

NEIL A. MANSON MD FRCSC

Spine, Sports Medicine, and Orthopaedic Surgery

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APPOINTMENT

Active Staff Physician August 4, 2006—Present
Department of Orthopaedic Surgery, Atlantic Health Sciences Corporation

Assistant Professor January 4, 2008—Present
Department of Surgery, Dalhousie University

Clinical care, research, and teaching focus regarding:

- Degenerative and deforming pathologies of the spine and complex spinal procedures,
- Sports pathologies of the spine and extremities,
- Minimally invasive surgeries of the spine, shoulder, and knee.

EDUCATION

Spine Fellowship August 1, 2005—July 31, 2006
Dr An, Dr Phillips, Dr DeWald, Dr Hammerberg, Rush University, Chicago, Illinois
Reconstruction of traumatic, deforming and degenerative spinal diseases in adults and children. Advanced clinical, surgical, and research techniques.

Sports Medicine Fellowship August 1, 2004—July 31, 2005
Dr Heidt, Wellington Orthopaedics and Sports Medicine, Cincinnati, Ohio
Dr Colosimo, University of Cincinnati, Cincinnati, Ohio
Team coverage including NFL, NCAA, AHL, junior and recreational athletes.
Advanced clinical, surgical, and research techniques.

Degree	Institution	Year
Diploma of Sports Medicine	CASM	2009
Fellow of the Royal College of Surgeons (Canada)	Dalhousie University	2004
Doctor of Medicine	Dalhousie University	1999
B.Sc. Medicine	Dalhousie University	1999
B.Sc. Human Kinetics	University of Guelph	1995

INVITED PRESENTATIONS

Minimally Invasive Spine Surgery: Patient benefit or marketing gimmick?

- Sea to Sky Orthopaedic Rounds. Whistler, BC, February, 2010.

Minimally Invasive Spine Surgery: Is it really beneficial to patients or just a marketing gimmick?

- The 1st Annual Atlantic Canada Spine Meeting. Wallace, NS, October, 2009.

The rationale for MASTER-D.

- Medtronic Europe, MASTER-D study launch at EuroSpine. Warsaw, Poland, September, 2009.

Selective Nerve Root Injections and Lumbar Disc Herniations.

- Atlantic Health Sciences Corporation Department of Diagnostic Imaging Grand Rounds. Saint John, NB, June, 2009.

Orthopaedic Surgery and Rheumatoid Arthritis and the Cervical Spine: When is it Safe to Proceed?

- The Annual Scientific Meeting of the Atlantic Provinces Orthopedic Society. Kentville, NS, September, 2008.

Orthopaedic Surgery and Rheumatoid Arthritis and the Cervical Spine: When is it Safe to Proceed?

- Atlantic Health Sciences Corporation Department of Anaesthesiology Grand Rounds. Saint John, NB, June, 2008.

Minimally Invasive Back Surgery.

- The 56th Annual Meeting of The Canadian Association of Physical Medicine and Rehabilitation. Fredericton, NB, June, 2008.

Open and Minimally Invasive Techniques for Trauma Applications in the Thoracolumbar Spine: Flexion Distraction Injury and Percutaneous Management.

- 3rd Annual Canadian Contemporary Spinal Techniques Course. Toronto, ON, May, 2008.

Evolving Concepts in Spine Fracture Management.

- The Annual General Meeting of The New Brunswick Association of Medical Radiation Technologists. Saint John, NB, April, 2008.

DLIF: Direct Lateral Interbody Fusion

- Medtronic Techniques Forum at the 8th Annual Meeting of the Canadian Spine Society. Sun Peaks, BC, March, 2008.

Evolving Concepts in Spine Fracture Management.

- The Annual Scientific Meeting of the Atlantic Provinces Orthopedic Society. Saint John, NB, September, 2007.

Balloon Kyphoplasty: Minimally Invasive Treatment of Vertebral Compression Fractures.

- The Annual Scientific Meeting of the Atlantic Provinces Orthopedic Society. Saint John, NB, September, 2007.

ICL Spine I: Adult Spondylodiscitis.

- The 62nd Annual Meeting of The Canadian Orthopaedic Association. Halifax, NS, June, 2007.

ICL Spine II: Cervical Spine Fractures and Instability in the Elderly.

- The 62nd Annual Meeting of The Canadian Orthopaedic Association. Halifax, NS, June, 2007.

Controversies in Cervical Spine Trauma.

- Atlantic Health Sciences Corporation Trauma Grand Rounds. Saint John, NB, January 2007.

SCIENTIFIC CONTRIBUTIONS

PEER REVIEW EXPERIENCE

Invited abstract reviewer, 10th Annual Scientific Conference of the Canadian Spine Society, 2010.

Invited manuscript reviewer, Canadian Journal of Surgery, 2009.

REFEREED ARTICLES

Ford KR, **Manson NA**, Evans BJ, Myer GD, Gwin RC, Heidt RS Jr, Hewett TE. Comparison of In-Shoe Loading Patterns on Natural Grass and Synthetic Turf. *Journal of Science and Medicine in Sport*. 2006 Dec; 9(6):433-440.

McKean KA, **Manson NA**, Stanish WD. Musculoskeletal Injury in the Masters Runner. *Clinical Journal of Sports Medicine*. 2006 Mar; 16(2): 149-154.

Alexander DI, **Manson NA**, Mitchell, MJ. Efficacy of Calcium Sulfate Plus Decompression Bone in Lumbar and Lumbosacral Spinal Fusion: Preliminary Results in 40 Patients. *Canadian Journal of Surgery*. 2001 Aug; 44(4): 262-6.

PROCEEDINGS and BOOK CHAPTERS

Manson NA, Phillips FM. Minimally Invasive Techniques for the Treatment of Osteoporotic Vertebral Fractures. *Instructional Course Lectures*, 2007; 56: 273-286.

Manson NA, Goldberg EJ, Andersson GB. Sexual Dimorphism in Degenerative Disorders of the Spine. *Orthopaedic Clinics of North America*. 2006 Oct; 37(4): 549-553.

Manson NA, Phillips FM. Minimally Invasive Techniques for the Treatment of Osteoporotic Vertebral Fractures. *Journal of Bone and Joint Surgery (America)*. 2006 Aug; 88(8): 1862-1872.

ABSTRACTS and NOTES

Manson NA, McKeon, MD, Abraham EP. Selective nerve root injections can prevent the need for surgery in patients suffering from lumbar disc herniation. *The Spine Journal*. 2009; 9(1S): 205S.

Abraham EP, **Manson NA**, Eastwood D. Morbidity associated with decompression, fusion and instrumentation of the lower thoracic spine to the pelvis for degenerative disc disease in the elderly. *Canadian Journal of Surgery*. 2009; 52(Suppl): S6.

Abraham EP, **Manson NA**. Acute fracture of the end or adjacent level after posterior lumbar spine fusion and instrumentation. *The Spine Journal*. 2008; 8(5): S109-110.

Abraham EP, **Manson NA**. Fracture at the end or adjacent level post spinal fusion and instrumentation. *Canadian Journal of Surgery*. 2008; 51(Suppl): S9.

Abraham EP, **Manson NA**. Construct survival of CD Horizon Legacy 5.5 posterior spinal instrumentation system: radiographic evaluation of the thoracolumbar spine. *Canadian Journal of Surgery*. 2008; 51(Suppl): S20.

Manson NA, McKean KA, Stanish WD. The biomechanics of running injuries. *The Journal of Bone and Joint Surgery (British)*. 2008; 90(B) Supp 1; 52.

Abraham EP, **Manson NA**. Incidence of adjacent segment degeneration in thoracolumbar fusions of three or more levels. *The Spine Journal*. 2007; 7(5): S25.

Abraham EP, **Manson NA**. Incidence of adjacent segment degeneration in extended thoracolumbar fusions. *Canadian Journal of Surgery*. 2007; 50(Suppl): S13.

Manson NA, Ford KR, Evans B, Myer GD, Gwin RC, Heidt RS, Hewett TE. Comparison of in-shoe foot loading patterns in football players on synthetic turf. *Medicine and Science in Sports and Exercise*. 2006; 38(5) Suppl: S67.

Ford KR, **Manson NA**, Evans B, Myer GD, Gwin RC, Heidt RS, Hewett TE. Comparison of in-shoe foot loading patterns in football players on natural grass and synthetic turf. *Medicine and Science in Sports and Exercise*. 2006; 38(5) Suppl: S24-25.

Alexander DI, **Manson NA**. Calcium sulfate plus decompression bone in spinal fusion. *The Spine Journal*. 2003; 3(5): 135.

McKean KA, **Manson NA**, Stanish WD. Gender differences in running injury. *Clinical Journal of Sports Medicine*. 2004; 14(6): 377.

McKean KA, **Manson NA**, Stanish WD. Musculoskeletal Injury in the Masters Runner. *Medicine and Science in Sports and Exercise*. 2003 May; 35(5): S203.

Manson NA, McKean KA, Milne AD, Stanish WD. Pronation, Shock, and Injury in the Running Athlete. *Medicine and Science in Sports and Exercise*. 2002 May; 34(5): S253

SCIENTIFIC CONFERENCE PROCEEDINGS

Abraham EP, **Manson NA**, Eastwood D. Preliminary experience with DIAM interspinous spacers as an alternative to arthrodesis for lumbar degenerative disorders.

- Canadian Spine Society 10th Annual Meeting, Lake Louise, 2009.

Abraham EP, **Manson NA**, Eastwood D. Comparison of single and two surgeon approach in the treatment of nondegenerative spinal deformity.

- Canadian Spine Society 10th Annual Meeting, Lake Louise, 2009.

Manson NA, McKeon M, Abraham, EP. Selective nerve root injections can prevent the need for surgery in patients suffering from lumbar disc herniations.

- Canadian Spine Society 10th Annual Meeting, Lake Louise, 2009.

Manson NA, McKeon M, Abraham, EP. Selective nerve root injections can prevent the need for surgery in patients suffering from lumbar disc herniations.

- Spine J 2009; 9(1S): 205S.
- 24th Annual Meeting North American Spine Society, San Francisco, 2009.

Abraham EP, **Manson NA**, Eastwood D. Morbidity associated with decompression, fusion and instrumentation of the lower thoracic spine to the pelvis for degenerative disc disease in the elderly.

- Can J Surg. 2009; 52(Suppl): S6.
- Canadian Spine Society 9th Annual Meeting, Gatineau, 2009.

Abraham EP, **Manson NA**. The incidence of adjacent segment degeneration in extended thoracolumbar fusions.

- The 63rd Annual Meeting of The Canadian Orthopaedic Association, Quebec City, 2008.

Abraham EP, **Manson NA**. Acute fractures of the end or adjacent level after posterior lumbar spine fusion and instrumentation.

- Spine J 2008; 8(5): 109S-110S.
- 23rd Annual Meeting North American Spine Society, Austin, 2008.

Abraham EP, **Manson NA**. Fracture at the end or adjacent level post spinal fusion and instrumentation.

- Can J Surg. 2008; 51(Suppl): S9.
- Canadian Spine Society 8th Annual Meeting, Sun Peaks, 2008.

Abraham EP, **Manson NA**. Construct survival of CD Horizon Legacy 5.5 posterior spinal instrumentation system: radiographic evaluation of the thoracolumbar spine.

- Can J Surg. 2008; 51(Suppl): S20.
- Canadian Spine Society 8th Annual Meeting, Sun Peaks, 2008.

Abraham EP, **Manson NA**. Incidence of adjacent segment degeneration in thoracolumbar fusions of 3 or more levels.

- Spine J 2007; 7(5): 25S.
- 22nd Annual Meeting of the North American Spine Society, Austin, 2007.

Abraham EP, **Manson NA**. Incidence of adjacent segment degeneration in extended thoracolumbar fusions.

- Can J Surg 2007; 50(Suppl): S13.
- Canadian Spine Society 7th Annual Meeting, Mont Tremblant, 2007.

Manson NA, Natarajan RN, Hussain M, Reo M, Robinson J, Andersson GB, An HS. The intact Cervical Disc Versus Total Disc Arthroplasty: A Finite Element Model Study.

- Canadian Spine Society Annual Meeting, Mont Tremblant, 2007.

Manson NA, Ford KR, Evans B, Myer GD, Gwin RC, Heidt RS, Hewett TE. Comparison of in-shoe foot loading patterns in football players on synthetic turf.

- Med Sci Sp Exer. 2006; 38(5) Suppl: S67.
- 53rd Annual Meeting of the American College of Sports Medicine, Denver, 2006.

Ford KR, **Manson NA**, Evans B, Myer GD, Gwin RC, Heidt RS, Hewett TE. Comparison of in-shoe foot loading patterns in football players on natural grass and synthetic turf.

- Med Sci Sp Exer 2006; 38(5) Suppl: S24-25.
- 53rd Annual Meeting of the American College of Sports Medicine, Denver, 2006.

McKean KA, **Manson NA**, Stanish WD. Gender differences in running injury.

- Clin J Sp Med. 2004; 14(6): 377.
- Rendez-Vous 2004 Sports Medicine Symposium, Vancouver, 2004.

Alexander DI, **Manson NA**. Calcium sulfate plus decompression bone in spinal fusion.

- Spine J. 2003; 3(5): 135.
- 18th Annual Meeting of the North American Spine Society, San Diego, 2003.

Manson NA, McKean KA, Stanish WD. Musculoskeletal Injury in the Masters Runner.

- Med Sci Sp Exer. 2003 May; 35(5): S203.
- The American College of Sports Medicine 50th Annual Meeting, San Francisco, May 2003.
- Sport Med 2003, Toronto, 2003.

Manson NA, McKean KA, Stanish WD. The biomechanics of running injuries.

- JBJS(B). 2008; 90(B) Supp 1; 52.
- The Canadian Orthopaedic Research Society, Winnipeg, 2003.

Manson NA, McKean KA, Stanish WD. Running Injuries Updated: Is the Knee the Most Common Site in 2001?

- Sport Med 2002, Toronto, 2002.
- The Canadian Academy of Sports Medicine 2002 Annual Symposium, Mt Tremblant, 2002.

Manson NA, McKean KA, Milne AD, Stanish WD. Pronation, Shock, and Injury in the Running Athlete.

- Med Sci Sp Exer. 2002 May; 34(5): S253.
- The 28th Annual Meeting of the American Orthopaedic Society for Sports Medicine, Orlando, 2002.
- The American College of Sports Medicine 49th Annual Meeting, St. Louis, 2002.
- The Canadian Academy of Sports Medicine 2002 Annual Symposium, Mt Tremblant, 2002.

Manson NA, McKean KA, Deluzio KJ, Stanish WD. Rearfoot Motion and Tibial Acceleration in the Running Athlete.

- International Society of Biomechanics 4th World Congress, Calgary, 2002.

Alexander DI, **Manson NA**, Mitchell, MJ. Efficacy of Calcium Sulfate Plus Decompression Bone in Lumbar and Lumbosacral Spinal Fusion: Preliminary Results in 40 Patients.

- The Annual Meeting of the Canadian Orthopaedic Association, Edmonton, 2001.

Manson NA, Earl EM, Stanish WD, Smyth B, O'Neil B. Anterior Cruciate Ligament Deficiency and Proprioception: Changes in Standing Balance Strategy With and Without a Knee Brace.

- The 2nd Biennial Congress of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Washington, 1999.

Manson NA, Earl EM, Stanish WD, Smyth B. Anterior Cruciate Ligament Deficiency and Proprioception: Postural Control Responses.

- The 18th Annual Meeting of the Arthroscopy Association of North America, Vancouver, 1999.

Manson NA, Earl EM, Stanish WD, Smyth B. Gastrocnemius Function in Stabilizing the Anterior Cruciate Ligament Deficient Knee.

- The 33rd Annual Meeting of the Canadian Orthopaedic Research Society, St. John's, 1999.

O'Neil B, Earl EM, Stanish WD, **Manson NA**. A Preliminary Investigation of Knee Joint Position Sense of Male and Female Basketball Players and Athletic Controls.

- The 32nd Annual Meeting of the Canadian Orthopaedic Research Society, Ottawa, 1998.

RESEARCH GRANTS AND AWARDS

\$25,000 New Brunswick Health Research Foundation seed operating grant to support the study initiation: Traditional open versus minimally invasive decompression and fusion of the lumbar spine: a prospective randomized cohort study. 2010.

\$10,000 WorksafeNB research grant to support the study: Selective nerve root injections can prevent the need for surgery in patients suffering from lumbar disc herniations: a prospective randomized blinded trial. 2010.

\$10,000 WorksafeNB research grant to support the study initiation: Selective nerve root injections can prevent the need for surgery in patients suffering from lumbar disc herniations: a prospective randomized blinded trial. 2009.

\$2,500 Health Promotion and Research Foundation Tier I Grant to support successful study completion: Selective nerve root injections can prevent the need for surgery in patients suffering from lumbar disc herniations. 2008.

\$650,000 Rally of Hope Foundation sponsorship to purchase Operating Room equipment to facilitate minimally invasive spine surgery in New Brunswick. 2007.

\$30,000 Nike Sports Research Laboratory research grant to support study completion: Pronation, Shock, and Injury in the Running Athlete. 1999.

\$10,000 Dalhousie University Faculty of Medicine research grant to conduct B.Sc. Medicine thesis: Increased Standing Stability in Anterior Cruciate Ligament Deficient Individuals Via Improved Proprioception. 1996.

CLINICAL EDUCATOR

Assistant Professor, Department of Surgery, Dalhousie University, 2008 to present
Instruction of Medical students, Primary Care residents, and Orthopaedic Surgery residents.
Instruction of ancillary health care students and staff.
Instruction of Spine Colleagues regarding current surgical techniques and technologies.

Educational Coordinator, Canada East Spine Centre, 2007 to present.
Development of teaching rounds and case rounds.
Journal club preparation.

Clinical Instructor, Advanced Trauma Life Support, 2009 to present.

Educational Coordinator, Department of Orthopaedic Surgery, Saint John, 2007 to 2009.
Program design and modification, objective creation, creation of evaluation book, workload planning for clinical training of students and residents.
Evaluation and promotion of trainees.
Orthopaedic Grand Rounds organization for surgeon and staff teaching.

SPORTS MEDICINE EXPERTISE

Diploma of Sports Medicine, awarded by the Canadian Academy of Sports Medicine, 2009
Active Member, Canadian Academy of Sports Medicine, 2007 to present

Team Physician Sports Medicine Experience

Canadian Alpine Ski Team. Physician, Speed Camp. Portillo, Chile, 2008.
Sea Dogs: Quebec Major Junior Hockey League. Head Team Physician. Saint John, 2007-2010.
Saint John Wanderers: Maritime Football League. Team Physician. Saint John, 2007-2009.
National Football League. Cincinnati, 2004-2005 (Sports Medicine Fellow)
American Hockey League. Cincinnati, 2004-2005 (Sports Medicine Fellow)
National Collegiate Athletic Association. Cincinnati, 2004-2005 (Sports Medicine Fellow)

Field of Play Sports Medicine Experience

XXI Olympic Winter Games, Vancouver, 2010.
Cirque du Soleil, Saint John, 2009.
IPC Alpine Skiing World Cup Finals, Whistler, 2009.
Canadian Under 18 Men's and Women's Soccer Championships. Saint John, 2006.
LaSalle Bank Chicago Marathon. Chicago, 2005.
Flying Pig Marathon. Cincinnati, 2005.
Association of Tennis Professionals. Cincinnati, 2004-2005 (Sports Medicine Fellow)
IIHF World Junior Hockey Championships. Halifax, 2002. (Orthopaedic Resident)
XIIIth Pan American Games. Winnipeg, 1999. (Orthopaedic Resident)