As physicians in general, and surgeons in particular, we are increasingly confronted with the need to justify our surgical approaches and provide outcome measures to support how we practice ‘our art’. This has not come out of the blue, but has been the result of a long and gradual development in surgical delivery. At the recent workshop entitled ‘The Impact of Technological Change on the Surgical Profession 2016’ held at the Lady Davis Institute, renowned experts from Harvard, Bern, Manchester, Oxford, Kansas and McGill provided us with a historical and often humouristic perspective on the evolution of outcome research in surgery.

As surgeons, society has accredited us to aggress our fellow humans with ever more sophisticated instruments ‘for their benefit’. This license comes with colossal responsibilities. While training in the 1970’s and 80’s I remember some surgeons claiming that ‘the bigger the scar, the bigger the surgeon’. It appears that this paradigm has shifted to ‘the smaller the scar, the bigger the surgeon’, or that the ‘size of the surgeon’ really does not interest anybody anymore.

Ultimately, the value of a surgery from the patient’s perspective correlates with the expected outcome divided by the magnitude of the aggression. The lesser the aggression the greater the value, but this needs to be demonstrated using the scientific method.

The high standard of the presentations and warmly interactive sessions during the symposium, allowed a lively dialog to dig into the past of the art of surgery and learn invaluable lessons on how our discipline has reached the stage where we, the surgeons, are responsible to establish “evidence based practices”, without repeating some mishaps of the giants before us.

Walter H. Gotlieb, Director of Surgical Oncology
Under the leadership of Dr. Shannon Fraser working with Educational Technologist Barbara Reney, 14 surgical teaching videos - 7 French & 7 English - are now available for use by residents and students doing their rotations at the JGH.

These micro training tools address essential core skills which, given budget cuts and time constraints, as well as the imperative to provide the best patient care while ensuring staff safety, are bonus educational tools and they are now available on-line, accessible from anywhere at any time.

This micro learning material gives the surgical resident and student control of their own learning experience. Providing more opportunity to self-direct their own learning, to familiarize themselves with what they need to learn before walking into the OR can translate into teaching time saved, mastery time gained.

These 14 short videos are intended to be used as support training materials for the existing on-site teaching staff such as the OR nurse educators. By making these videos available some of the burden of on-site instruction can be shifted to on-site evaluation of abilities, to allow the nurse educator and more senior residents to observe knowledge and abilities from day 1, before their new rotation steps into the OR and mistakes can be made that may impact the well-being of patients and staff.

As a McGill affiliated teaching hospital we hope you will make use of them to help transfer some of the responsibility for learning onto the learner, to save time and limited financial and staff resources, to support and reinforce the surgical training experience.

All actors are in-house Subject Matter Experts [Julia Di Manno, Sylvie Laferriere, Christine Nagy], all JGH OR nursing staff, with many years experience performing the techniques, all demonstrated and following established Standard Operating Procedures. These educational materials were also developed according to established learning principles and their links are provided here at right for your reference.

1. Welcome / Bienvenue
   Eng: https://www.youtube.com/watch?v=vxbsh57R18
   Fr: https://www.youtube.com/watch?v=TXvrdNQnt-I

2. Pre-OR Prep / Notions salle opératoire
   Eng: https://www.youtube.com/watch?v=PA264FYgQV0
   Fr: https://www.youtube.com/watch?v=vA5QLQRR8A

3. Scrubbing In / Lavage des mains
   Eng: https://www.youtube.com/watch?v=HQU80bgzh_E
   Fr: https://www.youtube.com/watch?v=4rUS9l7THSU

4. Gowning & Goving / Ganter & Blouser
   Eng: https://www.youtube.com/watch?v=zMqmNhfYkhI
   Fr: https://www.youtube.com/watch?v=jzKciLbkL0E

5. Sterile Perimeters / Périmètres stérile
   Eng: https://www.youtube.com/watch?v=GKEEYy0ZgM
   Fr: https://www.youtube.com/watch?v=6D8ZGxVxGv8

6. Patient transfer / Transfert sécuritaire d’un patient
   Eng: https://www.youtube.com/watch?v=W63rbrX-nLg
   Fr: https://www.youtube.com/watch?v=15VJLhfbBo0

7. Surgical Safety Checklist / Liste de sécurité chirurgical
   Eng: https://www.youtube.com/watch?v=3OR5GVsHQ
   Fr: https://www.youtube.com/watch?v=qQLQzwedM
ITCSP REFLECTIONS

The March 25, 2016 issue of the ASCO Post — a newspaper-style publication of the American Society of Clinical Oncology — carried an article by Caroline Helwick emphatically entitled: “Surgeons—Yes, Surgeons —Have a Role in Translational Cancer Research”. While noting that “surgeons are clearly more comfortable in the operating room than the laboratory”, the article nonetheless argued that “there is a place for them in translational cancer research as well”. Quoting prominent surgical oncologists, the article went on to provide examples of what that place might be. Access to much needed patients and tissues is something surgeons could offer to fellow translational researchers, but their role is and should not be confined to that of providers of research materials. The example of research on the HER2 gene in breast cancer is a case in point, as molecular biologists without the collaboration of surgeons could not have successfully performed that study. Surgeons, in this respect, have a role to play in leading multidisciplinary research teams. Their contribution lies not only in improving surgical outcomes, but also in understanding the biology of the disease, these two elements being increasingly entangled because, on several occasions, “biology trumps surgery”.

I mentioned the ASCO Post article because it exemplifies why a meeting such as ITCSP, in addition to its intrinsic interest, is also very timely. Rapid technological change has a decisive impact on disciplinary and specialty structures in medicine. Domains such as genomics and cancer research immediately come to mind, but specialties such as surgery are also affected in potentially dramatic ways, both indirectly (through their involvement in a domain such as oncology as exemplified in the ASCO Post article), and directly, through the development of new surgical techniques such as minimally invasive surgery (MIS) or robotic surgery. The development of technologies such as MIS, which can potentially lead to a transformation of the division of labor within surgery and between surgery and neighboring specialties, was the primary impetus for the organization of ITCSP. But the 2016 edition of ITCSP also included discussions of how the development of knowledge in domains such as oncology has had profound effects on the adoption or rejection of certain surgical techniques, a process that continues to this day in a context increasingly defined by evidence-based approaches. Surgery qualifies as a problematic domain from point of view of EBM, as randomized clinical trials, the gold standard of EBM, are more rarely (although increasingly) performed in surgery, as procedures such as “sham surgery” are often controversial.

As Chair of a social science department located within McGill’s Faculty of Medicine, I am particularly pleased by the organization of a conference such as the ITCSP, which is the result of a collaborative endeavor between social scientists and clinicians. In the past, medical and social science researchers have too often been portrayed as two separate, self-contained entities, somewhat wary of each other, a situation epitomized by the now decade-old distinction (first proposed in 1957) between social science in/of medicine, depending on whether the research agenda was dictated by medical or by social science questions and issues; in other words, depending on whether medicine was merely a field of inquiry for social scientists seeking to answer social science questions or whether social scientists applied their tools to the solutions of practical problems defined and confronted by clinicians. In more recent years, medical researchers and clinicians have come to realize that medical activities are firmly entrenched in socio-technical arrangements that go far beyond short-term practical issues, while social scientists (at least some of them) simultaneously realized that new medical knowledge challenges established understandings of social relations and what it means to be human. We clearly need to go beyond the in/of distinction, and initiatives such as ITCSP provide an important forum for exploring new paths in this direction. With my fellow social science colleagues in our department we try to practice an “epistemically relevant” social science, one that investigates the content of biomedical practices and activities. In particular, we examine how medical innovations are opening up new spaces of thought and practice, upsetting previous truths and creating new experiences of what it means to be a bio-social being. To do so, we need to be historically aware of the emergence of new knowledge and practices, culturally sensitive to differences in the experience of health and sickness, and alert to instances of continuity and discontinuity in medical research and clinical practices. We also need to conceive of research as something we do with, rather than on, our clinical colleagues. ITCSP provides an example of “embeddingness” into the sites and units we co-investigate.

Now is the right time for engaging in the kind of collaborative research I just mentioned. In the past, medical schools were the primary producers of health-related information. Increasingly, health-related information is created and assembled by numerous stakeholders at a variety of sites, including private companies, other departments and schools in the university, non-governmental organizations, and patient advocacy groups. As a result, medical schools entertain ever more complex links to actors outside the profession, dealing with different information producers and managers, many of whom may have different goals, strategies, and principles. Generally speaking, the question amounts to rethinking the role of academic research within this new information economy. It clearly emerged from discussions during the 2016 ITCSP that this kind of socio-technical displacements also pose serious organizational and policy challenges to surgery. How should surgical services be reorganized? Who, will do surgical research in the future? How to structure the content of surgical training with regards to the use the new technologies? How this should be done is, of course, not easy to decide. A conference such as the ITCSP provides a forum for proactively discussing future scenarios on the basis of a renewed understanding of past (some recent, some less so) events.

Alberto Cambrosio, PhD
Professor & Chair
Department of Social Studies of Medicine
McGill University
Throughout history, and, in particular, over the past 200 years, doctors and scientists have used different strategies to find out which techniques and procedures lead to the best results. They have used various tools to obtain accurate and reliable evidence for the usefulness and safety of surgical innovations, among them case reports, animal experiments, as well as clinical studies of different kinds, up to the most sophisticated Randomized Clinical Trials (RCTs). What counted as valid evidence, however, and by which means it was obtained has changed over time and is still changing at present. Examining these various techniques of creating and evaluating evidence and investigating their use in different contexts can provide valuable insights for dealing with the precarious and elusive nature of evidence in surgery and in medicine more generally.

The ITCSP 2016 workshop brought together practitioners, ethicists, social scientists and historians to discuss the various kinds of evidence and the methods to create and assess them. These experts discussed how such practices of evidence were introduced in the past, how they are being used now, and how one could use them in the future.

During the event a number of themes and recurrent questions came up. A central issue concerns the specificity of surgery. In which way is surgery different from other treatment modalities in medicine, in particular drug treatment? And more specifically, to which degree can the methods of evaluating therapy with pharmaceuticals be used for evaluating surgery?

The surgical act as such is often seen as being very different from the simple administration of a pill. Among other things, surgery requires a higher degree of individualization at various levels: Every patient's anatomy is different, related to this, every surgical operation can run into different kinds of obstacles that the surgeon has to react to in the situation. In many ways, one can even claim that the same surgical operations are done differently each time, not least because surgeons work on improving them. Especially new operations are thus often subject to a process of ongoing innovation. On part of the surgeon, every practitioner is different too. Surgeons have different styles, different levels of skill, and different degrees of experience. When new operations are introduced their performance follows a learning curve – as individual surgeons learn to perform new techniques, the results improve, which again is something that happens at a different rate for different operators.

These are all factors that make it difficult to standardize surgery and they present obstacles for using the most acknowledged methods of evaluation on surgical treatment. A case in point is the RCT. For RCTs, all the mentioned individual factors – on part of the patient as well as the surgeon - need to be taken into account. In the last couple of decades surgeons have developed ways of doing that, but the difficulties of standardizing surgery still limit the potential benefits of performing RCTs in this field of activity. In discussing these problems, it is important to consider that, historically, RCTs were first developed for drug treatment. Therefore they reflect the special conditions of innovation in drug treatment: the possibility of standardization, the regulation of drug licensing, the existence of pharmaceutical companies to organize and fund trials, a certain degree of public distrust towards the drug industry, etc. However, despite these specificities, the RCT has become the gold standard for other areas of medicine too, even though the conditions there might be very different. Especially surgery seems to be one of the few fields in which RCTs are not consistently used. However, if we think of where RCTs come from they might be very specifically suited for assessing drug therapy, and less so for surgery (or, for that matter, for other treatments that require individualization such as psychotherapy).

Surgery has traditionally employed a whole gamut of evaluation methods. In particular, case histories and collections of case histories have been used in the field since the eighteenth century. In the form of registries, which include every single case of the use of a new technology, this approach is still a very powerful means of evaluation since it is capable of capturing even relatively rare complications. Even the use of placebos has had its place in the evaluation of surgical innovation. Placebos, which are already quite controversial in drug therapy, have been even more contentious in surgery – another phenomenon that points to the specificity of surgical evaluation.

In the light of investigation of social science and history, it makes sense to state that surgery has a special culture of evidence. This has to do with the fact that the immediate consequences of a surgical intervention are often quite obvious – a change in an anatomical structure is usually visible right away. Moreover, the success of fixing a problem as well as the consequence of a mistake in surgery can be ascertained relatively easily. However, the immediate repair of anatomical structures is only part of the story. Many examples in recent and not so recent history show that the impact of a treatment measure can - and often needs to - be evaluated in a longer-term perspective. Cancer treatment, for example, is rated by survival rates over a number of years (5-year survival, for example). Thus, the evaluation of a new surgical technique depends very much on the end point being measured – whether it is anatomical or functional reconstitution, or mortality and morbidity over longer periods of time.

We can see how another common theme in these discussions about evaluative evidence in surgery is the criteria for success and the question of who determines them. Here, patient expectations and choices can be an important factor. Often patients privilege quick and clean solutions to their medical problems, such as minimally invasive surgery (MIS) for gall bladder removal or osteosynthesis for bone fractures. Both innovations can be interpreted as cases of patient-driven innovation.

However, at closer examination, even these examples turn out to be more complex than expected. Patient choices are often influenced by the way the various therapeutic alternatives are framed by the doctors or the ways they are presented by the mass media, not to mention the effects of direct-to-consumer advertisements as they are common in the United States. The investigation of patient preferences by social scientist and historians can expose these complexities and thus question and complicate narratives of patient-driven innovation. They can also show that, also in this respect, surgery is a special case. In surgery the end-user’s – the patient’s - choices are mediated by the influence of another user – the surgeon, who has a special position in relation to the selection and use of new techniques.

All of these examples demonstrate the usefulness of an interdisciplinary discussion of the topic. Such a wider discussion makes it possible to look at the issue of evidence in surgical innovation from very different angles and gain a more complete and realistic picture of the impact of technological change in surgery more generally.

Thomas Schlich, MD, PhD
James McGill Professor in the History of Medicine
McGill University, Dept. Social Studies of Medicine

INTELLIGENCE PLUS CHARACTER - THAT IS THE GOAL OF TRUE EDUCATION, ML King Jr.
I enjoyed both the ITCSP 2015 as well as the 2016 events and found them useful above all for bringing together historians, anthropologists and medical professionals – and this year bioethicists too. Their multidisciplinary character, I think, is the most valuable aspect of the ITCSP workshops: they confront presenters with types of question and discussion otherwise absent in single-discipline forums.

Something I noticed this year (but which was true of both occasions) is that the discussions provided a great opportunity for historians/anthropologists/bioethicists to engage directly with physicians working in the specialties they (the historians, etc.) focus on in their research. This was particularly the case for those historians working on contemporary or recent topics. To use an example from my own experience: during the first event I presented on the topic of minimally invasive surgery, and discussed the rapid spread of laparoscopic cholecystectomy in the late 1980s and early 1990s. Several members of the audience were surgeons who had lived through, and participated in, the events I described; they made particularly valuable comments that gave me a sense of what issues are at stake for surgeons reading history, and also of how I can better present my ideas clearly to avoid misunderstandings. This year I was able to watch a presentation that dealt tangentially with that topic again – Gerald Fried’s Case Histories, Registries and RCTs – and took the chance to ask a question about the role of patients in driving surgical change, an issue previously brought to my attention during the first workshop.

The opportunity for this type of discussion is perhaps a reason for broadening the disciplinary boundaries a bit – as was done in the second event. Joining the historians could be: bioethicists and anthropologists, but also sociologists, legal scholars and others in the humanities whose research is focused more immediately towards the present.

Of the presentations I was able to attend, two were of special interest. First, Sally Frampton’s talk Ovariotomy and the Value of Statistics engaged directly with the theme ‘the impact of technological change on the surgical profession’ (as do her wider research interests), and the inclusion of a historical case study was a great complement to the presentations by surgeons and bioethicists, which took a more general and abstract approach. I enjoyed this talk for another reason: presently I am working on a chapter on the recent history of minimally invasive surgery that addresses the problem of what drives surgical change. Frampton’s insights on the nature of surgical change and the spread of innovations – in particular her ideas about the inherent ‘instability’ of surgical procedures – have been of great value to me for understanding the widespread uptake of endoscopy by surgeons in the twentieth century.

Second, Gerald Fried’s presentation on the various types of surgical evidence resonated directly with my research interests in the history of minimally invasive surgery, and in the debates about what standards were most suited to evaluating new minimal-access procedures of the 1980s. As a historian, this presentation was interesting because it allowed comparisons between the kinds of concerns preoccupying surgeons of that period with concerns of the present – this sort of comparative reflection is a good way of appreciating the historical specificity of certain ideas that appear across historical sources.

Although I am not involved in providing medical education, in so far as the content presented at this type of ITCSP event goes, I imagine that the historical presentations are potentially valuable to students for demonstrating the recurrence of certain debates or issues through history (as flagged in the work of David Jones, Chris Crenner and Thomas Schlich on surgical evidence and innovation) – there are historical precedents, even exemplars, which students can draw upon when confronting their own dilemmas in education and practice. The presentations by surgeons and medical professionals can demonstrate the brevity of what it means – or can mean – to be a surgeon; how to engage with non-medical audiences effectively, and the potentially public nature of the medical role.

Going forward, to future ITCSP events two researchers’ names immediately spring to mind, although it would of course depend on the eventual theme.

One is Delia Gavrus, an assistant professor at Winnipeg who works on the history of neurosurgery in America in the early to mid-twentieth century. I’ve seen her present several times: she’s an engaging speaker and always an enthusiastic participant in the discussions that follow. I’m not sure any of her published work to date looks specifically at technological change – but I know that her interests are far reaching and that she has extensive knowledge of her topic, neurosurgery.

The other is Annmarie Adams, a professor of the history of architecture at McGill University (who attended this year’s event). I would suggest her because of her forthcoming contribution to Thomas Schlich’s handbook on the history of surgery. There Professor Adams focuses on the history of surgical spaces (itself a fascinating topic and one that is immediately relevant to questions of technical change), and has uncovered some extraordinary sources of great interest to both historians of medicine and to surgeons.

Nick Whitfield, PhD
Postdoctoral Fellow
Department of Social Studies of Medicine
McGill University
This was a truly interdisciplinary event which brought surgeons and other physicians together with historians and social scientists to reflect on the enormous challenges of using evidence in surgery in the past and the present. The surgical context has changed dramatically since the early nineteenth century with definitive watersheds such as the introduction of anaesthesia yet I was struck by the extent to which contemporary surgical decision-making pivots on the same calculus of evaluating risks against benefits despite these deep social, clinical and technical changes. Over time, the risks of surgical intervention have become more and more nuanced: no longer does a decision to operate rest on a stark balancing of the chances of survival against death. But the outcome for patients and surgeons is that the process of evaluating risks against benefits has become increasingly complex.

One of the most interesting issues to arise was that randomised controlled trials, frequently promoted as a ‘gold standard’ for evaluation, are far less appropriate measures for evaluating surgery compared to therapeutics. I was also fascinated by discussions around surgical innovation and the need for attention to be paid to the ‘translatability’ of a new technique across the surgical community as a whole. It illuminated how one of the constant characteristics of surgery through time is that each surgical procedure undertaken creates a unique and dynamic configuration between patient, surgeon and technique which suggests perhaps that the possibilities for completely standardising risks and benefits are inherently limited. Every presentation was very high quality and provoked strong discussions and there was great collegiality between the different groups attending. The organisation and hospitality were superb and it was a most stimulating experience that should definitely be repeated!

The 2016 symposium on “The Impact of Technological Change on the Surgical Profession” hosted jointly by Professors Lawrence Rosenberg from the McGill Faculty of Medicine and Head of the Centre Ouest de l’île.............and Thomas Schlich from the Department of Social Studies of Medicine at McGill, was, in my longstanding experience as a speaker – and listener - at such occasions, truly a “first” and this from two points of view: First, this event centred on evidence as needed and used in surgery past and present and second, it brought together historians of surgery and active doctors.

Evidence-based Medicine (EbM) has been of great actuality for the last two decades or so. Remarkably enough one hears much less about Evidence-based Surgery. The symposium helped to explain why this is the case: Numbers and statistical insights had played a crucial role in the account of surgical innovations in the 18th and 19th centuries with death or survival as objective endpoints. Yet since then, new pathophysiological rationales have overwhelmingly been seen as sufficient justification for interventions. Characteristic features of the modern clinical trial such as concomitant comparison groups, blinding, placebo surgery and statistical analysis have only rarely been used.

During the 2016 “Impact”-symposium the reasons for the various kinds of evidence, old and new, that is used in surgery became understandable thanks to the interplay between historical and present-day presentations and discussions This is extremely helpful. I hope, therefore that it will be possible to organize future meetings of this dual type on other relevant surgical topics.

I found several aspects of the ITCSP 2016 event very productive, namely:

First, unfortunately, ethics and social studies of medicine are physically remote from each other at McGill. events like these provide opportunities for us theoreticians to learn from practitioners - and to test our ideas against their experience. I hope the value is reciprocal- that the perspective on history and ethics informs the way the practitioner thinks of his/her clinical activities.

Second, the talks were all at an extremely high level and engaging, and spanned many aspects of the social / historical dimensions of surgical innovation. I learned a lot from my fellow speakers- and from the audience during the question and answer periods.

Contributors: Cosimo Calabro, Alberto Cambrosio, Christopher Crenner, Sally Frampton, Abraham Fuks, Walter Gotlieb, Jonathan Kimmelman, Jacob Lavigne, Karam Mostapha, Eni Nano, Thomas Schlich, Harvey Sigman, Stephanie Snow, Ulrich Tröhler, Mark Wainberg, George Weisz, Nicholas Whiffield

Editor & Message Design: Barbara Reney

Stephanie Snow, PhD, Senior Research Associate Centre for the History of Science, Technology and Medicine Faculty of Life Sciences University of Manchester, United Kingdom

Jonathan Kimmelman, PhD
Associate Professor in Biomedical Ethics / Social Studies of Medicine STREAM (Studies of Translation, Ethics and Medicine) McGill University

Ulrich Tröhler, MD, PhD
Professor Emeritus of the History of Medicine University of Berne, Switzerland
ITCSP REFLECTIONS

I was delighted to attend the 2016 ITCSCP symposium on evidence based practices, supported by McGill University and the Jewish General Hospital Foundation. The symposium was an opportunity to bring together medical professionals, historians and bioethicists to discuss the construction of evidence in surgery, drawing on both historical and contemporary examples.

It is not often that one gets a chance to participate in an interdisciplinary event about surgery. For me as a historian, primarily working on nineteenth-century history, it was fascinating to explore the parallels that exist between the surgical professions of then and now. It can be tempting to think that surgery in the past, particularly as it was before the development of anesthesia and antiseptics, is a world away from the surgery of today. And yet as discussion developed during the first day of the symposium the shared concerns of surgeons past and present were striking. Like today, nineteenth-century surgeons were deeply concerned with constructing the best possible evidence about the benefits and risks of new procedures; statistics played an important role in helping them to do this. Like today however, they were also cognizant that statistical data was not infallible, and that it could belie the complexities of the surgical procedure; surgeons often found themselves formulating very different statistical data from one another, making it difficult to ascertain a clear understanding about how dangerous a new operation was.

The second day of the conference focused on developments since the twentieth century and discussion centered upon the decidedly complex relationship between surgery and the randomized controlled trial. In keeping with a broader trend sweeping across medicine, surgeons have increasingly turned to clinical trials to provide evidence of efficacy during the past fifty years. However what became apparent through the presentations and discussion across the day was that elements of the controlled trial - the placebo effect being one important example - can prove complex to administer when translated into the realm of surgery. Ways of constructing evidence that may be effective in guiding pharmaceutical research may not be so in surgery, where the highly individualistic nature of a surgeon’s work can make it difficult to standardize it in relation to others.

By bringing together surgeons and historians what the symposium helped reveal was a long and complex narrative to evidence based practice. Surgery, it seems, has long been governed by a discrete framework of evidence making, centered on both ethical and practical considerations. Given the impact this still has today, when the relative value of both the case series and the randomized controlled trial continue to be debated, it seems important that surgeons have the chance to reflect back on the historical roots of this discussion, as well as to contribute their own ideas and experiences to an ever developing story.

Sally Frampton, PhD
Postdoctoral Research Assistant
St Anne’s College, University of Oxford
UK

The meeting was a complete success from my perspective. It was both an enjoyable and a valuable experience. The mix of practitioners and leaders in surgery alongside the array of top historians of the field was especially valuable for my work. I was able to make great progress in understanding the issues of the nature of evidence in surgery as a result, and will not soon forget this terrific conference.

Chris Crenner, MD, PhD
Hudson-Major Professor and Chair
Department of History and Philosophy of Medicine
Kansas University Medical Centre
Kansas, US

The program was excellent in all respects. The organizational aspects were perfect. The speakers all respected their time restrictions. Their presentations were all excellent.

I found the evolution of statistical analysis from the beginning to the issues of today was well described and helped us understand the complicated nature of assessing new technology as was very well presented by Dr Gerald Fried.

Doctors Schlich and Rosenberg are to be congratulated for having brought such a first class international group of speakers two years in a row to the JGH so that the discussions last year on introducing new technology in surgery could be linked this year to the question of ‘we have shown that it can be done – now, let us show that it should be done’. The only negative for me was that so few surgeons (a handful) at the JGH and the other University hospitals availed themselves of the opportunity to participate in this event.

Congratulations and thank you Barbara for making this all come together so well.

Harvey Sigman, MD, Surgeon
Sir Mortimer B. Davis-Jewish General Hospital
Professor, Department of Surgery, McGill University

St Anne’s College, University of Oxford
I was very pleased to have had the opportunity to participate in the recent workshop on “The Impact of Technological Change on the Surgical Profession 2016: Evidence Based Practices.” This year’s undertaking highlighted the role of clinical trials in surgery and more generally, how innovation in surgery takes place. In addition, it provided a helpful comparison between surgery and other medical disciplines by examining those factors that may set technical and procedural innovation apart from pharmacoelogic advances in, for example, oncology or cardiology.

The choice of an informal exchange of ideas with sufficient time set aside for group discussion was particularly useful and a blend of young scholars and more experienced clinicians was also helpful. I should also underscore the importance of bringing together surgeons and social scientists who can clearly collaborate to mutual benefit. There is certainly a need for such special forums and I believe this type of interface events that brings together surgeons in practice, surgical scientists and scholars from a wide range of disciplines should be continued, perhaps as an annual event. I would at the same time note the absence of surgical trainees who might have derived considerable benefit from attendance and participation.

Abraham Fuks, MD, Professor of Medicine
McGill University

I found the talks by the historians who participated in this year’s ITCSP were uniformly excellent but even more fascinating were the informed and thoughtful responses of the surgeons and other health professionals who attended. When social scientists studying a subject enter into dialogue with practitioners in the field, the results can be extremely illuminating, as this meeting demonstrated.

George Weisz, PhD, Cotton-Hannah Chair in the History of Medicine
Department of Social Studies of Medicine, McGill University

Each of the lectures at the ITCSP was highly informative leaving little doubt that robotics and other technological advances have revolutionized the practice of surgery. This has had and will continue to have dramatic impact on all aspects of medicine and with this will come challenges on ethics as well as debates as to whether procedures that had previously been assigned to one medical or surgical subspecialty might now best be turned over to a different specialized group.

The ITCTP program provided keen insights as to how medicine is a science in evolution and why the types of changes we have recently witnessed are likely to become even further accelerated in years to come.

Mark Wainberg, MD
Head of the HIV/AIDS research axis, Lady Davis Institute
Director of the McGill University AIDS Centre
Professor of Medicine, Microbiology and Immunology
McGill University

I had the opportunity to attend both the ITCSP 2015 as well as 2016 and I appreciate the fact that while they were very different both were equally ....... Given the more formal setting this time I did not contribute as much to the post presentation discussions however all the presentations were of interest to me. At the same time I would certainly recommend a broader historical approach and a more diverse focus on different surgical arenas for future topics, such as forensic surgery, surgeons and court of law (i.e. evidence), textbooks and surgery (surgery and images), surgery in the humanitarian arenas and pediatric surgery.

Furthermore, I think presentations focusing on patients and on the roles of patients’ decision making would certainly enhance the symposium’s pedagogical intentions.

Cosimo Calabro, PhD, Department of History, McGill University

My background is in basic biomedical research. I attended the 2016 ITCSP workshop event because I was intrigued to learn more about the surgical field. This workshop proved to be an outstanding learning opportunity – learning about the history of surgical innovation, clinical studies and the challenges that currently burden the profession.

In addition to the educational value that these types of events offer students, they are also a unique opportunity for all students in the Department of Surgery to meet with our outstanding faculty, the group of invited international guest speakers and fellow students.

Eni Nano, PhD candidate in Experimental Surgery
Rosenberg Research Lab, LDI, McGill University

514 340 8222, 7872
A- 632
Treatment pathways of long-term illnesses, such as colorectal cancer, involve the complex interactions and decisions of a wide variety of actors in the Health Care (HC) environment. From the moment of diagnosis until the end of their illness, patients undergo many visits, exams and treatments in the hospital such as surgery, chemotherapy and/ or radiation. For this reason, we have proposed a conceptual model to define the main interactions between the patient and their environment. It is composed of four dimensions and includes different aspects of the patient, their environment, and the HC system. These dimensions are related to physiology of the patient, the psychosocial state and support of the patient, the decision processes and the resources used to treat the patient. The links between the different aspects identified within these four dimensions represent their mutual dependencies. The central part represents the patient agent. The other parts represent the hospital staff involved in the treatment selection, as well as patient support (e.g., family members, nurses).

**Psychosocial dimension**: The psychological dimension includes an emotional model of the patient agent and its social influences, especially in the form of support from family members and nurses. This model will eventually contribute to measuring the patient quality of life during treatment.

**Physiological dimension**: This dimension includes both the patient’s health model (its general physical and health condition) and its cancer evolution model. Both are affected by treatment in different manners, while influencing each other. In practice, this dimension includes on the one hand, the absolute physiological state of the patient and cancer, and, on the other hand, the perception of this state obtained from observations (e.g., analysis, scans, and biopsies).

**Decision dimension**: This dimension includes both the patient’s and the physician’s decision models. It represents the main actors’ decision-making processes and preferences that contribute to treatment selection and treatment implementation. It is the part of the conceptual model that directly contributes to the decision and the implementation of patient care trajectories. Here, the patient decision model is influenced by its health and emotional models, while the physician decision model is influenced by the patient cancer and health models. The patient decision model also contributes to plan each individual treatment according to the system resource availabilities.

**System dimension**: The system dimension represents the virtual hospital resources and processes. When a physician requests a type of treatment, it must be plan according to the hospital priority, the workload of the resources required for this kind of treatment, as well as the preferences of the patient. The different sub-models of these dimensions influence each other in order to emulate the general relationships between the patient, his/her cancer, the medical staff, and the patient’s support. The relationship between the patient and the hospital processes and resources are addressed through the dynamic specification of the treatment program into the care trajectories, which defines how the patient interacts with the different resources for his/her treatment and tests/scans.

*This work will be presented at the upcoming international SIMULTECH 2016 Conference in Portugal, July 29-31.*

**Title**: Agent-Based Modeling and Simulation Software Architecture for Healthcare.
As a student researcher and advocate at heart, I have been heavily involved in and out of the classroom since the start of my post-secondary studies. While I have many interests, it is medicine, and more specifically medical technology, that drive me. I have always been interested in biology and the human body, and the fact that my grandfather, the late Dr. Arthur Markus, was a paediatrician, further inspired me to pursue a career in medicine. I believe that the majority of my values originated from his sincere devotion to helping others. He had a unique ability to connect with and comfort patients, and constantly went beyond his duty.

During my adolescence, I spent my summers cycling competitively and working as a bicycle mechanic. This sparked an interest in sports medicine/kinesiology and mechanical engineering. At the age of 15, an X-ray of my left knee showed a cavity the size of a golf ball in my proximal tibia. Dr. Robert Turcotte of the MUHC scheduled the earliest date available for surgery, and luckily, I was diagnosed with a benign, chondroblastoma tumor. The hard work of the orthopaedic surgeons and hospital staff inspired me to take action, and conveniently, orthopaedics was a perfect merger between two interests of mine, mechanics and medicine. I have since contributed to two research projects in cancer genetics (one of which was supervised by Dr. Turcotte and published in the journal Current Oncology) and have been involved in numerous fundraisers and initiatives that benefit cancer patients.

I am currently conducting a research project in orthopaedics for my PhD and have observed over 80 hours of surgeries with Dr. Turcotte and other members of my Research Advisory Committee and the MUHC Orthopaedic research team. My research focuses on the development and validation of a risk stratification tool that will help minimize the occurrence of long-term complications in hip fractures patients. It is a retrospective, population-wide study that makes use of data from the Québec Trauma Registry and MÉD-ECHO databases, dating back to 1997.

Following my PhD in Experimental Surgery, I plan on pursuing a post-doc and/or MD to then become an orthopaedic surgeon and researcher. As I have quite a bit of experience in student and university politics, and enjoy advocacy very much, I potentially see myself entering into politics following my medical practice. I am interested in eventually serving as Quebec’s Health Minister. In light of these future endeavors, I believe it is very important that I understand how novel technologies impact the surgical profession. I have therefore taken interest in a variety of technologies; most notably 3D printing. At the start of my studies at McGill, it came to my attention that many of my peers were unaware of how 3D printing could benefit them, and those who would like to use this technology did not have access to it. I therefore decided to launch the McGill Additive Manufacturing Students’ Society (MAMSS) in order to address this issue through various activities and services. There is a wealth of 3D printing technologies at McGill and it is our goal to collaborate with professors and students to create an interdisciplinary network that will facilitate the sharing of knowledge and resources in order to increase student competencies in this field.

I have spent nearly two years speaking with professors, developing our group’s infrastructure, and recruiting students, and I am confident we have the expertise, resources, and audience needed to ensure the success of our initiatives. Furthermore, I am working on the creation of the Alliance of Additive Manufacturing Student Societies, which will be an interuniversity coalition that will lobby to the government for an increase in the funding and resources available for the development of a highly skilled 3D printing task force. The objective of this is to create a 3D printing ecosystem in Quebec that will aid in modernizing our manufacturing sector and boost our economy. To date, I facilitated the founding of the Concordia Additive Manufacturing Students’ Society. As I was recently elected as External Affairs Officer of the Post-Graduate Students’ Society at McGill, I will be working with other University leaders to keep this movement going.

In addition to creating an alliance for 3D printing interests, I will also be lobbying for an increase in research funds for other research fields. Furthermore, I believe there is a need for more sources of open data and will be advocating for this cause as well. Besides government lobbying, I will continue to work with the Quartier de l’Innovation in order to increase the awareness of the resources available in this area. There are a number of business development opportunities offered to McGill students at a discount rate, in addition to great networking events and workshops, and it is my goal to increase student participation.

As mentioned by Dr. Gerald Fried during his presentation at this year’s Impact of Technological Change on the Surgical Profession conference, one challenge in introducing new technologies in surgical practice is the need for training. Over the past few years, I have seen increased interest in a variety of technologies and have also seen this to be a great challenge. I have therefore been working to ensure that not only I, but other future professionals studying at McGill, have the knowledge and skills required to utilize such cutting edge technologies.

Another technology I believe will have a tremendous impact on medicine is digital applications, which includes mobile applications. I have been involved in Hacking Health, a social organization that promotes collaboration between engineers and medical specialists in order to develop innovative solutions to today’s healthcare problems. We have been working on the establishment of the McGill Student Branch of Hacking Health, and will be organizing a variety of events in the coming academic year.
EVENTS

GLOBAL SURGERY CONFERENCE
BUILD AWARENESS PARTNERSHIPS CAPACITY
20 16

5TH ANNUAL
GLOBAL SURGERY CONFERENCE
MAY 14TH, 2016

High-Impact Models in Global Surgery
Livingston Hall - L6-500


2016 Global Surgery Conference Schedule:

“High impact models in global surgery”

Registration
9:00 - 9:30: Registration

Welcome
9:30 - 9:45: Welcome and Introduction by Drs. Dan Deckelbaum and Tarek Razek

Section 1: Role of Students and Residents in Global Surgery
9:45 – 10:15: Brian Wong, MD (Resident, McGill)
10:15 – 10:45: Hussein Wissaoui, MD (Resident, Laval)
10:45 – 11:15: Etienne St. Louis, MD (Resident, McGill)
11:15 – 11:45: Luc Maleno, MD (Medical Director, HEAL Africa - Goma, DRC)

Lunch
Research Poster Session

Introduce Panel
12:45 – 1:00: Drs. Deckelbaum and Razek

Panel Discussion
1:00 – 1:45: Panel

Section 2: Models for global surgery: operative registers to disaster relief
1:45 – 2:15: David Bracco, MD (Anesthesiology, McGill)
2:15 – 2:45: Zaid Siff (Trauma Surgery, Riyadh, President/Co-founder, ISHI)

Coffee Break
3:00 – 3:30: Rachel Moughal, RN (Global Health Unit, Red Cross)
3:30 – 4:00: Dan Pociaru (Pediatric General Surgery, McGill)

Keynote Speaker:
4:00 – 5:00: Dr. Ray Price (Trauma Surgery, Utah; Associate Director, Center for Global Surgery, Utah; Commissioner, Lancet Commission for Global Surgery)

Thank you message to donors + Invitation to Wine and Cheese
5:00 – 6:00: Wine and Cheese Social
EVENTS

27th Annual Fraser N. Gurd Day
Visiting Professor  John D. Birkmeyer, MD
May 26, 2016, MGH OSLER AMPHITHEATRE, A6-105

JOHN D. BIRKMEYER, M.D.
EXECUTIVE VICE PRESIDENT OF INTEGRATED DELIVERY SYSTEM
CHIEF ACADEMIC OFFICER, DARTMOUTH HITCHCOCK HEALTH

DR. JOHN D. BIRKMEYER is Executive Vice President of Integrated Delivery System and Chief Academic Officer at Dartmouth-Hitchcock Health, an academic health system with over 1,000 physicians spanning a large regional network of affiliated hospitals and practices. A graduate of Boston College and Harvard Medical School, he joined the Dartmouth faculty in 1996 and was subsequently appointed Chief of General Surgery. In 2004, he moved to University of Michigan as the George D. Zuidema Professor of Surgery and the Director of the Center for Healthcare Outcomes & Policy. He returned to Dartmouth-Hitchcock in 2014.

An elected member of the National Academy of Medicine (formerly IOM), Dr. Birkmeyer is an internationally recognized leader in outcomes research and understanding variation in the outcomes and efficiency of hospitals and physicians. He has published over 250 articles in the scientific literature, many of which have appeared in the New England Journal of Medicine, Journal of the American Medical Association, Lancet, and Health Affairs. He has a long track record of funding from the AHRQ and the National Institutes of Health.

Dr. Birkmeyer is Founder and Chief Scientific Officer of ArborMetrix, Inc., a healthcare analytics and services company in Ann Arbor.

PROGRAM
THURSDAY, MAY 26, 2016
MGH OSLER-AMPHITHEATRE, A6-105

<table>
<thead>
<tr>
<th>時間</th>
<th>單元</th>
<th>内容</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM</td>
<td>Breakfast</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>8:00 AM</td>
<td>Welcome</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>8:15 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Keynote Speaker</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>Break</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>12:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>1:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>1:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>3:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>6:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>6:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>7:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>7:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>8:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>8:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>9:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>9:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>10:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>10:30 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
<tr>
<td>11:00 PM</td>
<td>Lunch</td>
<td>MGH Livingston Hall Lounge, L-520</td>
</tr>
</tbody>
</table>

FRASER GURD SURGICAL RESEARCH FORUM
MAY 26, 2016

This event is approved for up to 80 CME credits by the Canadian Medical Association (CMA). The Centre for Continuing Medical Education (CCME) is accredited by the College of Physicians and Surgeons of Canada (CPS), which accepts guidelines for the maintenance of certification programs established by the Royal College of Physicians and Surgeons of Canada.

The Centre for CME Faculty of Medicine, McGill University, designates this activity for Category 2 credit toward the American Medical Association and CMA recognition. For the maximum number of credit hours, please contact the credit provider.

www.medicine.mcgill.ca/surgery

FRASER GURD BANQUET

All faculty, students, and residents of the Department of Surgery are cordially invited to the Fraser Gurd Banquet

COCKTAILS AT 6:00 PM, DINNER AT 7:00 PM

RITZ CARLTON MONTREAL
1229 BOURBON STREET - OVAL ROOM - "BRENNER'S ATTIRE"

$125.00 per person for staff and guests

No charge for residents

Tickets $150.00 each and paid in advance
Pain was not just an unavoidable side effect of surgery. Most surgeons operating in a pre-anaesthetic era believed it was a vital stimulant necessary for keeping the patient alive. This is why opiates and alcohol were used sparingly, and typically administered shortly before (not during) a procedure, as the loss of consciousness was considered to be extremely dangerous. Before the latter half of the 19th century, however, patients were often sat upright in an elevated chair. This prevented them from bracing when the surgeon’s knife began to dig into their flesh. Unsurprisingly, they were also restrained, sometimes with leather straps. The operating chair depicted on the left is not dissimilar to ones which would have been used during these earlier periods. The Horrors of Pre-Anaesthetic Surgery’ https://thechirurgesapprentice.com/2014/07/16/the-horrors-of-pre-anaesthetic-surgery/