

PROMOTION RECOMMENDATION  
THE UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF ORTHOPAEDIC SURGERY  
SCHOOL OF PUBLIC HEALTH  
DEPARTMENT OF EPIDEMIOLOGY

Joel J. Gagnier, N.D., Ph.D., assistant professor of orthopaedic surgery, Department of Orthopaedic Surgery, Medical School, and assistant professor of epidemiology, Department of Epidemiology, School of Public Health, is recommended for promotion to associate professor of orthopaedic surgery, with tenure, Department of Orthopaedic Surgery, Medical School, and associate professor of epidemiology, without tenure, Department of Epidemiology, School of Public Health.

Academic Degrees:

Ph.D.	2010	University of Toronto
M.S.	2005	University of Toronto
N.D.	2001	Canadian College of Naturopathic Medicine, Toronto, Ontario

Professional Record:

2010-present	Assistant Professor in Orthopaedic Surgery, University of Michigan
2010-present	Assistant Professor of Epidemiology, School of Public Health, University of Michigan
2002-2004	Assistant Professor, Canadian College of Naturopathic Medicine, Toronto, Ontario Canada

Summary of Evaluation:

Teaching: Dr. Gagnier is an avid teacher having designed and taught several graduate courses in epidemiology for residents. His first course, EPID 757, is offered every other year and provides an introduction to the methods of performing systematic review and meta-analyses. The follow-up course, EPID 792, also offered every other year, goes more in depth with the material, in particular, the meta-analytic and exploration of heterogeneity statistical methods. His most recent course, EPID 706 provides an introduction to test/scale development theories and the properties of clinical outcome measures. Each of these courses consists of five three and a half hour lectures and is accredited for continuing medical education credits. Dr. Gagnier was recently invited to co-teach the PHARM 640 core course offered within the Masters of Science in Clinical Research Program. This program is designed for residents and health professional students as an introduction to clinical research methods. He helped to design the Research 101 course for second-year orthopaedic residents and presents two of the three hour lectures on clinical research. In addition, he gives several lectures each year on biostatistics, research methods and critical appraisal. Dr. Gagnier served as research advisor for three MPH students completing their

capstone projects, has mentored six MPH students during their internship in epidemiology and several orthopaedic surgery residents and sports fellows. Dr. Gagnier's most notable contribution is the development of a patient hand-off tool designed to improve the reporting of clinical research specific to orthopaedic surgery residents.

Research: Dr. Gagnier is a clinical epidemiologist with a focus in musculoskeletal conditions and methodological development of clinical research methods and biostatistics. He has extensive collaborations with basic science and clinician colleagues throughout the university which have resulted in continuous internal and foundation grant funding. Most recently, he was awarded external funding from the Patient Centered Outcomes Research Institute (PCORI) which is considered equivalent to a R01 in the field of public health in terms of recognition from peers. The focus of this project involves a large review of outcome measures and related domains used in clinical trials of patients with shoulder pain. Dr. Gagnier's record of funding is impressive considering his area of expertise in methodologic research is not an area generally funded by the NIH. One of his team science collaborators states, "I am quite certain that the Department would not have received many of the grants that he was a part of if not for his involvement, as he is the prototypical team player who makes everyone around him a better scientist." His ability to forge strong relationships with his surgical peers will support his continued success. Further evidence of his ability to capitalize on his extensive research is his publication record of 71 peer-reviewed articles, 37 of which have been published since his arrival to the University of Michigan in 2010, five book chapters, including one as editor and 90 abstracts.

#### Recent and Significant Publications:

Gagnier JJ, Morgenstern H, Moher D: Consensus-based recommendations for investigating clinical heterogeneity in systematic reviews and meta-analyses. *BMC Medical Research Methodology* 13:106, 2013.

Gagnier JJ, Morgenstern H, Chess L: Interventions designed to prevent anterior cruciate ligament injuries in adolescents and adults: A systematic review and meta-analysis. *American Journal of Sports Medicine*. 41:1952-1962, 2013.

Gagnier JJ, Kienle G, Altman DG, Moher D, Sox H, Riley D, & the CARE Group: The CARE Guidelines - Consensus-Based Clinical Case Report Guideline Development. *Journal of Clinical Epidemiology* 67:46-51, 2014.

Huang S, Grant J, Miller B, Mirza FM, Gagnier JJ: A systematic review of psychometric properties of patient reported outcome instruments for use in patients with rotator cuff disease. *American Journal of Sports Medicine* Jan 26, 2015.

Gagnier JJ, Derosier J, Maratt J, Hake M, Bagian J: Development, implementation and evaluation of a patient handoff tool to improve safety in orthopaedic surgery. *International Journal for Quality in Health Care* Apr 18, 2016.

Service: Departmentally, Dr. Gagnier serves as lead for development of clinical research, forging collaborative relationships between departments and schools to implement the Patient Reported Outcome Working Group. He also serves as lead for the Clinical Research Series in Musculoskeletal Medicine. Nationally, Dr. Gagnier serves as the associate editor for *BMC Medical Research Methodology*, the methodology editor for *Global Advances in Health and Medicine*, and editorial board member on seven other prestigious journals. He serves as a peer-reviewer on the study section for several grant agencies, including the National Institutes of Health – Early Career Reviewer Program. In recognition of his national presence, he was invited to become a member of the Orthopaedic Research Society – Clinical Research Committee. As a co-lead of this committee, he and his colleagues designed an eight-module clinical research training program for residents and junior faculty to be offered nation-wide. Internationally, Dr. Gagnier is an active member of the Cochrane collaboration, the PROMIS Health Organization and The American Society of Professionals in Patient Safety.

External Reviewers:

Reviewer A: “He has done a substantial amount of teaching and mentoring and this is a strong point in his application for promotion. Dr. Gagnier has published 71 peer-reviewed papers in good journals...he has written substantial papers on the CONSORT criteria methodology of systematic review and CARE guidelines. I would consider these to be of particular significance. His work meets the criteria for significant scholarly contributions and he is a noted participant in his field of clinical epidemiology.”

Reviewer B: “He also appears to have participated as co-investigator in a large number of awards and applications. If Dr. Gagnier was instrumental in obtaining those awards, then he has been quite busy and successful! Reporting standards for case reports were long overdue and bravo to Dr. Gagnier that he accomplished this with the publication of the CARE Guidelines!... My own judgement is that he is making an important contribution to the field of orthopedics, and the area is fortunate to have a person with his background and orientation working in it. This contribution is made further evident by his peer review and editorial board activities.”

Reviewer C: “Dr. Gagnier is a rising star in the clinical orthopaedic research world... His current work on developing outcomes measures for shoulder pain has the potential to produce a standard used throughout the world. Orthopaedic surgery, as a discipline, has been slow to evolve toward clinical research and there are not many epidemiologists doing the kind of work Dr. Gagnier does. Among those who do this work he is among the best, and is a pioneer in the field.”

Reviewer D: “Dr. Gagnier has been particularly productive over the last several years and he has several notable papers. These are publications that are innovative and provide novel insights for the utilization of outcome measurements and care pathways for the treatment of orthopaedic diseases... He has clearly become an integral member of a sophisticated research team and has enabled outstanding research to be performed within the Department of Orthopaedic Surgery. At the same time, he is clearly developing unique research directions in epidemiology that are of vital importance to the field.”

Reviewer E: "Joel is recognized as [a] national and international expert in clinical epidemiology, clinical research evidence-based medicine, biostatistics, and specific aspects of design and measurement of patient reported outcomes. This is evidenced by his election to the Cochrane collaboration, his review on NIH committees, his multiple publications and his grants... His scholarly activity clearly shows he is a national and international leader....Joel designed a patient handoff system that has been implemented in the electronic medical record system to improve patient safety, this clearly has an impact in clinical medicine..."


Summary of Recommendation:

Dr. Gagnier is recognized as an expert in methodology and data analyses. He is an outstanding team science collaborator and his robust focus on clinical research methodology will continue the advancement of the quality of research in orthopaedics. He is passionate about his work and has a strong commitment to teaching. It is for these reasons that we recommend Joel J. Gagnier, N.D., Ph.D. for promotion to associate professor of orthopaedic surgery, with tenure, Department of Orthopaedic Surgery, Medical School, and associate professor of epidemiology, without tenure, Department of Epidemiology, School of Public Health.



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Marschall S. Runge, M.D., Ph.D.  
Executive Vice President for Medical Affairs  
Dean, Medical School



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Martin A. Philbert, Ph.D.  
Dean, School of Public Health

May 2017