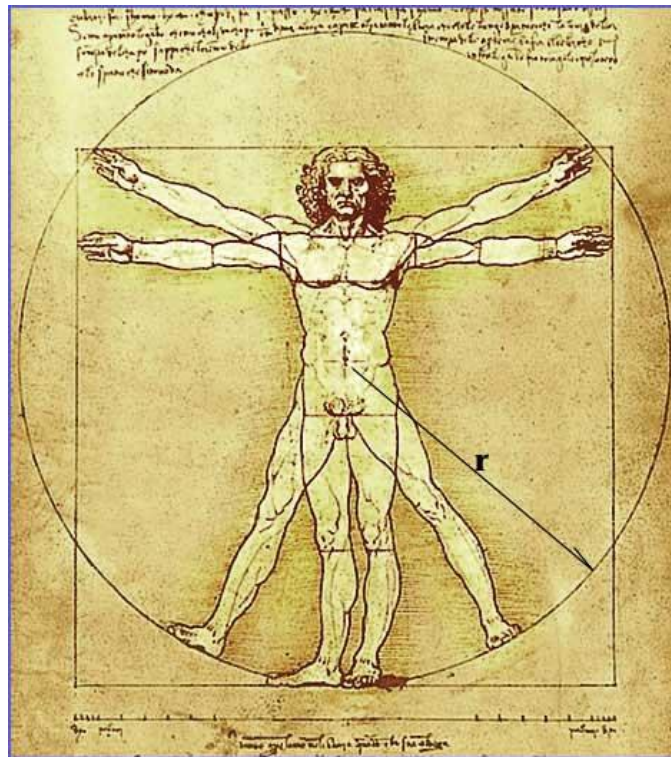


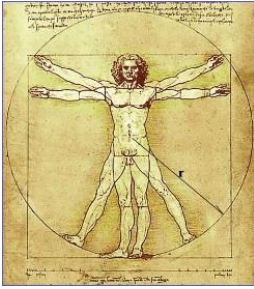


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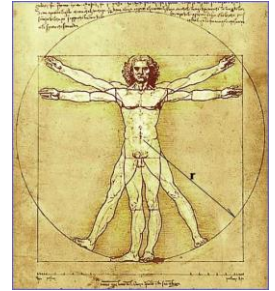
# **28th Annual History of Medicine Days**



**Friday and Saturday, March 22<sup>nd</sup> & 23<sup>rd</sup>, 2019**  
**Health Sciences Centre, Calgary, Alberta**



## History of Medicine Days 2019



**The History of Medicine Days  
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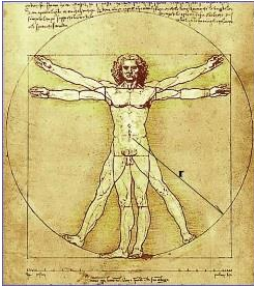


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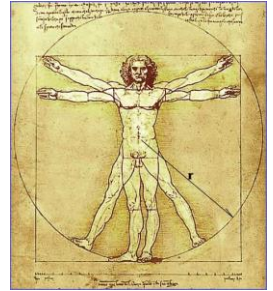
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## History of Medicine Days 2019



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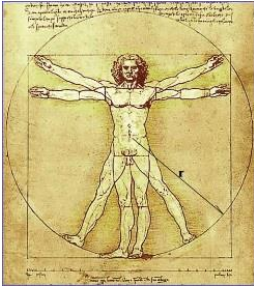
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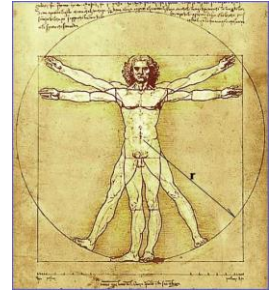
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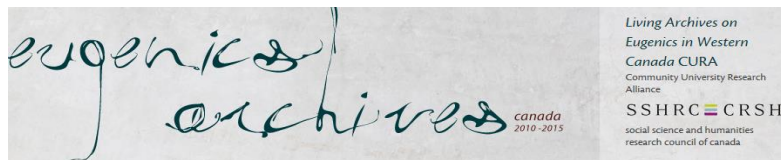




## History of Medicine Days 2019



**Schulich Medicine students provided with conference travel subsidy by the Schulich School of Medicine & Dentistry, Western University.**



**The Living Archives on Eugenics in Western Canada is a multi-centre, SSHRC-funded research group based on a Community-University Research Alliance (CURA) by the Social Sciences and Humanities Research Council of Canada**

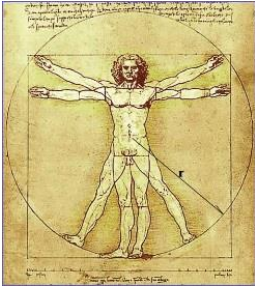


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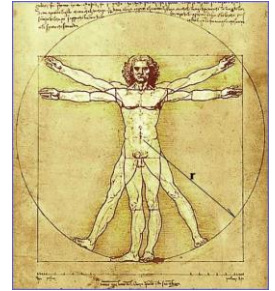


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## History of Medicine Days 2019



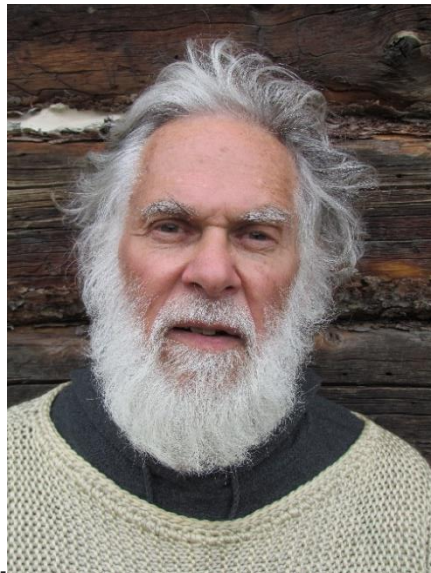
### Prof. Paul Potter

#### Keynote Speaker

Paul Potter, was from 1974-2011, the Jason A. Hannah Professor of History of Medicine at the University of Western Ontario in London, Ontario.

After graduating M.D., C.M. at McGill University in 1968, he studied Classics at McMaster University and Kiel University in Germany, where he completed his Doctorate of Philosophy in Greek, Latin, and History of Medicine in 1973.

Dr. Potter's primary research has been on ancient Greek medical writings, mainly those transmitted under the name of Hippocrates of Cos. His editions and translations have appeared in the Corpus Medicorum Graecorum (1980) and Loeb Classical Library (1988-2018) series.



#### Keynote Address

**"Hippocratic Medicine: what it is and what it means."**

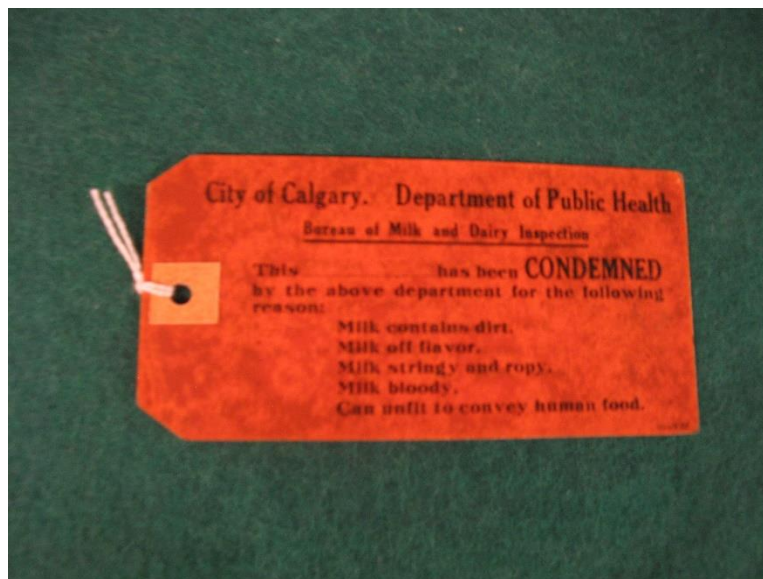
**12 noon, Friday, March 22<sup>nd</sup>, 2019**

**Libin Theatre**

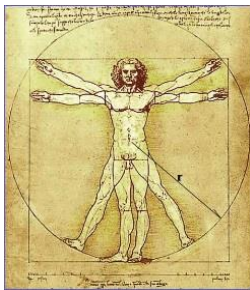
\*An exhibit about the history of Public Health in Alberta will be featured outside the Libin Theatre, HMRB Atrium.

### **Alberta's Public Health: A History of Standards, Safety and Vigilance**

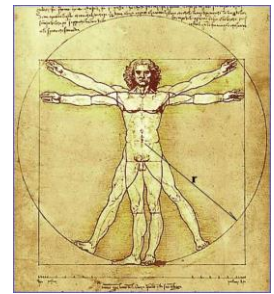
Using historic artifacts from Alberta Health Services Archives & Historic Collections, this exhibit examines the roles played by Public Health Nurses and Sanitary Inspectors since the First World War. Over the last century, nurses and inspectors have been vital in public health efforts against communicable disease, and maintaining standards for Public Health Safety and Inspections.



Produced by Alberta Health Services Archives & Historic Collections  
Curated by Dennis Slater, AHS Archivist/Curator



## History of Medicine Days 2019



**An important message regarding Learning Objectives and Royal College CME credits:**



**UNIVERSITY OF  
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Cumming School of Medicine

### HISTORY OF MEDICINE DAYS CONFERENCE

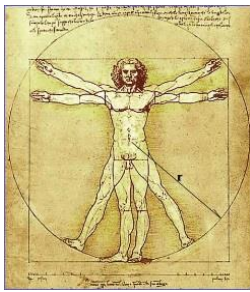
Learning Objectives for this conference

At the end of the conference, the learner will be able to:

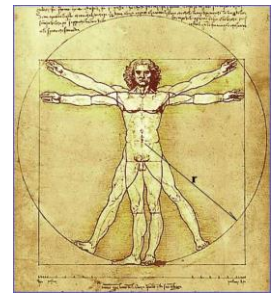
- describe the developmental history of the Canadian medical profession
- explain the social and cultural contextualization history of the Canadian medical profession
- express an appreciation of interdisciplinary relations
- discuss the background history knowledge of Canadian medicine
- identify long term development of modern clinical medicine with respect to changing attitudes toward patients, care provision, institutionalization, research-application and knowledge transfer

The Program Committee for the 2019 History of Medicine Days conference received provision for CME Credit Points under Section 1 of the Framework of CPD Options of the Maintenance of Certification program of the Royal College of Physicians and Surgeons of Canada (RCPSC).

**Signature Sheet at Reception.**



# History of Medicine Days 2019

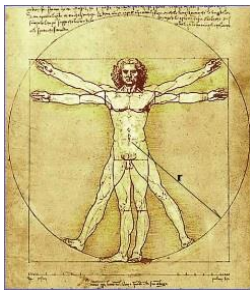


## Programme Overview - Friday

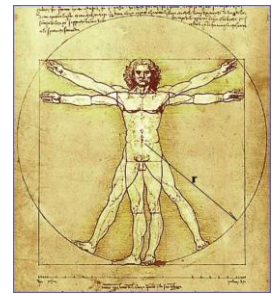
### All Sessions take place in the Libin Theatre

7:30am	<b>Registration</b> , HMRB Atrium <b>Continental Breakfast</b> , HMRB Atrium
8:30am	<b>Welcoming Addresses</b> , Libin Theatre Dr. Lesley Bolton, Conference Chair Dr. Jon Meddings, Dean, Cumming School of Medicine Dr. Richard Sigurdson, Dean, Faculty of Arts
8:45am	<b>Introduction:</b> HMD Conference and History of Medicine in Calgary. Dr. Lesley Bolton
9:00am - 9:45am	<b>Session 1</b> "Boundaries and Borders"
9:45am - 10:30am	<b>Session 2</b> "OBGYN in the Birthing Room"
10:30am - 11:00am	<b>Coffee Break</b> , HMRB Atrium
11:00am - 12:00pm	<b>Session 3</b> "Ancient Ways and Modern Practice"
12:00pm - 12:15pm	<b>Break</b>
12:15pm	<b>Keynote Lecture &amp; Discussion</b> , Prof. Paul Potter. "Hippocratic Medicine: What It Is and What It Means"
1:30pm - 2:30pm	<b>Hot Buffet Lunch</b> , HRIC Atrium
2:30pm - 3:30pm	<b>Session 4</b> "Emergency 911"
3:30pm - 4:00pm	<b>Coffee Break</b> , HMRB Atrium
4:00pm - 5:00pm	<b>Session 5</b> "Canadian Health Matters"
5:00pm - 5:15pm	<b>Break</b>
5:15pm - 6:00pm	<b>Session 6</b> "Feminine Fallacies"
6:00pm - 6:30	<b>Special Feature- Award Session</b> Michael and Michelle Williams Award in Science, Technology, Environment and Medicine Studies.  Michael & Michelle Williams Award Recipient – University of Calgary
6:30pm	<b>Hot Buffet Dinner</b> , HRIC Atrium, <i>Prior Registration Required</i>





## History of Medicine Days 2019



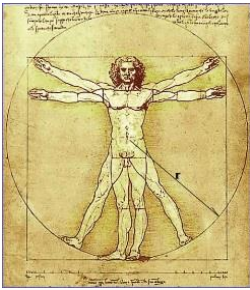
### Programme Overview - Saturday

**All Sessions take place in the Libin Theatre**

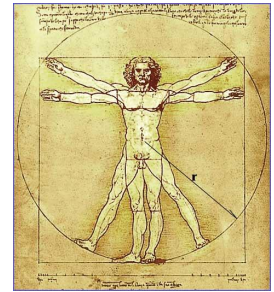
**All Poster Sessions take place in the HRIC Atrium**

8:00am	<b>Registration</b> , HMRB Atrium <b>Hot Breakfast</b> , HMRB Atrium
8:30am - 9:00am	<b>Special Feature</b> Mr. Dennis Slater, AHS Archivist: Public Health in Alberta: A Century of Change
9:00am - 10:15am	<b>Session 7</b> “Mind, Body, and Soul”
10:15am - 10:45am	<b>Coffee Break</b> , HMRB Atrium
10:45am - 11:45am	<b>Session 8</b> “Perceptions”
11:45am - 12:00pm	<b>Break</b>
12:00pm - 1:00pm	<b>Poster Session I</b> HRIC Atrium
1:00pm - 2:00pm	<b>Lunch</b> , HRIC Atrium
2:00pm - 3:00pm	<b>Poster Session II</b> HRIC Atrium
3:00pm - 3:15pm	<b>Break</b>
3:15pm – 4:00pm	<b>Session 9</b> “Schools and Students”
4:00pm - 4:30pm	<b>Coffee Break</b> , HMRB Atrium
4:30pm – 5:30pm	<b>Session 10</b> “Canadian Health Care”
5:30pm - 6:15pm	<b>Session 11</b> “Surgery and Its Surgeons”
7:00pm	<b>Awards Banquet</b> The Last Defence Lounge

*Prior Registration Required*



## History of Medicine Days 2019

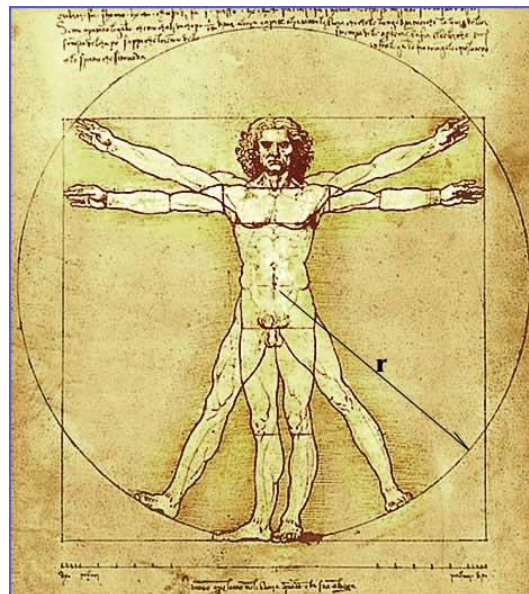


### Session 1

## “Boundaries and Borders”

Friday, March 22, 2019

9am – 9:45am



# **Crossing Lines: A History of Migrant Medical Examinations and the Shaping of Current Events at the U.S. Mexico Border**

By

Michelle Kwong

Faculty of Medicine, Schulich School of Medicine and Dentistry,  
University of Western Ontario

Since its founding as a sovereign nation, the United States has retained the right to both admit and deny immigrants, refugees and asylum seekers entry into the country on public health grounds. In accordance with the Immigration and Nationality Act, applicants for immigration or asylum in the United States must meet certain medical standards in order to enter the country. For decades, panels of physicians and civil surgeons have conducted medical examinations of migrants under the authority of Customs and Border Protection division of the Department of Homeland Security, following screening guidelines created by the Center for Disease Control's Division. First introduced in 1891 as a means to screen out individuals with "loathsome and dangerous contagious diseases," migrant medical examinations soon became a way of denying entry to applicants for political reasons, such as refusing those who could not work and therefore increase burden on the welfare system. Today, an alien is considered inadmissible if he or she "has a communicable disease, lacks the required vaccines, is a drug abuser or addict, or has a physical or mental disorder with a behaviour or history of behaviour that is a threat to the property, safety or welfare of themselves or others." These guidelines have evolved from a long historical legacy that reflects not only the public health but also the political priorities of the United States.

Using scientific journal articles, case reports, medical screening guidelines and physician interviews, this presentation will follow the history of migrant medical examination with a focus on current controversial events at the U.S.-Mexico Border, and investigate how medical guidelines have been used as not only a public health but also a political tool to exclude migrants from entry into "the land of the free".

# **The Evolving Jones Criteria: Managing the Rheumatic Fever Endemic in Developing Countries**

By

Katherine Li

Schulich School of Medicine, Western University

Preceptor: Dr. Shauna Devine, PhD

In the early 1900s, the leading cause of death in individuals between the ages of 5-20 in the US was rheumatic fever (RF), an autoimmune disease triggered by untreated group A  $\beta$ -hemolytic streptococcal infection. As the disease progresses it involves joints, the nervous system, and most seriously, the heart. In the early 1940s, the study of RF increasingly became a priority at numerous medical research facilities including the House of Good Samaritan hospital in Boston. Led by Dr. T Duckett Jones, the researchers established the first set of clinical diagnostic criteria in 1944. Named the “Jones Criteria,” these clinical guidelines became the international benchmark for RF diagnosis. With better diagnostic criteria and laboratory tests the incidence and prevalence of RF subsequently declined significantly in developed nations. However, RF continues to be an endemic source of morbidity and mortality among young individuals in developing nations. It is estimated that there are still over 15 million cases of RF worldwide today, with 282,000 newly diagnosed cases and 233,000 deaths annually.

Drawing on scientific journal articles, case histories, WHO data and the extant secondary literature, this presentation will examine living conditions, availability of diagnostic tools and training, as well as access to healthcare to understand not only why this discrepancy exists but also the larger challenges of managing this gap. Furthermore, this presentation will investigate the ways in which the Jones criteria laid the foundation for the management of the disease. Through a review of the recommendations made by the WHO and the American Heart Association regarding research and prevention programs, and the various opportunities that have resulted from the many revisions to the Jones criteria, this presentation will explore the ways in which these new management strategies may help alleviate the disease burden on low-resource nations and ultimately lower global RF rates.

# **Médecins Sans Frontières: Understanding the Boundaries of Physicians in a Humanitarian Aid Crisis**

By

Kishor Johnson

Schulich School of Medicine and Dentistry, Western University

Preceptor: Dr. Shauna Devine, PhD

Médecins Sans Frontières (MSF), also known as Doctors Without Borders, is a non-governmental organization that operates in nearly 70 countries to provide emergency medical humanitarian relief. The organization was established by French physicians and journalists in 1971 with the unique goal of providing humanitarian aid without bureaucratic interference. While MSF was providing relief for a cholera epidemic during the 1994 Rwandan genocide, there was mounting concern that the perpetrators of the genocide had taken over the refugee camps where aid was being provided. MSF reluctantly requested assistance from the United Nations, who ultimately declined to provide security or aid.

MSF's principle of the "right to interfere" with medical aid was called into question by different sections of the organization because of the failing situation in the refugee camps. While MSF-France called for military action and decided to abandon the mission, the Belgian, Spanish, and Dutch MSF sections continued to provide humanitarian relief. To call attention to the controversy surrounding the aid mission, MSF-France publicly proclaimed that "you can't stop genocide with doctors", revealing the larger difficulties that physicians faced while doctoring during the 1994 emergency.

Drawing on recently released field reports and interviews from MSF physicians, as well as the extant secondary literature, this presentation will explore the larger goals of an MSF physician, but also the challenges they faced while trying to provide medical aid during the Rwandan genocide. This presentation will also consider contemporary medical ethics and current political discussions related to providing humanitarian relief work as a lens in which to better understand the competing actions of the various MSF sections. With world-wide conflicts continuing to arise in the 21<sup>st</sup> century, understanding the political challenges doctors faced in the 1994 aid mission will equip future physicians with the tools necessary to better navigate aid missions.

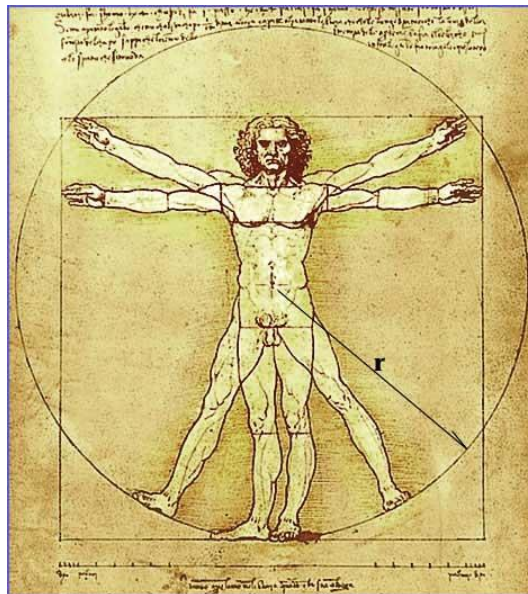


## Session 2

### “OBGYN in the Birthing Room”

Friday, March 22, 2019

9:45am – 10:30am



## **Caesarean Section: Understanding How a Postmortem Operation Became The # 1 Surgery in Canada**

By

Prabhpreet Kaur Hundal  
Department of Family Medicine, McMaster University

Preceptor: Dr. Jacalyn M Duffin, MD PhD

The Caesarean section is a surgery that involves delivering a baby through an incision in the abdominal wall and the uterus of the mother. Though discussed in folklore for thousands of years, the first documented caesarean section occurred in 1610. In the nineteenth and twentieth centuries, surgical advancements including the pfannenstiell incision, blood transfusions, antibiotics, and uterine contracting medications improved the success of caesarean sections. CIHI data from 2016-2017 report that 28.2% of births in Canadian hospitals were performed via caesarean section, compared to 5.2% in 1969.

There are numerous maternal and fetal indications for performing a caesarean section. However, this procedure is not benign and carries significant maternal risk including infection, bleeding, injury to other nearby organs and possible complications in future pregnancies. As a result of these risks, concerns have been raised about the number of caesarean sections that are occurring in Canadian hospitals.

In order to understand the rising rates of caesarean sections in Canada, this presentation will present data from Peel Memorial Hospital, located in Brampton, Ontario. Peel Memorial Hospital first opened in 1925 and provided obstetrical care to patients until its closure in 2007. Records of the Obstetrics and Gynecology Department from 1961 to 1987 are stored in the Peel Art Gallery, Museum and Archives and were reviewed. In this presentation, the historical records of Peel Memorial Hospital will be used to present a discussion about the rising rate of caesarean sections and its impact on neonatal outcomes. Discussions included in the Peel Memorial Hospital's Annual Meeting reports will be used to illustrate the changing practices in obstetrics and its impact on the caesarean section rate.

# **Robbing Rights and Dignity after Death: The Illegal Dissections of African American Cadavers by Medical Schools**

By

Gayle Wong

Faculty of Medicine, University of Ottawa

Preceptor: Dr. Susan Lamb, PhD

Gestational trophoblastic diseases (GTDs) are a series of gynecological tumours affecting the placenta that arise out of errors in fertilization. These conditions manifest with symptoms highly similar to that of pregnancy, earning them the informal moniker of “false pregnancies”. Once viewed to be incredibly lethal, these diseases are now considered to be some of the most curable cancers.

Though the etiology of these conditions was first confirmed in the 20th century, GTDs had been recognized by the medical establishment since the time of Hippocrates, who himself thought it was caused by humoral imbalance. Countless mentions of the conditions over the resulting centuries would follow, with the disease concept of what GTDs were being reflective of the respective medical, social, and scientific theories present at each particular time. For example, physicians practising during the Renaissance would come to view the disease as one of moral punishment, whereas those during the advent of microbiology believed the condition was a consequence of an unseen placental parasite.

With the use of historical texts and scientific journal articles, this presentation aims to retrace the history of GTDs as a case study of how the sociocultural milieu of a particular era can influence one’s understanding of the etiology and treatment of a disease. Specifically, three distinct eras in the diseases’ history will be examined. First, ancient mentions will be touched upon, with reflection on theories regarding humoral stagnation and the process of conception. Late medieval and Renaissance perspectives will also be discussed, focusing on how these tumours were viewed as divine messages and used as tools to reinforce societal norms through art. Finally, the modern history of GTDs will be explored, showing how advances in biochemistry and histopathology would lead to both identification of their chromosomal etiology and the subsequent development of successful chemotherapeutic treatment.

# **Maternal Mortality from Slavery to the War on Drugs: Dehumanization of the Black Body**

By

Lydia Reynolds-Royer

Faculty of Medicine, University of Western Ontario:  
Schulich School of Medicine & Dentistry

Black women experience the highest rates of maternal mortality in the United States. The reproductive issues faced by Black women are intergenerational and founded in a long history of unsavory medical practice.

The historical enslavement of Black people in North America was predicated on the dehumanization of the black body. When used as medical research subjects, they bore the same physical body as white patients, but required none of the ethical considerations for white physician researchers. Black women have undergone exploratory gynecological surgeries, and have had birth control methods tested on them for the eventual benefit of white women. Black women have also been the targets of eugenic campaigns such as hysterectomies without consent (called the “Mississippi appendectomy”). Because of the War on Drugs, Black women have, and continue to suffer further violence in the form of surveillance and criminalization while seeking reproductive health services. Based in stereotypes and not facts, they have been labelled as unfit, Welfare Queen (Black) mothers who give birth to “crack babies.”

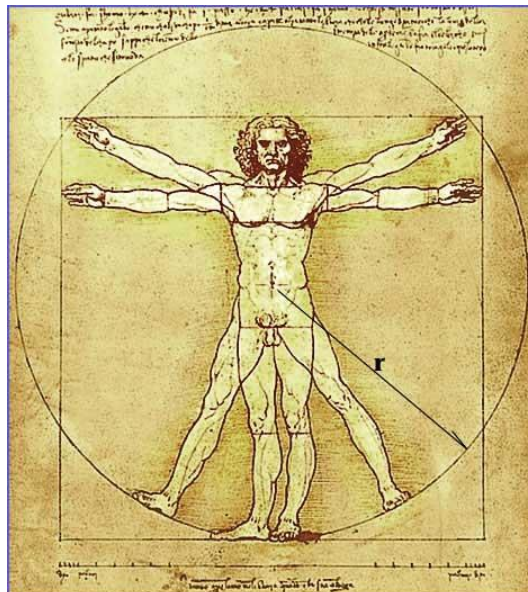
Using books, journal articles, and public health statistics, this presentation will demonstrate, using a Critical race theory lens, how the maternal health burdens faced by Black women do not stem from maternal choice, but from the white supremacist social factors that have shaped the practice of medicine from the time of slavery in North America. Slavery created the conditions that positioned Black women as vulnerable and disposable research subjects and the target of eugenic campaigns. In the War on Drugs, which began in the 1980s and continues today, Black women bear the brunt of a medical system that works with the criminal justice system as it surveils Black women. Black women’s reproductive health issues occur in the context of a long history of abuse, intergenerational trauma, and ongoing white supremacy.

## Session 3

# “Ancient Ways and Modern Practice”

Friday, March 22, 2019

11:00 am – 12:00





**Ancient Autonomy:  
Ancient Egypt Women's Medical Autonomy in Generation Control**

By

Bianca Grier

History and Philosophy of Science Department, University of Toronto

Preceptor: Dr. Lucia Dacome, PhD

Egyptian civilization enjoyed a distinguished medical reputation throughout the ancient world, especially in gynecology. Ten surviving medical papyri allow us to piece together the nearly three thousand years of this medical history. Two papyri, the Kahun Papyrus and Papyrus Ebers, preserve three procedures for internal female contraceptive potions and approximately six procedures for what modern scholars interpret as techniques to induce abortion. Although ancient Egyptian physicians had access to this information, it is unclear if it was disseminated to women for their personal use, or if women were able to perform them without fear of punishment. Existence does not preclude access, as we know today from the continuing medical debates on the legalization of abortion, which have been famously politicized in the United States.

I will be examining the social, economic, and legal positions of women in ancient Egyptian society to illustrate that they enjoyed medical autonomy in the area of generation control. I propose to demonstrate that whatever medical autonomy women in ancient Egypt possesses, it mirrored that of their social, economic and legal status. The reason for using these non-medical sources in a comparative way is that in Egyptian culture there is no source that discusses the moral issue of generation control. There are, however, sources that discuss women's autonomy in other areas of everyday Egyptian life (for example, letters, legal documents, etc.).

# **From Hippocrates to Prophetic Medicine: The Importance of Balance in Humors and Temperaments**

By

Ibrahim Sadiq

Faculty of Medicine, University of Calgary

Preceptor: Henderikus Stam, PhD

Medicine has made many advancements since its early beginnings, undergoing various alterations to suit the needs and demands of its patrons. From Ancient Greek divinatory medicine, to Hippocratic Medicine, Galenic translations, and Medieval Islamic Medicine, it is apparent that concepts of healing from various schools of thought were not reserved to the eras of their conception but flowed and transmitted from one era to the next.

Hippocrates' theory of four humors purported that balance of the humours was necessary for health, and that imbalances resulted in illness. Galen expanded on this Hippocratic concept by introducing the four temperaments and the concept of physis – an innate ability to restore the body back to health. Thus, treatment was targeted towards promoting and controlling physis by modulating the humors.

Although Islamic Medicine stemmed from these earlier Greco-Roman works, it was much more than a mere translation of Greek ideas, but a display of innovation. These academic refinements, coupled with the spread of Islam in Arabia during the 6<sup>th</sup>- 8<sup>th</sup> century, preserved the same principles of balance (of humors and temperaments), yet with an acknowledgment of the oneness of God (Allah) and his ultimate role in the healing of all things. These same ideas were shown in the sayings (*Hadith*) and actions (*Sunnah*) of the prophet Muhammad (PBUH) and would later become known as Tibbe-Nabawi or Prophetic Medicine.

This presentation will outline the transmission of ideas of healing practices starting from Ancient Greek divinatory medicine all the way through to Prophetic Medicine. Then, using historical treatises (namely Hippocratic and Galenic works), the principles of Greco-Roman healing will be compared with that of Prophetic Medicine (using Hadith and Quranic Verses). Through analysis, it becomes evident that this central theme of balance corroborates with the lifestyle teachings of the Prophet (PBUH) in Prophetic Medicine (Tibbe-Nabawi).

## **Why Do We Sleep? From Ancient Greece to Present**

By

Aya Ebdalla

Faculty of Arts, University of Calgary

Preceptor: Dr. Henderikus Stam, PhD

The conceptualization of sleep in the 21<sup>st</sup> century links the routine process of sleep to health, mood, and function. Current biomedical models of therapy emphasize the restorative and immunological functions of sleep, yet there exists no universally agreed-upon answer as to why humans spend one third of their lives sleeping. This seemingly simple question continues to puzzle scientists today, however the fascination with sleep as a healing tool is not unique to the 21<sup>st</sup> century. In fact, the Ancient Greeks demonstrated a persistent fascination with sleep, which is strikingly apparent when examining the writings and literature of Greek antiquity across the 8<sup>th</sup> – 3<sup>rd</sup> centuries BCE.

Mythological accounts of sleep reveal three important themes associated with sleep in antiquity: relief, divinity and death. These notions of sleep were woven into widespread Asklepion healing sanctuaries of the 5<sup>th</sup> century BCE wherein sleep functioned as a preliminary step to be cured of any illness or disease. A dramatic shift in the conceptualization of sleep is evidenced in Hippocratic treatises of the 5<sup>th</sup> – 4<sup>th</sup> centuries BCE, in which sleep becomes understood as an indicator of overall health or energy. Aristotelian writings on sleep depict an important paradigm shift emphasizing more systematically-driven investigations of sleep, which begin to depict sleep as a physiological process – a fundamental concept of current understandings of sleep.

This presentation will outline the trajectory of sleep conceptualizations among the Greeks of antiquity and shed light on the overlap between healing paradigms of antiquity and those of the 21<sup>st</sup> century. Analyses of ancient Greek literature will depict how ancient Greek understandings of healing are subtly and perhaps quietly, woven into basic frameworks of 19-21<sup>st</sup> century healing paradigms.

# **Sphygmology and *The Canon of Medicine*: An Ancient and Modern Comparison of Ibn Sina's Study of Pulse and Its Use as a Diagnostic Tool**

By

Cyrus Ahmadi and Malik El-Feghi  
Faculty of Medicine, Schulich School of Medicine & Dentistry

Preceptor: Dr. Shelley McKellar, PhD

Sphygmology, the study of the pulse, is a practice that has existed in medicine for thousands of years. The first known description of palpating for pulse is found in an ancient Egyptian medical text known as The Edwin Smith Papyrus, believed to have been written in 17<sup>th</sup> century BCE. The importance of the pulse was known and well-studied by many ancient civilizations. With each new generation standing on the shoulders of giants from previous generations, our understanding of the pulse has perfected and has passed on to us, the modern physicians.

One such giant was Ibn Sina (Latinized to Avicenna), considered by many as one of the most influential figures in the history of medicine. Ibn Sina described in his book, *The Canon of Medicine*, techniques for palpation, parameters for assessment, and indications for diagnosis using an individual's pulse. He defines ten features in the pulse including: diastole, quality of impact, timing of movements, and regularity. Ibn Sina continues to describe the effects of internal (eg. temperaments, pregnancy) and external disposition (eg. seasons, locality, food) on the pulse. Through mastery of the features of the pulse and factors that influence them, he turned this simple technique into a powerful diagnostic tool for many of the diseases mentioned in his *Canon of Medicine*.

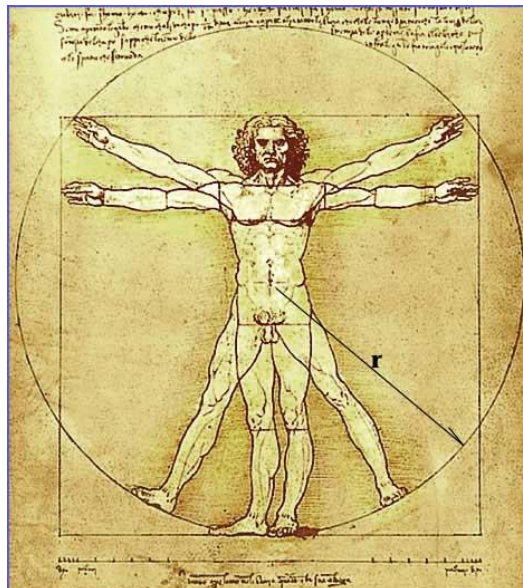
We will compare Ibn Sina's account of the pulse to Galen's as well as those of ancient Chinese physicians, elucidating innovations such as using the radial pulse, a technique still in use today. Additionally, we will explore incorrect assumptions about the pulse that have since been disproven. Ibn Sina's description of the pulse is a good case review of the importance of observation and empirical reasoning in a time when the physical exam was the best diagnostic tool available.

## Session 4

### “Emergency 911”

Friday, March 22, 2019

2:30 pm – 3:30 pm





# **The History of the Surgical Management of Burns in 20<sup>th</sup> Century Canada**

By

Anastasia Faggioni

Northern Ontario School of Medicine, Laurentian & Lakehead Universities

Preceptor: Dr. Geoffrey Hudson, D. Phil

Burns are a devastating injury and the history of treatment reveals the extent to which the management of burns has become increasingly sophisticated, with initiatives taken to increase survival and quality of life of those impacted by this injury. This study has focused on the history of *surgical* burn management, concentrating on relevant literature concerning Canadian developments in an international context.

An examination of this aspect of medicine in Canada reveals that during the world wars, practitioners contributed significantly to the evolution of plastic surgery. The ways in which pioneers of the Canadian Society of Plastic Surgeons actively treated burn casualties on the front lines and provided research and counsel on how to manage burn victims will be presented. To illustrate, the National Research Council of Canada published works to guide the management of thermal burns and, burn units were run by Canadian surgeons such as Dr. Ross Tilley who has a burn centre established in his name in Toronto.

Furthermore, there will be discussion on how research in surgical burn management had a strong focus on excision and grafting which invariably included the consideration of excision timing, blood loss with certain techniques, surgical approaches for various anatomical locations, as well as contractures and post-burn cosmesis. Attention will be given to how leading experimental research such as that performed by Dr. Alfred Farmer and his colleagues Franks, Young & Maxmen was influential concerning the optimal time for excision and the effects of early grafting on patient care.

Canadian plastic surgeons were publishing research that was influential internationally and this paper will not only discuss some of the major contributions to the field but also analyse the role of leading Canadian plastic surgeons in shaping modern burn surgery.

# **The Alexandria Plan: Dr. James Mills and a New Emergency Medicine Hospital Model in 1960s America**

By

Sean Wong

Schulich School of Medicine and Dentistry, University of Western Ontario

Preceptor: Dr. Shelley McKellar, PhD

A key turning point in the expansion of emergency medicine in America occurred in response to demands for improved primary healthcare in the 1960s. Emergency room (ER) volumes were increasing while the supply of competent caregivers remained stagnant. Early ERs were typically staffed with practitioners of unrelated specializations, oftentimes in numbers incapable of meeting patient demand. What emerged was an ER ‘crisis’, influenced by societal, cultural, and institutional factors including a growing population, urban growth, decreased numbers of general practitioners, and more. By the 1960s, key government, media, and physician leaders began presenting innovative ways to address the inadequacies of emergency medical care.

While large centers were mostly insulated due to a larger workforce, community hospital ERs felt the greatest impact of a growing medical demand and dwindling medical supply. It was in Alexandria, Virginia where pioneering community physicians led by Dr. James Mills relinquished their individual practices, becoming the first physicians to exclusively staff and service the ER in 1961. Their emergency medicine hospital model, dubbed “The Alexandria Plan,” was adopted by other hospitals throughout the United States and Canada, establishing a firm footing for the recognition of emergency medicine as a medical specialty.

Today, emergency care is in a similar state of crisis. Present-day ERs are associated with overcrowding, long wait times, and perception of poor care. It is prudent to identify common and contrasting themes in the inadequacies of emergency care between today and 1960s America. Using medical journal articles, including *Virginia Medical Monthly* publications of Dr. James Mills, and media coverage of ER concerns, this presentation will investigate the factors that led to the ER crisis and the establishment of dedicated emergency physicians in community hospitals during the 1960s. Revisiting past ‘crisis’ responses may be useful considering today’s challenges in delivering satisfactory medical care.

# **Brace for Impact: The *Ceinture Fléchée* as First Aid Accessory, Surgical Instrument, and Preventative Medicine**

By

Vic Eton

Faculty of Medicine, Northern Ontario School of Medicine

Preceptor: Dr. Geoffrey Hudson PhD

The North American fur trade was an international economic endeavour that spanned five centuries and gave rise to new peoples, settlements, and societies. It produced cross-cultural creations of both aesthetic and practical value. One such development was the *ceinture fléchée* (French for “arrowed sash”), a usually vibrantly colourful 15- to 25-centimetre-thick belt often stretching several metres in length. Traditional ceintures fléchées were finger woven from yarn spun from wool.

The temporal and cultural origins of the ceinture fléchée are nebulous, and the first existing written accounts of finger woven sashes were correspondence from European visitors in Lower Canada and in Northwest Company inventories in the eighteenth century. Though worn by bourgeois, habitant, and Indigenous populations alike, the ceinture fléchée is commonly associated with the fur trade’s working class, notably voyageurs.

Voyageurs were manual labourers who regularly performed impressive feats of physical strength and endurance. When travelling to and from trading posts scattered on the shores of rivers and lakes throughout the Interior, they routinely carried two 90-pound trade good bundles or fur packs on their backs at once during portages. These portages were over all forms of terrain, and overuse and fall-related injuries were frequent. The ceinture fléchée was serviceable for more than keeping buttonless coats closed and functioning as a tow-rope, scarf, pillow, and washcloth; it was used to prevent umbilical hernias and back injuries, support injured upper extremities in a sling, splint broken bones, stem lethal bleeding, and minimize circulation to limbs in preparation for amputation.

Using primary sources, secondary sources, and scientific journal articles, this presentation will provide evidence of the ceinture fléchée’s effective application as an accessory of emergency medicine, preventative medicine, and surgery.

# **Lessons from Woodstock '69: The Tumultuous History of Mass Gathering Medicine (MGM)**

By

Sarah Cocco

Doctor of Medicine Program, Schulich School of Medicine and Dentistry

Preceptor: Dr. Shelley McKellar, PhD

“Three days of peace and music” was how the now infamous 1969 Woodstock music festival was advertised. Dr William Abruzzi – later dubbed the “Rock Doc” of the Woodstock Festival – assembled a medical team of 18 physicians, 36 nurses, and 27 medical assistants to provide first aid for participants during the 3-day festival. Abruzzi’s medical support plan was well organized but grossly underestimated event attendance with its projected number of 50,000 attendees. Roughly 400,000 people attended Woodstock ‘69. A triumph of improvisation, volunteerism, and what Abruzzi calls good fortune led to the avoidance of what could have been “the greatest medical tragedy of [their] times.”

Mass gatherings for sporting, religious, or entertainment reasons have been occurring for centuries, occasionally with disastrous results. Inherently trampling, fire, and infrastructure failures are some common causes of injury and death, as well as risks of violence or terrorism. With increased documentation in scientific literature and support from international organizations, “Mass Gathering Medicine (MGM)” emerged as a medical subspecialty to provide training, prevention strategies, and research for such events.

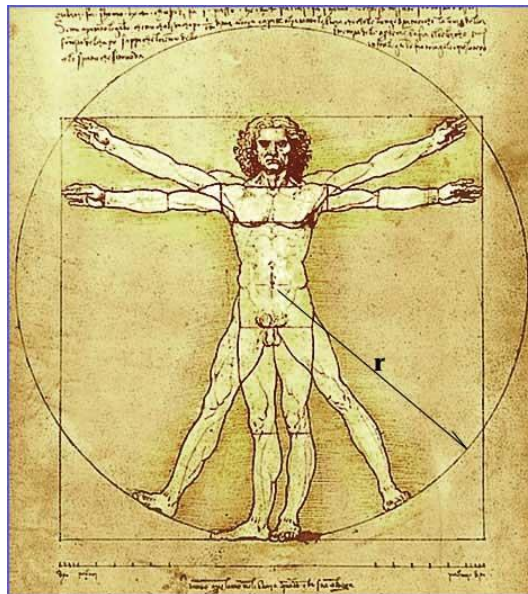
Despite their tumultuous history, mass gatherings continue to be organized and attended. For example, Canada currently hosts more than 130 music festivals per year. Each event that passes serves as another lesson for actively preventing negative outcomes, and what to do if they occur despite these efforts. Using scientific journal articles, case studies, interviews, and media coverage, this presentation will explore the introduction and early experience of mass gathering medicine in the 20<sup>th</sup> century. Due to its coverage and unique circumstances, focus will be placed on the Woodstock music festival of 1969 while contrasting elements of other mass gathering events. The aim is to identify common themes and key lessons to takeaway from the past in order to protect participants’ safety and ‘good vibes’ in the future.

## Session 5

### “Canadian Health Matters”

Friday, March 22, 2019

4:00 pm – 5:00 pm



**Being Harvey, 100 Years Later.  
The Harvey Club of London, Ontario and the History of Medicine.**

By  
Ariel Gershon  
Schulich School of Medicine and Dentistry, University of Western Ontario

Preceptor: Dr. Vivian McAlister

The Harvey Club of London, Ontario is the oldest active medical club in Canada. Its first meeting was in the winter of 1918 in the form of a medical journal club, and in February it was formally established as a medical club. Its initial goal was professional development and journal club to keep pace with rapid changes in medical sciences. The members met every two weeks with one person responsible for the writing and presentation of a scientific paper. The club's objectives and makeup changed gradually with the constitution revision in 1962 to formally include medical humanities and women participants. It also reacted to growing medical specialization, which provided promise of more specific medical expertise but, to some, also threatened to split the profession into innumerable fragments.

In 2019 the Harvey Club will be celebrating its 100<sup>th</sup> anniversary. The club was named after William Harvey, 16<sup>th</sup> century English physician and physiologist credited first describing the closed circulation of the human vasculature and the function of venous valves. The club has a tradition of using "Harvey" as a title to address any members in its group in place of a first name.

This project will make use of archival materials from Western University's Harvey Club fonds, personal interviews of current Harvey Club members, and published literature on medical club identity. The presentation will focus on the changing professional identity in response to the milieu of medical specialization in early 20<sup>th</sup> century in Canada.



# **Coming to Consensus: The History of Canadian Primary Care Guidelines for Adults with Developmental Disability**

By

Arielle R. Brickman and Sophie Rossini  
Queen's School of Medicine, Queen's University

Preceptor: Dr. Jenna Healey, MA, PhD

“Primary care providers (PCPs) are the lynchpin in efforts to ameliorate health care for people with developmental disability”, wrote the authors of the Canadian consensus guidelines for the primary care of adults with developmental disability (DD). DD is a range of conditions which permanently limit intellectual functioning and learning, and present before age 18. Adults with DD comprise 1-3% of all Canadians, and have unique health issues and medical needs. The majority of these individuals live and access health services in the community. It is in the primary care setting where health issues are identified, and significant morbidity and mortality can be prevented. Interestingly, it was not until 2006 that the College of Family Physicians of Canada published the first Canadian guidelines for the primary care of adults with DD.

Clinical practice guidelines are evidence-based recommendations for providing appropriate and standardized care, which in this case are to inform Canadian PCPs about the specific health needs of adults with DD. The providers who authored these guidelines assert that their implementation would improve health for adults with DD and minimize disparities they face. This begs the question as to why, nearly thirty years after the Canadian government initially promoted the deinstitutionalization of individuals with DD in the early 1980s, were primary care guidelines not formulated until 2006.

Using the 2006 and 2011 Canadian consensus guidelines, journal articles, academic essays, and clinical reference materials, this presentation examines the forces and bodies involved in the development and implementation of Canadian guidelines for the primary care of adults with DD. Further, this presentation explores the barriers to their development, including historically-embedded discriminatory values and practices concerning adults with DD, a lack of health policy to address their health disparities, and a need for reliable evidence and ethical research on which to base the guidelines.

## **Taxpayers Subsidize Physicians' Medical Liability Protection Costs – a Canadian Tale of Physician Compensation**

By

Kuan Ting (Michael) Chen, MD  
PGY1, Queen's University

The Canadian Medical Protective Association (CMPA) is a mutual defense organization run by physicians for the benefit of physicians, it provides members with legal assistance for medico-legal difficulties arising from their practice. In the event of a lawsuit, CMPA would provide legal counsel to represent its members, cover the legal costs, and pay for settlements or damages awarded to patients. The vast majority of Canadian physicians obtain medical liability protection by joining the CMPA, rather than purchasing malpractice insurance policies from commercial insurers. The membership fee differs based on the location and type of work to reflect inherent risks in different specialties; in 2018 this annual fee ranged from CAD\$1000 to \$80000. Unbeknownst to many Canadians, all provincial and territorial governments partially reimburse physicians for their CMPA dues with taxpayer dollars.

Drawing on public and government records, CMPA archival documents, and contemporary primary sources, this paper explores the origins of these governmental 'CMPA Fee Reimbursement Programs'. Starting in the mid-1970s Canada experienced a rapid escalation in medical malpractice litigation, both in the frequency of legal actions and the size of awards, mirroring the American rate of growth albeit starting at a much lower baseline. Secondly in 1984, CMPA overhauled its funding model to build reserves against increasing financial commitments, but also introduced a differential fee structure which assigned higher membership fees to physicians in higher risk categories. The combined effect saw CMPA fees surge ten-fold between 1971 and 1981, and another seven-fold between 1981 and 1991. In response to the rising costs of medical liability protection, 'CMPA Fee Reimbursement Programs' were established in the 1980s when provincial and territorial medical associations negotiated with their respective governments to have physicians' CMPA fees subsidized in lieu of other forms of remuneration.

## **History of Public Health in Alberta (1919-2019) Book Project**

By

Rogelio Velez Mendoza, Department of Community Health Sciences  
Temí Famuyide, Department of Community Health Science  
Ben Sasges, Department of History  
University of Calgary

Preceptors: Frank Stahnisch, PhD  
Lindsay McLaren, PhD

2019 will see the passing of 100 years since the proclamation of the Act that established the provincial Department of Public Health. The Act was proclaimed fourteen years after the creation of Alberta, thus highlighting public health concerns for our province early on. Today, however, no consolidated history of public health in the Province of Alberta exists, despite the value of such a publication for informing current trends such as the alleged weakening of the public health sector. The History of Public Health in Alberta (1919-2019) book project is a step towards compiling and presenting that rich history to the public.

The overall objective of this volume is to commemorate, critique, and learn from Alberta's history of public health, defined broadly as the "science and art of preventing disease, prolonging life and promoting health through organized efforts of society." The book is organized into three main sections: The first section, context, will provide a historical overview of public health governance, historical health indicators, the public health landscape (including priorities and concerns), set against the backdrop of key social and economic events in Alberta's history. The second section will showcase institutions and groups that have been crucial to public health in the province, such as the public health workforce, post-secondary education and training programs, and NGOs. Finally, the public health functions section will provide illustrative examples of how core functions and topics in public health (i.e., health protection, disease prevention, health promotion, emergency response, and social determinants of health) have played out over the course of Alberta's history.

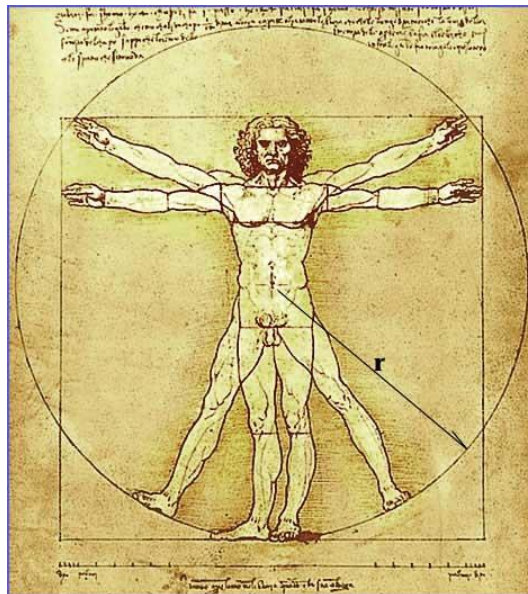
This presentation will include an introduction to the goals of and impetus for the project, the book's central structure, preliminary insights, and progress and timelines.

## Session 6

### “Feminine Fallacies”

Friday, March 22, 2019

5:15 pm – 6:00pm



# **Venereal Villains: The Portrayal of Women in Public Health Campaigns against Sexually Transmitted Infections in the Second World War**

By

Adrina Zhong

Faculty of Medicine, Schulich School of Medicine & Dentistry, Western University

Preceptor: Dr. Shauna Devine, PhD

During the Second World War, sexually transmitted infections (STIs) were a major concern for the military due to the sheer number of cases among soldiers. The management of STIs was largely shaped by stereotypes regarding class, race, gender and immorality which influenced public perception about these diseases. From the 1930s through the Second World War, the increasing number of cases of STIs was deemed a national security issue and a public health crisis due to the potential impact on the military.

In the attempt to control the rising rates of STIs, the United States Public Health Service launched a public health campaign. With the onset of the war, visual materials including posters, pamphlets, and movies depicted women as prostitutes, vectors of disease, highly sexualized and immoral characters, and ultimately, dangers to the war effort. This strategy, grounded in fear and lack of understanding, targeted women's sexual freedom and also rationalized other public policies including the quarantine and incarceration of women.

Using primary visual materials, scientific articles, and relevant secondary literature, this presentation will focus on the portrayal of women in the 1930s and 1940s public health campaigns against STIs. Specifically, this presentation will explore this period as a lens in which to illustrate how these campaigns reflected society's views of sex, gender, and immorality. Historical representation of STIs reveals that these issues were highly politicized during an outbreak as society looked for someone to blame. This presentation will conclude with a reflection of today's views on sexual health. Women's behaviour and sexual health rights are still an ongoing moral-medical debate, and sex, gender and race are still paramount issues in the discussion.

# **A New Hysteria? Modern Medicine and Chronic Lyme Disease**

By

Elise Quint

Schulich School of Medicine and Dentistry, Western University

Preceptor: Dr. Shauna Devine

Lyme disease is a relatively common tick-borne disease caused by the *Borrelia burgdorferi* spirochete. The most common sign of the disease is a “bulls-eye” rash known as erythema migrans. The disease may be asymptomatic or may cause certain nonspecific symptoms such as fatigue, headache, and arthralgias. Diagnosis of Lyme disease is mostly clinical and the disease generally resolves after treatment with antibiotics.

Another related condition is chronic Lyme disease, which has recently been the subject of much media and political attention. Patients with this disease report medically unexplained nonspecific symptoms such as arthralgias, fatigue, and cognitive impairment. Many of these patients have not been exposed to a tick bite or suffered from the characteristic erythema migrans rash. They are more likely to be women than men, and more likely meet the criteria for diagnosis of a psychiatric disorder than controls. Since chronic Lyme disease is not recognized by mainstream medicine, patients often turn to alternative practitioners including naturopaths for treatment and management of these presumed infections.

The issue of the contentious chronic Lyme diagnosis parallels the issues women have faced with mainstream medicine throughout history. Women were more likely to have their medical problems attributed to emotional factors such as hysteria or more recently anxiety and subsequently receive fewer tests and treatments for the same complaints presented by men. Drawing on scientific journal articles as well as case histories, this presentation will investigate the legacy of this history through the lens of chronic Lyme disease. I suggest that many women, feeling dismissed by physicians, now search for other sources of management, particularly alternative practitioners and social media for self-diagnosis and information. Specifically, this presentation will explore the ways in which long held medical ideas about the emotional nature of women has shaped the research and discourse around women’s health today.

# **Menstruation Myths: Exploring the Historical, Cultural and Religious Foundations of Period Misperceptions and Their Impact Today**

By

Sydney Eaton

Faculty of Medicine, Schulich School of Medicine & Dentistry, Western University

Preceptor: Dr. Shauna Devine, PhD

Menstruation, menses, periods, the time of the month, or whichever designation you bestow upon the event, is both a foundation of reproduction and a physiological process. Menstrual and contraception products are not only a large focus of the advertising and consumer industry, a hot topic in the health educational curriculum, but abnormal menstruation and contraception concerns are one of the many reasons women book medical appointments. In an advanced country like Canada with 37 million people, of which almost half have uteri, it is striking that so many historical myths surrounding menstruation remain.

Menarche may be accompanied by anxiety, social pressure and change. Adding to this underlying level of stress is the attitude, perception and variable levels of education surrounding menstruation. Many of the historical myths and religious misperceptions that shape ideas surrounding reproductive health reflect negative attitudes towards menstruation. Moreover, some cultures portray this natural bodily function as a problem, a show of impurity, a sign of female inferiority, and a punishment for sin.

Drawing on scientific articles, case histories, primary sources, and secondary literature, this presentation will explore the ancient, cultural and religious basis for the negative connotations surrounding menstruation. This presentation will examine the impact that these misperceptions have had on women in the past and show how they have shaped present understandings. Specifically, this presentation will investigate the long-held idea that menstruation reflects uncleanness, must be hidden, and that menstrual blood is toxic and the source of STIs. These ideas are the root cause for female ostracization and exclusion from social and religious events in certain cultures, and have led to body shame, low confidence and unsanitary hygiene conditions. Understanding these myths, traditions and culturally sensitive approaches to menstruation management is necessary for healthcare providers in light of Canada's ever-increasing globalization and immigration programs.

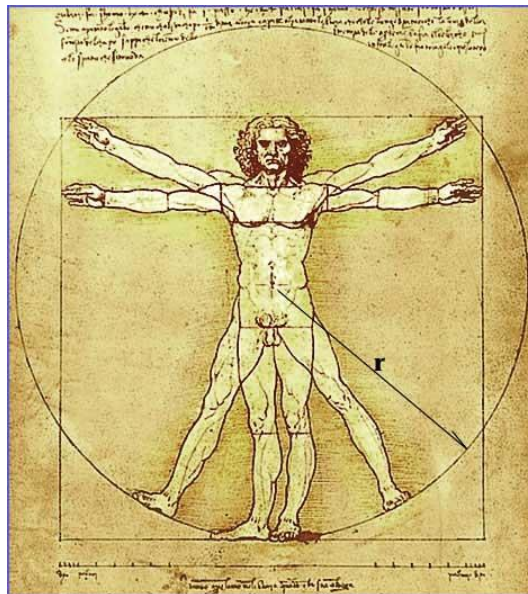


## Session 7

### “Mind, Body, and Soul”

Saturday, March 23, 2019

9:00 am – 10:15 am



## **Palliative Psychedelics: How Did We Get Here?**

By

Daniel Semenov

Schulich School of Medicine, Western University

Preceptor: Dr. Shauna Devine

Psychedelic therapy emerged in 1938 following Swiss chemist Albert Hofmann's accidental ingestion of lysergic acid diethylamide, also known as LSD. The drug became popular in the US in the 1940's, as research revealed LSD's efficacy for helping to cure alcoholism, enhance psychotherapy, and improve creativity. The noted English writer and philosopher Aldous Huxley described the drug as lifting a "cerebral reducing valve" which broadened awareness and allowed for penetrating insights and self-introspection. On his deathbed with cancer, Huxley requested the drug hoping to find peace in his last remaining hours. However, by the 1960's, after politicians began to fear that psychedelics were being abused, the use of LSD was restricted and stigmatized, resulting in the decline of its research and medical use.

As Huxley used LSD to ease his impending death in the 1960's, the field of palliative care was in its infancy. Before the restrictions on LSD were enforced, however, research revealed that psychedelics may alleviate psychological suffering among cancer patients. But this never reached clinical practice. While palliative care served to ease the physical symptoms caused by cancer, there was little physicians could do to ease the anxiety of death experienced by patients.

Drawing on scientific journal articles, case histories, interviews and the relevant secondary literature, this presentation will explore the intersection of psychedelic therapy and palliative medicine. Beginning in the early 21<sup>st</sup> century, US research restrictions on psychedelics were reduced, which resulted in a resurgence of their research. In 2011, the findings of psychiatrist Charles Grob along with other notable research projects from around the world confirmed that psychedelic therapy was an effective strategy for relieving anxiety in palliative patients. This presentation will examine the controversies and research findings that allowed for the reemergence —though not without controversy— of psychedelic therapy for palliative management.

# Not Quite a Brainiac: Descartes' Cartesian Approach to Pineal Physiology

By

Max Lazar

Faculty of Medicine, University of Calgary

Preceptor: Jack Macintosh, Department of Philosophy

René Descartes, known best for his contributions to mathematics and philosophy, developed a late in life passion for physiology. During this period Descartes proclaimed that the pineal gland, a small piece of tissue deep inside the brain, is the seat of the soul. This theory rests on false beliefs about the pineal gland— many known to be untrue for hundreds of years. Why Descartes, a famously meticulous thinker, made these anatomical blunders is unclear, and hence warrants examination.

From Roman times, many thinkers were confused about the role of the pineal gland and other nearby structures in the brain. In antiquity philosophers searched for a structure, naturally [?] in the brain, that unified the body and the soul. Descartes presents one such soul-body theory, where he conceives of brain as a collection of wind-filled ventricles lined with hollow pores that coalesce into nerve tubules. In this model, he assigns the pineal gland a pre-eminent position as both the regulator and relater of air currents to the soul. This argument is both implausible and entirely contradictory to earlier work by other anatomists, including Niccolò Massa, who showed a century prior that the brain is not filled with a gas but rather with cerebrospinal fluid.

Perhaps Descartes took his characteristic skepticism in his approach to the pineal gland, disregarding the body of knowledge produced by those who preceded him. However, such an approach does not fully account for his errors. Using Descartes' *Treatise of Man*, his *Passions of the Soul* and modern secondary sources, this presentation will examine Descartes' individual anatomical errors to suggest that his argument can be viewed as an outgrowth of his earlier considerations in mechanical philosophy. Perhaps Descartes did not write as an anatomist to discover biological truth, but rather to investigate theological and philosophical concerns.

# **Resistance to Change: Hypertension, Heart Disease and Skepticism in Medicine**

By

Jessica Howlett

Schulich School of Medicine & Dentistry, Doctor of Medicine Program, Western University

Preceptor: Dr. Shelley McKellar, PhD

When is skepticism to new ideas in medicine appropriate? Why would the medical community cling to outmoded ideas about hypertension when evidence suggested a new understanding? In 1948 the landmark epidemiological Framingham Heart Study set out to determine the causes of heart disease. In 1957, the study published its first major findings; an increase in heart disease incidence among patients with hypertension. Despite this finding the medical community appeared steadfast in their understanding of hypertension as a natural process, essential for organ perfusion in the ageing individual. Furthermore, at this time, a normal systolic pressure was defined as 100mmHg plus the person's age in years (considered too high by today's standards). In 1971, Framingham investigators again demonstrated the link between systolic pressure and heart disease, but it was not enough to change medical thinking. In 1977 the medical community recommended diastolic pressure for the diagnosis of hypertension, still unwilling to adopt the Framingham findings entirely.

Framingham researchers were not the first to identify the clinical importance of blood pressure. As part of their health assessment, some life insurance companies began measuring blood pressure in potential clients in 1906, with many companies following suit thereafter. Using this data, the Actuarial Society of America published studies in 1925 and 1939 stating an increase in mortality with increasing systolic pressure.

I will analyze the findings of the Framingham Heart Study as it relates to hypertension as published in *JAMA*, *American Journal of Epidemiology*, *New England Journal of Medicine* and *Circulation* during the 1950s-1970s, and the various editorials and medical discussion published in response to these findings thereafter. Further study of this "resistance to change" in the case of hypertension and heart disease suggests that certain medical ideas, once established, are often not changed immediately, nor without difficulty, despite scientific evidence to do so.

# Cyber Solace: Online Mental Health Support Groups from 1986 to 1999

By

Daniel Huang  
Queen's University School of Medicine

Preceptor: Dr. Jenna Healey, PhD

“Dear Uncle Ezra: Where is the bridge that everyone jumps off of? I am considering it myself.” So asked one of the first users of the online advice column Dear Uncle Ezra. The product of a serendipitous collaboration between a counsellor and computer scientist at Cornell University, in 1986 Uncle Ezra would become the first mental health support group situated on a computer network. Uncle Ezra was originally intended as a general advice-line in the mould of a newspaper advice column, but student queries quickly turned to issues of mental health and illness prompting fellow users to offer support and advice, and thus becoming a *bona fide* support group.

Online support groups would become more widely accessible in the late 1980s and early 1990s as public networks like Usenet and the Internet emerged. New technological features like the ability to create threads and private-message individual users gave these groups greater functionality, and key differences from offline peer-support groups like user anonymity, geographical reach, and temporal asynchrony, made them particularly well suited for the stigmatized sufferers of mental illness.

This presentation will track the evolution of mental health support groups from Uncle Ezra in 1986 to the end of the century, in a period of rapid changes in network technology and user demography. Using archived posts stored on the Internet Archive and Google Groups, I will show how network technology allowed groups to develop multiple features—as information repositories, debate forums, and organizing platforms—that created an all-encompassing community for users. In turn, using archived posts, newspaper articles, and contemporaneous scientific literature, I will examine how membership in these groups, with their cultural and technological idiosyncrasies, affected users in their real and virtual lives—in their views on psychotropic drugs, their attitudes towards psychiatry, and ultimately, their approach to their own mental illnesses.

# **Breaking the Cardinal Rule: Factors Allowing Doctors to Do Harm**

By

Timothy Varghese

Faculty of Medicine, University of Western Ontario

The first lobotomy was performed in 1935 by Portuguese Nobel Prize laureate António Egas Moniz; a practice in which portions of the frontal lobes were removed. This procedure was intended to treat mental illnesses, as they were defined at the time. In a heavily criticized 1936 presentation, Moniz reported successful outcomes in 14 of 20 patients with depression, schizophrenia, panic disorder, mania, catatonia or manic-depression. Criticisms, including those of Sobral Cid, from whose hospital Moniz's initial patients were taken, denounced the surgery as theoretical, harmful mutilation. Regardless, the procedure was adopted internationally, especially in the United States through the works of neuropsychiatrist Walter Freeman and neurosurgeon James Watt.

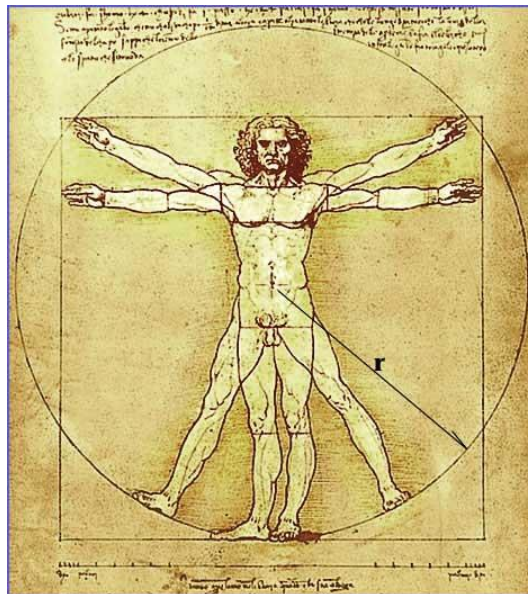
This destructive practice, although modified over time, was continued until the 1980's, at which time it had claimed over 60,000 victims, 40,000 of which were in the United States. This presentation will examine the social, political and cultural circumstances both inside and outside of the medical community necessary for nefarious practices like lobotomy to be adopted. We will examine the medical texts of the physicians involved, case studies of patients who had undergone lobotomies, and critical scientific journal articles and media publications of the time. Scrutiny of characteristics, many of which are shared by other tragic medical malpractices, may allow recognition and avoidance of repeating our past mistakes.

# Session 8

## “Perceptions”

**Saturday, March 23, 2019**

**10:45 am – 11:45 pm**





## **Cause for Pause: The Overzealous Media Coverage of CTE and its Negative Effects**

By

Wesley Tin

Schulich School of Medicine and Dentistry, Western University

Preceptor: Dr. Shelley McKellar, PhD

Chronic traumatic encephalopathy (CTE) is a neurodegenerative disease found most often in individuals with a history of repetitive brain trauma. Pathologically, it manifests itself in reduction of brain mass as a result of atrophy in different areas of the brain, and symptomatically, begins with confusion and disorientation, and can lead to memory loss, mood changes, speech impediments, depression and suicidal tendencies. While the stories of individuals who have suffered from CTE are well documented in the media, our fundamental knowledge of the cause and mechanism of CTE is still quite lacking. The emphasis on preventing these tragedies has potentially had adverse effects and caused more harm than good.

By examining news articles in comparison to medical literature from the 1920s to present day, this presentation will argue that the media's coverage and subsequent public reaction to these CTE stories has had a negative effect on those at risk, by unintentionally fear-mongering and drastically raising alarm in former athletes where it may not be warranted. CTE's mechanisms are still poorly understood, and its symptoms overlap with a myriad of other diseases. It can currently only be diagnosed post-mortem, as there is no diagnostic test available for the disease. A combination of these factors and the widespread media coverage of this disease may have led individuals to self-diagnose themselves with CTE and whether correct or incorrect, severely raise anxiety and concern leading to adverse effects. Corroborating this theory, a study reported that 42.3% of suicide deaths in NFL players have occurred since 2009, 4 years after the first paper indicating's CTE's existence was released and 2 years after the NFL had its first concussion summit, raising awareness of potential chronic issues. While these cases should not go unnoticed, society should caution itself with romanticizing science that has yet to be completed.

# **Halsted & Freud: Case Studies on the Veneration of Intrepid and Reckless Medical Heroes in the 20<sup>th</sup> Century and Their Impact on Medical Science**

By

Manal Sheikh

Cumming School of Medicine, University of Calgary

Preceptor: Hank Stam

Throughout history, there have been many dedicated physicians who revolutionized the practice of medicine. From anaesthetic analgesic practices to modern military medicine, the spectrum of medical advancement and development is vast, and these physicians have been revered and their stories told time and time again. However, their advancements have not been without significant personal detriment. Despite the personal trade-offs and risky decisions, these physicians are held up as trailblazers and their dedication to their duty and calling as a standard for the modern medical professional to emulate.

This presentation will showcase two case studies of physicians who have been significant in the advancement of medical science and practices in the 20<sup>th</sup> century: William Halstead, and Sigmund Freud. The two physicians have been labelled as flag bearers for their respective fields - Halstead, was called the Father of Modern Surgery, and similarly, Freud has been called the Father of Psychoanalysis. However, both these physicians demonstrated self-destructive, reckless behaviour to themselves and potentially some of their patients, despite their immense contributions to modern day medical practice.

This presentation will discuss potential reasons why these figures are revered and discussed as a standard. These reasons will be grounded in scientific journal articles in the fields of sociology, English literature, psychology, and medical science itself. Further discussion around the potential impact this veneration has on medical training, burnout and the role of a physician will be discussed briefly as well.

## **Towards a Genealogy of Wellness**

By

Hissan Butt

Faculty of Medicine, Queen's University

Preceptor: Dr. Jacalyn Duffin, M.D, PhD

*There is clearly something important and worrisome happening to physician well-being.*

Schwenk and Gold

September 2018, Editorial in JAMA

In recent years “wellness” and its implied antonym, “burnout,” have become staples in medical discourse. There are meta-analyses published on the subjects and “Wellness Challenges” are held across North American medical schools. Some studies report epidemic proportions of burnout (Shanafelt et al.).

The abrupt currency of these terms, though, raises several questions. When were the terms first applied to describe physicians’ health or lack thereof? What were the circumstances that necessitated their adoption and what terms existed prior?

These questions will be answered through a review of the primary literature accessed through medical databases.

## **Controlling the Physician's Gaze: Blood Lead Levels and the War for Leaded Gasoline**

By

Taj Brar

Faculty of Medicine, Western University

Preceptor: Dr. Shelley McKellar, PhD.

During the first decades of the 20<sup>th</sup> century, physician Alice Hamilton led a charge against industrial disease in the United States. By fixating on the clearly-visible substances that workers were exposed to within the workplace, Dr. Hamilton and her fellow industrial hygienists managed to force industry to protect their employees' health. Chief among their targets was lead, a substance known since antiquity as a potent poison. Hamilton linked its presence in the workplace to lead poisoning, and raised public awareness of the risk it posed.

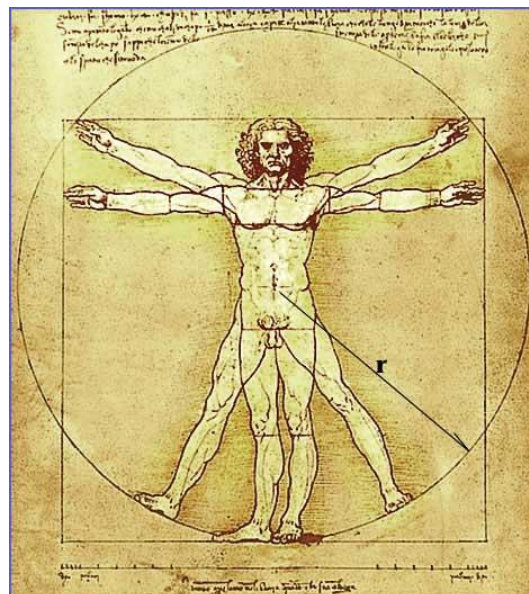
However, only a decade later, lead was everywhere. Leaded gasoline was first sold in 1923, and soon came to be used in almost every automobile in the country as it increased fuel economy and provided engine power. Within a few years, it was a global phenomenon, and people the world over continuously breathed in hazardous levels of lead. Its use would not be banned until the 1960s. Much has been written about how this happened, focusing on both the work of corporations and the medical professionals they hired to sell their product's safety. However, the ways that these medical professionals actually went about doing so has been less well-studied.

Using medical journal articles on lead poisoning published before and after the advent of leaded gasoline, this presentation will examine the ways in which the research methods employed by scientists and physicians changed how lead poisoning was perceived from the 1910s to the 1930s. This change in perception shaped how leaded gasoline was seen both by professionals and the public, and allowed for its continued spread. By focusing on the emergence of blood lead levels as an indicator of the presence of lead poisoning, this presentation will emphasize how medical research can be shaped to permit rather than prevent ill health.

# Poster Session I

## HRIC Atrium

**Saturday, March 23, 2019**  
**12:00 am – 1:00 pm**



# **Sex-selection Abortion: The Impact of Ultrasound Technology for Sex-Selection Determination and Family Planning**

By

Bojana Radan

Faculty of Medicine; Schulich School of Medicine and Dentistry  
Western University

Preceptor: Dr. Shelley McKellar

Sex-selection abortion in Western societies is predominately seen as taboo and a misalignment in gender rights and fundamental reproductive justice advocacy. Global movements for the aborted “missing girls” have gone viral with global outrage stemming from sex ratio balances (SRBs) that normally rest at 105 males: 100 females; jumping to 121 males: 100 females in a matter of years in some parts of India and China. Most medical professionals in the West have the perspective that an abortion for sex selection is unacceptable; however, the modern view of feminism and abortion rights requires no reasoning whatsoever for a woman to obtain an abortion, apart from the fact that she desires the abortion. Moreover, a large and growing literature suggests that parental preferences for a particular gender manifests itself as discriminatory practices for the child born of the undesired gender. Therefore, sex selection abortion for males acts as a substitute hypothesis for this discriminatory practice of infanticide and neglect for female children. This trend of neglect and discrimination against daughters is especially prevalent in families with one living daughter already, and where the second child is female.

This paper examines the phenomenon of ultrasound technology in sex-selection abortion, specifically in the low and middle-income countries of China and India, starting from the 1980s to current day. It will examine the substitution hypothesis, which compares trends in sex ratios at birth, with trends in sex ratios of living infants and early childhood deaths. This hypothesis states that sex selection abortion for males has taken the place of daughter infanticide and neglect as ultrasound technology has become more accessible and available to the wider public. Furthermore, this analysis will conclude with an examination of existing policies and bans against sex-selection abortion and the impact this has had in maternal and gender health equity.

# **The short shrift of the thrift: how the thrifty gene hypothesis was problematic in the understanding of Indigenous diabetes**

By

Madeline Arkle

Department of Family Medicine, Dalhousie University

Type 2 diabetes has reached epidemic proportions amongst Indigenous peoples. This chronic disease was essentially non-existent in these populations prior to the 1940's. One of the most influential theories developed to explain this dramatic increase is the thrifty gene hypothesis.

The thrifty gene hypothesis, introduced by geneticist James Neel in 1962, suggests that there exist 'thrifty' genes that provided an evolutionary advantage in hunter-gatherer populations who experienced cycles of feast and famine. These genes provide efficient uptake and storage of energy when food sources were abundant, to prepare for times of food scarcity. In modern times, the genes became maladaptive with access to continual food sources; manifesting as obesity, diabetes, and hypertension.

In the era of molecular genetics, the idea that there was an identifiable genetic mutation predisposing Indigenous populations was convincingly elegant. There was widespread support from the scientific community and governments to uncover the elusive thrifty gene, and solve the problem of Indigenous diabetes. When no causative thrifty genes were discovered, Neel's basic concept and inferences were criticised. Neel eventually renounced his own theory in 1999, stating, "no support to the notion that high frequency of [non-insulin dependent diabetes] in reservation Amerindians might be due simply to an ethnic predisposition—rather, it must predominantly reflect lifestyle changes." Despite its discreditation, the thrifty gene hypothesis had a strong and persistent impact on the approach to Indigenous diabetes research. By focusing on perceived flaws in Indigenous biology, researchers and government bodies drew attention away from the socioeconomic, environmental, and cultural factors affecting Indigenous health.

This paper will investigate the rise and fall of the thrifty gene hypothesis as a framework for understanding increased incidence of diabetes in Indigenous people. Its continued influence will be examined as an example of Settler perceptions of Indigenous health as inconvenient, simplistic, and easily correctable.



## **A Slower Pace: Establishing Geriatric Medicine in Canada**

By

Katie Marriott

Schulich School of Medicine & Dentistry, Doctor of Medicine Program, Western University

Preceptor: Dr. Shelley McKellar, PhD

In 2016, the Canadian Medical Association identified a growing crisis in the increasing numbers of elderly Canadians, many of whom have complex and chronic health issues that our healthcare system was not designed to handle. The roots of this design flaw are better understood by analyzing the roots of geriatrics as a medical specialty broadly and by focusing on the Canadian experience specifically. In Canada, geriatric medicine and health care services for elderly Canadians was shaped by specific Canadian doctors, notably Dr. John A. (Jack) MacDonell (1918-2011), who were international leaders and researchers in this field.

Dubbed “the father of geriatrics in Canada,” MacDonell initiated the establishment of geriatric units, geriatric clinical teaching units, and geriatric professional societies in Canada and internationally. MacDonell was not alone, for he was part of an interdisciplinary and international group interested in the medical assessment and rehabilitation of the elderly (geriatrics) as well as the science of aging (gerontology). In the US, Canadian physicians Lewellys Barker, Edmund Cowdry and Willard Thompson advocated for increased research and discussion on geriatrics as well as contributed to the professional organizations pertaining to the field. Early research suggests that there was resistance to over-specialization and a lack of interest in geriatric medicine in the early half of the century. Using national and provincial policy statements on health care and elderly as well as medical journal articles and editorials, such as those in the Canadian Geriatrics Journal of the Canadian Geriatrics Society, this project aims to examine the influence of MacDonell and other Canadians in shaping the field of geriatric medicine in Canada. Archival documents secured from the Royal College of Physicians and Surgeons of Canada (courtesy of RCPSC archivist Peter Smith) are also a key historical source for this project.

# **A Test for Genetic Sex: How the Barr Body Shaped our Understanding of Sex Determination and Chromosomal Abnormalities**

By

Malory Ross

Faculty of Medicine, Western University

Preceptor: Dr. Shauna Devine, PhD

In 1948, Dr. Murray Barr stumbled upon a discovery that would spark an explosion of research into the X chromosome and sex determination. Working at the University of Western Ontario, Barr and his student Ewart Bertram were staining the DNA of cat neurons when they noticed a collection of darkly staining DNA that appeared to be present in females but not males. He used this dark speck, now known as the Barr Body, to develop the first test for diagnosing genetic sex using a quick and cost-effective buccal smear.

Barr's discovery came at a time where our understanding of genetics was in its infancy, and his research became crucial in revealing the mechanisms behind sex determination and chromosome disorders such as Turner's and Klinefelter's. Clinically, the Barr Body led to the consideration of chromosomal sex in the gender assignment of intersex individuals, a huge change from the previous method of randomly assigning a gender at birth. However, Barr advocated for a consideration of the entire clinical picture when assigning gender, warning against relying purely on genetic sex. Despite this, from 1968 to 1991 the International Olympic Committee used the buccal smear as a test to confirm the genetic sex of athletes, which led to the controversial exclusion of athletes with sex chromosome abnormalities.

Using scientific journal articles, case studies, and secondary literature, this presentation will describe how the discovery of the Barr body launched an entire new area of research into its function and ultimately led to the discovery of the mechanisms of sex determination and chromosomal disorders. Although the Barr body buccal smears have since been replaced by the newer technology of karyotyping in the clinical setting, I argue that the concepts that Barr introduced are still extremely relevant in gender assignment and the management of intersex individuals today.

## **Analyzing the Changing Demographics of Depression through a Sex and Gender lens.**

By

Craig Rodrigues and Nawid Sayed  
Faculty of Health Sciences, Medicine, Queen's University

Preceptor: Dr. Jenna Healey

The topic of depression has attracted significant attention from media and healthcare practitioners in recent years. As Western healthcare is increasingly focused on treating the patients at the individual level, it is important to remain cognizant of how women and men are viewed differently throughout medical history. In adjunct to the genetic and physiological differences between the sexes, there have been prominent social and historical factors that have worked together to shape recorded depression prevalence across North American history. This presentation will focus on biopsychosocial and historical factors that have contributed to the changing prevalence statistics of depression by sex.

The prevalence of depression for males has been rising, resulting in a decreased gap in depression rates between males and females. Our research has identified two major factors that have contributed to the reduced gap. First, social expectations of men have moved towards that of sensitivity and communication resulting in increased self awareness of possible mental health issues. Second, there has been increased gender parity in the North American workforce, and research has shown that employed individuals have a lower predisposition to depression. Despite this, women continue to inherently have a higher prevalence of depression due to sex differences. Some proposed factors for this susceptibility include premenstrual tension—affecting endocrine physiology—and the subset of post-partum depression.

The scope of this presentation will focus on adults and relevant social and cultural factors that date back from 1920's—a period for which there has been reliable historical data.

## **Palm-N-Turn: The Impact of Child-Resistant Medications Lids**

By

Michael Z. Huang and Yoo Jung Choi  
Schulich School of Medicine and Dentistry, Western University

Preceptor: Dr. Shelley McKellar, PhD

Residing in our medicine cabinets is an innovation so basic and ubiquitous that we take it granted: the child-resistant medication cap. During the 1960s, the number of children poisoned from accidental medical drug ingestion was staggering. In Canada, there were roughly 100,000 annual cases of pediatric poisoning in this period, and the biggest culprit was over-the-counter aspirin.

Pediatrician Henri J. Breault recognized the alarming number of accidental child poisoning cases as the director of the Poison Control Centre in Windsor, Ontario. He launched a public awareness campaign advocating safe storage practices to parents, but this alone was not enough to decrease incidence. Breault shifted his attention to changing the packaging of medicines.

In 1962, Breault established the Ontario Association for the Control of Accidental Poisonings (OACAP), which brought physicians and pharmacists together to address the problem. He enlisted the help of International Tool Limited (ITL) President Peter Hedgewick who, in 1967, designed the “Palm N’ Turn” child-resistant lid. In Windsor, the adoption of this safety cap by local pharmacists resulted in the decline of accidental child poisoning by 91%. However, the wider implementation of child-resistant lids was not as simple as the design itself. For years, coalitions of health professionals lobbied against a resistant pharmaceutical industry for government legislation on child-resistant packaging of medicines in Canada. The Ontario government mandated child-resistant containers in 1974, with other provinces doing likewise thereafter.

This presentation aims to chronicle the development and implementation of child-resistant medical lids through a qualitative study of the OACAP records (MS 18 at the Municipal Archives, Windsor Public Library) and of the medical literature, notably Breault’s publications, medical cases and epidemiological reports of child poisoning. This presentation will assess the impact of this design innovation on child health in the 1960s and how it has shaped modern child-resistant packaging.

# **A Dichotomous Specialty: Gender and the History of Plastic Surgery in the 20<sup>th</sup> Century**

By

Martina Heinelt

Faculty of Medicine, Queen's University

Preceptor: Dr. Jenna Healey, PhD

In one 2015 study, plastic surgery was ranked by emergency room visitors as the least important of 30 specialties. While the emergence of plastic surgery as a specialty has been well studied, the question of why it developed such a negative public perception has not. In its early years, plastic surgery was primarily viewed as an altruistic specialty that allowed wounded WWI soldiers a chance at normalcy and the opportunity to integrate back into society. But there were also complaints that “scammers,” or “beauty doctors,” were using the same techniques to offer cosmetic procedures. This foreshadowed the gendered association of plastic surgery with vanity that emerged post-WWII.

In this paper, I will examine the history of plastic surgery to illustrate how the shift towards cosmetic procedures post-WWII influenced public perception of the specialty. Drawing primarily on media sources, I will argue that a double standard emerged towards plastic surgery that labelled female patients as vain and male patients as practical. Cosmetic breast augmentation and post-mastectomy reconstruction were particular targets of the media, with increasingly harsh criticisms of women as “vain” and “empty”.

Media has continued to play an important role in shaping negative perceptions of plastic surgery. A 2017 study shows that even medical students have a skewed perception of plastic surgery due to media. In the final part of my paper, I will examine modern pop culture representations such as the show *The Swan* and characters such as “McSteamy” to argue that these media portrayals create misconceptions of plastic surgery that fail to represent its scope of medical care, which includes reconstruction, pediatric care and burn treatment. I will also present the experiences of Dr. Martou, a plastic surgeon specializing in breast reconstruction in Kingston, Ontario, to explore the effects of public perception on plastic surgery specialists, patients and students.

## **Robbing Rights and Dignity after Death: The Illegal Dissections of African American Cadavers by Medical Schools**

By

Nicole Lam

Schulich School of Medicine & Dentistry, Western University

In 18<sup>th</sup> and 19<sup>th</sup> century America, the amount of African American cadavers used in medical schools was disproportionate to the living population. These cadavers were the bodies of slaves or free African Americans, illegally obtained through grave robbing. Although the disinterment of bodies was prohibited in the U.S. until the 1850s, there was little resistance against the dissection of black bodies. The general sentiment can be summarized by a New York proponent of anatomy, who stated in 1788, “the only subjects procured for dissection are the production of Africa or their descendants...and if those characters are the only subjects of dissection, surely no person can object.” Using primary articles, review articles, and books written on the subject, this presentation will address how black cadavers were obtained, why grave robbing was in high demand, and how the involuntary dissection of black bodies was reflective of the racist attitudes present at the time.

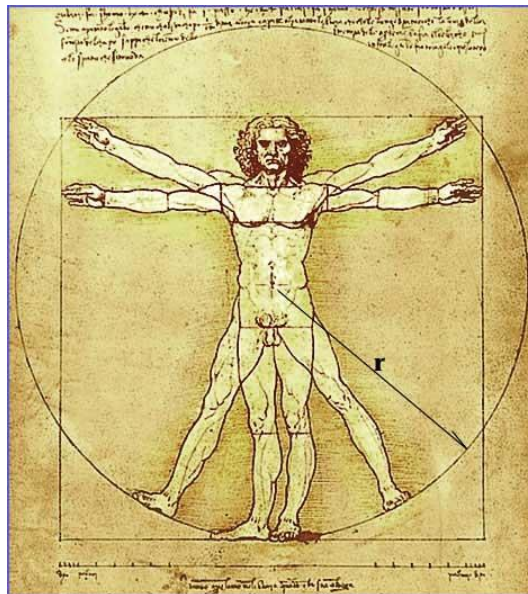
The demand for cadavers increased in the 1800s as medical schools switched from apprentice-based training to formal medical courses, including anatomy. Unclaimed bodies from almshouses and prisons were sent to medical schools, but it was not enough to meet demand. As a result, some medical schools paid grave robbers to obtain cadavers; but oftentimes it was medical students themselves who stole bodies from the cemeteries of society’s marginalized. In 1788, free African Americans in New York created a petition to stop medical students from robbing their graveyards; however, this practice continued until the early 1900s.

As slaves were sold throughout the U.S. in the 18<sup>th</sup> and 19<sup>th</sup> centuries, so were their bodies and the bodies of their descendants after death. The contribution of black bodies to modern medicine has been significant, but much of it was forced and still unrecognized today.

# Poster Session II

## HRIC Atrium

**Saturday, March 23, 2019**  
**2:00 pm – 3:00 pm**



# **The Evolution of Prenatal Screening Tests and its Impact on the Abortion and Disability Rights Arenas**

By

Tarannum Syed  
Northern Ontario School of Medicine

Preceptor: Dr. Geoffrey Hudson, D.Phil.

The history of prenatal screening began in the mid-20<sup>th</sup> century when ultrasound made it possible to investigate certain birth defects in pregnant women. Since then, the field of prenatal screening has grown with new technologies being developed at a rapid pace, allowing anomalies to be detected earlier and more effectively than before. Most recently in Ontario, enhanced first trimester screen (EFTS) replaced integrated prenatal screening (IPS) in 2017. In addition, changes have also been made to abortion legislation in many jurisdictions in the period, arguably in part in response to the increased prenatal screening options offered to women.

As prenatal screening testing techniques have developed, ethical debates were and are sparked within the abortion and disability rights arenas. In particular, concerns have been raised around whether more pregnant women will opt for abortion without fully understanding the limitations to the definiteness of the testing. In addition, there are concerns about whether this will ultimately result in less resource allocation to disability services and a de-valuing of individuals with disabilities. My project will provide an overview of the history of prenatal testing and a critical analysis of the effect that this may have had on abortion legislation, abortion rates, disability services and overall perspectives on abortion and disability. My focus will be in Canada but I will examine other relevant jurisdictions that emerge as part of my research.



# **A Devastating Illness, a Simple Cure: Dr. Joseph Goldberger's Controversial Pursuit of the Etiology and Prevention of Pellagra**

By

Sandra Botros

Schulich School of Medicine and Dentistry, Western University

Preceptor: Dr. Shauna Devine, PhD

Pellagra, a disease now known to be caused by deficiency of the B vitamin niacin, once plagued the Southern United States. It is characterized by the classic “three D’s” of dermatitis, dementia, and diarrhea, and can be fatal if untreated. Dr. Joseph Goldberger (1874-1929) was appointed by the Surgeon General to investigate the causes and prevention of pellagra in 1914. A strongly supported theory at the time proposed an infectious nature of pellagra. Dr. Goldberger, however, was convinced the cause was a dietary deficiency rather than an unidentified microbe. He began a series of experiments on institutionalized children and prisoners to prove to a skeptical public that dietary reform was necessary to treat this devastating illness.

Goldberger had a difficult time debunking the widely believed theory of pellagra’s infectious origin. This is not surprising considering that this time period followed the widespread acceptance of the germ theory of disease in the late 1800s. This was also an era of little consideration for medical ethics, during which experimentation on vulnerable populations was common practice.

This presentation will outline how the establishment of germ theory influenced the medical environment in subsequent years, as well as the clues that Dr. Goldberger used to postulate a dietary etiology for pellagra despite public resistance. It will detail the dietary experiments he carried out to prove the cause of pellagra. Finally, it will explore the social and ethical implications that Dr. Goldberger’s research brought up by using vulnerable populations as research subjects, despite the fact that his research eventually improved their living conditions. Main sources analyzed include scientific journal articles on the epidemiology and burden of pellagra at the time, articles about the influence of the germ theory of disease, and a book detailing Goldberger’s life, work, and specific experiments carried out on his quest against pellagra.

# **Controversy, Disappointment, and Hope: Coverage of World Health Organization Public Health Emergency Operations in Canadian News Media**

By

Jelena Poleksic, MSc

Schulich School of Medicine and Dentistry, Western University

Since 1948, the World Health Organization has been a global authority on improving health and eradicating disease worldwide. Its mandate has since expanded to include global health security activities in order to coordinate responses to public health threats across international boundaries. Three such emergencies arose in the past decade, namely the H1N1 influenza pandemic, the 2014-2015 Ebola outbreak, and the Zika virus epidemic. The WHO responded to these events with varying degrees of effectiveness, which has called its capacity to conduct emergency operations into question.

The 2009 H1N1 influenza outbreak signaled a sharp shift in the organization's popularity. The perceived exaggeration of the influenza threat and the potential conflicts of interest involving vaccine manufacturers damaged the organization's integrity. Criticism peaked in 2014 after the WHO failed to recognize the severity of the Ebola virus outbreak despite the devastation sweeping across West Africa. As news of the Zika virus spread in 2015, there were concerns about the mismanagement of another epidemic. Although the WHO's approach to Zika was better received than that of the Ebola crisis, calls for reform and dissolution persist as a consequence of the previously mishandled outbreaks.

The Canadian media's reporting on the WHO's emergency responses has been primarily negative, underscoring a loss of trust in the organization and uncertainty surrounding its relevance as other global health actors grow in prominence. Using a media content analysis to analyze articles from Canadian newspapers published between 2009-2016, this presentation will trace the changing tide of public attitudes toward WHO operations. This research is meaningful in a Canadian context, given Canada's leadership in the global health arena, and it is timely in an era of mounting public scrutiny. Going forward, popular attitudes could be pivotal in determining the WHO's legacy of managing the threat of infections in increasingly interdependent health systems.

# **Ordered Disorder, from the Battlefield to the Waiting Room: An examination of the invention of ER Triage**

By

Kelly Salman  
Department of Medicine, Queen's University

Preceptor: Dr. Jenna Healey, PhD

“Existence of hospitals is evidence... of a high degree of civilization in contrast to a state of egoistic barbarism... There is no more striking example of the present high stage of mechanical efficiency than the modern hospital”. A lofty sentiment for a 1950s hospital administration manual, which highlights a dramatic period of change for the North American hospital. Thanks to a significant AHA advertising campaign, hospital admissions were growing. It worked almost too well, one study citing a 400% increase in US emergency room visits between 1940 and 1955.

This growth overwhelmed emergency rooms, leaving administrators scrambling for solutions. Often overlooked in comparison to infection control and surgical techniques, organization is a significant advancement the military has offered the medical profession. And triage, with a name that literally means ‘to sort’, is a prime example. A system of sorting casualties, triage was developed for battle by a member of Napoleon’s guard in the late 18<sup>th</sup> century. But it did not actually enter the hospital until 1963 in the emergency room of Yale-New Haven Medical Center. Before the introduction of triage, patients were seen on a first come first serve basis. In fact, the admissions office was intended as a pleasant introduction to the hospital. Patients were admitted straight to specialties, rather than going through an emergency room.

Through an analysis of the 1965 study, which outlined the novel use of the triage system, I will argue that triage both transformed hospital admission procedures and was an important factor in legitimizing the discipline of emergency medicine. To provide a social context surrounding the development and eventual crises of the North American emergency room in the early to mid 20<sup>th</sup> century I will draw from other studies of triage and emergency room usage, an early hospital administration guide and reflective historical accounts.

# **The Coulter Counter: An Interdisciplinary Invention**

By

Albert Vo

Faculty of Medicine, University of Western Ontario

Preceptor: Dr. Shelley McKellar, PhD

The complete blood count (CBC) is arguably one of the most commonly run blood tests. This test provides the concentration and sizes of red blood cells in the patient's blood. These values are crucial for diagnosing medical conditions such as anemia and polycythemia vera, a red blood cell related cancer. Prior to the 1950s, to obtain a red cell count, lab technicians would need to perform manual counts with a hemocytometer and microscope. The introduction of the automatic blood cell counter, the Coulter Counter, in 1953 was ground-breaking because it improved both the accuracy and efficiency of blood counts.

The counter's inventor, Wallace Coulter, had trained in electrical engineering, not biomedical sciences. Therefore, even though Wallace's patent was for "particle" counting, it may seem odd that the Coulter Counter was primarily designed for a medical purpose, blood cell counting, rather than an industrial purpose. Key topics that will be addressed in this presentation include the circumstances that enabled Wallace to construct a blood cell counter, the success of the invention in hematology, and the inevitable use of the counter for industrial purposes.

This presentation will draw on review articles, primary scientific articles, and Wallace Coulter's patent to highlight key features of the Coulter Counter's design and why it achieved the success that it did. With an automated cell counter, a count which normally took fifteen minutes with a hemocytometer could now be run in fifteen seconds. Additionally, the counter overcame the limitations of human counting error and fatigue associated with repeated counts. Not long afterwards, the counter was predictably put to use for industrial purposes such as measuring particles in beer and paper. Today, updated models of the Coulter Counter are still used as cell counters; however, this invention continues to have the potential for uses in other disciplines.

## **A Gold Drug from a Dark Era: Penicillin Production during World War II**

By

Dhruv Krishnan and Sasha Zarnke  
School of Medicine, Queen's University

Preceptor: Dr. Jenna Healey, PhD

During World War II, advances in military strategy and weaponry were made on a truly unprecedented scale by the superpowers of the world. While the military achievements of this time are, no doubt, significant, we would be remiss to overlook the advancements made in the fields of science, technology, and medicine.

In a manual published by British Information Systems in 1940, one such scientific achievement was considered “a triumph perhaps no less great than the Allied victories on the battlefields of World War II...” Although this “Golden Healer”, more commonly known as penicillin, was in fact discovered a decade prior to the start of World War II by Sir Alexander Fleming, it remained in the shadows for an extended period of time. Immediately after its serendipitous rediscovery, the impact of penicillin was profound. While more soldiers died of infection than of disease at the start of World War I, by the end of World War II, only one soldier died due to infection for every nine that died in combat.

Using review articles, scientific journal articles, and archived manuals, this presentation will explore how the discovery of penicillin shaped the field of infection control during World War II. Penicillin serves as a unique case study for how war can accelerate advancements in medicine. It was largely dismissed by the scientific community at the time of its original discovery but was, in a sense, rediscovered with great fervor due to wartime collaboration and espionage. The story of the discovery of penicillin reminds us of the importance of joining forces to develop new antibacterial agents in order to overcome the challenges we face in medicine, past and present.

# **The Apgar Score Test: Assessing Its Usefulness in 1952 and 2019**

By

Alina Abbasi

Faculty of Medicine, Western University

Preceptor: Dr. Shelley McKellar, PhD

In 1952, obstetric anesthesiologist Dr. Virginia Apgar (1909-1974) developed a newborn scoring system, later named the Apgar Score Test that demanded close observation and evaluation of newborn infants during the first minutes of life. Apgar targeted newborn infant heart rate, respiratory effort, reflex irritability, muscle tone, and color as measurable indicators of infant vitality. Each of these five test criteria earned a score from zero to two, with the sum ranging from zero to ten. An Apgar score of seven and above suggested a healthy baby and was considered normal, while scores below six indicated immediate medical intervention.

Prior to the late 1950s, care of newborns was often overlooked, and apneic newborn infants were often neglected rather than resuscitated. Methods for evaluating newborns at the time of delivery were imprecise and inadequate. Apgar's Score Test offered an easy and quick way to determine the physical condition of a newborn infant, flagged immediate health difficulties, and has been credited with saving countless lives since its introduction into clinical practice. Decades later, however, the Apgar Score Test came under criticism as an outmoded tool, with some physicians suggesting that more scientific measurements, such as umbilical cord blood acidity tests, should replace it. After all, shouldn't modern obstetrics have more to offer than this simple test?

Through scientific journal articles and medical reviews, this presentation will examine the development of the Apgar Score Test and its transformative effect in neonatal care in the 1950s. It will analyze the criticism surrounding the Apgar Score Test that emerged decades later, query whether it should be considered outdated, and offer an assessment of its usefulness to medical practice in 2019.

# **Charting the History of Electrocardiography: Development and Directions of the ECG**

By

Abir Islam

Faculty of Medicine, University of Calgary

Preceptor: Dr. George D. Veenhuizen, MD, FRCPC

The advent of clinical electrocardiography was predated by important milestones. Dr. Luigi Galvani's seminal demonstration of induced frog muscle contraction upon electrical stimulation, in addition to Dr. Carlo Matteucci's subsequent recognition electrical current, served as major preludes to the human electrocardiogram (ECG). Eventually, using a capillary electrometer, the first ECG recordings on humans were demonstrated by British physiologist Augustus Waller. Waller's apparatus involved attaching zinc-electrodes to either side of the chest, whereupon he concluded that individual heart beats were "accompanied by electrical variation". This capillary electrometer was further refined by physiologists William Bayliss and Edward Sterling, who posited that heart beats were associated with triphasic electric activity.

Soon afterwards, Dr. Willem Einthoven shook the field with his landmark contributions. Referred to as the "father of electrocardiography", Dr. Willem Einthoven entered the scene with his seminal demonstration of five deflections associated with heart activity, eventually referring to them as PQRS. Introducing the term "electrocardiogram" in 1893, Einthoven soon developed the string galvanometer, which was purchased for clinical use by Sir Edward Schafer in 1908. Over subsequent decades, Einthoven's ECG underwent important modifications, with key players being Dr. Frank Wilson and Dr. Emanuel Goldberger, to improve its diagnostic potential and clinical utility.

By citing pertinent medical reviews, scientific journals, and notable cases, this presentation seeks to elucidate historical trends in the development of the ECG, and the implications that these developments have on current and future trends. Moreover, the present project seeks to examine this relationship with respect to contemporary demands in cardiac practice.

# **Simulation in Surgical Training: Better than the Real Thing?**

By

Matthew Lund

Schulich School of Medicine and Dentistry, Western University

Preceptor: Dr. Shelley McKellar

Surgical training is traditionally based on an apprenticeship model, famously summarized by American surgeon William Halsted with the phrase “see one, do one, teach one.” In this model, the surgical trainee works closely with an instructor, observing and then assisting with procedures until, having demonstrated proficiency, they are given increased freedom in the operating room. Since Halsted’s time, however, there have emerged concerns over patient safety, reduced student training time, and a rise in complex minimally-invasive procedures. In response to these issues, training programs have turned to simulation in order to provide their students with experience beyond what they are able to obtain with real patients, ultimately improving patient safety and resident competency.

While historical examples of teaching manikins and other simulation tools can be traced back to ancient times, modern surgical simulation is still in relative infancy. It was not until the development of computers powerful enough to provide realistic feedback to the operator that simulators could begin to truly emulate “the real thing” and thus provide the learner with a meaningful experience. The impact of simulation on surgical training outcomes continues to be debated.

In this presentation, I will examine two examples of simulators from different eras: the SIM One anaesthesia manikin of the 1960s and the MIST-VR virtual reality simulator of the 1990s. Drawing from the articles in which they were first described, as well as the surgical education literature and available patent documents, I will discuss the technological advances that were required for the development and success of these simulators. I will then compare the different approach each took to address the shortcomings of the traditional training model. Lastly, I will argue that these devices, and simulation as a whole, represent an augmentation rather than an abandonment of the traditional surgical training model.

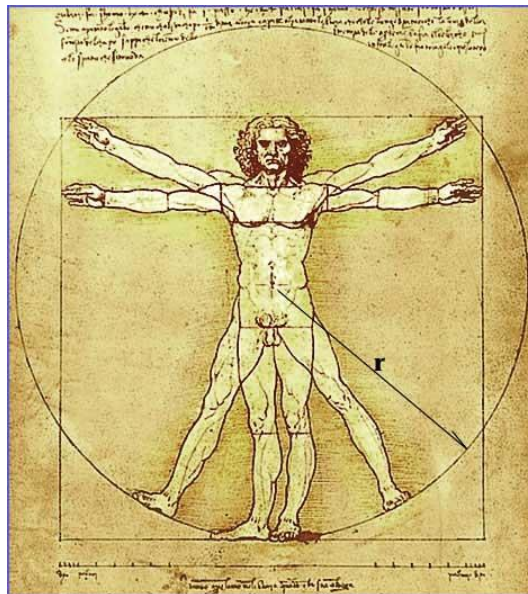


## Session 9

### “Schools and Students”

Saturday, March 23, 2019

3:15 pm – 4:00 pm



# **Bilingual Trail-Blazing: An Empirical Review of Early Medical School Cohorts at the University of Ottawa, 1951-1961**

By

Serina Khater

Faculty of Medicine, University of Ottawa

Preceptor: Dr. Susan Lamb, PhD

With the end of World War II only weeks earlier, the Faculty of Medicine at the University of Ottawa opened its doors in the autumn of 1945. Originally founded for purposes now associated with the “social accountability” movement in medical education, as shown in previous research by Toby Gelfand and current research by Gayle Wong, the objectives of the faculty have changed over time. These changes appear to be not the cause but rather the effect, of shifting political, cultural, and social landscapes. The principal objectives of the medical school’s founders were to meet the medical needs of Francophone and Catholic populations. These founders—Oblate priests and physicians— aspired to create a “Mayo Clinic of the North” and a school of “Bicultural Medicine” in which teaching and learning took place in English and French. This paper analyzes early cohorts of medical students at the University of Ottawa, expanding the findings of previous research conducted by building a database of information with four domains: demographics, education, post-graduate training and social impact. Each domain was further divided into more specific variables. Information on University of Ottawa medical students was collected from yearbooks compiled by the students themselves as well as archival and institutional records, and public newspaper and genealogical databases. These data were recorded into the database which allowed for trend analysis. The first phase of the project studied the cohorts 1951 through 1955 and showed that social accountability objectives (e.g. bilingualism promoted) of the school of medicine were only partially successful. The current phase extends the same methodology and research process to cohorts graduating in 1956 through 1961, which enabled trend analyses for the decade 1951-1961. Preliminary findings indicate: evidence of a changing society; shift from bilingualism to multilingualism, evidence of more incoming students from the U.S. and other countries, evidence of graduate emigration to the U.S. for residency and practice.

# **The History of Electronic Preceptor Evaluation and Awards at the Undergraduate Medical Education Program at the Cumming School of Medicine**

By

Mike Paget

Undergraduate Medical Education, Cumming School of Medicine, University of Calgary

Preceptors: Dr. Sylvain Coderre, Dr. Wayne Woloschuk

This presentation will outline the progression of online evaluation of faculty teaching in the UME program from inception to current state. It will explain the impacts of context, evolution of the timing and progression of our rating instruments. As we deployed our learning management system, OSLER, we evolved our survey mechanism from an encompassing, end of course electronic survey to an event based system.

Initially implemented was an electronic version of the course survey that had previously been given on paper. This grew to include individual preceptor evaluations within that single survey. As the program shifted away from lectures and towards small groups, the number of teachers to evaluate grew as well. Subsequently we broke up evaluation periods to a midpoint and final survey. In time this was fragmented into per event surveys aggregated daily, then into the current form: real time event evaluation 45 minutes after the start of a lecture or small group.

As a result, the number of evaluations our students completed grew significantly. Now that many faculty positions have designated educational contributions, generating performance data for those faculty and their department heads has become operationally important for the Cumming School.

The department had traditionally awarded faculty time-based contributions as well as contributions based on evaluation scores. We expanded time contribution awards to encompass an entire academic year instead of awarding them for a single course at a time. Additionally, upon analysis we saw that teaching context contributed heavily to ratings and adjusted Lecture, Small Group and Bedside award thresholds. These new thresholds significantly impacted Associate Dean's Letter of Excellence awards.

This presentation will expand on how the awards developed around these teaching context and multi-course activity.

**A ‘Not-So-Hidden’ Curriculum: Shifts in Medical Culture in Mid-Late 19<sup>th</sup> Century  
United States through an Examination of Valedictory Addresses by Academic  
Physicians to New Medical Graduates**

By

Gabriel Soicher

Medicine, Schulich School of Medicine & Dentistry, Western University

Preceptor: Dr. Shauna Devine, PhD

Medicine went through enormous changes in the United States in the 19<sup>th</sup> century. Prior to the 1870s and 1880s, physicians mostly honed their ‘art’ at the bedside and were consumed with the day-to-day challenges of maintaining a viable practice. What counted for a physician was book-learning, community relationships, and trust. Once the germ theory became generally accepted in the 1870s and 1880s, ideas about the role of science in medicine and how science might transform patient care, magnified the importance of the laboratory in medical practice and education. Medical school curricula were slowly reformed in the final third of the century to reflect this shift, though profound variability remained between institutions.

To investigate how these changes and challenges were gauged by physicians, I examine valedictory addresses delivered to graduating students of U.S. medical schools from the 1850s through the 1880s. Drawing on digitized valedictory addresses housed in the National Library of Medicine, this presentation will explore the content of these speeches. While some messages simply contain clichés and general advice surrounding daily practice, many offer forward-looking views of the field of medicine and of the evolving expectations for physicians. Together, they provide a valuable resource with which to analyze important changes in medical culture through these years.

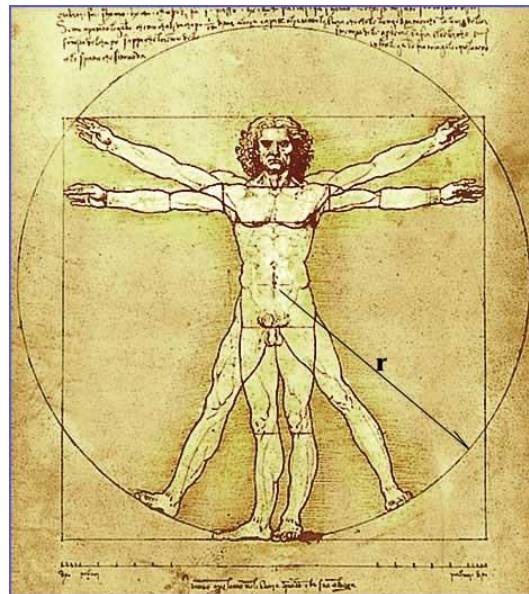
Shared themes emerging from these speeches include competition and comradery, God and religion, and the art and the science of medicine. Several topics, including patient safety and the avoidance of polypharmacy would not seem out of place in a contemporary address, while others—including discussions of white supremacy—reveal the shortcomings of medical ethics and the power of professional authority. These works contain not just a window into mid-late 19<sup>th</sup> century U.S. medical culture, but also lessons that may still resonate with medical students and physicians today.

# Session 10

## “Canadian Health Care”

Saturday, March 23, 2019

4:30 pm – 5:30 pm



## **History of ‘Indian Hospitals’: Past, Present, and Future.**

By

Layla Amer Ali and Brenna Hansen

Schulich School of Medicine & Dentistry, Doctor of Medicine Program, Western University

Preceptor: George Kim, MD

In the 20th century, the Canadian federal government operated racially segregated sanatoriums for the treatment of Indigenous people, known at the time as ‘Indian hospitals’. These sanatoriums were rife with corruption, poor management, and healthcare practices that increased the rate at which diseases, such as tuberculosis, spread. The state of these sanatoriums influenced the way the rest of society viewed Indigenous populations. Paternalistically, Indigenous patients were viewed as ‘wards of the state’ and were given little autonomy or compassion during their treatment. These sanatoriums remained active well into the 1960s. As a result of ‘Indian hospitals’ and other historical Canadian institutions, many Indigenous patients have an inherent mistrust of the healthcare system. Today, there are still remnants of the ‘Indian hospital’ ideology within the healthcare system.

Currently, the history of ‘Indian hospitals’ is not covered in the pre-clerkship medical curriculum, and there are few scholarly sources available for those that would like to become informed about this important and clinically relevant history. Thus, medical students have little to no historical context when interacting with Indigenous patients. Additionally, in the context of the current reconciliatory movement in Canada, it is important to begin to understand the reasons behind the mistrust and what healthcare professionals can do to improve future relationships.

As researchers, we were presented with the opportunity to learn about the history of ‘Indian hospitals’ when training for a summer elective that took place on an Indigenous reserve in Ontario. When interacting with Indigenous patients, we were able to discuss the challenges some patients face when seeking medical attention. This presentation will focus on how the history of ‘Indian hospitals’ informs modern-day interactions between Indigenous communities and the Canadian healthcare system.

# **Institutions of Moral Reform: Examining the Relationship between the Kingston Penitentiary and Rockwood Asylum from 1855-1918**

By

Chantal Valiquette  
School of Medicine, Queen's University

Preceptor: Dr. Jenna Healey, PhD

The relationship between penitentiaries and psychiatric institutions continues to be a matter of scholarly debate. While the stated conditions and purposes for admittance between the two institutions vary, the form and operation of both institutions share enough similarities to warrant further investigation. This paper will reconsider this relationship using the Kingston Penitentiary and the Rockwood Asylum (later Kingston Psychiatric Hospital) as a case study. These two institutions are structurally close, both in terms of physical space and time of construction, and mechanism of operation. A history of these two institutions reveals that there was a significant overlap in inmates and goals, suggesting that the asylum and penitentiary both act as institutions of moral reformation.

Drawing on the scholarly literature on institutionalization, as well as archival records from both institutions (Bulletins, Government Records, Psychiatric Admittance/Discharge Records), I will examine the overlap between institutional psychiatric patients and penitentiary inmates in the late 19<sup>th</sup> and early 20<sup>th</sup> century. A database of transinstitutionalized patients from the years 1855-1918 was created by examining Kingston psychiatric patient records for documentation of admittance from and/or discharge to another psychiatric institution or the Kingston/Provincial penitentiary. Analysis will focus on the overlap in categorizations of the patients included in their documentation (e.g. age, marital status, occupation, religion, supposed cause of disease, criminal nature). The patient record will be placed in historical context, using the reports of the Bulletin of the Ontario Hospitals for the Insane and the Sessional Reports of the Dominion of Canada.

# **We Might As Well Be Living In the Past: The Experiences of People with Chronic Illnesses in Accessing Emergency Health Care in Thunder Bay, Canada**

By

Elyse Cottrell-Martin

MA Social Justice Studies candidate, Lakehead University

Preceptors: Drs. Geoffrey Hudson, DPhil and Kristin Burnett, PhD

Historically, people with chronic illnesses in Canada have faced oppressive conditions within the healthcare system. Coma therapies, fever chambers, lobotomies, and genital mutilating surgeries (Reaume, 2000) are examples of the ways in which the medical system used chronically ill people, or if society was not sure what to do with them, they were locked away (Menzies, 2014).

In Canada's North, there is a history of an inability to access health services, forcing people into questionable deals with scientists such as the case in Sandy Lake, Ontario where people traded their DNA for improved health care services for a community ravaged by Diabetes without any supports (Hay, 2018). The experimental testing for the effectiveness of the BCQ vaccine at Qu'Appelle, Saskatchewan is another example (Lux, 1998).

I will argue that Canada's history of mistreatment combined with a history of lack of treatment for people with chronic illnesses in the north has resulted in extensive barriers to emergency health care in Thunder Bay. The research is grounded in consideration of the context of the history of disability for present day barriers, as well as the history of systemic racism towards Indigenous people (Hay, 2017, Talaga, 2017). Using quantitative (N=104) and qualitative (N=10) methods to build upon previous studies examining barriers faced by marginalized people when accessing health care, I will identify gaps in services by revealing the numerous assumptions built into our "universal" health care system, the history in which these assumptions are built, and the ways in which they increase marginalization for people already disadvantaged by the system.

Understanding the barriers that people with chronic illness face when accessing health care is essential to improving services. I will demonstrate how consideration of the historical context for these barriers and experiences is essential to improving health care.



**With Hand Signals and Help from Other Patients”:  
Patient-Provider Communication in Family Histories about the Sioux Lookout Zone  
Hospital, 1969-1996**

By

North de Pencier  
Schulich School of Medicine & Dentistry, Western University

Preceptor: Dr. Shelley McKellar

The Sioux Lookout Zone Hospital was a federally-funded hospital for Status Indians in Northwestern Ontario. Between 1969 and 1996, physicians from the University of Toronto ran the medical services at the hospital in partnership with the federal government. The hospital served a patient population of approximately 13,000 people, most of whom lived on reserves.

A rich collection of letters, cases reports, memorandums and other primary sources related to the University of Toronto’s health program at the Sioux Lookout Zone Hospital reside at the University of Toronto Archives. These Sioux Lookout Zone Hospital records are exciting source material not only because of the depth of the collection but also because they have not yet been studied by scholars. In addition to this collection, many self-published family histories are held at the Sioux Lookout Public Library, which make reference to careers at the Sioux Lookout Zone Hospital and the communication between non-Indigenous staff members and Indigenous patients.

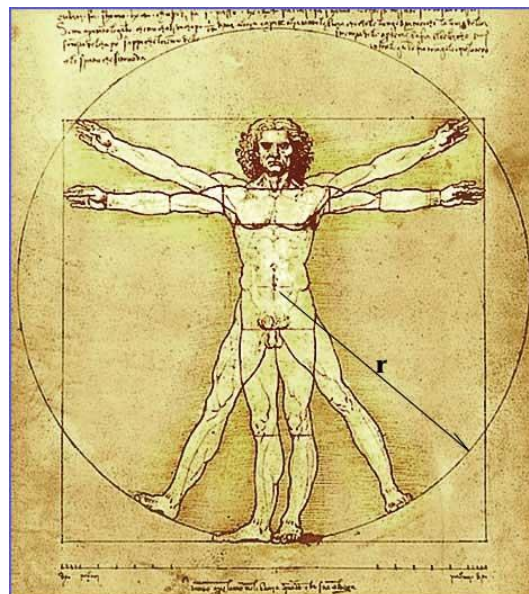
In exploring the actions and attitudes of staff and patients regarding Indigenous Health, I analyze the narratives that mention the Sioux Lookout Zone Hospital and Indigenous Health in the family histories at the Sioux Lookout Public Library. For example, in a collection of local narratives called *Tracks Beside the Waters II*, Pat Goyman, a former nurse described extensive communication challenges between patients and nurses, but responded defensively to the criticisms of Indigenous patients, writing “if we didn’t always serve our patients in the manner they hoped for, it was surely not for lack of trying.” I argue that the family histories of non-Indigenous hospital staff reveal pride in their work, and resistance to criticism of the hospital’s racially-segregated care revealing a duality between the humanitarian aims of individual staff members and the assimilationist policies of the federal government.

# Session 11

## “Surgery and Its Surgeons”

Saturday, March 23, 2019

5:30 pm – 6:15 pm



# **Resistance to Collaboration: The Relationship between Cardiologists and Cardiac Surgeons in the History of Cardiac Surgery in Toronto**

By

Sareen Kardjian  
University of Toronto

Preceptor: Dr. Edward Shorter, PhD FRSC

Toronto has established itself as the center of significant cardiovascular discoveries in treatment and research in Canada. Several momentous innovations emanating from the many hospitals in Toronto have advanced cardiovascular diagnosis and treatment. Here, cardiac surgeons and cardiologists have equally contributed. This association has important implications for continuing the distinguished history of cardiac medicine in Toronto.

During the early and mid-20<sup>th</sup> century, the majority of cardiac pioneers were surgeons who mostly united with each other to conduct research. They felt entitled to absolute authority in this field. Tension arose when they worked alongside cardiologists on certain cases. Differing opinions were met with frustration rather than being welcomed and accepted.

Latterly, the cardiologists gradually became heavily involved in “percutaneous” procedures. Here, cardiologists and cardiac surgeons have been obliged to work together. The cardiac field has thus begun to trend towards a single “interventionist” specialty and the earlier rivalries have vanished.

Through the use of primary medical journals, archival notes and other historical sources, this presentation undertakes a comparative review of the relationship between cardiologists and cardiac surgeons in the evolution of cardiac surgery, catheterization and percutaneous procedures in Toronto. More specifically, it will trace how specialties that began often in opposition to each other have ended in collaboration. It intends to do so by contrasting their relationship in the context of cardiac innovations from different eras in Toronto.

**The Breakthrough of Bovinae and the Bicuspid:  
The Challenges and Triumphs of Dr. Alain Carpentier's Cardiac Valve Xenograft and  
their Impact on North American Cardiac Surgery**

By

Jacob Wihlidal

Schulich School of Medicine and Dentistry, University of Western Ontario

Preceptor: Dr. Shelley McKellar, PhD

In early 1968, three years after Dr. Alain Carpentier performed the world's first successful porcine-to-human aortic valve xenograft in Paris, the procedure held a meager one-year success rate of 45%. Driven by the inability to help ailing patients, Carpentier's team was able to histologically identify an adverse immune response to the graft tissue and develop suitable sterilization techniques, improving the one-year success rate to 82% by 1969. In subsequent decades, as Carpentier's bioprosthetic heart valves popularized and grew to encompass grafts of bovine pericardium, they remained under close surveillance by the medical community. A study published in 1999—as monitoring of early xenograft patients continued—outlined the limited lifespan of xenografted valves caused by sterilization-induced calcification. Nonetheless, bioprosthetic valves evolved from Carpentier's early model have proven trustworthy in cardiac surgery due to minimal post-operative physiologic changes, as compared to the hemolytic shear stress caused by mechanical cardiac valves.

Today, bioprosthetic heart valves comprise approximately one third of replaced cardiac valves in North America. Without Carpentier's refusal to file a patent on his initial design, competition-driven innovation to shape the modern xenograft would not have yielded such revolutionary results: reducing mortality from cardiac valve pathology throughout the North American population.

Dr. Alain Carpentier and the xenograft cardiac valve exemplify resilience in the field of clinical heart research. Using scientific journal articles, as well as Carpentier's published work and self-recorded accounts, this presentation will provide a unique narrative of the history, obstacles, and innovations which have shaped the development of North American valve replacements over the late-twentieth century. Specifically, to limit scope, this presentation will precisely analyze the challenges and successes of Carpentier's: early procedures, decision to not patent initial xenografts, and incorporation of the xenograft valve into market, as each pertains to the impact on modern North American cardiac valve replacement.

## **Then and Now: Three Pioneering Medical Events in the Early Career of Dr. William Halsted, 1881-1884**

By

Jesse Campbell, BSc  
Cumming School of Medicine, University of Calgary

Preceptor: Dr. Laura Hinz, MD

Medical ethics have existed since the time of Hippocrates and a look at surgical practice in the late 1800's illustrates how drastically the protocol has changed in just the last 150 years.

Dr. William Stewart Halsted (1852-1922) was a man with many dimensions: brilliant surgeon, radical innovator, struggling addict, prolific teacher. Among his widely recognized contributions to medicine are development of the radical mastectomy for treatment of breast cancer, introduction of rubber gloves during surgery, and initiation of the first formal residency training program in the United States.

This presentation will focus on three events from the earliest portion of Dr. Halsted's career:

- i) In 1881, Dr. Halsted performed the first emergency blood transfusion in the United States, transfusing his own blood into his sister who was suffering from postpartum hemorrhage. This procedure was carried out with little or no knowledge of blood types.
- ii) In 1882, Dr. Halsted performed one of the earliest cholecystectomies in the United States on his own mother. This surgery was performed at 2AM in the patient's own home, as a number of Dr. Halsted's colleagues had refused to operate.
- iii) In 1884, Dr. Halsted began some of the first research into local anesthesia. His experiments included self-injection of cocaine hydrochlorate to investigate its potential as a nerve-blocking agent, leading to an addiction that troubled him for years.

Using biographies, scientific journal articles, and correspondence letters from Dr. Halsted and his contemporaries, this presentation will use these three events as a lens to explore changes in the process of medical discovery and to compare and contrast ethical practices in Dr. Halsted's time to those of the present day.

**7:00 pm**

**Awards Banquet**

**“The Last Defence Lounge”**

**350 McEwen Centre, 3<sup>rd</sup> Floor, above the Food Court**

**Main Campus – The University of Calgary**

***Prior Registration Required***

