2010.
35. Frost DM, Beach TAC, **McGill SM**, Callaghan JP. Injury prevention in the occupational athlete. Proceeding of the John P. Redmond Symposium- Occupational Health & Hazards of the Fire Service, Los Angeles, California, USA, November 8-12, 2010.
36. Moreside J, **McGill SM**. Improving hip mobility in young “tight” males: A clinical trial. American Physical Therapy Association, San Diego, February 2010.
37. Frost DM, Beach TAC, Fenwick CM, Callaghan JP, **McGill SM**. Is there a low back cost to hip-centric exercises? Examining the L4/L5 joint compression during movements prescribed to overload the hips. Submitted to present at the Annual Meeting for the American Society of Biomechanics, University Park, Pennsylvania, USA, August 26-29, 2009.
38. Brown SMH, **McGill SM**. Are ultrasound measures of muscle thickness representative of muscle activation in the abdominal wall. American Society for Biomechanics, Penn State U, 2009.
39. **McGill SM**. 1. How great athletes use their back and torso muscles to achieve high performance: A series of case studies. 2. \* Motion and Load determines the pattern of annulus disruption. 3. Reducing partial herniation with static and repeated extension. International Society for Study of the Lumbar Spine Annual Meeting, Miami, May 4-8, 2009. \*Awarded top presentation for conference.

40. Brown SHM, **McGill SM.** Are ultrasound measures of muscle thickness representative of muscle activation in the abdominal wall? American Society of Biomechanics, Penn State University, 2009.
41. Yates JP, Giangregorio L, **McGill SM.** Disc herniation: Concordance between contrast enhanced computed tomography, plane film discogram and a 'gold standard' dissection technique. Ontario Biomechanics Conference, Barrie, March 13-15, 2009.
42. Moreside J, **McGill SM.** Clinical measurements of hip internal/external rotation: Supine or prone. Am. Phys. Ther. Assn., Las Vegas, February 9-12, 2009.
43. Vera-Garcia FJ, Pamblanco-Valero MA, Moreside JM, **McGill SM.** Differences in neuromuscular control of thorax and pelvis motion. Spanish Association of Sport Science Congress, 2008.
44. Pamblanco-Valero MA, Vera-Garcia FJ, Moreside JM, **McGill SM.** Analysis of spine kinematics and trunk muscular activation during two movements of belly dance. Spanish Association of Sport Science Congress, 2008.
45. Marshall L, **McGill SM.** Dynamic axial torque/twisting: An investigation on spine injury mechanisms. Ontario Biomechanics Conference, Barrie, 2008.
46. Brown S, **McGill SM.** Force and stiffness transmission through layers of the rat abdominal wall. Ontario Biomechanics Conference, Barrie, 2008.
47. Yates J, **McGill SM.** Linking tissue damage with the CT image: Tracking progressive intervertebral disc herniations. Ontario Biomechanics Conference, Barrie, 2008.
48. Brown S, **McGill SM.** Transmission of actively generated force and stiffness through layers of the rat abdominal wall. North American Congress on Biomechanics, Ann Arbor, USA, August 2008.
49. Brown S, **McGill SM.** Ultrasound analysis of in-vivo connective tissue deformations of the human abdominal wall. North American Congress on Biomechanics, Ann Arbor, USA, August 2008.
50. Brown SMH, **McGill SM.** Revisiting the EMG-torque relationship of the trunk musculature: Effects of antagonistic co-contraction. Am. Soc. Biomech., Palo, Alto, August 2007.
51. Brown SMH, **McGill SM.** Muscle activation patterns change the inherent stiffness of the human trunk. Am. Soc. Biomech., Palo, Alto, August 2007.

52. Tampier C, Drake J, Callaghan JC, **McGill SM**. Modelo animal de mecanismo de producción de hernias discales anteriores, IV Jornadas Chileno-Argentinas de Orthopedia Y Traumatología, San Martín de los Andes, Argentina, May 25-26, 2007.
53. Marshall L, **McGill SM**. The effect of dynamic axial torsion on the injury mechanism of cervical porcine spines. Ont. Biom. Conf., Ontario Biomechanics Conference, Barrie, Canada, March 2007.
54. Howarth SJ, **McGill SM**. Coordinated activation of multisegmental and intersegmental fascicles is beneficial for generating stability of the lumbar spine. Ontario Biomechanics Conference, Barrie, Canada, March 2007.
55. Brown S, **McGill SM**. An examination of the EMG-moment relationship of the trunk flexor musculature. Ontario Biomechanics Conference, Barrie, Canada, March 2007.
56. Brown S, Vera-Garcia F, **McGill SM**. Robust muscular girdles ensure stability of the lumbar spine. 18<sup>th</sup> Annual Symposium of the Orthopaedic Division of the Canadian Physiotherapy Association, Calgary, Canada, October 2006.
57. Brown SHM, Gregory DE, **McGill SM**. Vertebral end-plate fractures as a result of high rate pressure loading in the nucleus of young porcine spines, 14<sup>th</sup> Conference of the Canadian Society for Biomechanics, Waterloo, Canada, August, 2006.
58. Vera-Garcia F, Flynn JM, **McGill SM**. Activación muscular, estabilidad raquídea y compresión lumbar durante la utilización de un instrumento de acondicionamiento muscular: El Body-Blade. IV Congreso de la Asociación Española de Ciencias del Deporte, octubre 2006.
59. Vera-Garcia F, Flynn JJ, **McGill SM**. Activación independiente de diversas porciones de los músculos rectos y la habilidad física percibida en nadadores brasileños. IV Congreso de la Asociación Española de Ciencias del Deporte, octubre 2006.
60. Moreside JM, Vera-Garcia FJ, **McGill SM**. Neuromuscular independence and synergies of the abdominal wall as demonstrated by middle-eastern style dancers, 2006 Orthopaedic Symposium, Calgary, Canada, October, 2006.
61. Brown SHM, **McGill SM**. Analysis of the signal and noise of an electromagnetic tracking device in monitoring the frequency response of the human trunk to quick load releases. 14<sup>th</sup> Conference for the Canadian Society of Biomechanics, Waterloo, Canada, August, 2006.

62. Brown SH, Vera-Garcia FJ, **McGill SM**. Muscular girdles rather than single muscle activation patterns enhance lumbar spine stability. 18<sup>th</sup> Annual Orthopaedic Symposium of the Canadian Physiotherapy Association, Calgary, Canada, August, 2006.
63. Flynn JM, Vera-Garcia FJ, **McGill SM**. Middle-eastern style dance motions give insight into neuromuscular independence and synchronizations of the abdominal wall. Poster presentation at the CSB Convention, Waterloo, August 2006.
64. Flynn JM, Vera-Garcia FJ, **McGill SM**. MVC's: are you getting the maximum from the torso muscles? Poster presentation at the CSB Convention, Waterloo, August, 2006.
65. Howarth S, Brown S, Liebensen C, **McGill SM**. Does abdominal bracing improve performance on the active straight leg raise test? Canadian Society for Biomechanics, Waterloo, Canada, August 16-19, 2006.
66. Howarth S, **McGill SM**. A case for establishing vertebral coordinate systems for evaluating muscle contributions to spine stability. World Congress of Biomechanics, Munich, Germany, July 29-August 4, 2006.
67. Flynn JM, Vera-Garcia FJ, **McGill SM**. Neuromuscular independence of the abdominal wall as demonstrated by middle-eastern style dancers. Podium presentation at the ISEK Conference, Turino, Italy, July, 2006.
68. Brown SHM, Vera-Garcia FJ, **McGill SM**. Difficulties in adjusting muscle activation patterns to stabilize the spine under externally loaded situations. XVI Congress of the International Society of Electrophysiology and Kinesiology, Torino, Italy, June, 2006.
69. Vera-Garcia FJ, Elvira JL, Brown SHM, **McGill SM**. Effect of abdominal bracing and abdominal hollowing maneuvers on the control of spine stability. XVI Congress of the International Society of Electrophysiology and Kinesiology, Torino, Italy, June, 2006.
70. Howarth S, **McGill SM**. Choice of local coordinate system orientation influences muscular contributions to stability: A spine example. Ont. Biomech Conf., Barrie, March 2006.
71. Brown S, Vera-Garcia F, **McGill SM**. Difficulties in altering muscle activation patterns to stabilize the spine under externally loaded situations. Ont. Biomech Conf., Barrie, March 2006.
72. Flynn J, Vera-Garcia F, **McGill SM**. Neuromuscular independence of the abdominal wall as demonstrated by middle-eastern style dancers. Ont. Biomech Conf., Barrie, March 2006.

73. Flynn J, Vera-Garcia FJ, **McGill SM**. Trunk muscle activation patterns when using the body blade: How they vary with positioned level of coordination. Orthopaedic Division, Canadian Physiotherapy Association, London, Oct 2005, pres. 1A-1.
74. Brown S, **McGill SM**. Muscle force-stiffness characteristics influence joint stability, A spine example. Int. Soc. for Biomech., Cleveland, USA, Aug. 1-5, 2005.
75. Flynn JM, Vera-Garcia FJ, Brown SMH, **McGill SM**. Trunk muscle activation patterns comparing cable press and body blade exercises, Int. Soc. for Biomech., Cleveland, Aug. 1-5, 2005.
76. Howarth S, **McGill SM**. Using the eigenvector approach to locate spinal instability, Int. Soc. for Biomech., Cleveland, USA, Aug. 1-5, 2005.
77. Vera-Garcia FJ, Santana JC, Gray JR, **McGill SM**. Trunk and shoulder muscle response comparing one repetition maximum bench and standing cable press, Int. Soc. Biomech., Cleveland, Aug. 1-5, 2005.
78. Gray JR, Vera-Garcia FJ, Karpowicz A, **McGill SM**. Load and velocity effects on torso EMG during the back squat exercise, National Strength and Conditioning Association, Las Vegas, July 6-9, 2005.
79. Gray JR, Vera-Garcia FJ, Karpowicz A, **McGill SM**. Lower extremity EMG response to unilateral and bilateral leg exercises, National Strength and Conditioning Association, Las Vegas, July 6-9, 2005.
80. Santana JC, Vera-Garcia FJ, Gray JR, **McGill SM**. A biomechanical comparison of the one-arm standing press and bench press including muscle response, National Strength and Conditioning Association, Las Vegas, July 6-9, 2005.
81. Flynn JM, Vera-Garcia F, **McGill SM**. Comparing three dimensional spine motion and trunk muscle activation during cable press and body blade exercises. Canadian Physiotherapy Association Annual Meeting, Victoria, May 26-29, 2005.
82. Scannell J, **McGill SM**. Spinal disc prolapse caused by flexion can be reduced by extension – an in vitro study of disc mechanics. Canadian Biomaterials Society, Waterloo, May 26-28, 2005.
83. Brown S, **McGill SM**. Diverging mechanisms of spine stability at both high and low loading. International Society for Study of Lumbar Spine, New York, May 10-14, 2005.

84. Flynn J, Vera-Garcia FJ, **McGill SM**. Trunk muscle activation patterns obtained from cable pulleys compared to the body blade, Ontario Biomechanics Conference, Barrie, Feb. 19, 2005.
85. Howarth S, **McGill SM**. Determining the location of potential spinal instability: Analysis of the eigenvector, Ontario Biomechanics Conference, Barrie, Feb. 19, 2005.
86. Gray JR, Skaggs CD, **McGill SM**. Diaphragmatic muscle activity: Evidence for a role in neck flexion? Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
87. **McGill SM**. Building the ultimate back: A journey in progress, Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
88. Drake JDM, Aultman CD, **McGill SM**, Callaghan JP. The role of torsion in intervertebral joint failure mechanics, Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
89. Scannell J, Aultman CD, **McGill SM**. The direction of disc prolapse is predictable knowing the repeated bending motion causing the prolapse. Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
90. Kavcic N, Grenier S, **McGill SM**. Quantifying tissue loads and spine stability while performing commonly prescribed low back stabilization exercises, Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
91. Howarth S, **McGill SM**. Shear instability of the L4-L5 joint: Examination of spinal musculature reinforcement potential, Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
92. Gregory D, Kavcic N, Dunk N, **McGill SM**, Callaghan J. The lumbar responses of sitting on a stability ball and in an office chair, Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
93. Wang S, Hentschel EP, **McGill SM**. Linking ventilation mechanics with spine stability: Normals and patients, Can. Soc. Biomech, Halifax, NS, Aug. 4-7, 2004, paper in Conference CD.
94. Skaggs CD, Gray JR, **McGill SM**. Orofacial contraction does not affect neck muscle activity in a clinical test. Int. Soc EMG and Kinesiol., Boston, USA, June 18-21, 2004.
95. Drake J, Aultman C, **McGill SM**, Callaghan J. <CSB Student Award Paper> The role of torsion in intervertebral joint failure mechanics, Ontario Biomechanics Conference, Barrie, Feb. 28-29, 2004.

96. Wang SS, **McGill SM**. The links between ventilation mechanics, trunk motor patterns, and spine stability, Canadian Physiological Society, Vernon, B.C., Jan. 28-Feb. 1, 2004.
97. Hicks GE, Fritz JM, Delitto A, **McGill SM**. Preliminary clinical prediction role for determining response to a lumbar stabilization program. Combined sections meeting for the American Physical Therapy Association, February, 2003,
98. Scannell JP, **McGill SM**. Torso positions of minimum passive tissue strain-where do we sit, stand and walk? Proceedings of The IV World Congress on Biomechanics, Calgary, August 4-9, 2002.
99. Kavcic N, Grenier S, **McGill SM**. Quantifying the contribution of individual muscles to lumbar spine stability. Proceedings of The IV World Congress on Biomechanics, Calgary, August 4-9, 2002.
100. Grenier S, **McGill SM**. The role of transverse abdominis in spine stability. Proceedings of The IV World Congress on Biomechanics, Calgary, August 4-9, 2002.
101. **McGill SM**, Grenier S, Bluhm M, Brown S. Previous history of LBP with work loss is related to lingering deficits in fitness, personal, motor control, work technique, and psychosocial characteristics, International Society for Study of the Lumbar Spine, May 14-18, Cleveland, 2002.
102. Grenier SG, Preuss RA, Scannell J, Brown S, **McGill SM**. Correlates of occupational low back troubles: Clues for better prevention and rehabilitation, Association of Canadian Ergonomists, Montreal, October, 2001.
103. **McGill SM**, Grenier S, Preuss R, Brown S. Asymmetries in torso endurance and strength parameters are associated with a history of low back troubles. In the proceedings of the XVIII<sup>th</sup> Congress of the International Society of Biomechanics, July 8-13, Zurich, Switzerland 2001.
104. Grenier S, **McGill SM**. Muscle activation and intra-abdominal pressure independently affect torso stiffness even at low activation levels. In the proceedings of the XVIII<sup>th</sup> Congress of the International Society of Biomechanics, July 8-13, Zurich, Switzerland 2001.
105. Preuss R, **McGill SM**. Improved lumbar spine position sense and sitting balance following a six-week rehabilitation program in individuals with a history of low back pain, McGill University Research Colloquium on Rehabilitation, May, 2001.

106. Grenier S, Preuss RA, **McGill SM**. Increased ventilation and injury history appear to modulate spine stability. Proceedings of the 24<sup>th</sup> annual meeting of the American Society for Biomechanics, University of Illinois at Chicago, July 19-22, 2000.
107. Grenier SG, Preuss RA, **McGill SM**. Abdominal muscle patterns change with a history of back troubles. Proceedings of the XI<sup>th</sup> Congress of the Canadian Society for Biomechanics, Montreal, August 23-26, 2000. Also published in Arch. Physiol. Biochem. 108(1/2): 188, 2000.
108. Preuss RA, Grenier S, **McGill SM**. Lumbar spine position sense in pain-free individuals: Does a previous history of low back pain affect lumbar spine position sense. Proceedings of the XI<sup>th</sup> Congress of the Canadian Society for Biomechanics, Montreal, August 23-26, 2000. Also published in Arch. Physiol. Biochem. 108(1/2): 203, 2000.
109. Bereznick DE, Ross JK, **McGill SM**. The friction between the thoracic skin-fascia interface: Implications in spine manipulation. Proceedings of the XI<sup>th</sup> Congress of the Canadian Society for Biomechanics, Montreal, August 23-26, 2000. Also published in Arch. Physiol. Biochem. 108(1/2): 204, 2000.
110. Bereznick DE, Ross JK, **McGill SM**. L4/L5 facet joint asymmetry: Implications for manual palpation. International Society for Biomechanics XVII<sup>th</sup> Congress, Calgary, Canada, August 8-13, 1999.
111. Callaghan JP, **McGill SM**. Studies on intervertebral disc damage from highly repetitive flexion/extension motions with compressive force. International Society for Biomechanics XVII<sup>th</sup> Congress, Calgary, Canada, August 8-13, 1999.
112. Grenier SG, Vera-Garcia FJ, **McGill SM**. Abdominal response during curl-ups on both stable and labile surfaces. International Society for Biomechanics XVII<sup>th</sup> Congress, Calgary, Canada, August 8-13, 1999.
113. Gunning JL, **McGill SM**. Intervertebral disc hydration modulates the injury process. International Society for Biomechanics XVII<sup>th</sup> Congress, Calgary, Canada, August 8-13, 1999.
114. **McGill SM**, Hughson R, Parks K. Lumbar extensor oxygenation during prolonged contractions. International Society for Study of the Lumbar Spine, Hawaii, June 21-25, 1999.
115. **McGill SM**, Norman RW, Yingling VR, Wells RP, Neumann P. Shear Happens! Suggested guidelines for ergonomists to reduce the risk of low back injury from shear loading. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998.

116. Callaghan JP, **McGill SM.** <**Julian Christian Award - Best Graduate Student presentation and Ontario HFAC Chapter Award**> Sitting, Standing and Walking: Potential for Low Back Injury from Sedentary Situations in the Workplace. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998.
117. Mientjes MIV, Norman RW, Wells RP, **McGill SM.** Evaluation of a continuous estimation technique of low back compression during simulated occupational jobs. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998.
118. **McGill SM.** Designing work to reduce the risk of low back injury: Let's address the specific causes of tissue damage. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998.
119. Callaghan JP, **McGill SM.** Impact Forces From Falling: Implications for low back injury. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998.
120. Honsa K, Vennettelli M, Mott N, Silvera D, Niechwiej E, Wagar S, Howard M, Zettel J, **McGill SM.** < **Winner of Best Undergraduate Presentation and HFAC Ontario Chapter Award** > The Efficacy of the NIOSH (1991) Hand-to-Container Coupling Factor. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998.
121. Frazer M, Norman RW, **McGill SM** (1998). EMG to muscle force. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
122. Brereton LC, **McGill SM.** Frequency response of spine extensors during rapid isometric contractions: Effects of muscle length and tension. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
123. Callaghan JP, **McGill SM.** Time varying postures, muscular activity, and low back joint loading during unsupported sitting. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
124. Cholewicki J, Juluru K, Panjabi MM, Radebold A, **McGill SM.** Can an abdominal belt and/or intra-abdominal pressure increase spine stability? In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.

125. Gunning JL, Callaghan JP, **McGill SM**. Spine load and muscular activity during exercise back extensor exercises. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
126. Lehman G, Vernon H, **McGill SM**. Influence of chiropractic manipulation on trunk kinematics and associated trunk muscle EMG. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
127. McGowan B, Callaghan JP, **McGill SM**. The effects of cadence on lumbar spine kinematics during gait. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
128. Peach J, Gunning J, **McGill S**. Kinematics and trunk muscle myoelectric activity in the chronic low back pain patient. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
129. Ross K, Bereznik D, **McGill S**. Atlas-axis facet asymmetry: Implications for manual palpation. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
130. Yingling VR, **McGill SM**. The response of the intervertebral disc, the pars interarticularis and the posterior ligaments to external anterior shear loading. In The Proceedings of the Third North American Congress on Biomechanics, University of Waterloo, Waterloo, August 14-18, 1998.
131. Cholewicki J, **McGill SM**. Can lumbar stability be augmented with an abdominal belt and/or increased intra-abdominal pressure? International Society for Study of the Lumbar Spine, Brussel, Belgium, June 9-13, 1998.
132. Peach J, Gunning J, **McGill SM**. Kinematics and trunk muscle myoelectric activity in the chronic low back pain patient. European Society for Biomechanics, Toulouse, France, July 8-11, 1998.
133. Peach J, Gunning J, **McGill SM**. Reliability of spectral EMG parameters during isometric contractions of the spine extensors. European Society for Biomechanics, Toulouse, France, July 8-11, 1998.
134. Kippers V, **McGill SM**. Effects of abdominal belts on back muscle activity and range of vertebral flexion. Ergonomics Society of Australia, Gold Coast, November 24-27, 1997.

135. **McGill SM**, Axler C, Callaghan J, Gunning J, Juker D, Kropf P, Steffen T. Spine loading during rehabilitation exercises: Identifying the safest method. International Society for Study of the Lumbar Spine, Burlington, Vermont, USA, June 24-29, 1996.
136. Little CE, Patla AE, **McGill SM**. Evaluation of the rigid linked segment model assumption for the lower extremity. Canadian Society for Biomechanics - IX Biennial Conference, Simon Fraser University, Vancouver, August 21-24, 1996.
137. Stothart JP, **McGill SM**. Stadiometry: Sources of variability in spine shrinkage measurement. Canadian Society for Biomechanics - IX Biennial Conference, Simon Fraser University, Vancouver, August 21-24, 1996.
138. Yingling VR, **McGill SM**. Mechanical properties and injuries resulting from anterior and posterior shear loading of the spine. Canadian Society for Biomechanics - IX Biennial Conference, Simon Fraser University, Vancouver, August 21-24, 1996.
139. Callaghan JP, Patla AE, **McGill SM**. An examination of rigid link segment models for gait analysis. Canadian Society for Biomechanics - IX Biennial Conference, Simon Fraser University, Vancouver, August 21-24, 1996.
140. Yingling VR, **McGill SM**. Mechanical properties and injuries resulting from anterior and posterior shear loading of the spine at different loading rates. 20th Annual meeting of the American Society for Biomechanics, Georgia Tech, Atlanta, October 17-19, 1996.
141. Callaghan JP, Patla AE, **McGill SM**. 3D Analysis of spine loading during gait. 20th Annual meeting of the American Society for Biomechanics, Georgia Tech, Atlanta, October 17-19, 1996.
142. Kinney SE, Callaghan J, **McGill SM**. Lumbar spine movement and muscle activity using the golfer's listing technique. In Evidence Based Ergonomics, 28th Annual Conference of the Human Factors Association of Canada, Kitchener, 23-26 October, 1996.
143. Whiteside RA, **McGill SM**. **Awarded J. Christiansen Award for best-undergraduate presentation.** A comparison of the effects of static and dynamic sitting postures on spinal shrinkage and perceived discomfort. In Evidence Based Ergonomics, 28th Annual Conference of the Human Factors Association of Canada, Kitchener, 23-26 October, 1996.
144. Frazer MB, Norman RW, **McGill SM**. EMG to force calibration in dynamic movements, International Society for Biomechanics, Jyväskylä, Finland, July 2-8, 1995.
145. **McGill SM**, Juker D, Kropf P. (Finalist in Clinical Biomechanics Award). Indwelling EMG of Psoas: Clinical implications for low back injury and rehabilitation. Proceedings

- of the American Society for Biomechanics, Stanford University, USA, August 24-26, 1995.
146. Axler CT, **McGill SM**. Abdominal exercises: Searching for the optimal muscle challenge with minimal spine loading. Proceedings of the American Society for Biomechanics, Stanford University, USA, August 24-26, 1995.
  147. Callaghan JP, **McGill SM**. Muscle activity and low back loads under external shear and compressive loading. Proceedings of the American Society for Biomechanics, Stanford University, USA, August 24-26, 1995.
  148. Yingling VR, Callaghan JP, **McGill SM**. The effect of load rate on the mechanical properties of porcine spinal motion segments. Proceedings of the American Society for Biomechanics, Stanford University, USA, August 24-26, 1995.
  149. **McGill SM**, Norman RW, Cholewicki J (1995). Predicting low back compression during complex 3-D tasks: developing a simple polynomial for routine industrial use. Proceedings of the Second International Scientific Conference on Prevention of Musculoskeletal Disorders, Montreal, Sept. 24-28, 1995.
  150. Cholewicki J, **McGill SM**. Mechanical stability of the in vivo lumbar spine, Annual meeting of the Biomedical Engineering Society (BMES), Boston, USA, Oct. 6-8, 1995.
  151. Kippers V, **McGill SM**. Effects of extrinsic support on vertebral stabilization in flexed trunk postures. Anatomical Society of Australia and New Zealand, Sydney. Feb. 1-2, 1994.
  152. Kippers V, **McGill SM**. Effects of abdominal belts on back muscle activity, Australian Sports Medicine Federation, Queensland Australia, 4-6 March, 1994.
  153. Norman RW, **McGill SM**, Lu W, Frazer M. Improvements in biological realism in an industrial low back model: 3D WATBAK, 12th Triennial Congress of the International Ergonomics Association, Toronto, August 15-19, 1994.
  154. **McGill SM**. A review of the assets and liabilities of abdominal belts in industry, 12th Triennial Congress of the International Ergonomics Association, Toronto, August 15-19, 1994.
  155. Callaghan JP, **McGill SM**. Compressive tolerance of a porcine vertebral fracture model exposed to physiological pressures, 8th Biennial Conference of the Canadian Society for Biomechanics, Calgary, August 1994.

156. **McGill SM**, Sharratt MT. Loads on spinal tissues during simultaneous lifting and ventilatory challenge, 8th Biennial Conference of the Canadian Society for Biomechanics, Calgary, August 1994.
157. Axler CT, **McGill SM**. Studiometry of sitting and standing postures: Does all Shrinkage occur in the spine? 8th Biennial Conference of the Canadian Society for Biomechanics, Calgary, August 1994.
158. Sutarno CG, **McGill SM**. Creating a normative kinematic data base for 3-D movements of the lumbar spine, 8th Biennial Conference of the Canadian Society for Biomechanics, Calgary, August 1994.
159. Sutarno CG, **McGill SM**. Comparison of electromyographic activity patterns in normal subjects and low back pain patients, 8th Biennial Conference of the Canadian Society for Biomechanics, Calgary, August 1994.
160. Juker D, **McGill SM**. Quantitative intramuscular myoelectric activity of lumbar portions of psoas and the abdominal wall, Noraxon - Neurodata EMG Meeting, Berlin 94, Berlin, Dec. 10, 1994.
161. Sharratt MT, **McGill SM**. The effect of variable breathing pattern on spinal loading during lifting, 1993 American College of Sports Medicine Annual Meeting. Seattle, Washington, June 2-5. Abstract published in Med. Sci. Sports Exerc. 25(5). Suppl. 1993.
162. Cholewicki J, **McGill SM**, Norman RW. Solving the problem of mathematical indeterminacy in a lumbar spine model using EMG intelligent optimization, XIVth 27 June 2000 Congress of the International Society for Biomechanics, Paris, France, July 4-8, 1993.
163. Potvin JR, Norman RW, **McGill SM**. A Method for continually estimating instantaneous bilateral erector spinae muscle loads during prolonged dynamic lifting, XIVth Congress of the International Society for Biomechanics, Paris, France, July 4-8, 1993.
164. Sutarno CG, **McGill SM**. Force-velocity investigation of the erector spinae muscles, XIVth Congress of the International Society for Biomechanics, Paris, France, July 4-8, 1993.
165. Santaguida P, **McGill SM**. Three dimensional mechanical study of the psoas major muscle with respect to the spine. Second North American Congress on Biomechanics, Chicago, USA, Aug. 24-28, 1992.

166. **McGill SM**, Norman RW. Loading of the low back during 3-D moment generation, 25th Annual Conference of the Human Factors Association of Canada, Hamilton, October 25 - 28, 1992.
167. Seguin J, **McGill SM**. The effect of abdominal belts on passive stiffness of the trunk about three axes, 25th Annual Conference of the Human Factors Association of Canada, Hamilton, October 25 - 28, 1992.
168. Li Y, Bishop PJ, Wells RP, **McGill SM**. A quasi-static analytical sagittal plane model of the cervical spine in extension and compression, 35th Stapp Car Crash Conference, SAE, San Diego, November 18-20, 1991.
169. Potvin JR, Norman RW, **McGill SM**. Individual trunk muscle and ligament forces during dynamic lifting, XIIIth International Congress on Biomechanics, Perth, Australia, 9-13 December, 1991.
170. Cholewicki J, **McGill SM**. Lumbar spine kinematics obtained from videofluoroscopy. XIIIth International Congress on Biomechanics, Perth, Australia, 9-13 December, 1991.
171. **McGill SM**. Lumbar loads from moments about three orthopaedic axes: Developing the architecture of a 3-D occupational low back model. XIIIth International Congress on Biomechanics, Perth, Australia, 9-13 December, 1991.
172. Naus F, Sharratt M, **McGill S**, Hughson R. EMG confirmation of active expiration. Federation of American Society for Experimental Biology, Washington, D.C., April, 1990.
173. Bone BC, Norman RW, **McGill SM**, Ball KA. Comparison of 2D and 3D model predictions in analyzing asymmetric lifting postures. Annual International Industrial Ergonomics and Safety Conference, Montreal, June 10-13, 1990.
174. Potvin JR, Norman RW, **McGill SM**, Eckenrath ME. Internal and external "Lifting Effectiveness" during dynamic manual materials handling tasks. Sixth Biennial Conference of the Canadian Society for Biomechanics, Quebec City, August, 1990.
175. Cholewicki J, **McGill SM**, Wells RP, Vernon H. A method for measuring vertebral kinematics from fluoroscopy. Sixth Biennial Conference of the Canadian Society for Biomechanics. Quebec City, August, 1990.
176. **McGill SM**. Loads in lumbar spinal tissues during dynamic lateral bending. Sixth Biennial Conference of the Canadian Society for Biomechanics. Quebec City, August, 1990.

177. **McGill SM**, Potvin J, Norman RW. Estimating low back demands in ambulance attendants using a hybrid anatomical model. 23rd Annual Conference of the Human Factors Association of Canada, Ottawa, September, 1990.
178. **McGill SM**, Kane SL. Torsional strength and muscle activity of the trunk during axial twisting. International Society for Biomechanics, Los Angeles, June, 1989.
179. Potvin JR, Norman RW, **McGill SM**, Eckenrath MF. L4/L5 shear force reduction by low back musculature during lifting. International Society for Biomechanics, Los Angeles, June, 1989.
180. **McGill SM**, Norman RW, Sharratt MT. Lifting with an abdominal belt: Effects on trunk muscle activity and intra-abdominal pressure. 22nd Annual conference of the Human Factors Association of Canada, Toronto, Nov., 1989.
181. Sullivan A, **McGill SM**. Changes in the height of the spine from seated vibration exposure. 22nd Annual Conference of the Human Factors Association of Canada, Toronto, November, 1989.
182. Hoodless KP, **McGill SM**. Isometric and dynamic torsional trunk strength in women. 22nd Annual conference of the Human Factors Association of Canada, Toronto, November, 1989.
183. Brisland CE, **McGill SM**. The effects of a mechanical suspension seat on spinal vibrocreep responses. 22nd Annual conference of the Human Factors Association of Canada, Toronto, November, 1989.
184. Potvin JR, Norman RW, **McGill SM**, Eckenrath MF. Prediction of L4-L5 disc compression during dynamic stoop and squat lifts. 22nd Annual Conference of the Human Factors Association of Canada, Toronto, November, 1989.
185. Potvin J, Ball K, **McGill S**, Norman R. A test of the assumption of rigidity in a linked segment biomechanical lifting model. Canadian Society for Biomechanics, Ottawa., August, 1988.
186. Lafortune D, Norman R, **McGill S**. Ensemble averages of linear enveloped EMG's during lifting. Canadian Society for Biomechanics, Ottawa, August, 1988.
187. Eckenrath MF, Norman RW, **McGill SM**, Bennett GW. A field usable stochastic model which predicts L4/L5 disc compression. European Society for Biomechanics, Bristol, England, September, 1988.

188. **McGill SM**, Norman RW, Sharratt MT. The relationship of IAP to ventilatory and low back mechanics. 21st Annual Conference of the Human Factors Association of Canada, Edmonton, September, 1988.
189. Thorstensson A, Norman RW, **McGill SM**. Force Transmission Through the Arms and Trunk During Different Loading Conditions. Eleventh International Congress on Biomechanics, Amsterdam, Holland, July, 1987.
190. **McGill SM**, Thorstensson A, Norman RW. Mechanical Response of the Human Trunk Under Dynamic Axial Load. Eleventh International Congress on Biomechanics, Amsterdam, Holland, July, 1987.
191. **McGill SM**, Norman RW. The Contribution of Lumbodorsal Fascia Forces to Extensor Moment Generation During Lifting. Twentieth Annual Meeting, Human Factors Association of Canada, Montreal, Canada, October, 1987.
192. **McGill SM**, Norman RW. A Critical Look at Intra-abdominal Pressure as a Viable Mechanism to Reduce Spinal Compression. 19th Annual Meeting of Human Factors Association of Canada, August, 1986, Vancouver, Canada. This presentation was awarded the Julian Christensen Award for Ph.D. level ergonomics research.
193. **McGill SM**, Norman RW, Patt N. Estimations of Force and Moment Generating Capacity of Trunk Musculature from CT Scan Measures. North American Congress on Biomechanics, Montreal, Canada, August, 1986.
194. **McGill SM**, Norman RW. A Revised Model of the Erector Spinae Muscle. 10th Congress of the International Society for Biomechanics, Umea, Sweden, June, 1985.
195. **McGill SM**, Norman RW. Static vs. Dynamic Modelling of Lumbar Moments Induced During Lifting. Third Biannual Conference of the Canadian Society for Biomechanics, Winnipeg, Manitoba., August, 1984.
196. **McGill SM**. A Computer Analysis of Swing Through Crutch Gait. Second Biannual Conference of the Canadian Society of Biomechanics, Kingston, Ontario, September, 1982.
197. Dainty DA, **McGill SM**, Mason M, Cotton C, Morrison W. The Evaluation of Window Opening Capabilities of Physically Handicapped Adults. 8th Congress of the International Society for Biomechanics, Nagoya, Japan, June, 1981.

**Research Grants and Contracts**

<b>Researcher</b>	<b>Agency</b>	<b>Amount</b>	<b>Tenure</b>	<b>Short Title</b>
S.M. McGill	Stryker Orthopaedics	Gift in kind	Feb 2014- June 2014	PMMA Spine Kyphoplasty kits
S.M. McGill	NSERC	\$235,000	May 2012- April 2017	Probing fundamental mechanics of the spine.
S.M. McGill	OCE	\$86,068	Aug 2012- Mar 2012	Insitu evaluation of disc surgical repair device.
L.M. Giangregorio, J. Hirdes, S. McGill, H. Keller, A. Papaioannou, A. Cheung, M. MacIntyre, M. Ashe, J. Wark, A. Heinonen, K. Shipp, R. Jain.	International Research Partnership Grant- Osteoporosis Canada	\$31,630	Nov 2011- Nov 2012	Too fit to fracture: research priorities and best practices in exercise and osteoporosis
S.M. McGill	Powerhoop	\$50,000	Sep 2011- May 2012	Assessment of the powerhoop.
S.M. McGill	TRX	\$65,000	Sep 2011- Aug 2012	Assessment of joint load and stability from TRX exercises.
S.M. McGill	N S E R C - Engage		Mar 2011- Dec 2011	Surgical repair technique for intervertebral disc herniation
	B a y l i s s Medical	\$53,900		
J. McPhee, S.M. McGill, J. Kofman	N S E R C Equipment	\$91,380	2010	Purchase of a Movement Suit to map full body 3D motion.
D.M. Frost, J.P. Callaghan S.M. McGill, T.A.C. Beach	CRE-MSD	\$10,000	2010	Seed Grant: Towards the establishment of a movement-based approach to the physical preparation of occupational athletes- Is there a relationship between job-specific fitness and whole body movement patterns/strategies:

D.M. Frost, T.A.C. Beach, S.M. McGill, J.P. Callaghan	A t h l e t e s ' Performance	\$172,000 (in kind)	2009	Towards the establishment of an evidence-based approach to the physical preparation of occupational athletes.
D.M. Frost, T.A.C. Beach, S.M. McGill, J.P. Callaghan	The Andrews-P a u l o s Research and Educational Institute	\$72,000 (in kind)	2009	Towards the establishment of an evidence-based approach to the physical preparation of occupational athletes.
S.M. McGill	G M Legacy Fund	\$23,000	2009-2016	8 yr. trial linking movement patterns to predicting onset of back disorders
J. Yates and S.M. McGill	CRE-MSD	\$9,850.	2008	Seed Grant, Establishing Loads and Posture Variables for Disc Herniation
McGill, Callaghan, Frost, Beach	CRE-MSD	\$10,000.	2008	Seed Grant: Establishing the foundation for a novel musculoskeletal injury prediction and prevention approach
S.M. McGill	NSERC	\$310,375.	2007-2012	Reducing back injury: Expanding fundamental knowledge of spine function
S.M. McGill	CRE-MSD	\$13,000.	2007	Funding for Graduate Student
S.M. McGill	C o m f o r t Solutions	\$72,900.	2006	Evaluation of new mattress technology
S.M. McGill	S a m a r i t Medical	\$20,000	2003	Evaluation of roll board patient transfer device
S.M. McGill	A m e r i c a n Council on Exercise	\$ 5 , 0 0 0 US	2003	Consequences of sitting on a gym ball vs conventional chair

R. Wells, S. McGill, M . F r a z e r , H . G r e e n , N . T h e b e r g e , D . R a n n e y , J . M e d l e y , C . M a c G r e g o r , D . C o l e , P . K e i r , A . M o o r e , J . C a l l a g h a n , T . H a i n e s , M . K e r r , S . N a q v i , J . P o t v i n	WSIB	\$2,035,000	April '03- April '08	Action centre for the prevention of work related musculoskeletal disorders
S.M. McGill	NSERC	\$276,660	A p r i l '02-'06	Reducing low back injury by ensuring sufficient spine stability
S.M. McGill	WSIB	\$101,208	Sept. '01- Sept. '03	Finding the causes of low back troubles
S.M. McGill	Tekscan Inc.	\$140,000	January '01	System development - equipment gift in kind
H. Vernon, S. Mior, S.M. McGill, W. Herzog, G. Kawchuk, J. Boucher, P. Cote, Peterson	MRC	\$64,000	September '00	Spinal pain and disability - a workshop
E. Weckman, D. Johnson, S.M. McGill, M. Sharratt, R. Hughson, A. Strong	CFI	\$2,135,415	A u g u s t '00	Live fire research facility
S.M. McGill	WSIB	\$108,709	Sept. 99- Sept 01	Towards developing better rehabilitation protocols for low back injured workers

S.M. McGill	NSERC	\$182,600	Apr '98- Apr '02	Towards understanding low back injury from repeated and prolonged loads
S.M. McGill (Chair of N A C O B Conference)	W h i t a k e r Foundat'n	\$14,000	A u g u s t '98	Funding for students to attend NACOB Conference
S.M. McGill	NSERC	\$140,000	Apr '94- Apr '98	Low Back Injury: Toward understanding function and injury mechanisms
P.J. Bishop, S.M. McGill, R.P. Wells	Sports Canada	\$22,369	July '93- July '94	The Development of an Anatomically Detailed Computer Model of the Human Cervical Spine
S.M. McGill, R.P. Wells	NSERC	\$60,077	Apr '93	Materials Testing Machine
S.M. McGill	NSERC	\$99,000	Apr '91- Apr '94	Towards the Reduction of Low Back Injury via Biomechanical Modelling
P.J. Bishop, S.M. McGill, R.P. Wells	Rich Hansen Main in Motion Legacy Fund	\$20,000	July '91- June '92	The Effectiveness of Off-Axial Blows in Reducing Cervical Compression in Head First Collisions
R.W. Norman S.M. McGill	DCIEM	\$76,000	Feb '88 – Feb '89	Development of an Objective Method of Evaluating Safety of Lifting Tasks
S.M. McGill	NSERC	\$68,145	Apr '88- Apr '91	Reduction of Low Back Injury via Biomechanical Modelling
S.M. McGill	U of W a t e r l o o H e a l t h a n d S a f e t y	\$300	Sept '87	Evaluation of the slip resistance of kitchen staff shoes
S.M. McGill	Ergosystems Inc.	\$8,000	Dec '86- Feb '87	Evaluation of Ambulance Attendant Spine Loads

**Graduate Student Supervision** (GS - Graduating Status)

a) **As Supervisor: M.Sc.**

1. **J. Cannon**, "In Progress". MSc
2. **B. Lee**, MSc 2014, "Spine stiffness: Influences from short and long term training. GS Entrepreneur in Velocity Center Startup Company.
3. **N. Sidorkewicz**, MSc 2013, Movements and muscle activity levels during coitus. GS PhD Student.
4. **D. Ikeda**, MSc. 2011. Quantification of spine stability: Assessing the role of muscles and their links to eigen values and stability. GS Lab Scientist and Technician, Dalhousie University.
5. **S. Freeman**, MSc." Can altering hip joint fluid volume and intra-capsular pressure influence muscle activation patterns?" MSc, GS Lab Clinician
6. **R. Patel**, 2011. "Performance of a two-foot vertical jump: what is more important hip or knee dominance", MSc. GS Lab Technician and Scientist.
7. **J. Yates**, MSc. 2009. Establishing the effect of vibration and postural constraint loading on the progression of intervertebral disc herniation, GS. Teaching Demonstrator. Department of Kinesiology.
8. **L. Marshall**, MSc. 2008. An Investigation of the Role of Dynamic Axial Torque and Twist on the Disc Herniation Mechanism. GS: Lab Technician.
9. **C. Tampier**, M.Sc. 2006. Progressive disc herniation: An investigation of the mechanism using histochemical and microscopic techniques, GS: Surgeon in Chile.
10. **S. Howarth**, MSc. 2006. Locating instability in the lumbar spine: Characterizing the eigenvector. GS: Ph.D. Candidate, University of Waterloo.
11. **K. Walker**, M.Sc. 2004. Mechanics of pushing and pulling tasks, GS: Ergonomist at GE.
12. **S. Wang**, M.Sc.2004. The links between ventilation mechanics, spine mechanics and stability. GS: Student at CMCC.
13. **N. Kavcic**, M.Sc. 2002. Determining the stabilizing role of the torso musculature during rehabilitation exercise, GS: Scientist, Spine Laboratory, U. of Waterloo.
14. **R. Pruess**, M.Sc. 2001. Testing and training the proprioception in the lumbar spine. GS: Ph.D. Candidate - Dept. of Physical Therapy, McGill University.
15. **J. Scannell**, M.Sc. 2001, Lumbar posture - should it be modified? A study of passive tissue strain and muscle activation patterns. GS: Ph.D. Candidate, University of Waterloo.
16. **J. Gunning**, M.Sc. 1999. Spinal injury: the role of prior loading history using a porcine trauma model. GS: Project Manager - Injury Reduction with Garment Workers' Union.
17. **G. Lehman**, M.Sc. 1998. The influence of spinal manipulative therapy on lumbar spinal range of motion and associated trunk muscle EMG. GS: Scientist, UW-CMCC Research Clinic.

18. **L. Brereton**, M.Sc. 1998. Effects of physical fatigue and cognitive challenges on the potential for low back injury during low external load, end range of motion conditions. GS: Ergonomist, General Motors Diesel Division, London.
19. **J. Peach**, M.Sc. 1997. Objective measurement of the spine kinematics and muscle activity in low back patients and normals. GS: Ph.D. Candidate - Dept. of Mechanical Engineering, Univ. of Vermont.
20. **C. Axler**, M.Sc. 1995. Low back loads over a variety of abdominal exercises: Searching for the safest abdominal challenge. GS: Ergonomist - Occupational Health Clinics for Ontario Workers.
21. **J. Callaghan**, M.Sc., 1994, Compressive strength of a porcine vertebral fracture model exposed to physiologic pressures. GS: Ph.D. Candidate - U. Waterloo.
22. **C. Sutarno**, M.Sc., 1993, Objective measurement of the kinematics of the lumbar spine in normal and patient populations. GS: Ergonomist - ATT Global Information Systems, Atlanta.
23. **M. Mullender**, M.Sc., July 1991. The relationship between electromyography of trunk muscles and torque in the lumbar spine, in the Faculty of Human Movement Sciences, Free University, Amsterdam, Holland. GS: Ph.D. Candidate - Holland.
24. **L. Santaguida**, M.Sc., October, 1991. The Psoas Major Muscle: A three-dimensional anatomical and mechanical study with respect to the spine. GS: Research Director, Dept. of Physical Therapy, Wellesley Hospital, Toronto.
25. **J. Cholewicki**, M.Sc., August, 1990. Evaluation of the lumbar discs and ligaments during extremely heavy lifts via dynamic fluoroscopy. GS: Ph.D. Candidate - U. Waterloo.

**As Supervisor: Ph.D.**

1. **N. Sidorkewicz**, co-supervised, "In Progress", Ph.D.
2. **C. Balkovec**, Ph.D. 2016 Linking Spine Joint height to mechanics, function, and disability. GS: Head of Biomechanics, Julius Wolff Institute, Berlin
3. **E. Cambridge**, "In Progress", Ph.D.
4. **D. Frost**, Ph.D., 2013, Towards the establishment of a worker-centered framework to physically prepare firefighters: The evaluation of movement and the transfer of training. GS: Assistant Professor, Univ of Toronto.
5. **J. Flynn/Moreside**, Ph.D., 2010. The effect of limited hip mobility on the lumbar spine in a young adult population. GS: Visiting Scientist Spain then Assistant Professor, Dalhousie University.
6. **S. Brown**, Ph.D., 2008. Examining the Neuromuscular and Mechanical Characteristics of the Abdominal Musculature and Connective Tissues: Implications for Stiffening the Lumbar Spine. GS: Pst Doc, then Assistant Professor, U. Guelph.

7. **J. Scannell**, Ph.D., 2007. In Vitro and In Vivo Biomechanical Investigation of the Clinical Practice of Disc Prolapse Prevention and Rehabilitation. GS: own business
8. **D. Bereznick**, Ph.D., 2005. Lumbar Manipulation: Quantification and Modification of the External Kinetics Affecting the Presence and Site of Cavitation. GS: Professor - CMCC
9. **K. Ross**, Ph.D., 2003. Spinal Manipulative Therapy Techniques: Evaluating the Mechanistic Assumptions. GS: Professor - CMCC
10. **S. Grenier**, Ph.D., 2002. Stabilization strategies of the lumbar spine invivo. GS: Assistant Professor, Laurentian University.
11. **J. Callaghan**, Ph.D., January 1999. Low back injury from repeated and prolonged loads. GS: Assistant Professor, School of Human Biology, University of Guelph.
12. **V. Yingling**, Ph.D., June 1997. Shear loading of the lumbar spine: modulators of motion segment tolerance and the resulting injuries. GS: Post doctoral Fellow, George Washington University School of Medicine.
13. **J. Cholewicki**, Ph.D., October 1993, Mechanical Stability of the in vivo lumbar spine. GS: Assistant Professor, Yale University School of Medicine.

b) **As Committee Member**

1. **S. Crisholm**, MSc
2. **T. Karakolis**, Ph.D., 2014
3. **J. Putos**, Ph.D. Western University
4. **T. Beach**, Ph.D., 2012
5. **S. Howarth**, Ph.D., 2011 Mechanical response of the porcine spine to acute and repetitive anterior-posterior shear.
6. **J. Byrne**, Ph.D., An investigation of the biomechanical factors influencing knee joint function following total knee replacement. September 2009.
7. **D. Gregory**, Ph.D., The influence of the tensile material properties of single annulus fibrosus lamellae and interlamellar matrix strength on disc herniation and progression. 2009.
8. **N. Dunk**, Ph.D., Time-varying changes in the lumbar spine from exposure to sedentary tasks and their potential effects on injury mechanics and pain generation. June 2009.
9. **J. Drake**, Ph.D., Axial twist loading of the spine. 2009.
10. **S. Purkiss**, Ph.D., Institute of Medical Science, University of Toronto, In progress.
11. **R. Parkinson**, Ph.D., Refining the Relationship between the Mechanical Demands on the Spine and Injury Mechanisms through Improved Estimates of Load Exposure and Tissue Tolerance, September 2008.

12. **G. Hicks**, Ph.D., Predictive validity of clinical variables used in the determination of patient prognosis following a lumbar stabilization program. University of Pittsburgh, September, 2002.
13. **M. Mientjes**, Ph.D., On a “55/5 second minute” of “light” assembly: Effects on risk factors for low back pain reporting. June, 2000.
14. **M. Reid**, M.Sc. Adaptation mechanisms associated with altered segment parameters during voluntary gait modification. 2001.
15. **S. Murphy**, Ph.D., Three-dimensional dynamic model of the ice hockey stick during the stationary slap shot. April, 2001.
16. **B. McGowan**, M.Sc. Influence of available response time on arresting forward momentum during the termination of gait. February, 2001.
17. **E. Weiss**, M.Sc. Modelling the thoracic response to blunt chest impact and methods to predict and prevent resulting injury. December, 1997.
18. **M. Frazer**, Ph.D., The assessment of spine movement dysfunction by a commercial dynamometer, EMG and an EMG assisted model. May, 1997.
19. **Dave Andrews**, Ph.D., Biomechanical methods for low back physical demands assessment. August, 1996.
20. **M. Mientjes**, An EMG based continuous low back load estimation technique for three-dimensional workplace related jobs and tasks. M.Sc. May, 1996.
21. **M. Kho**, M.Sc., Bone-on-bone forces at the ankle and knee in figure skaters during loop jumps: Clinical implications. M.Sc., Sept. 1996.
22. **P. Keir**, Functional implications of the musculoskeletal anatomy and passive tissue properties of the forearm. Ph.D. April, 1995.
23. **W. Lu**, An analytical computer model of the human cervical spine under axial compression and lateral bending. Ph.D. November, 1994.
24. **J. Potvin**, The influences of fatigue on hypothesized mechanisms of injury to the low back during repetitive lifting. Ph.D. March 1992.
25. **N. Wieman**, Electromyography of the trunk and lower limb muscles during gait of elderly and younger subjects: Implications for the control of balance. M.Sc., August 1991.
26. **B. Bone**. An evaluation of a static three-dimensional biomechanical model of the low back in analyzing asymmetric lifting postures. M.Sc., Jan 1990.
27. **Y. Li**, Evaluating cervical spine loading in head first collisions with the head and neck initially extended. M.Sc., Dec. 1990.
28. **S. Taylor**, The effects of Whole-body vibration on neural motor control during pursuit tracking, M.Sc., Sept 1989.
29. **F. Naus**, An EMG confirmation of active expiration, M.Sc, Dec. 1989.
30. **J.R. Potvin**, An analysis of the variables related to L4/L5 compression and shear forces during squat lifting, M.Sc., June, 1988.
31. **M.E. Eckenrath**, A model to predict the low-back demands experienced during stooped lifting, M.Sc., June 1988.

32. **D. Lafortune**, The variability of EMG amplitude and frequency measures obtained from selected trunk musculature during sagittal plane and twisting lifts, M.Sc., July 1988.

c) **Awards to Students - As Supervisor** (stopped recording awards in 2006)

1. **Priyanka Banerjee**, NSERC undergraduate student scholarship, 2006.
2. **Steve Brown**, OGS Graduate Student Scholarship, NSERC Graduate Scholarship, 2003-2004.
3. **Simon Wang**, OGS Graduate Student Scholarship, 2001-2002, NSERC Graduate Scholarship, 2003-2004.
4. **David Bereznick**, CIHR Fellowship, 2002-2004
5. **Sam Howarth**, NSERC Undergraduate Student Scholarship, 2002, 2003.
6. **David Bereznick**, MRC Fellowship Award, \$45,000 per annum, 2000-2002.
7. **Matthew Clarke**, NSERC undergraduate student scholarship, 2000, also 2001.
8. **Jason Green**, NSERC undergraduate student scholarship, 2000, also 2001.
9. **Richard Preuss**, OGS graduate student scholarship, 1999-2000.
10. **Kim Ross**, FCER chiropractic research grant, 1998, 1999, 2000.
11. **Jack Callaghan**, Christensen Award (best graduate presentation) from Human Factors Association of Canada and Ontario HFAC Chapter Award. Callaghan, J., McGill, S.M. Sitting, Standing and Walking: Potential for low back injury from sedentary situations in the workplace. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998, pp. 163-168.
12. **Katya Honsa**, (best undergraduate paper) from Human Factors Association of Canada and Ontario HFAC Chapter Award. Honsa, K., Vennettelli, M., Mott, N., Silvera, D., Niechwiej, E., Wagar, S., Howard, M., Zettel, J., and McGill, S.M. The Efficacy of the NIOSH (1991) Hand-to-Container Coupling Factor. Proceedings of the 30<sup>th</sup> Annual Conference of the Human Factors Association of Canada, 1998, pp. 253.
13. **Greg Lehman**, NSERC graduate scholarship, 1997-98.
14. **Lisa Brereton**, NSERC graduate scholarship, 1997, 1998.
15. **Jennifer Gunning**, OGS graduate student scholarship, 1997, 1998.
16. **John Peach**, OGS graduate student scholarship, 1996.
17. **Robert Whiteside**, Christensen Award (best undergraduate paper) from the Human Factors Association of Canada; Whiteside, R., McGill, S.M. (1996). A comparison of the effects of static postures on spinal shrinkage and perceived discomfort. pp.189-193.
18. **Jack Callaghan**, OGS graduate student scholarship, 1995, 1996, 1997, 1998.
19. **Craig Axler**, NSERC undergraduate student research award, Summer 1993.
20. **Jacek Cholewicki**, NSERC Postdoctoral Fellowship, 1993.
21. **John Seguin**, NSERC undergraduate student research award, Summer 1992.
22. **Sheri Brown**, NSERC undergraduate student research award, Summer 1990.

23. **Jacek Cholewicki**, M.Sc. Outstanding Achievement in Graduate Studies, University of Waterloo, 1990. Thesis title: Evaluation of the lumbar discs and ligaments during extremely heavy lifts via dynamic fluoroscopy.
24. **Karen Hoodless**, NSERC undergraduate student research award, Summer 1989.
25. **Aileen Sullivan**, Christensen Award (best Undergraduate paper) from the Human Factors Association of Canada; Sullivan, A. and McGill, S.M. (1989). Changes in spinal height during and following seated whole body vibration, pp. 245-250.
26. **Jim Potvin**, Christensen Award (best Graduate paper) from the Human Factors Association of Canada; Potvin, J.R., Eckenrath, M.E., Norman, R.W. (supervisor), McGill, S.M. (committee member), Bennett, G.W., (1989). The prediction of L4/L5 disc compression forces during stoop and squat lifts using regression models, pp. 223-228.
27. **Sheri-Lyn Kane**, NSERC undergraduate student research award, Summer 1988.

d) **Supervisor of Visiting Students**

1. **Casto Rechio**, Alicante, Spain, August-December, 2014.
2. **Francisco Vera-Garcia**, Valencia University, Spain, September-December, 1998.
3. **Juanfran Lison**, Valencia University Medical School, Spain, Sept.-Dec., 1997.
4. **Marc J. van Wijk**, Free University, Amsterdam, Sept. '92 - Feb '93.
5. **Lotta Finsen**, National Institute of Occupational Health, Denmark, Sept. '92-Dec. '92.
6. **Karen Sogaard**, National Institute of Occupational Health, Denmark, May 1991.
7. **Margriet Mullender**, Free University, Amsterdam Sept. '90-Jan '91.

e) **External MSc Examiner**

1. **Stephen White**, Auckland Institute of Technology, New Zealand, November 1999.

f) **External PhD Examiner**

1. **Divya Adhia**, University of Otago, 2014
2. **Ryan Graham**, Queen's University, 2012
3. **Susan Morris**, University of Western Australia, 2010
4. **Barry Donaldson**, University of Otago, 2008.
5. **Craig Good**, University of Calgary, January 2007.
6. **Paul Marshall**, University of Auckland, New Zealand, August 2006.
7. **Greg Hicks**, University of Pittsburgh, September 2002.
8. **Rotsalai Kanlayanaphotporn**, University of South Australia, May 2002.
9. **Cynthia Thompson**, PhD Comprehensive Exam Examiner, McGill University, 2001.
10. **Stephan Riek**, Simon Fraser University, Canada, January 1996.

11. **Angus Burnett**, University of Western Australia, Australia, July 1996.

g) **Host of Visiting Scholars (Sabbatical Leaves) / Post Docs**

1. **Professor Vaughan Kippers**, University of Queensland, 1994.
2. **Professor Peter Stothart**, University of Ottawa, 1998.
3. **Professor Linda Van Dillen**, Washington University at St. Louis, 2002.
4. **Dr. Qinguo Wang**, PRC, 2002.
5. **Dr. Francisco Vera Garcia**, (Post Doctoral Fellow), Valencia University, Spain, September 2004-August 2005.
6. **Dr. Aleks Dejanovic**, Serbia, September 2010- August 2011

**Service**

A) **Committees**

- |     |  |                       |
|-----|--|-----------------------|
| 1.  | Kinesiology Undergraduate Committee  | June 2013 - Present   |
| 2.  | Faculty Council Executive – Applied Health Sciences                              | June 11 - 2013        |
| 3.  | Kinesiology Graduate Committee   | June ‘10 – June ‘12   |
| 4.  | Advisory Committee on Continuing Education (University)                          | March ‘06 – March ‘07 |
| 5.  | Kinesiology Department – Chair   | May ‘03 – June ‘09    |
| 6.  | Ex officio, AHS Faculty Graduate Committee                                       | July ‘03 – June ‘09   |
| 7.  | Kinesiology Graduate Committee – Associate Chair                                 | July ‘02 – April 2003 |
| 8.  | Kinesiology Web Committee  | July ‘02 – June ‘09   |
| 9.  | Tenure and Promotion Committee (Dept of Kinesiology)                             | July ‘01 – June ‘09   |
| 10. | Executive Committee (Department of Kinesiology)                                  | July ‘01 – June ‘09   |
| 11. | University of Waterloo Joint Health and Safety Committee                         | 1991 – 2003           |
| 12. | Kinesiology Committee on Planning (AdHoc) (KINCOP)                               | Dec. ‘01 – Sept. ‘02  |
| 13. | Chair, Kinesiology Committee on Planning (AdHoc) (KINCOP)                        | Sept. ‘02 – 2003      |
| 14. | Department Committee on Faculty Appointments (Kinesiology) (DACA) - Chair        | Jan. ‘00 – June ‘09   |
| 15. | UW Interdisciplinary Grants Review Committee                                     | May ‘00 – May ‘09     |
| 16. | Math Service Course Development Committee  | Jan. - March ‘02      |
| 17. | Kinesiology department subcommittee on student recruitment                       | July ‘00 - Jan. ‘01   |
| 18. | UW Health and Safety subcommittee: Multidisciplinary committee for NH Health     | March ‘00 – Sept. ‘01 |
| 19. | Senator - University of Waterloo   | July ‘98 - June ‘99   |
| 20. | AHS Faculty Tenure and Promotion Committee                                       | July ‘98 – July ‘01   |
| 21. | Management Committee, Health and Lifestyles Connections, Applied Health Sciences | Jan. ‘96 - July ‘00   |
| 22. | Steering Committee, Chiropractic Research Clinic                                 | Jan. ‘96 - July ‘00   |

**Stuart M. McGill**

23. Tenure and Promotion Committee (Dept of Kinesiology) May '96 - June '98
24. AHS Faculty Committee for Graduate Studies Sept. '95 - July '98
25. AHS Faculty Committee on Student Appeals Sept. '95 - July '98
26. Co-Chair, University of Waterloo Joint Health and Safety Committee  
March '92 - June '93  
Sept. '94 - June '95  
May '96 - June '97  
June '01 - '02
27. Executive Committee (Dept of Kinesiology) July '95 - June '97  
July '98 - June '00
28. Selection Board, Ontario Graduate Scholarship Program, Ministry of Education and Training Sept. '95 - Sept. '96
29. Ad Hoc Committee to develop department vision (Dept of Kinesiology) Dec. '94 - Dec. '95
30. Member, University of Waterloo Joint Health and Safety Committee June '93 - Sept. '94  
June '95 - May '96  
May '97 - Sept. '01
31. Chair, Faculty Council, Applied Health Sciences Sept. '93 - Dec. '93  
Sept. '94 - May '95
32. Technology Transfer and Licencing Office Coordinating Committee (University of Waterloo) Oct. '92 - Dec. '93
33. Engineering Faculty Council (Representative for the Faculty of Applied Health Sciences) July '91 - July '92
34. Vice President's Advisory Council on Academic Human Resources (University of Waterloo) June '89 - July '90
35. Graduate Committee (Dept of Kinesiology) June '89 - June '93  
June '97 - June '00
36. Undergraduate Affairs Committee (Department of Kinesiology) June '89 - Sept. '90
37. Science Faculty Council (Representative for the Faculty of Applied Health Sciences) Sept. '88 - June '91
38. Planning Committee (Dept of Kinesiology) June '87 - June '89  
June '93 - June '95
39. Canadian Chiropractic Association Research Committee March '97 - March '01

**B) Other**

1. Undergraduate Stream Advisor for Occupational Kinesiology June '88 - June '09
2. Co-op Ergonomics Degree Coordinator Feb. '91 - Dec. '96

- Department of Kinesiology
1. Undergraduate First Year Advisor Sept. '90 - Feb. '91
  2. Director, UW-CMCC Chiropractic Research Clinic April '97 - Dec. '00

### **Courses Taught**

- KIN 104 Kinesiology: Issues and Approaches  
KIN 427 Low Back Disorders: Evidence Based Prevention and Rehabilitation  
KIN 221 Advanced Biomechanics of Human Movement  
KIN 121 Introduction to Biomechanics  
KIN 321 Biomechanics of Human Movement  
KIN 340 Injuries in Work and Sport (shared course)  
KIN 420 Occupational Biomechanics  
KIN 612 Instrumentation and Signal Processing in Biomechanics Research  
KIN 727 Low Back Disorders: Optimizing Prevention, Rehabilitation and Performance.  
KIN 611 Graduate Issues in Biomechanics

### **Current Research**

1. 3-D modelling of the lumbar spine to obtain insight into function and injury mechanisms.
2. Predicting tendon force via the electromyogram augmented with muscle geometry, length and velocity relations.
3. Evaluation of low back injury prevention and rehabilitation strategies.
4. Determining mechanical properties of low back tissues particularly disc mechanics.
5. Evaluation of low back exercises to optimize spine performance.
6. Development of back pain provocation tests.