The Impact of Technological Change on the Surgical Profession: Past, Present, Future

2015 Workshop Program

Wednesday, May 6th, 2015 - 9:30 am to 5:30 pm
Thursday, May 7th, 2015 - 9:30 am to 3:30 pm

Jewish General Hospital - B-124
3755 Cote Ste Catherine Road,
Montreal, Quebec H3T 1E2
Welcome to the 2015 Montreal Workshop

The Impact of Technological Change on the Surgical Profession: Past, Present, Future.

We are pleased to offer you this opportunity to come together with international researchers and experts on the state of the surgical profession today. We hope you will find the presentations stimulating and that this event will spark some thoughtful conversation and creative input.

The future of the surgical profession will have an impact on all of us so we look forward to your participation, your concerns and ideas that will potentially guide how surgery will be defined and how this will influence the new directions of the surgical profession on a global scale.

This event is organized by the Department of Social Studies of Medicine, McGill University, the Department of Surgery and the Jewish General Hospital Foundation with the support of the following:

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AGENDA

Day 1: May 6th, 2015

9:30 Welcome, Introductions of Participants Lawrence Rosenberg and Thomas Schlich

Morning session: Chair, George Weisz, McGill University


11:00 Coffee break


12.00 Lunch Break

Afternoon Session: Chair, Richard Margolese, McGill University

13.00 Peter Kernahan, University of Minnesota: Defining Boundaries: Professional Organizations as Mediators of Technological Change.

14.00 Rachel Prentice, Cornell University: It Ain’t What it Used To Be With Doctor as King: Techniques of Control in North American Operating Rooms.

15.00 Coffee Break

15:30 Roger Kneebone, Imperial College London: Backwards Through the Keyhole: Re-enacting the Surgical Past.

16:30 Nicholas Whitfield, McGill University: The Versatility of Minimally-Invasive Surgery.

17:00 End of first day presentations

19:00 Workshop Dinner

Day 2: May 7th, 2015

Morning Session: Chair, Gerald Batist, McGill University

9.30 Cynthia Tang, McGill University: Competing Treatments and Disease Definitions: Medical vs. Surgical in the Case of Cholelithiasis.

10:30 Coffee Break

11:00 Léo Mignot, University of Bordeaux: Medical Innovation and Boundary-Work: Turf Wars Between Interventional Radiology and Surgery.

12:00 Lunch Break

13:00 David Jones, Harvard University: The Re-emergence of Minimally Invasive Bypass Surgery: Controversies and Mysteries.

14.00 Discussion: Past, Present, and Future of Technology and the Surgical Profession

15.00 End of the workshop
**Workshop Chair Day 1: Morning session**  
**George Weisz, PhD**  
Cotton-Hannah Chair of the History of Medicine

*Dr. George Weisz* received his PhDs in History from Stony Brook University and in Sociology from the University of Paris 5 (Descartes). His research has focused on healthcare in Europe and North America between the 19th and 21st centuries and two most recent books are: *Chronic Disease in the Twentieth Century: A History* (2014) and *Divide and Conquer: A Comparative History of Medical Specialization*, 1830-1950 (2006). He has also written books about the creation of French universities during the Third Republic and the Paris Academy of Medicine in the 19th century. Dr. Weisz has edited five collective volumes including *The History and Sociology of Quantification in Medicine* (2006) and *Greater than the Parts: Holism in Biomedicine 1920-1950* (1998). He has written articles on mineral waters, national differences in gynecological practices, and efforts at international standardization notably through practice guidelines. He is currently working on institutions of global health, national and international efforts to organize effective primary care, and trends in medical education. He has been a Visiting Professor at the École des Hautes Études en Sciences Sociales (Paris), the Max Planck Institute for the History of Science (Berlin) and the Université de Paris 1 (Sorbonne) and INSERM (Paris). In 1998 he obtained the Burroughs Wellcome Fund 40th Anniversary Career Award in the History of Medicine and Science. In 2013 he received the American Journal Of Public Health’s 2012 Paper of the Year Award.
Workshop Chair Day 1: Afternoon Session
Richard Margolese, MD

Herbert Black Chair in Surgical Oncology, McGill University
Professor, Departments of Surgery and Oncology, McGill University

Dr. Richard Margolese researches innovative anti-cancer therapies and leads clinical research studies in breast cancer. He and his colleagues have shown that radical breast surgery can be replaced by breast conserving surgery and alternative treatment therapies which can improve long-term outcomes by diminishing the recurrence rate. These studies have shown that not only has the cure rate improved but that new cancers in the opposite breast have been diminished. This approach to prevention has successfully shown that approximately half of the cancers can be prevented in selective women with high risk profiles.

Workshop Chair Day 2: Gerald Batist, MD FRCP(C), FACP FCAHS

Minda de Gunzburg Professor of Oncology at McGill
Director, Segal Cancer Centre and Chief of Oncology, JGH
Director, McGill Centre for Translational Research in Cancer
Scientific Director, Quebec-Clinical Research Organization in Cancer
Deputy Director of the Lady Davis Institute for Medical Research
Fellow of the Canadian Academy of Health Sciences

Dr. Gerald Batist’s research programs involve novel therapeutics, and he’s made significant contributions to the development of new cancer treatments. He leads a highly successful laboratory and clinical research program, with over 200 scientific publications and a number of book chapters relating to his research interests. He also leads major Quebec, Canadian and international consortia that focus on personalised medicine, including a recently awarded Canadian National Centre of Excellence.

As Chairman of Oncology at McGill, Dr. Batist has consistently nurtured the development of a number of highly innovative multidisciplinary programs that are amongst the first of their kind in Canada. He has trained many scientists and clinical oncologists, and also practices medical oncology.
Change: Technological, Economic, Sociocultural, and Professional: Why It Matters. Lawrence Rosenberg

We stand at the confluence of some rather significant changes that are rapidly transforming both the profession and practice of Medicine. This calls for flexibility and imagination in our understanding of what medicine and surgery in particular should and will be. Surgery more than most medical specialties has born the brunt of this assault, and it is noteworthy to observe the tension engendered by the professional responses that are characterized by both cognitive dissonance and thoughtful engagement.

Lawrence Rosenberg is Professor of Surgery and Medicine at McGill University where he received his M.D. in 1979. He then completed his surgical training in General Surgery at the Montreal General Hospital and during his residency he earned a Ph.D. in Experimental Surgery at McGill as well. Upon completing post-doctoral studies, which included a transplant surgery fellowship at the University of Michigan, he was appointed Assistant Professor of Surgery and Medicine at McGill in 1987. Dr. Rosenberg was Chief of Surgical Services at the JGH from 2007 to 2013 and then Director General of the JGH from 2013 to 2015. He is currently the President and CEO of the Integrated Health and Social Services University Centre for Integrated Care of West-Central Montreal.

Dr. Rosenberg’s research has achieved both national as well as international recognition by such funding agencies as the JDRF, the CIHR, the FRSQ, the NCE-Stem Cell Network of Canada as well as by industry professionals and donors. In addition, Dr. Rosenberg has received many career awards and fellowships including a Medical Research Council of Canada Scholarship, a McLaughlin Foundation Fellowship, and a Chercheur-National Award from the Quebec government. He is the only Canadian to have received the prestigious American Surgical Association Foundation Fellowship.

*Thomas Schlich*

In history, the understanding of who is and who is not a surgeon has gone through several transformations over the past 200 years. These changes reflect the history of the division of labor between operative and non-operative practices in medicine. This presentation will trace this history, starting with the craft-based definition of surgery within the context of medical plurality in medieval and early modern times. It will look at how surgery was then integrated into the emerging modern medical profession early in the nineteenth century, and how it subsequently became a specialty within medicine, whose area of responsibility was not always clearly defined at its margins.

*Thomas Schlich* is James McGill Professor in the History of Medicine in the Department of Social Studies of Medicine, McGill University. Before being appointed to McGill in 2002 he was an active physician in Germany, then switched to the history of medicine and held various research & teaching positions. His main research interest is the history of modern medicine and science (18th-21st centuries); he is PI of a CIHR-funded research project on the history of minimally invasive surgery and is currently writing a book with the preliminary title “Controlled Intervention: the History of Modern Surgery 1800-1914”.
The Re-emergence of Minimally Invasive Bypass Surgery: Controversies and Mysteries.  

Facing increasing competition from percutaneous coronary interventions in the 1990s, cardiac surgeons turned to minimally invasive bypass surgery in hopes of producing a safer, more comfortable, and equally effective procedure. The outcomes, which surprised many surgeons, have contributed to substantial geographic and generational variations in the use of traditional vs. minimally invasive techniques.

David Jones is A. Bernard Ackerman Professor of the Culture of Medicine at Harvard University where he pursued a Ph.D. in History of Science and an M.D. at Harvard Medical School (2001). He trained as a psychiatrist at Massachusetts General Hospital and McLean Hospital, worked two years as a staff psychiatrist in the Psychiatric Emergency Service at Cambridge Hospital then in 2005 joined the faculty at MIT as an Assistant Professor of the History and Culture of Science and Technology. From 2004 to 2008 Professor Jones directed the Center for the Study of Diversity in Science, Technology, and Medicine at MIT.

In 2009 he was appointed as a MacVicar Faculty Fellow, MIT’s highest honor for faculty who have made sustained contributions to undergraduate education. He also taught as a lecturer in the Department of Global Health and Social Medicine at Harvard Medical School, where he was awarded the 2010 Donald O’Hara Faculty Prize for Excellence in Teaching. In 2011 he left MIT to join the Harvard faculty full time as the inaugural A. Bernard Ackerman Professor of the Culture of Medicine, a joint position between the Faculty of Arts and Sciences and the Faculty of Medicine. The Ackerman Program at Harvard University fosters collaborations in the medical humanities and social sciences.
The American College of Surgeons (1913) represented an institutional response to the chaotic expansion of surgery at the turn of the twentieth century. This paper examines how the ACS and other professional organizations have responded to technological change in surgery - in part by negotiating between the surgeon in practice and the surgeon in training as the locus of reform.

Peter Kernahan is a surgeon and medical historian. A graduate of Northwestern University Medical School, he trained in surgery at Stanford University. He completed a PhD in the History of Medicine at the University of Minnesota (Franklin Martin and the Standardization of American Surgery). He is the co-author, with David Nahrwold, MD, FACS, of A Century of Surgeons and Surgery: The American College of Surgeons 1913-2012.

Peter’s research interests are in the history of surgery with a particular focus on its institutional development and in anatomy and surgical skills education. He is a lecturer in the Program in the History of Medicine at the University of Minnesota and also holds faculty appointments in the Department of Surgery and the Department of Integrative Biology and Physiology. He is the former associate chair of surgery for the HealthPartners Medical Group in Minneapolis-Saint Paul.
Backwards Through the Keyhole: Re-enacting the Surgical Past. Roger Kneebone

This contribution explores how simulation-based re-enactment with long-retired surgical teams can capture the tacit ways of knowing and doing that characterise expert practice. It focuses on a pioneering group of clinicians from the 1980s, capturing previously undocumented accounts of surgery on the cusp of change.

Roger Kneebone is Professor of Surgical Education and Engagement Science at the Imperial College London as well as a Wellcome Trust Engagement Fellow. Roger Kneebone trained first as a general and trauma surgeon, working both in the UK and in Southern Africa. After finishing his specialist training, he decided to become a general practitioner and joined a large group practice in Trowbridge, Wiltshire. In the 1990s he pioneered an innovative national training programme for minor surgery within primary care, based around intensive workshops using simulated tissue models and a computer-based learning program.

In 2003, Roger left his practice to join Imperial. He is a clinician and educationalist who jointly directs the Imperial College Centre for Engagement and Simulation Science. His innovative work on contextualized simulation builds on his personal experience as a surgeon and a general practitioner, as well as his interest in domains of expertise beyond medicine. Roger sees engagement as a translational resource that bridges the worlds of clinical practice, biomedical science, patients and society. Roger leads an unorthodox and creative team of clinicians, computer scientists, artists, social scientists and performers. He has an international profile as an academic and innovator.
“It Ain’t What it Used To Be With Doctor as King”: Techniques of Control in North American Operating Rooms.  Rachel Prentice

Starting with an influential Institute of Medicine report in 2000, hospitals and operating rooms began adopting new bureaucratic controls intended to reduce errors and limit harm to patients. This talk examines older and often-forgotten techniques of control—techniques for communication, coordination and surveillance—utilized by all members of a surgical operating team to perform surgery and maintain patient safety. The talk shows how surgical agency is produced from within the constraints of teamwork and how the routine exercise of techniques of control can be considered ethical practice.

Rachel Prentice is an associate professor in the Department of Science & Technology Studies at Cornell University. She is an anthropologist of medicine, technology, and the body. Her interests focus on opening up the assumptions and contradictions contained in 21st century North American biomedicine. Professor Prentice documents how physicians in training come to embody biomedical techniques, perceptions, judgments, and ethics, learning deeply held medical values while learning to practice medicine.

Rachel’s work has focused on technology and medicine and her recently completed project is an ethnographic examination of anatomy and surgery teaching and the rise of simulators and other technologies for teaching and practice. Dr. Prentice’s recent book, ‘Bodies in Formation: Remaking Anatomy and Surgery Education’(2012), examines the training of medical students and residents, particularly in anatomy and surgery. In particular, the book focuses on how physicians develop medical perceptions, emotions, ethics, and judgment through continuous practice in a teaching hospital.
Since 1963, interventional radiologists have been developing minimally-invasive image-guided procedures to diagnose and treat diseases. Doing so, interventional radiologists have moved into the other physicians' territory and infringed on their work. Therefore, it is quite easy to understand why surgeons initially denigrated the legitimacy of interventional techniques. But when the interest for minimally-invasive medicine grew, cardiologists and vascular surgeons wanted to adopt interventional radiology procedures, which set the stage for territorial disputes. Using both qualitative and quantitative data, we will underline how medical innovation can lead to a transgression of disciplinary boundaries and alter the division of labor between professions. We will also analyze the rise of turf battles between medical specialties and how clinicians deal with it.

Léo Mignot is a PhD student in sociology at the University of Bordeaux (France). His PhD thesis, entitled “translational process and diffusion of medical innovation: the case of interventional radiology”, is performed under the joint direction of Pascal Ragouet (Université de Bordeaux) and Yves Gingras (Université du Québec à Montréal). His main interests are the dynamics of innovation in medicine and the emergence and recognition of new medical specialties.
Definitions of disease entities can be constructed simultaneously along multiple axes and are surprisingly precarious even when based on bio-pathological mechanisms. This paper will discuss the development of the various treatment options for gallstones. It examines how the chosen treatment determines a medical or surgical definition of the disease and how the alternative disease definitions played into tensions between medicine and surgery over the jurisdiction of cholelithiasis treatment.

**Cynthia Tang** is an MA candidate in the Department of History specializing in the history of medicine at McGill University. She works with Dr. Thomas Schlich in the Department of Social Studies of Medicine on a CIHR-funded project looking at the rise of Minimally Invasive Surgery as a disruptive surgical practice. Cynthia has a BSc in Toxicology from the University of Toronto and an MSc in Immunology from the University of Waterloo.
The Versatility of Minimally-Invasive Surgery.

Nicholas Whitfield

From the late-1980s, surgeons of various specialties in Europe and North America began adopting minimally-invasive (i.e. laparoscopic or “key hole”) techniques then only common to gynecology. Witnesses of the time have characterized the widespread adoption of minimally invasive methods throughout general surgery as rapid and revolutionary, and disruptive of traditional skills associated with open surgical practice. Our paper seeks to understand this alleged technical and practical revolution through the concept of ‘versatility’. We will explore the versatility of MIS in three principle and interrelated ways: instrumentation, education, and surgical encounters with patients and their bodies.

Nicholas Whitfield is a postdoctoral fellow in the Department of Social Studies of Medicine at McGill University. Before arriving at McGill he completed his PhD in 2011 at the Department of History and Philosophy of Science at the University of Cambridge, where he was conducting research into the history of blood transfusion in the UK and Europe in the early twentieth century. His current research is on the history of minimally-invasive surgery in North America. Chapters of his thesis are published in the journals Twentieth Century British History and The Journal of the Royal Anthropological Institute.
Workshop

2015

Montreal, Quebec