

ASPIRE NEWSLETTER

Jewish General Hospital

INNOVATION: Surgical Robotics & Origins

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Does technological innovation in surgical techniques influence training of new students and residents of surgery? Of course the basic composition and structures of human anatomy remain the same as they always have except for certain unexpected anomalies. But rapidly increasing developments in technology designed specifically for medical uses that did not exist as recent as 5 to 10 years ago introduce the need for another skill set, is there a need for more certified medical engineers in the OR to operate and maintain the technology? Have we entered the era of the de-humanization of medicine?



Israeli Wound-Closure Technique Aims To Replace Surgical Suturing Worldwide

By Ben Huang, NoCamels September 04, 2018

Surgical suturing, commonly known as stitching, has been used for sealing wounds closed [as far back as 3000 BC](#) in Ancient Egypt. Since then, this medical technique, using a needle to sew two flaps of skin together, has saved patients recovering from injuries or surgery. But it has remained fundamentally unchanged in the past five millennia.

Four years ago, TopClosure, a mechanism that aids the closure and healing of post-traumatic, surgical, acute and chronic skin wounds, burst onto the scene and [generated international headlines](#). Now, this innovative Israeli-invented device is being used in vital organ surgery to save lives, allowing for speedier recoveries and reducing the risk of infection.

TopClosure was invented by Dr. Moris Topaz, chief of plastic surgery at Hillel Yaffe Medical Center in Hadera. The product contains two clasps adhered to the skin on either side of a wound connected by a cable that tightens, sealing the open wound. Used by medical professionals in hospitals, it works by first stretching out the skin around the wound to avoid the need for skin grafts, and second, by ensuring that the wound scars properly. This procedure mitigates disadvantages of traditional stitching methods including high tension on the skin, difficulty of application and skin aesthetics following recovery.

Made with a special polymer that's been tested to be durable and supportive for suture, TopClosure is specifically designed to collapse just before too much tension starts tearing skin tissues, as stitching big wounds may do. The unique method is likely to improve the current suture practice significantly: it can be used before surgery to prepare the skin incisions, during surgery to relieve tension on the skin, and after surgery as additional fastening support along with stitches.

Dr. Topaz tells NoCamels in a phone interview that TopClosure's most exciting recent developments are in new applications to more complex wounds, going beyond skin injuries.

"Our main achievements are in the application of TopClosure in providing ground-breaking solutions for soft tissue injuries, open abdomen in trauma, deep sternal wound infection in cardiothoracic surgery, and tissue pressure injury," Topaz says.

Israel's largest children's hospital, the Schneider Children's Medical Center in Petah Tikva, adopted TopClosure in 2016. Dr. Michael Gurevich, a liver transplant surgeon at the hospital, highlighted that the technology has already allowed speedier recoveries from abdominal cavity surgeries.

Cont'd.....

INNOVATION

According to Gurevich, prior to TopClosure, it was difficult to seal wounds following liver transplants because the new organ may occupy more volume than the abdominal cavity. This led to risks such as infection caused by internal organ exposure.

"If you don't close [the wound] in the short term, you will lose the child," Gurevich tells NoCamels. With TopClosure, "we can close very big wounds bit by bit every few hours. Before this device, it was impossible," he adds, noting that the product has already been applied in seven liver transplant cases.

The TopClosure kits [come in different sizes](#), 4mm and 8mm, with a 6mm version in a hospital pack of three, TopClosure's TRS 3S. There are also separate waterproof, durable kits for use in civilian emergency scenarios and in military situations, as well as a veterinary pack for animals.

Gurevich stressed the economic and time benefits of the product. "You can save a lot of time on [patient] hospitalization, surgery, and antibiotics, as well as materials like meshes and skin grafts."

TopClosure is "an absolutely new innovative technique [with] 100 percent success rate," he says.

In addition to increased applications, Topaz also highlighted the growing number of countries that now use TopClosure in their hospitals, including China and Kenya.

"We've brought this technology to China and Israel. Now we're spreading it to Africa because this is where it really matters," Topaz says. "This is crucial in Africa and other developing countries [where] antibiotics are rather limited."

Notably, Topaz lectured in Kenyatta University in Nairobi, Kenya, where he hopes leading medical professionals in the country will be able to diffuse the innovation. Topaz did not disclose any figures relating to the financial success of TopClosure.

Optimizing surgical procedure with TopClosure using vacuums.



The TopClosure device on a patient's arm.

Another exciting development in Topaz's work is Vcare α (pronounced Vcare alpha). Developed by [IVT Medical](#), the parent company of TopClosure founded by Topaz, Vcare α is a suction device that removes infectious materials and excess bodily fluids including blood and pus from wound cavities. According to the [official website](#), this optimizes the wound environment for surgery and accelerates wound recovery.

Though similar vacuum suction devices such as [Medela](#) exist, Topaz says his device is the first of its kind that also applies oxygen-enriched and irrigation negative pressure-assisted wound therapy (ROI-NPT) – a process that prevents infections through negative pressure and increased oxygen levels in the treatment area. This technique was pioneered by Topaz, who tells NoCamels that increased oxygen exposure reduces infection risk and expedites wound closure.

In particular, Topaz highlights that Vcare α works in synergy with TopClosure, combining "the treating and the closing of the wound together." The vacuum system first removes excess fluids from wounds, and TopClosure is then applied to seal the wound.

"It's a combination of TopClosure and the special vacuum system that we developed. That creates an atmosphere that allows us to stretch the skin and close the wound in a very short time," Topaz says of the effectiveness of the system. What's next?

Given the conservative nature of the medical field, TopClosure and VCare α are yet to be adopted widely as the standard procedure for wound closure, according to Topaz. Though the product's application has grown since 2014, Topaz hopes that his team can facilitate a greater worldwide awareness for the product.

"The main challenge is how to bring this technology to the attention of doctors and patients...there are so many places in the world where this technology would be crucial," he says.

Topaz believes that training doctors to use this technology and observe its benefits are vital toward its success. Topaz stated, "The main issue is training the setup of minds, doctors and the medical community because we are doing things we never have done before."

According to Topaz, another crucial step in spreading TopClosure's solutions is educating medical students. "It should start at this level. We are changing the fundamentals of wound closure. This would change the future," Topaz claims.

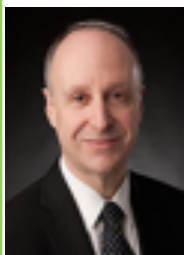


A screenshot from a promotional TopClosure video showing how the device works.

SURGICAL ROBOTICS

First Robotic Surgery Conference at the Jewish General Hospital

An opportunity for experts to measure the impact of technology in the operating room.



In June Dr. Rosenberg hosted the first Surgical Robotics Conference at the Jewish General Hospital and it was a tremendous success with well over 100 participants, some on-site in the Block Amphitheater, others tuned in via teleconference and Webex from other healthcare and academic institutions across Quebec and the rest of Canada.

Participants were from academia and healthcare, communications, technology, from industries working with the latest surgical and healthcare technology along with various agencies working with patients to ensure optimal quality of life pre and post surgery. It is thanks to the exceptional expertise of its' world class surgeons, such as Drs. Gotlieb, Bladou, Ma, Moss, Lau, Salvador, Vanounou, Hier and Mlynarek, to name but a few, in conjunction with all the surgical staff managing the robotic and support equipment, those assisting in performing the delicate procedures and overseeing the patient outcomes, that make the Jewish General Hospital a national leader in robotic surgical procedures in spite of limited financial and equipment resources.

Links to all the presentations and the concluding audience-expert question period are available on the next two pages. The Spring-Summer edition included links to a series of videos with other JGH practicing experts such as Drs. Shannon Salvador, Emmanuel Moss, Michael Hier, Alex Mlynarek and Walter Gotlieb.

There is no doubt that the state-of-the-art of surgery is headed in a direction that not only significantly impacts the lives of patients through improved surgical procedures requiring much less recovery time, the physical strain on surgeons to perform extended surgeries is greatly reduced. The rate of technological innovation and development has definite implications for the next generations of medical practitioners.

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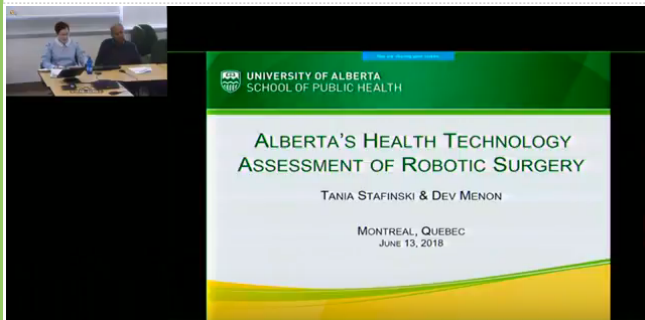
SURGICAL ROBOTICS

Surgical Robotics Presentation videos

1. Opening comments & introduction by Dr. Lawrence Rosenberg

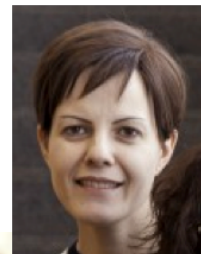
Dr. Tania Stafinski, PhD & [Dr. Devidas Menon](#), MHSA, PhD, University of Alberta

Presentation title: [How did RAS Lead us to Re-Think What We Do.](#)



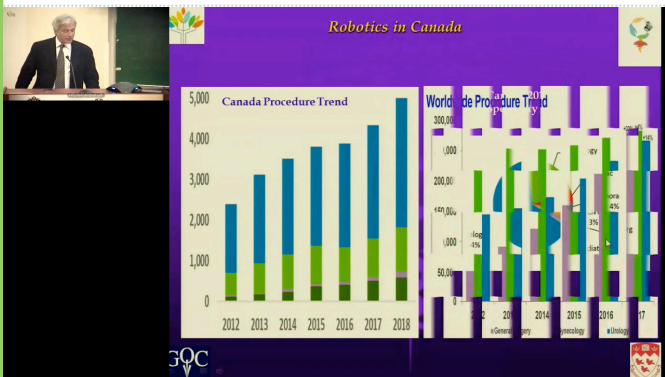
[Dr. Tania Stafinski & Dr. Devidas Menon: La Robotique Chirurgicale / Surgical Robotics JGH Jn13, 2018](#)

1iere Conférence de La robotique chirurgicale 2018 à l'hôpital général juif de Montréal



2. [Dr Walter Gotlieb](#), Jewish General Hospital, University of McGill, Montreal

Presentation Title: [Surgeon Experience and Clinical Evidence. The benefit of Robotics to the patient, system, hospital, surgeon and the future of Robotics in Canada.](#)



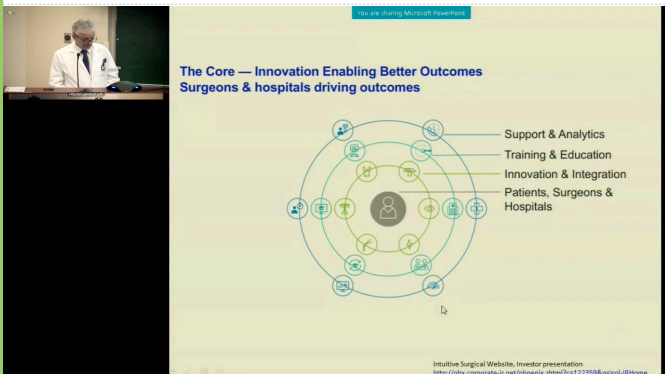
[Dr Walter Gotlieb: La Robotique chirurgicale / Surgical Robotics JGH Jn13, 2018](#)

1iere Conférence de La robotique chirurgicale 2018 à l'hôpital général juif de Montréal



3. [Dr. Franck Bladou](#), Jewish general Hospital, University of McGill, Montreal

Presentation Title: [Surgeon Experience and Clinical Evidence. The benefit of Robotics to the patient, system, hospital, surgeon and the future of Robotics in Canada.](#)



[Dr Franck Bladou: La Robotique Chirurgicale / Surgical Robotics Conference Jn 13, 2018](#)

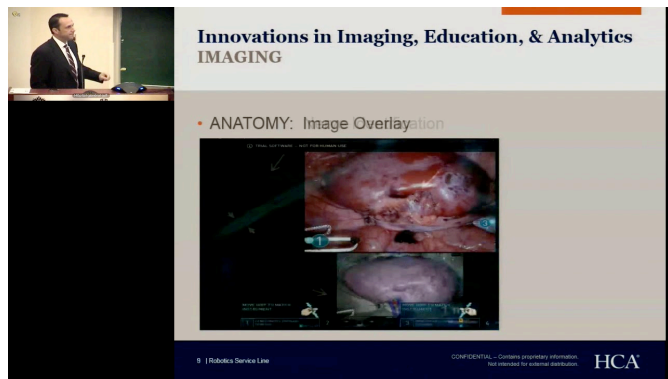
1iere Conférence de La robotique chirurgicale 2018 à l'hôpital général juif de Montréal



SURGICAL ROBOTICS

Surgical Robotics Presentation videos contd...

4. [Dr. Randy Fagin](#), Vice President of Orthopedics and Surgical Robotics at Health Corporation of America.
Presentation Title: [Efficiency and Cost effectiveness of Surgical Robotics. The value of Data Analytics and Scale.](#)



Dr. Randy Fagin: La Robotique chirurgicale / Surgical Robotics JGH Jn13, 2018

1iere Conférence de La robotique chirurgicale 2018 à l'hôpital général juif de Montréal



5. [Patient experience](#) presentation by [Michael Flinker](#)

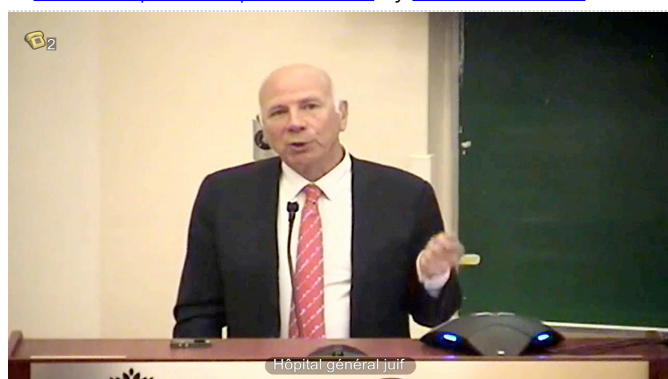


Mr. Michael Flinker: La Robotique chirurgicale / Surgical Robotics-JGH Jn13, 2018

1iere Conférence de La robotique chirurgicale 2018 à l'hôpital général juif de Montréal



6. [Patient Experience](#) presentation by [Jean-Luc Trahan](#)



Jean Luc Trahan: La Robotique chirurgicale / Surgical Robotics-JGH Jn13, 2018

1iere Conférence de La robotique chirurgicale 2018 à l'hôpital général juif de Montréal



7. [Question and comments period and conclusion](#)



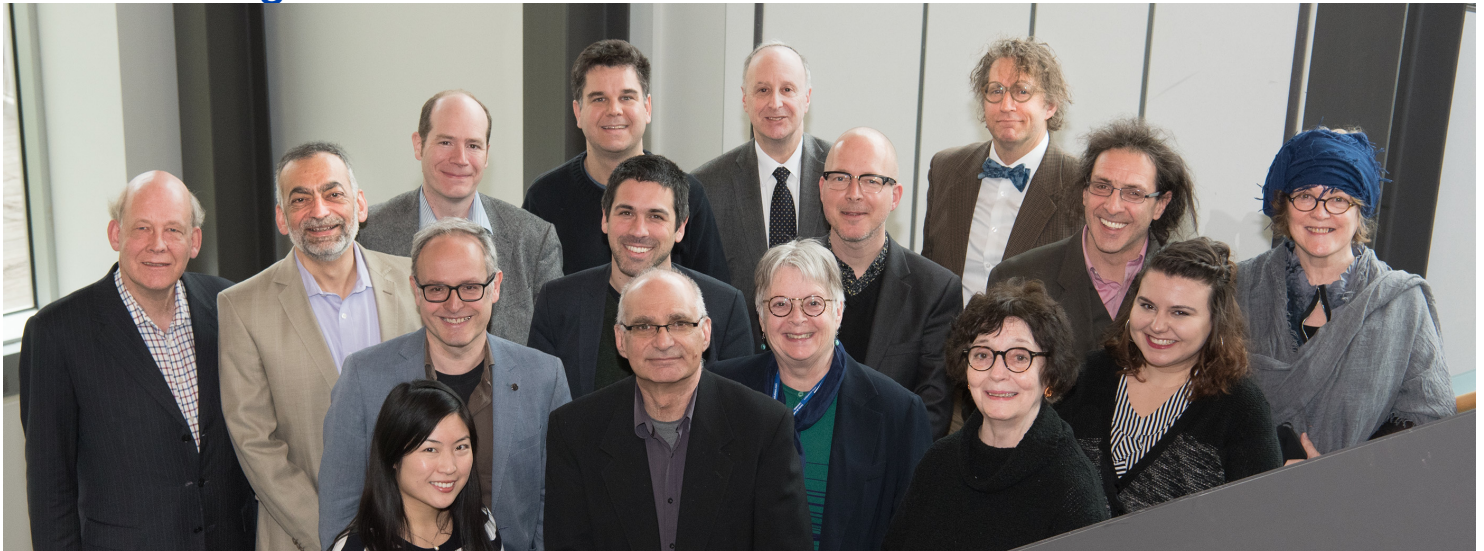
Conclusion et Questions: La Robotique chirurgicale / Surgical Robotics-JGH Jn13, 2018

1iere Conférence de robotique chirurgicale 2018 de l'hôpital général juif de Montréal. Des observations finales du Comité des conférenciers invités ainsi que les des participantes



ORIGINS OF INNOVATION

International Experts in Different Domains Met to Discuss the Various Origins of Medical Innovation



Back row: Karl Moore, Samer Faraj, Heiner Fangerau, Migueal Garcia Sancho Sanchez, Lawrence Rosenberg James Evans
 Middle row: Thomas Schlich, Jessie Olszynko-Gryn, Axel Huntelmann, Cosimo Calabro Barbara Reney
 Front row: Cynthia Tang, Mark Trifiro, Francine Dupuis, Meg Crane, Eni Nano
 Missing from the photo: Dr. Phil Gold and Dr. Abraham Fuks

There is no denying that government and special agencies fund research innovation in academic institutions yet not all innovations originate from those highly financed environments, sometimes they spring from individual or small group creative capital, they may be driven by necessity or simple curiosity. However they make their way into common practice, for the most part, they liberate us from antiquated methods, mentalities, and even from debilitating control systems; they serve humanity by improving our quality of life and ability to achieve our dreams and goals. The presentations are available at the links below.

1. [Dr. Lawrence Rosenberg](#), McGill University, Montreal, Canada
 Presentation at the JGH, April 18th, 2018 : "[The idea Factory.](#)" URL: <https://youtu.be/ujLPCFTV0U>
2. [Dr. Miguel Garcia Sancho Sanchez](#), University of Edinburgh, UK
 Presentation at the JGH, April 18th, 2018: "[Sequencing, Bibliometrics and History: a 'From Below' Approach to Innovation in genomic Research.](#)" URL: <https://youtu.be/uncHWyTp60U>
3. [Dr. Axel C. Hüntelman](#), Charité University Medicine, Berlin, Germany
 Presentation at the JGH, April 18th, 2018: "[Interconnecting Centres and Margins: Networks, Technologies and Other Infrastructures in Bacteriological and Immunological Research 1870s to 1930s.](#)" URL: <https://youtu.be/Ks83Mi149WM>
4. [Dr. Jesse Olszynko-Gryn](#), University of Cambridge, UK & [Meg Crane](#), Inventor & Graphic Artist, New York
 Presentation at the JGH, April 18th, 2018: "[The Invisible Designer: Meg Crane and the Invention of the Home Pregnancy Test 'Predictor' in the Late 1960s.](#)" URL: <https://www.youtube.com/watch?v=9NrA0j-nxpU&t=1s>
5. [Dr. Heiner Fangerau](#), Universität de Duesseldorf, Germany
 Presentation: "[The "Technicalization" of Medicine: Users as Agents of Innovation in an age of Medicalization.](#)" URL: https://youtu.be/2a4hIU_i8-8
6. [Dr. Samer Faraj](#), University of McGill, Montreal, Canada
 Presentation at the JGH, April 19th, 2018: "[Open Innovation in Healthcare.](#)" URL: <https://youtu.be/SUMX1Ud2VB8>
7. [Dr. James Evans](#), University of Chicago, US
 Presentation at the JGH, April 19th, 2018: "[Large Teams have developed biomedical science and technology; Small teams have disrupted it.](#)" URL: https://youtu.be/MTUEE-4n9_M
8. [Dr. Thomas Schlich](#), McGill University, Montreal, Canada
[Discussion and Conclusion](#) of the 2018 Workshop on the Contexts of Technological Change in Medicine. URL: https://youtu.be/F-Lp2ciPU_A

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REFLECTIONS ON THE ORIGINS OF INNOVATION

The Contexts of Technological Change in Medicine: Centers and Margins

The 2018 workshop in the ITCSP series on technology in medicine looked specifically at the sources, or the origins of, scientific innovation. The force behind any technological innovation is a creative spirit and an identified need. What allows an innovation to be introduced into common usage and experienced by many is a combination of timing, creative initiative and financial support as well as willingness to adopt or use of those who will benefit most from the innovation be they specialists operators or the general population.

This workshop provided an environment wherein an interesting group of established international researchers, historians, medical practitioners, scientists, financial management experts as well as an artist were able to come together over two days to discuss their experiences and findings on the different sources of medical innovation. Within this group was the actual inventor behind a form of medical technology that revolutionized a particular diagnostic process that had long been controlled by the established medical community. As with all medical innovation there were hurdles to jump in order to make the technology accessible to those who needed it the most but in so doing and given the era and geographical location, this device shifted the balance of power, with regard to this particular procedure, in women's health worldwide.

In spite of resistance from the traditional scientific medical community in the 1960s, this model of creative intelligence that emerged from the margins and was introduced to society, as well as other examples presented that had been drawn from the peripheries, from the non-scientific research centers, have contributed significantly to the enhancement of the quality and efficiency of healthcare and have aided in leading it towards state-of-the-art level medical services which society benefits from today.

The third workshop on the Impact of Technological Change on the Surgical Profession (organized by Thomas Schlich, Department of Social Studies of Medicine, Lawrence Rosenberg, Jewish General

Hospital and Barbara Reney, Jewish General Hospital) was devoted to the question where innovation in medicine comes from. Do new ideas and techniques originate only in big centers or also on the margins of the medical research landscape? Often, innovation is expected to come primarily from large, well-endowed medical research centers. However, many of the inventions that have shaped medicine have also emerged from its periphery - small hospitals, workshops, marginal companies and individual inventors, often in an unplanned and spontaneous way. This happened for example in the cases of osteosynthesis, the artificial hip, or Minimally Invasive Surgery.

The workshop explored the contexts of medical innovation with particular attention to the centrality and marginality of institutions and geography. As it turned out in the discussions, centrality and marginality are not absolute terms. They depend on how they are defined, among other things, by geographical location, by institution (for example, academic vs. non-academic), discipline, or access to funding.

Some areas of research and innovation even elude the categories of center and margins. Thus, various biotechnological innovations in genomic research have originated in networks following a collaborative pattern with no central structure, as Miguel Garcia Sancho Sanchez (University of Edinburgh, UK) showed. Another important aspect is change over time. We can see the existence of dynamic networks in which centers and margins are subject to constant change, often in unplanned ways, as Axel Hüntelmann (Charité University, Berlin, Germany) demonstrated in historical analysis of bacteriological and immunological research. Cynthia Tang (McGill University) discussed a case of rapid innovation in Minimally Invasive Surgery. Her example drew attention to the active establishment of centers (the act of "centering") by historical actors in relationship to their power over definitions but also through flows of funding. Jesse Olszynko-Gryn (University of Cambridge, UK and Meg Crane (Inventor, Graphic Designer, New York, USA) discussed the introduction of home pregnancy tests as an innovation at the edges of the medical establishment and the influence of social

and moral norms on market access. It was particularly interesting to hear about Meg Crane's perspective on this historical episode since she invented and introduced a home pregnancy test in the 1960s. The test is also an example of the importance of the agency of consumer patients independent of the medical establishment. The consumer as agents of innovation was also considered in Heiner Fangerau's (University of Duesseldorf, Germany) talk about blood-pressure home measurement diabetes self-monitoring measurement, technologies that cut out the doctor from the medical encounter (disintermediation). Samer Faraj's (McGill University) presentation on several examples of open innovation in health care deepened the discussion on the involvement of users, such as patients, in medical innovation. James Evans (University of Chicago, USA) used novel methods of citation analysis to show that large research groups are often engaged in further developing already existing technologies and knowledge, whereas more radical innovation tends to come from small groups.

The workshop provided a valuable opportunity for conversations between participants from different backgrounds and helped broadening our perspective on medical innovation. This kind of discussions can help policy makers realize the potential of distributed, decentralized expertise and creativity and make full use of various sources of new knowledge and technologies for the future.

*Thomas Schlich, James McGill Professor
in the History of Medicine,
Department of Social Studies of
Medicine, McGill University*

It was an honor to be presenting with Jesse Olszynko-Gryn at the conference on April 18th and 19th. Jesse is certainly the expert in the field of pregnancy testing, and it's been a pleasure to add any contribution I could to his studies.

The conference topic was very interesting to me, coming as I am from the "margins". The fact that so many new devices and "at home diagnostics" are more and more available to the lay person, the effect on the established medical community must be quite profound. While

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REFLECTIONS ON THE ORIGINS OF INNOVATION

simple diagnostics are available over-the-counter, doctors can send patient samples to high-end laboratories for in-depth diagnosis. Does this lessen the expected role of the doctor, or enhance his or her ability to aid the patient? Will new technologies cause even fewer doctors to enter general practice, but instead, to acquire a specialty?

There were a number of references at the conference on the availability of medical information through the internet. This must certainly be a cause of consternation in the medical communities. But in some cases, isn't it possible that hearing of new medicines or procedures will cause consumer pressures on the established medical communities as it seemed to have happened in the case of laparoscopic cholecystectomies?

The discussions on the effects of networking, in and out of the centers — and of future advances in personal care for diabetes and heart disease—were very informative.

Since medical innovation may rightly come from the established institutions, it should also be useful if workers in the medical communities— nurses, doctors, social workers, even patients — become the source of new products, since they are the closest to the actual patient needs.

It's my hope that increasing attention will be paid to this community though they may indeed be on the "margins".

Thank you again, Barbara, the conference was a very thought-provoking experience!

Meg Crane, Inventor and Freelance Graphic Designer, New York

This was an excellent event. It was well organized and ran smoothly and on time. The friendly and respectful atmosphere was one of intellectual curiosity and exchange. The presentations and discussions were all very stimulating and of high quality. From my own perspective as a UK-based historian, it was a rare occasion to learn from Canadian MDs and German historians of medicine. It was an especially useful event for learning about what is around the corner in medicine and what leading medical practitioners are currently preoccupied with, for instance, the rise of AI and 'disintermediation'.

The mix of MDs, historians, a PhD student, and a graphic designer was highly productive and led to some real insights

that would probably have been missed in a less interdisciplinary setting. From an intellectual perspective, it was especially useful for me to meet Heiner Fangerau for the first time. I was not previously aware of his research and it is very relevant to my own project which like his is concerned with innovation in diagnostic technology. On a more personal note, the conference also provided a welcome opportunity to catch up with old friends such as Thomas, Axel and Meg.

My only criticism is the not more women were invited. History of medicine is not particularly dominated by men (at least not outside of Germany) and it should have been possible to find leading female experts in the field. Considering the theme of the workshop and that women have historically toiled at the margins of medicine, it would have been interesting to hear also from female MDs about their past experiences.

Jesse Olszynko-Gryn, Director of Studies for HPS at St. John's College, University of Cambridge, UK

I found the workshop extremely valuable and interesting, a great opportunity to think about medical innovation from an interdisciplinary perspective. The most exciting aspect for me was the interaction with medical practitioners (I'm a historian of biology, so I don't know the clinical side of things that well) and the insights from management and innovation studies. It is very interesting how scholars dealing with management and innovation in clinical settings are getting increasingly closer to historical and social studies of medicine.

Miguel Garcia Sancho Sanchez, Chancellor's Fellow-Senior Lecturer in Science Technology and Innovation, University of Edinburgh, UK

I really enjoyed the workshop very much which I did not only enjoy - the feed-back of my paper and the discussions in general I found very helpful.

Especially the setting of the group was great - often historians of medicine only write and talk about physicians but only rarely we have the opportunity to discuss our scientific findings with physicians, and esp. with life scientists as distinguished like Lawrence Rosenberg, Abe Fuks, or Phil Gold and others.

Further on I appreciated the interdisciplinarity of the group and especially the discussions of topic linked to economy and health. That was very interesting for my current research on accounting and bookkeeping in medicine and I had very interesting discussions during the coffee breaks with Samer Faraj and Karl Moore.

Overall, I found it helpful that the discussion was in a very friendly atmosphere and in a small group.

Finally, as I am dealing with history in the early 20th century I had the impression that for colleagues presenting contemporary history I had the impression that the commentaries were very helpful for the researcher.

Axel Huntelmann, PhD, Institute for the History of Medicine at the Charité University Medicine Berlin.

Thank you for facilitating such a wonderful meeting in Montreal between the Jewish Hospital and McGill University. I found the experience extremely stimulating, especially the hospital administration and physician doctor's responses to my work and the work of historians, sociologists and other scholar's work on innovation in biomedical context. I received several useful comments, and hope that my work contributed to the discussion. Please let me know if and how I can contribute to future meetings/efforts.

James, Evans, PhD, Director of the Knowledge Lab, Professor of Sociology, University of Chicago.

E-Brochure: For an overview of each presentation, select the link to the downloadable E-Brochure.

URL: <https://www.docdroid.net/5BBsQ3Y/contexts-of-technological-change-in-medicine-2018-innovation-e-brochure.pdf>



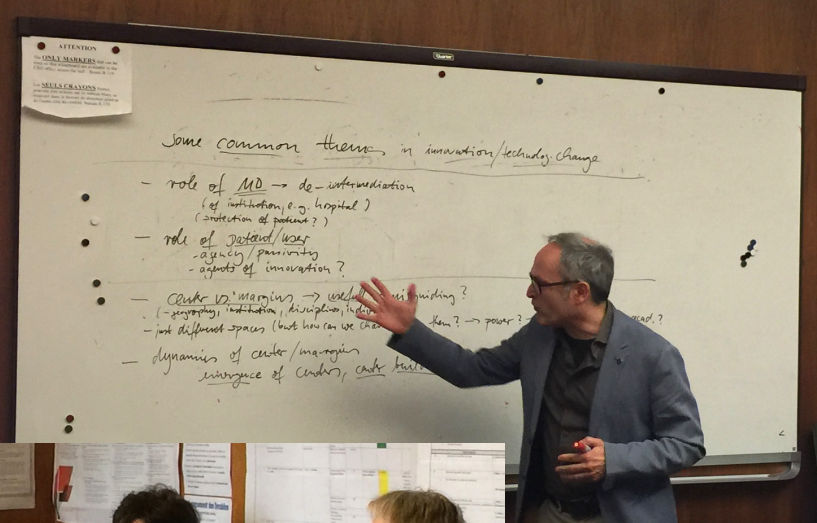
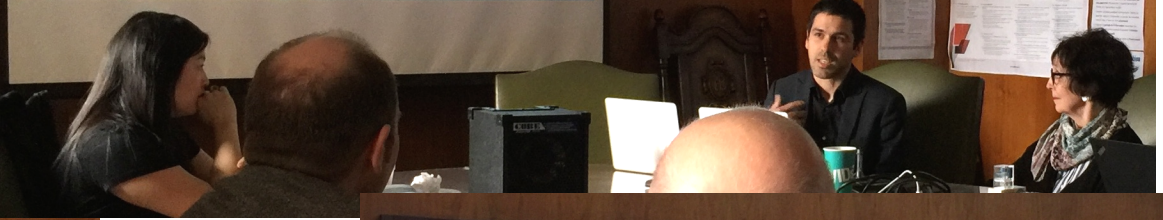
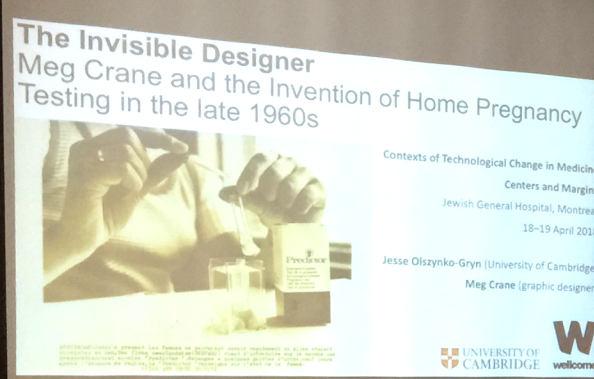
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REFLECTIONS ON THE ORIGINS OF INNOVATION

Contexts of Technological Change in Medicine: Centers and Margins



Dr. Abraham Fuks



RESEARCH

HAVE YOU HAD YOUR POMEGRANATE TODAY?

5 Reasons Pomegranates are the Crown Jewel of Fruits. By Viva Sarah Press, 09/05, 2018



It's pomegranate season! This ruby-red super-fruit with a crown is one of the world's most celebrated foods. Today's crop varieties are said to have originated in Iran or Afghanistan, but they've been growing in Israel and the region for thousands of years.

Israeli horticultural researchers are known for introducing new types of pomegranates to the market, which are shipped to European clients. Of course, some of the local produce is kept in Israel: especially as the pomegranate ("rimon" in Hebrew) is one of the ritual foods for the Rosh Hashana holiday (Jewish New Year), which begins this weekend.

The pomegranate actually has numerous meanings and cultural references and is deemed a healthy – even medicinal – fruit. Already a pomegranate fan? Not one yet?

Here are 5 reasons to love the pomegranate:

They're nutritional

Pomegranates may very well be the world's most healthy fruits. These nutrient-rich ruby red orbs are bursting with vitamins, antioxidants, and minerals.

"Pomegranates have an amazing amount of Vitamin C, about a third of the recommended daily amount, and the fruit's red-colored flesh contains high levels of antioxidants. As such, pomegranates have been shown to have anti-tumor properties and help ward off cancer, support a healthy heart, and lower blood pressure," [Yael Inbar](#), a health coach in Tel Aviv,

Scientific studies back up the health accolades and the pomegranate has shown to help prevent joint pain, arthritis, bacterial infections, help with stomach upsets, ward off the flu, lower cholesterol and so much more. This leathery-skinned fruit is a cure-all for numerous ailments.

A natural source of energy, pomegranates are so powerful that this fruit – which also boasts a rich source of potassium, folic acid, and fiber – has been found to pack three times the antioxidant levels of red wine or green tea. And, as pomegranates also help with digestion, Inbar says there are "many ways to add pomegranates to your diet. Add the arils (flesh-covered seeds) to a vegetable or fruit salad, drink pomegranate juice, or use pomegranate molasses to fortify cooking."

Pomegranate juice could reduce risk of premature birth and brain damage to fetuses.

Pomegranate juice has long been an item on pregnancy meal plans. Researchers from Rambam Health Care Campus and the Technion – Israel Institute of Technology are now giving two more reasons why this is so.

"Studies have shown that pomegranates are rich in polyphenols (a type of free-radical-neutralizing compounds), known to have strong antioxidant and anti-inflammatory effects that help protect against cardiovascular disease," says Ron Beloosesky, Director of the Prenatal Ultrasound Unit in the Division of Obstetrics & Gynecology at Rambam.

"Because we know some causes of brain damage in fetuses are related to inflammatory processes, we thought to test if drinking pomegranate juice could help prevent infection and inflammation in the mother and thus reduce the risk of damaging the fetus."

The researchers conducted their study on animal models, dividing them into three groups: (1) pregnant rats undergoing inflammatory processes; (2) pregnant rats who drank pomegranate juice for several days before undergoing inflammatory processes; and (3) a control group of pregnant rats that did not undergo inflammatory processes and did not drink pomegranate juice.

When researchers examined the group of pregnant rats experiencing an inflammatory process after receiving pomegranate juice for several days, they found a decrease in the levels of inflammation in the mothers and a significant reduction in signs of inflammation and injury to the brains of the fetuses. [American Journal of Obstetrics & Gynecology](#).

"Although this is a preliminary study, the results are very interesting," says Beloosesky. "It seems that an accessible and inexpensive juice that can be found in any supermarket has a positive effect on a serious problem that harms mothers and their embryos."

The pomegranate brings good luck

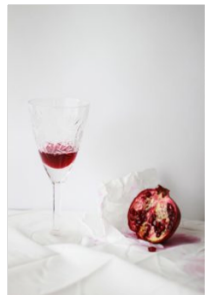
The pomegranate is bursting with symbolism and, depending on which culture or tradition being cited offers good luck, prosperity, eternal life, knowledge, and fertility.

It may just be the most sanctified fruit.

In Israel, markets are now teeming with this glorious fruit. 'Tis not only the season for pomegranates but the Jewish New Year is here and it is customary to eat pomegranate arils at the holiday feast, and say, "May we be as full of commandments as the pomegranate is full of seeds."

RESEARCH

Actually, the pomegranate has serious weight in Judaism. It is mentioned numerous times in Jewish texts with reference to fruitfulness and love. Some scholars say it was the pomegranate – not an apple – that tempted Eve



in the Garden of Eden; the 12 spies are said to have brought a pomegranate back to Moses to show the “fertility” of the Land of Canaan; and it is often said that pomegranates have 613 seeds, to correspond with the 613 commandments in the Bible.

Ancient Egyptians used the pomegranate to combat infections, and they had a custom to bury their dead with the fruit as it symbolized eternal life, prosperity, and ambition.

In Greek mythology, this winter fruit figures prominently in the story of Persephone’s kidnapping by Hades. It symbolizes life, marriage and rebirth. And Greek goddess of love Aphrodite is often credited in Greek Mythology for planting the first pomegranate tree.

In modern Greece, the pomegranate symbolizes fertility, prosperity, regeneration and good luck. Smashing pomegranates is a fun New Year’s Eve custom in which Greek families throw the fruit at the front door of a home -the more seeds to scatter on the ground, the luckier the year will be. This smashing fruit custom is also common in traditional Greek weddings.

In Turkey and Armenia, it is also customary for brides to throw a pomegranate against a wall to ensure future children.

In China, the pomegranate represents fertility and offspring. In some Hindu

traditions, the pomegranate symbolizes prosperity and fertility.

And in Christianity, the pomegranate is found in many religious paintings and an open pomegranate is said to represent the suffering and resurrection of Jesus.

Pomegranates are a natural aphrodisiac

With so many cultures designating the pomegranate as a symbol of fertility, it is no surprise that this crimson, juicy fruit is also cited as one of the fruit world’s natural aphrodisiacs.

In May, Cosmopolitan included the pomegranate in an article titled, [23 Aphrodisiac Foods That Can Affect Your Sex Drive](#).



Photo via Pikiwiki

The article cited that antioxidants found in the pomegranate “help deliver more blood flow to all areas of your body, including your genitals.” It also noted that “pomegranate juice may be helpful with erectile dysfunction.”

A [Scottish study](#) in 2012 found that pomegranate juice increased testosterone in both men and women, and increased sexual desire.

Classic and modern-day literature is also brimming with passages and sonnets featuring pomegranates as romantic or sensual symbols.

Pomegranates are fun to eat

The internet is filled with articles and videos on ways to eat pomegranates. Whether you prefer getting your hands dirty or hitting the skin of the fruit with a wooden spoon, the important thing is to enjoy the fruit. It is fun to poke out the jewel-like seeds or scoop them straight into your mouth.

Chewing pomegranate seeds is a mouthwatering adventure every time: break the fruit sac covering the seed with your teeth to release the sweet and tangy juice.

Pomegranate fans are divided into those who eat the inner seed while others spit it out. Some people use pomegranate seeds as a fine motor development skill snack for toddlers still learning to master their hand-eye coordination and pincer skills. So cute!

So, what’s the best way to eat a pomegranate? There isn’t one. Drink the juice or chew the seeds – it doesn’t matter. Just make sure to enjoy.

Viva Sarah Press is a journalist and speaker. She writes and talks about the creativity and innovation taking place in Israel and beyond. www.vivaspress.com

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Editor: Barbara Reney

EVENT



DÉPARTEMENT DE CHIRURGIE
DEPARTMENT OF SURGERY

14th Annual Harvey H. Sigman Lecture in Surgical Education



K. ANDERS ERICSSON, PhD
Visiting Professor
October 3 - 4, 2018

WEDNESDAY, OCTOBER 3, 2018

Jewish General Hospital - Francine & Charles Larente
Teaching Auditorium (Room A-139)

Resident Academic Half Day

- 1:00 p.m. Lunch with visiting professor -
K. Anders Ericsson, PhD, residents and staff
- 1:30 p.m. "Acquisition and Maintenance of Medical Expertise:
Can we Implement the Expert-Performance Approach
with Deliberate Practice?"
K. Anders Ericsson, PhD

THURSDAY, OCTOBER 4, 2018

Jewish General Hospital - Block Amphitheatre (Room B-106)

Combined Grand Rounds
(a light breakfast will be served)

- 7:30 a.m. "Secrets from the New Science of Expertise:
From Experiential Learning to Purposeful and
Deliberate Practice"
K. Anders Ericsson, PhD

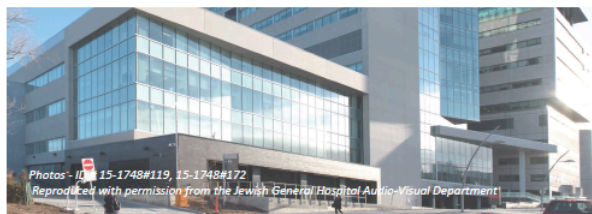
K. Anders Ericsson, PhD, is presently Conradi Eminent Scholar and Professor of Psychology at Florida State University. In 1976 he received his Ph. D. in Psychology from University of Stockholm, Sweden, followed by a post-doctoral fellowship at Carnegie-Mellon University in USA. At CMU he collaborated with the Nobel Prize winner in Economics, Herbert A. Simon on verbal reports of thinking leading to their classic book *"Protocol Analysis: Verbal Reports as Data"* (1984). Following his post-doctoral fellowship, he moved to University of Colorado at Boulder, where he remained until 1992, except for a 2-year visiting scientist position at the Max-Planck Institute for Human Development and Education in Berlin. In 1992 he accepted an endowed professorship at Florida State University. In the last 40 years his research has been focused on the measurement of expert performance in domains, such as music, chess, nursing, law enforcement, and sports, and how expert performers attain their superior performance by acquiring complex cognitive mechanisms and physiological adaptations through extended deliberate practice.

He has edited several books on expertise, starting with *Toward a general theory of expertise: Prospects and limits* (co-edited with Jacqui Smith) published in 1991. A few years later (1996) he edited *The road to excellence: The acquisition of expert performance in the arts and sciences, sports, and games*. In 2001 he co-edited with Janet Starkes in 2003 *Expert performance in sport: Recent advances in research on sport expertise*. In 2006 the influential *"Cambridge Handbook of Expertise and Expert Performance"* was published and it consisted of over 40 chapters and 900 pages and a 2nd edition will appear in June of 2018. In 2009 *"Development of Professional Expertise"* appeared under his editorship. His most recent book (2016) *"Peak: Secrets from the new science of expertise"* was co-authored with Robert Pool has been translated to 19 languages other than English..

He has published articles in prestigious journals, such as *Science, Academic Medicine, Psychological Review, Psychological Bulletin, Academic Emergency Medicine, Current Biology, and Trends of Cognitive Science*.

He is a Fellow of the *Center for Advanced Study in the Behavioral Sciences*, of the *American Psychological Association* and the *Association for Psychological Science* and a member of *Royal Swedish Academy of Engineering Sciences*.

His research has been featured in cover stories in *Scientific American, Time, Fortune, Wall Street Journal and New York Times*. He has been invited to give keynote presentations at conferences of surgeons, musicians, teachers, clinical psychologists, athletes, and coaches as well as professional sports organizations, such as Philadelphia Eagles (American football), San Antonio Spurs (basketball), Toronto Blue Jays (baseball) and Manchester City (soccer).



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EVENT

Injury, Repair, Recovery Program – Experimental Surgery Joint Research Day

CALL FOR ABSTRACTS

The Injury, Repair, Recovery Program – Experimental Surgery Joint Research Day will be held on Friday, November 2nd, 2018.

The research presentation competition is open to all students, residents and postdocs in the IRR Program and Department of Experimental Surgery. Talks will be assigned to either oral presentations or poster presentations in one of three sessions:

- Outcomes
- Innovation
- Education

Please indicate in your email when you submit your abstract whether you would prefer an oral or poster presentation. A panel will be responsible for abstract selection and will ultimately decide to which category accepted abstracts will be assigned.

Abstracts must be submitted using the supplied template, 12 point Arial font, and should **not exceed one page**, including diagrams. Abstracts should be divided into INTRODUCTION, METHODS, RESULTS and CONCLUSION sections and labelled as such.

THE DEADLINE FOR SUBMISSION IS
Wednesday, October 10th, 2018

Please save your completed template as a Microsoft **WORD.docx** document, with the file name listed as “**firstname_lastname_IRR-EXSU_abstract.docx**”.

In your submission email, please include your name, supervisor(s) and division. Please E-mail all abstracts to my attention at gradstudies2.surgery@mcgill.ca with the subject ‘IRR-EXSU Submission 2018’.

Thank you.

gradstudies2.surgery@mcgill.ca / www.mcgill.ca/experimentalsurgery
Christine Mutter: 514-934-1934, Ex. 45578



We wish everyone and their families
good health, happiness and prosperity

