

ANESTHESIA HISTORY ASSOCIATION 2015 SPRING MEETING



April 23-25, 2015

UT MD Anderson Cancer Center
Houston, Texas



Department of Anesthesiology & Perioperative Medicine

21st Annual Spring Anesthesia History Association

April 23-25, 2015
UT MD Anderson Cancer Center
1155 Pressler Street, Houston, TX 77030

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A H A

Anesthesia History Association

Overview

This program is intended to enhance the knowledge of historical events in anesthesia. Significant advances have been made in the field of anesthesiology over the years, and it is important that practitioners recognize the historical roots of current practice. Meetings of the Anesthesia History Association have been the primary avenue of disseminating and archiving these achievements in a CME format.

Target Audience

This meeting is designed primarily for physicians, nurses, medical students, historians, and others interested in medical history.

Educational Objectives

- Identify historical aspects of anesthesia and medical techniques as they relate to present-day practice, medical theory, disease co-morbidities, scientific innovation and doctor-patient relationships
- Analyze the history and development of key medical discoveries as they relate to modern-day issues and practice
- Employ historical analysis to discover useful perspectives on modern-day problems as they relate to the delivery of medical, nursing, anesthesia and respiratory care issues
- Learn how the biographies of anesthesia pioneers and practitioners influence the development of current anesthesia theory, practice and management

Accreditation for Physicians

Saint Francis Hospital and Medical Center Continuing Education Program is accredited by the Connecticut State Medical Society to sponsor continuing medical education for physicians.

Continuing Medical Education: Saint Francis Hospital and Medical Center Continuing Education Program designates this live activity for AMA PRA Category 1 Credits. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure: It is the policy of MD Anderson Cancer Center and Saint Francis Hospital and Medical Center to ensure balance, independence, objectivity and scientific rigor. All presenters involved in the selection, development and presentation of content are required to disclose any real or apparent conflicts of interest. All conflicts of interest will be resolved prior to an educational activity being delivered to learners. All presenters are also required to disclose any discussions of off label/unapproved uses of drugs or devices. Presenters who refuse or fail to disclose will be disqualified from participating in the CME activity.

Invited Speakers

In order of presentation

The Life and Surgical Firsts of Michael E. DeBakey, MD

George P. Noon, MD, Baylor College of Medicine

The History of the Texas Medical Center

Jeffery Katz, MD, Memorial Hermann Hospital

The History of UT MD Anderson Cancer Center

James Olson, PHD, Sam Houston State University

Patrick Sim Memorial Lecture: Experience at the Texas Heart Institute

Denton Cooley, MD, Texas Heart Institute

John Cooper, Jr. MD, Texas Heart Institute

Martin Giesecke, MD, UT Southwestern Medical Center (Moderator)

The History of Dental Local Anesthesia

Arthur Jeske, DMD, UT School of Dentistry at Houston

The History of Thoracic Anesthesia

Teresa Moon Calderon MD, UT MD Anderson Cancer Center

Shital Vachhni, MD, UT MD Anderson Cancer Center

History of the University of Texas Medical Branch

James F. Arens, MD, Chairman Emeritus, Department of Anesthesiology, UTMB

The Tenacious Terrior and his Tubes

Harold Doerr, MD, UTHSC—Houston School of Medicine

MB BCh BSc(Hons) MRCP(UK) FRCA FFICM

Peter Featherstone, MD, Addenbrooke's Hospital, Cambridge, UK

The Polio Years in Texas: Battling a Terrifying Unknown

Heather Green Wooten, PHD, San Jacinto College

Preserving Our History

Jose Javier Garza, BA, MS, CAS, UT MD Anderson Cancer Center

i-Genealogy

Jeannette Pieczynski, Professional Genealogist & Lecturer and Author

Getting it Done: Tricks that Work for me that Might Work for You

Tamara Haygood, MD, PhD, UT MD Anderson Cancer Center

Book Publishing Tips

Heather Green Wooten, PhD

What an Editor Looks for: How To Get Published In Your Journal of Anesthesia History

David Waisel, MD, Boston Children's Hospital, Harvard Medical School



Acknowledgement

On behalf of the Anesthesia History Association, the Program Directors gratefully acknowledge the indispensable contributions to this meeting from the following individuals, departments, and institutions:

Siva Arumugam, MD, Ms. Christina Lanthrop, and the St. Francis Hospital and Medical Center (Hartford, CT) Continuing Medical Education Program, for the generous provision of essential CME accreditation for this conference.

George Bause, MD, Karen Bieterman, MLIS, and Judy Robins, MA, and the staff of the ASA Wood Library-Museum of Anesthesiology, whose innovative production of the WLM historical display has added a new dimension to the Annual AHA Spring Meeting.

Manisha Desai, MD, and Sukumar Desai, MD, who provided an enormous amount of counsel and material, both in the initial planning and in the ongoing development stages of this conference, thereby enabling the Course Directors to both establish a vision for this conference and develop the practical implementation steps needed to see it to completion.

Marty Giesecke, MD, who, in his capacity as AHA Treasurer, served as this conference's banker, patiently processing each attendee's registration and overseeing our finances. The organization of the Patrick Sim Lecture panel presentation is also due to Marty's vision, effort, and expertise.

Thomas Rahlfs, MD, who, as Chair of the Department of Anesthesiology and Perioperative Medicine at UT MD Anderson Cancer Center, provided critical financial support and an enormous amount of administrative assistance, without which the production of this conference simply would not have been possible.

Frank Scammon, MD, who has graciously agreed to continue his tradition of serving the AHA as its official videographer, documenting the spring meeting proceedings again this year.

Brad Smith, MD, who provided the initial guidance and encouragement that got this conference project off the ground.

Rob Steiner, AHA webmaster, for his diligence, guidance, and patience in promoting the flow of information for all aspects of this conference from the earliest stages.

The **Michael E. DeBakey Library & Museum—Baylor College of Medicine** and the **Methodist Institute for Technology and Education (MITIE),** which generously supported this conference's education mission.

21st Annual Spring Meeting Anesthesia History Association

April 23-25, 2015
UT MD Anderson Cancer Center
1155 Pressler Street, Houston, Texas 77030

Program Tours

Thursday, April 23, 2015

13:00-14:00 **Methodist Institute for Technology Innovation and Education (MITIE)**

15:00-16:00 **Michael E. DeBakey Library & Museum,
Baylor College of Medicine**

16:00-17:00 **Council Meeting at Marriott Medical Center
Conference Room 5**

18:00-20:00 **Welcome Reception**
Salons A-D
Houston Marriott Medical Center
6580 Fannin Street
Houston, TX 77030



“Digging Deeper into Our Anesthesia Heritage”

21st Annual Spring Meeting Anesthesia History Association

Program Schedule

Friday, April 24, 2015

7:00-7:45 **Breakfast & Registration**

7:45-8:00 **Welcome & Introduction**
David Mackey, MD

Session 01 Theme: The Might y Ones: The Brave and the Bold
Moderator – David Mackey, MD

8:00-8:30 **The Life and Surgical Firsts of Michael E. DeBakey, MD**
George Noon, MD

8:30-9:00 **The History of the Texas Medical Center**
Jeffery Katz, MD

01A

9:00-9:30 **The World War I Military Service of Paul M. Wood**
Anthony Kovac, MD

9:30-10:00 **Medical Care during WW II in the Pacific: The interaction and cooperation between New Zealand and American Armed Forces**
Madeline MacDonnell

01B

9:00-9:30 **Outlook of Physician Histories: J. Marion Sims and “The Discovery of Anesthesia”**
Julia Rosenbloom, MD, MA

9:30-10:00 **Using Paper Fold Analysis to Examine Postscripts and Marginalia Handwritten upon a Missive that Launched the Ether Controversy**
George Bause, MD, MPH

10:00-10:15 **Break**

Session 02 Theme: Interesting Places and People
Moderator: Acsa Zavala, MD, MPH

10:15-11:15 **The History of UT MD Anderson Cancer Center**
James Olson, PHD

02A

11:15-11:45 **The History and Evolution of Anesthetic Care in Rwanda**
Ramon Martin, BA, MD, PHD

11:45-12:15 **General Anesthesia in Japan Around 1830**
Kentaro Dote, MD, PhD

02B

11:15-11:45 **The First Man Who Used a Laryngoscope in Japan**
Hiroshi Makino, MD, PhD

11:45-12:15 **American Trained Chinese Anesthesiologists: How Are They Doing?**
Peishan Zhao, MD, PhD

12:15-13:00 **Patrick Sim Memorial Lecture:
Experience at the Texas Heart Institute**
Denton Cooley, MD
John Cooper Jr., MD
Moderator: Martin Giesecke, MD

Session 03 Theme: The Anesthetic Sampler
Moderator: Teresa Moon Calderon, MD

13:00-14:00 **The History of Dental Local Anesthesia**
Arthur Jeske, DMD

03A

14:00-14:30 **Non-Anesthetic Uses of Ether During the Anesthesia Residency of
Dr. Laurie Brown 1955-57**
Raymond Roy, MD, PhD

14:30-15:00 **Methoxyflurane: Like a Phoenix Rising from the Ashes**
Lori Dangler, MD, MBA

03B

14:00-14:30 **Pain is in the Eye of the Beholder**
Lisa Caplan, MD

14:30-15:00 **Total Recall: History of Awake Craniotomies**
Anh Dang, MD

15:00-15:15 **Break**

Session 04 Theme: Medicine, Monitoring, Monkeys

Moderator: Lori Dangler, MD

15:15-15:45 **The History of Thoracic Anesthesia**

Teresa Moon Calderon, MD

Shital Vacchani, MD

04A

15:45-16:15 **The History of Breathing**

Althea Hatfield, FANCZA

16:15-16:45 **Critical Care Medicine, Hospital Ethics Committee**

Shuyan Huang, MD

04B

15:45-16:15 **Beat to Beat: A Measured Look at the History of Pulse Oximetry**

Antoinette Van Meter, MD

16:15-16:45 **The First Gorilla Anesthesia in the U.S.?**

Martin Giesecke, MD

16:45-17:00 **Conclusion**

David Mackey, MD

Session 05

Awards Banquet and Dinner

18:00-19:00 **Cash Bar**

19:00-19:15 **Opening Remarks**

Sukumar Desai, MD

Sandra Kopp, MD

David Mackey, MD

20:00-20:45 **The History of the University of Texas Medical Branch**

James F. Arens, MD (**Keynote speaker**)

Trevisio's Restaurant

6550 Bertner Street

Houston, TX 77030

Saturday, April 25, 2015

7:00-7:45 **Breakfast & Registration**

7:45-8:00 **Welcome & Introduction**

Katherine Hagan, MD

Session 06 Theme-Anesthetic AAA: Applications, Advances, and Attitudes
Moderator-Katherine Hagan, MD

8:00-8:30 **NASA and Space Flight Simulation History**
Harold Doerr, MD

06A

8:30-9:00 **Importing Entire Anesthesia History Book to a Database Software**
Yoshinori Iwase, MD, PhD

9:00-9:30 **History of Euthanasia and Physician Assisted Suicide**
Asca Zavala, MD, MPH

06B

8:30-9:00 **The Professor and the Student: Their influence on Statistical Inference**
Shreena Vyas, MBBS

9:00-9:30 **Religious Attitudes Towards Pain and Suffering in Mid-19th Century America**
Erin Bettendorf, MD

9:30-9:45 **Break**

Session 07 Theme-Winners, Wonders, and the Wood Library
Moderator-Shital Vachhani, MD

9:45-10:15 ***C. Ronald Stephen Essay Prize***
The Tenacious Terrier and His Tubes
Peter Featherstone, MB, BCh
Introduction by Dr. Sandra Kopp

10:15-10:45 **The Polio Years in Texas: Battling a Terrifying Unknown**
Heather Green Wooten, PhD

07A

10:45-11:15 **Keeping Track of Audiovisual History**
Franklin Scamman, MD

11:15-11:45 **History of Airway Management**
Asca Zavala, MD, MPH speaking on behalf of Javier Lasala, MD

07B

10:45-11:15 **Sir Christopher Wren: The Father (and Lawyer) of Intravenous Therapy**
Christopher Burkle, MD, JD

11:15-11:45 **History of Pacemakers and Anesthesia**
January Tsai, MD

Historical Research & Writing Workshop (Optional)

12:00-13:00 **Lunch**

13:00-13:45 **Preserving Our History**
Jose Javier Garza, B.A., MS, C.A.S.

13:45-14:30 **i-Genealogy**
Jeannette Piecznski, Professional Genealogist & Lecturer and Author

14:30-15:15 **Getting It Done: Tricks that Work For Me (and Might Work For You)**
Tamara Miner Haygood, MD, PhD

15:15-15:30 **Break**

15:30-16:15 **Book Publishing Tips**
Heather Green Wooten, PhD

16:15-16:45 **How To Get Published In “*Your Journal of Anesthesia History*”**
David Waisel, MD

16:45-17:00 **Conclusion**
David Mackey, MD

Tours Thursday, April 23, 2015

**Methodist Institute for
Technology Innovation and Education (MITIE)
13:00**

The MITIE Center is the largest medical simulation complex in the world, incorporating a virtual hospital, OR, PACU, and procedural skills laboratory.



The Methodist Hospital Research Institute
6670 Bertner Ave
Houston, TX 77030

**Michael E. DeBakey Library & Museum,
Baylor College of Medicine
15:00**



The DeBakey Library and Museum chronicles the life of Michael E. DeBakey, pioneering heart surgeon. Participants will be able to view exhibits, photographs, and memorabilia of Dr. DeBakey.

Baylor College of Medicine
1 Baylor Plaza
Houston, TX 77030

8:00-8:30

Friday, April 24, 2015

Session 01

The Mighty Ones: The Brave and the Bold

Moderator: David Mackey, MD



The Life and Surgical Firsts of Michael E. DeBakey, MD

George P. Noon, MD
Baylor College of Medicine

Bio

Dr. George P. Noon has focused his surgical career in organ transplantation and cardiac assist devices. In 1968, Dr. Noon, Dr. Michael E. DeBakey, and their surgical team performed the worlds first multi-organ transplant, a heart, lung and two kidneys.. The program was discontinued, except for kidneys because worldwide results were discouraging. When the immunosuppressant cyclosporine became available in 1986, Drs. Noon and DeBakey restarted the heart and lung transplant programs.

It was crucial for the surgical team to provide mechanical ventricular assistance for patients with heart failure. Dr. Noon became the primary surgeon for the insertion of ventricular assist devices. In 1988, Drs. Noon and DeBakey met with engineers from NASA to develop a miniature axial flow blood pump. Ten years later, Dr. Noon participated in the care of Russian President Boris Yeltsin, who needed a coronary bypass operation. In the same year, the first MicroMed DeBakey-Noon human implants were performed in Berlin, Germany. In 1999, Dr. Noon was inducted into the Space Technology Hall of Fame.

Dr. Noon is a member of multiple societies, has been invited as a guest lecturer and surgeon throughout the world, and has authored more than 350 publications. He is internationally known and respected for his pioneering research and clinical expertise in transplantation and assist devices.

8:30-9:00

Friday, April 24, 2015

Session 01

The Mighty Ones: The Brave and the Bold
Moderator: David Mackey, MD



**The History of the Texas
Medical Center**

Jeffery Katz, MD
Memorial Hermann Hospital System

Biography

Chief Medical Officer, Memorial Hermann Hospital, Texas Medical Center, and Professor of Anesthesiology, UT Medical School, Houston.

Jeff Katz was born and raised in South Africa, graduated from the University of Cape Town Medical School, and emigrated to the USA. He completed his residency training and a postdoctoral fellowship at Case Western Reserve in Cleveland, Ohio. After completing his residency in 1980, he was recruited by Dr. Joseph C. Gabel to join the faculty at the University of Texas Department of Anesthesiology and served as Director of the Residency Training from July 1983-91. He was appointed Interim Chairman of the Department of Anesthesiology from April-September, 1988 and served as Professor and Chairman from 1992-2005. Dr. Katz was elected as President-elect of the Medical Staff in 2002 and served as President of the Medical Staff Memorial Hermann-TMC in 2004-2005. Dr. Katz had a research interest focused in Neurosurgical Anesthesia and Air Embolism, but since becoming administratively active in the Department, became more interested in medical reform and medical legal affairs. In 2007, he became the Chief Medical Officer at UT's primary teaching hospital, Memorial Hermann, and has focused on Quality Improvement since that time.

Dr. Katz served as the Department's representative on the Medical School's Risk Management Committee for 10 years and has made medicolegal affairs a special interest. At the beginning of 1995, Dr. Katz became Chairman of the Medical School's Practice Plan and has had a hand in the changes that are occurring at the University of Texas Medical School as a result of the revolution in health care in the USA. Dr. Katz is currently Chief Medical Officer at Memorial-Hermann Hospital and continues to work in the Department of Anesthesiology, primarily in Obstetric Anesthesia.

The World War I Military Service of Paul M. Wood

After Camp Crane, Wood was sent to the Allied Expedition Force at Camp Dixon, NJ for further training prior to being transferred to Italy and called into active service on June 20, 1918. Other 1st lieutenants were Ethel, Mauser, Phelps, Lackey and Decker. His commanding officer was Captain H. G. Tomlin. On August 6, 1918, Section 557 was the 2nd ambulance unit to leave for the front arriving at Trevignano, Italy in the vicinity of Montello. They were attached to the 22nd Army Corps of the 8th Battalion Army. On October 1, 1918, the entire unit moved to Voltago, Italy. While no casualties occurred, Section 557 and their headquarters were constantly under machine gun fire, shell and air bombardment. After Voltago, the section headquarters moved to Belluno and later to Gemona, Italy. The men in Section 557 were awarded the Italian War Cross of Merit. At war's end, twenty-five men pledged to grow a mustache when they were discharged.

Wood received a service medal that had the war clasp of Vittorio-Veneto. General Armando Diaz was the Italian general who coordinated and led the final great battle of the war on the Italian front (October 27 to November 3, 1918) which occurred in an area known as Vittorio-Veneto. The need for transportation of sick and wounded during the battle was so great that all personnel and available vehicles, including heavy use trucks, were sent to the front lines to aid and strengthen the ambulance sections.

When the Austrians were driven out of Italy, a new front was established in an area south of the Piave River. The distance from war front to hospitals was about 75 to 150 miles. Italian people who lived in the area received help from ambulance transportation of the sick and wounded. World War I ended on November 11, 1918. Following the war, the main forces of American troops and ambulance services were withdrawn, assembling in Genoa to return to America. From June 12, 1918 until February 19, 1919, Paul M. Wood served in Italy with the Ambulance Corps. He was not wounded in action or disabled. He was honorably discharged from the US Army on February 21, 1919.

References

1. Paul M. Wood US Army discharge certificates; New York State Archives.
2. History of the United States Army Ambulance Service by J. Smucker, 1967: p 8-9.
3. History of the Ambulance Service News, National WWI Archives, Kansas City, MO.
4. Wood Library Museum of Anesthesiology Archives. Schaumburg, IL

Medical Care During WW II in the Pacific: The interaction and cooperation between New Zealand and American Armed Forces

Background: 1942 to 1945 American and New Zealand soldiers fought under desperate conditions to save and protect the countries of the Pacific. A historic time for anaesthesia when Thiopentone was first used.

Aim: To revisit this poignant and sombre time – lest we forget.

Sources: Australian War Memorial Museum, Canberra, Australia; Brisbane Public Library, Australia; National Army Museum, Waiouru, New Zealand University of Auckland Library, New Zealand

Results: The results of our research revealed descriptions, and sometimes photographs of operations carried out in tents, or even on the back of trucks. In the tropical climate Ether easily evaporated and was very difficult to use. The patients had lost much of their blood volume and they were often infected with Malaria and other tropical diseases. Thiopentone was not well understood and many tragedies occurred.

Conclusion: The soldiers, already weak from the effects of poor diet and life in the tropics were very vulnerable to the administration of anaesthesia. The ability to give intravenous fluids and especially plasma and blood were limited.

Amputations, often without any form of pain relief or anaesthesia were carried out for many reasons as well as trauma just to save lives.

References:

1. Adams R. C., Gray H. K. Intravenous anesthesia with Pentothal sodium in the care of gunshot wounds associated with accompanying severe traumatic shock and loss of blood: report of a case. *Anesthesiology* 1943; 4: 70–73.
2. Dr Campbell-Begg R., Dr Liddle P. *Five Shillings a Day*. London: Harper Collins; 2000.
3. Editorial. The question of intravenous anesthesia in war surgery. *Anesthesiology* 1943; 4: 74–77.
4. Halford F. J. A critique of intravenous anesthesia in war surgery. *Anesthesiology* 1943; 4: 67–69.
5. Kelley E. H. War Anaesthesia in the South Pacific, *Cal West Med*. Aug 1944; 61(2): 63–64.

9:30-10:00

Friday, April 24, 2015

Session 01A-Abstract 2

Madeline MacDonnell

6. Moon M. & B. Ni-Vanuatu Memories of World War II. Diamond Harbour, New Zealand: M & B Moon; 1998.
7. Petty B. M. New Zealand in the Pacific War. Jefferson, NC: McFarland; 2008.
8. Steward H. D. Recollections of a Regimental Medical Officer. Melbourne: Melbourne University Press; 1983.

The Outlook of Physician Histories: J. Marion Sims and “The Discovery of Anesthesia”

Background: That doctors have a long tradition of writing medical history to interpret and direct their profession is well-established. William Osler, for example, initially penned medical biographies in order to inspire his pupils with "high ideals" suitable for the profession; as the medical field became increasingly invested in scientific thinking and laboratory work, Osler gradually shifted his focus to the importance of experimental medicine. But physicians' medical histories can also look outward to offer commentary and analysis of the world beyond medicine. In describing the nineteenth-century discovery of surgical anesthesia, J. Marion Sims exemplifies this use of medical history as a way of looking both inward and outward from the field.

Aim: To illustrate how Sims's 1877 article “The Discovery of Anaesthesia” commented both on the medical profession and the postbellum United States.

Resources: Primary sources at the Wood Library Museum Archives, Library of Congress Archives, and Yale University Medical Library; secondary sources at Yale University Medical Library.

Methodology: We performed a close reading of Sims's article and associated primary and secondary sources in the context of nineteenth-century American medicine and postbellum politics.

Results: “The Discovery of Anaesthesia” claimed to offer “a plain statement of facts” and recounted the events surrounding the first uses of ether and nitrous oxide for surgical anesthesia in the United States. But the essay also commented on the American medical profession—how it intersected, relied on and was distinct from social spheres—and suggested reforms such as reward for individual achievement. Finally, Sims's article took into account its backdrop of the post-Civil War period and Reconstruction in order to offer a view into the turbulence of contemporary racial tensions and sectionalism.

Conclusion: Physician-histories are intimately tied to both the profession of medicine and the political landscapes around them as evidenced by J. Marion Sims's “The Discovery of Anaesthesia.”

Selected References:

Fee, E, Brown TM. “Using Medical History to Shape a Profession: The Ideals of William Osler and Henry E. Sigerist” in *Locating Medical History*. Ed. by F Huisman and JH Warner. Baltimore: JHUP 2004: 139-164.

9:00-9:30

Friday, April 24, 2015

Session 01B -Abstract 1

Julia Rosenbloom, M.D. M.A.

2. McGregor, DK. From MidWives to Medicine: The Birth of American Gynecology. New Brunswick: Rutgers UP 1998.
3. Sims, JM. "The Discovery of Anaesthesia," Virginia Medical Monthly. 1877; 4: 81-100.
4. The Wondrous Story of Anesthesia. Ed by El Eger, RN Westhorpe, LJ Saidman. New York: Springer, 2014.

Using Paper Fold Analysis to Examine Postscripts and Marginalia Handwritten upon a Missive that Launched the Ether Controversy

The quaint custom of using “P.S.”, short for Post Scriptum (Latin: “written after”), reminds readers of how Merriam-Webster defines postscript, as “a note or series of notes appended to a completed letter, article, or book.”(1) Although use of the term “postscript” dates back to 1551, “marginalia” is a word coined centuries later, in 1832, by famed annotator Samuel Taylor Coleridge. Merriam-Webster defines marginalia as “marginal notes or embellishments.”(2)

Paperfolding of a dry handwritten letter minimally changes original ink deposition. However, writing over the crease (of a previously folded letter) can leave plenty of evidence of this transgression upon a missive’s original contents. Letter content, crease wear and even a wax seal can provide evidence for a document examiner in determining the original sequence of letter folds. This sequencing can be helpful in ascertaining whether postscripts were added before or after sealing.(3,4)

Using a combination of widely available graphics and presentation software programs, the paper fold analyst can color-code portions of letters and simulate sequentially re-folding a letter virtually. Besides testing for sequencing accuracy and for the likely sequence of folds, such software allows the examiner to share theorized paper fold sequencing with viewers of both screened and printed imagery.

The author will demonstrate one relatively low-tech approach to paper fold analysis of historical documents. The example used will be the inner missive of the famous “double letter” sent by W.T.G. Morton’s preceptor and co-patentee, Dr. Charles T. Jackson, to the physician’s geology mentor at the French Academy of Sciences.(5)

References:

1. <http://www.merriam-webster.com/dictionary/postscript> (accessed 14 Feb 2015).
2. <http://www.merriam-webster.com/dictionary/marginalia> (accessed 14 Feb 2015).

9:30-10:100

Friday, April 24, 2015

Session 01B-Abstract 2

George Bause, MD, MPH

3. Huber RA, Headrick AM. Handwriting Identification: Facts and Fundamentals. Boca Raton, Fla: CRC Press, 1999.
4. Hayes RC. Forensic Handwriting Examination: A Definitive Guide. Honolulu, HI: ReedWrite Press, 2006.
5. Bause GS: C.T. Jackson's Sealed 13 November 1846 Letter to J.B.A.L.L. Élie de Beaumont: Translated (1847), Back-Translated (1861), and Accurately Transcribed for the First Time (2014). J Anesth Hist 2015 Jan; 1(1): 9-13.
DOI: 10.1016/j.janh.2014.11.010.

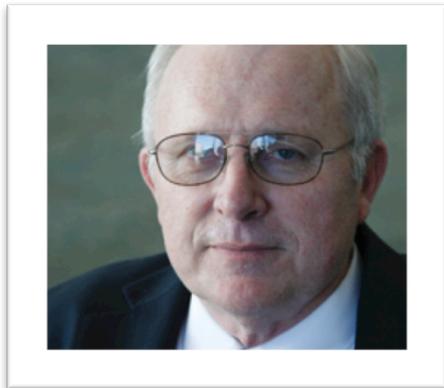
10:15-11:15

Friday, April 24, 2015

Session 02

Interesting Places and People

Moderator: Acsa Zavala, MD, MPH



The History of UT MD Anderson Cancer Center

James Olson, PHD
Sam Houston State University

Biography

James S. Olson is one of six Texas State University System Regents Professors at Sam Houston State University. He received the B.A. from Brigham Young University and the M.A. and Ph.D. from the State University of New York, Stony Brook. He is the author and/or editor of more than forty books on U.S. and world history and the recipient of many research and writing awards. His book *Bathsheba's Breast: Women, Cancer, and History* was a nominee for the 2002 Pulitzer Prize in History, received the 2002 History of Science prize from the Association of American Publishers, and was named one of the fifty best non-fiction books for 2002 by the Los Angeles Times. In 2001, his *A Line in the Sand: The Alamo in Blood and Memory* won the Diolece Pannelee Award from the Texas Historical Foundation. Olson's biography of John Wayne--*John Wayne American*--was a nominee for the 1996 Pulitzer Prize in Biography and won the Ray and Pat Brown National Book Award from the Popular Culture Association. In 2005, the Carnegie Endowment for Education and the Council for the Advancement of Education named Olson one of America's best undergraduate teachers. His most book, **Making Cancer History: Disease and Discovery at the University of Texas M.D. Anderson Cancer Center** was published by The Johns Hopkins University Press in 2009. The Sixth Edition of Olson's book, **Where the Domino Fell: American and Vietnam** was published in London by Wiley Blackwood in 2014. His most recent book--**The Industrial Revolution: Key Themes and Documents**--was published by ABC-CLIO in 2015.

The History and Evolution of Anesthetic Care in Rwanda

Background Information: A landlocked country in eastern Africa, Rwanda's land mass is the size of the state of Maryland. Its' population of approximately 11 million makes it the most densely populated country in Africa. In 1885, the Berlin Conference gave Germany control of Rwanda. After the end of World War I, Belgium took control. When Rwanda gained independence from Belgium in 1962, conflicts between the majority Hutus and the minority Tutsi culminated in the genocide of 1994. Over the past twenty years, there have been tremendous gains in the development of the country, including the delivery of medical care. At present, there are 16 anesthesiologists and over 500 anesthesia technicians for the entire country. All of the older anesthesiologists and anesthesia technicians trained outside of Rwanda.

Aim: To delineate the history and evolution of anesthetic care in Rwanda, looking at the periods: under Belgian rule, after independence to 1994 and after 1994. To see which European countries invested in the educational systems of their African colonies.

Methodology: Several sources were used to gather information. 1. Oral histories from senior anesthesiologists and anesthesia technicians. 2. Surveys of anesthetic practice in Rwanda, conducted in 2001 and 2007. 3. Questionnaires that were sent to retired Belgian and Belgian-trained anesthesiologists. 4. Literature review.

Results: Prior to independence, there was no formal university or medical education in Rwanda. Traditional medical healers provided care for the populace and still play a significant role. Under Belgian rule, there were occasional religious-sponsored mission medical teams that would provide care for brief periods of time. After independence, the National University of Rwanda was founded in 1969. The first group of anesthesia technicians, trained primarily in Uganda, began to practice in 1972. A formal training program for anesthesia technicians did not start until 1997. The Medical School opened in 1973, with the main teaching hospital in Butare.

The Anesthesia residency program for the National University of Rwanda started in 2007, with the first group of Rwanda – trained anesthesiologists finishing four years ago. Uganda, a former British colony, has a medical education system that began under British rule and has trained a number of current medical providers in Rwanda.

Conclusion: The history of anesthetic care in Rwanda is recent, with anesthesia technicians providing the bulk of care since 1972. The number of anesthesia physician providers is slowly increasing, with an anesthetic residency that is now fully functional. Belgium did little to build an educational system in Rwanda and its other colonies, unlike the United Kingdom, which established universities in its' colonies based on the British model.

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General Anesthesia in Japan around 1830

Introduction: We recently rediscovered Geka-Kihai-Zufu (1838) and Mafutsuto-Ron (1839) written by Gendai Kamata, who was one of the best apprentices of Seisyu Hanaoka . These books revealed the actual circumstances of general anesthesia application in Japan at the time (around 1830). Herein, we report the results of our study.

Method: We investigated the circumstances of developing and administering general anesthesia in Japan around 1830 by reviewing illustrations and descriptions of surgery under general anesthesia from Geka-Kihai-Zufu and Mafutsuto-Ron. This time, we focused mainly on preoperative assessment of general condition, the method for maintaining general anesthesia.

Results: We were able to describe the actual circumstances of general anesthesia by reviewing both the pictures and the translated text with an explanation. At first, Gendai warned that major surgical treatment should be avoided in summer and winter. Avoiding the conditions of extreme heat or cold were considered to be essential for success in surgery under general anesthesia, because at the time there were neither cooling nor heating systems, nor were there prophylactic measures against infection and suppuration. The text indicated that Gendai gave sufficient attention to preoperative. He performed three pre-anesthesia diagnoses, of which were performed before the administration of Mafutsuto. Next, Gendai stated that the operation should be started around noon, and that the duration should not exceed two hours. This was related to daylight being the primary light source available at the time because there was no lighting equipment as we have today. In addition, an operation lasting for more than two hours would presumably have carried a higher risk of dehydration when the patient had a significant amount of bleeding because at the time there was no concept of intraoperative fluid replacement. He emphasized that the patient should be blindfolded at the beginning of the operation and would need to be restrained in order to perform surgery safely. We speculate that these operations occasionally had disastrous outcomes, considering the limitations of general anesthesia using Mafutsuto in terms of adjustability, certainty of effect, and feasibility.

Conclusion: We have herein reported on Hanaoka's method of general anesthesia in Japan during the period around 1830, based on the illustrations and the descriptions in Geka-Kihai-Zufu and Mafutsuto-Ron written in the 1830s.

The First Man who used a Laryngoscope in Japan

Antonius Francius Bauduin is considered to be the first man who used a laryngoscope in Japan. He came to Japan in 1862 as a doctor at the Dutch East India Company to replace Pompe van Meerdervoort. He already had a great career in medical teaching in the army medical school in Utrecht. Several Japanese doctors came to him to study frontline Western medicine.

In 1854, a vocal teacher, Manuel Garcia, observed a larynx in a living person using a laryngoscope. He reported his findings at the Royal Society of London in 1855. Garcia is generally regarded as the father of laryngoscopy.

The year 1904 marked the 50th anniversary of the invention of the laryngoscope by Manuel Garcia. On November 27, 1904, a big event celebrating the 50th anniversary of the invention of the laryngoscope and Garcia's 100th birthday was held at Ueno-Seiyoken, Tokyo, Japan.

An attendee, Baron Tadanori Ishiguro, delivered a speech on the laryngoscope. He used an improved version of the Johann Czermak-style laryngoscope in 1866 in Tokyo. The laryngoscope was sent by Bauduin. Baron Ishiguro had a clear memory of using the laryngoscope with an oil lamp.

Another attendee, Baron Tsunatsune Hashimoto, did not clearly remember whether or not Bauduin had used the laryngoscope when he studied in Bauduin's medical school. However, in Hashimoto's friend's notebook, there was the word "Kehle

which means "larynx mirror." Hashimoto
t Bauduin had given a lecture on
laryngoscopy.



Antonius Francius Bauduin (1820–1885)

This picture is taken from the website "Bauduin
photographic albums of Japan around the
Meiji period."

<http://oldphoto.lb.nagasaki-u.ac.jp/bauduins/index.html>

American Trained Chinese Anesthesiologists: How are they doing?

Background: The pioneer Chinese anesthesiologists were trained by American Physicians in late 1940s and returned to China to establish structured anesthesia departments and formal residency training programs (1). However, the 10-year “culture revolution” started in the mid-1960s disrupted normal life of Chinese people and impeded development of all fields, including anesthesiology.

In December 1978, Deng Xiaoping, Chairman of the Chinese Communist Party and Central Military Commission, announced a new “open door” policy, which allowed thousands of young people to go out of China to the western countries and to start their new explorations. Many new graduates from medical schools and young physicians came to the United States. Most of them started with basic biomedical research in the laboratories. Later, the strong clinical interests and mastery of English encouraged them to take United States Medical License Examination (USMLE). Many lucky ones passed USMLE and entered residency programs although some had to change their specialties that they had had in China.

Currently, there are more than 500 American Trained Chinese Anesthesiologists (ATCAs) practicing in the United States (2).

Aims: This paper hopes to answer two important questions. First, how well are ATCAs doing in the United States? Second, do American physicians still have influence on modern Chinese anesthesiology?

Methods: Personal experiences, official website information and publications from peer reviewed journals were searched and reviewed.

Results: Professional organizations and publications are two major means used by ATCAs to advance professional development and academic exchanges. Two professional organizations, Chinese American Society of Anesthesiologists (CASA) (3) and International Chinese Academy of Anesthesiology (ICAA) (4) have been established in 2003 and 2012, respectively. The members of both CASA and ICAA go back to China every year to lecture at both national and local anesthesia conferences. Meanwhile, ICAA members invited their Chinese colleagues to the United States to learn American anesthesiology. So far, more than 330 anesthesiologists from mainland China have finished their sabbaticals and training in ICAA members' laboratories or departments.

There is a huge gap between American and Chinese Obstetric anesthesia practice. Labor epidural analgesia is seldom provided in the hospitals in China as a result of the misconception that Cesarean section (C-section) offers better outcomes for mother and baby, and local anesthetic in the epidural will harm the baby. A lot of Chinese pregnant women ask for C-section because of unbearable labor pain as well. In 2008, the average rate of labor epidural was less than 1% in China. The C-section rate in China is 46.2%, the highest in the world (5).

A 10-year program, “No Pain Labor & Delivery – Global Health Initiative (NPLD-GHI)” was launched in 2008 by Dr. Lingqun Hu, an ATCA at Northwestern University in Chicago. So far, almost 300 volunteer health care professionals including anesthesiologists, anesthesia residents, obstetricians, neonatologists, and labor and delivery nurses from multiple academic institutions and private hospitals in both the United States and Canada have visited 34 Chinese hospitals. Labor epidural analgesia rates have increased from zero to 85-95 % in some hospitals in China. The rates of C-section and episiotomy have decreased dramatically in other hospitals. NPLD-GHI has changed obstetric anesthesia and obstetrics practice in a positive way in China. NPLD-GHI has been recognized by the Chinese Society of Anesthesiology (CSA), the Chinese society of Obstetrics, the American Society of Anesthesiologists (ASA) and the American College of Obstetricians and Gynecologists (ACOG). In 2011, Dr. Hu received Teaching Recognition Awards-Achievement in Education from International Anesthesia Research Society (IARS).

Publication is another effective tool to promote academic exchanges and spread new knowledge. The number of publications from ICAA members is increasing annually. Recent scientific publications of ICAA members can be found on ICAA website (6). ICAA members also own several professional journals, including a bilingual one, “Translational Perioperative and Pain Medicine”. In the last 5 years, members of ICAA and CASA have translated and/or published 5 textbooks and 2 patient education books.

Conclusion: Chinese anesthesiology was rooted from American soil. It is the first time in American history that more ATCAs than ever are practicing in the United States. They are not only making great contribution to American healthcare, but also disseminating American new ideas, advanced concepts, and high standards of care to China, therefore, improving patient safety.

The influence of American anesthesiology on modern Chinese anesthesiology is clearly still very strong, and in the future, continued collaboration between anesthesiologists of both countries will allow all to flourish.

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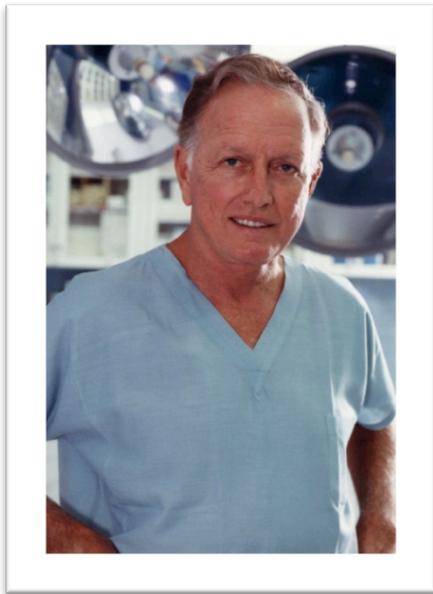
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12:15-13:00

Friday, April 24, 2015

Special Session

Patrick Sim Memorial Lecture
Moderator: Martin Giesecke, MD



Experience at the Texas Heart Institute

Denton Cooley, MD
Texas Heart Institute

Biography

DENTON ARTHUR COOLEY, son of a Houston dentist, was born in 1920. He attended the Houston Public Schools and graduated from San Jacinto High School. He then attended The University of Texas where he was a member of Kappa Sigma Fraternity. He was a member of the Southwest Conference Champion Basketball teams of that era. He graduated with highest honors and Phi Beta Kappa. He attended the University of Texas Medical School at Galveston for two years and transferred to Johns Hopkins University School of Medicine in Baltimore where he graduated in 1944 with highest honors and Alpha Omega Alpha. He completed his surgical residency under Dr. Alfred Blalock serving for six years with a leave of absence between 1946 and 1948 to serve military duty in the 124th Station Hospital, Linz, Austria. Upon completing his residency he joined Mr. Russell Brock at Brompton Hospital in London, England where he was Senior Surgical Registrar.

Upon completing his training, he entered the full-time medical faculty of Baylor College of Medicine where he served from 1951 to 1969, when he resigned to become Chief Surgeon at the Texas Heart Institute. Dr. Cooley is a member or honorary member of over 50 professional societies around the world and a dozen fraternities and clubs.

Denton Cooley, MD Biography continued:

Among his more than 120 honors and awards are the Grand Hamdan International Award for Medical Science presented in Dubai, November, 2000, the National Medal of Technology presented by President Clinton in 1999, the Medal of Freedom, the nation's highest civilian award, presented by President Reagan in 1984, the Theodore Roosevelt award given by the National Collegiate Athletic Association to a varsity athlete who has achieved national recognition in his profession and the Rene Leriche Prize, the highest honor of the International Surgical Society for cardiovascular contributions. Dr. Cooley received the American Surgical Association Medallion of Scientific Achievement for "Distinguished Service to Surgery" in April, 2010. He has been named Distinguished Alumnus for both The University of Texas and Johns Hopkins University where he served on the Board of Trustees. He has received honorary degrees from five American universities and three foreign. He has been named Honorary Fellow of five Royal Colleges of Surgery, Glasgow, Scotland, Australasia, Ireland, England and Edinburgh. Dr. Cooley has received decorations from 12 foreign countries including Argentina, Ecuador, Greece, Italy, Jordan, Panama, Peru, the Philippines, Spain, The Netherlands and Venezuela.

He has contributed to the techniques for repair and replacement of diseased heart valves and is widely known for his pioneering surgical treatment of cardiac anomalies of infants and children. Dr. Cooley and his team have performed over 120,000 open heart operations at his hospital.

Dr. Cooley believes his major accomplishment has been the creation of the Texas Heart Institute and developing a school of surgery. More than 800 surgeons are members of the Cooley Surgical Society.

The Denton A. Cooley Building completed in 2002 for the Texas Heart Institute was provided largely by donations from patients, friends, and colleagues. It has facilities for education, research, and 12 operating rooms for cardiovascular surgery.

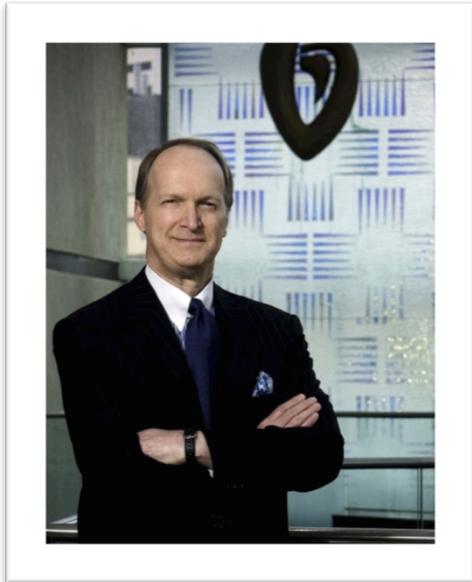
Dr. Cooley has been married for 65 years to Louise Thomas Cooley. They have five daughters and sixteen grandchildren and 9 great grandchildren. He enjoys his family at their ranch and at their Galveston beach house. Dr. Cooley enjoys many hobbies, but has always been hooked on golf.

12:15-13:00

Friday, April 24, 2015

Special Session

**Patrick Sim Memorial Lecture
Moderator: Martin Giesecke, MD**



Experience at the Texas Heart Institute

**John Cooper Jr., MD
Texas Heart Institute**

Biography

John Cooper was born in Mississippi. Educated at Mississippi State University and Tulane Medical School, after internship at the University of Tennessee, he entered the anesthesiology residency program at the University of Mississippi when James F. Arens, M.D. was chairman. After completion of his residency, he did an additional fellowship in cardiovascular anesthesiology and critical care medicine at the University and the Texas Heart Institute, finishing in 1976. His initial practice was in New Orleans at the Ochsner Clinic, but in 1978 he accepted a position in the Division of Cardiovascular Anesthesia at the Texas Heart Institute under Arthur S. Keats, M.D. and has remained there since that time. He is presently Attending Anesthesiologist at THI and Baylor St. Luke's Medical Center and Clinical Professor of Anesthesiology at Baylor College of Medicine.

13:00-14:00

Friday, April 24, 2015

Session 03

The Anesthetic Sampler

Moderator: Teresa Moon Calderon, MD



The History of Dental Local Anesthesia

Arthur Jeske, DMD

UT School of Dentistry at Houston

Biography

Dr. Jeske is Professor, Department of General Practice and Dental Public Health and Associate Dean for Strategic Planning & Continuing Dental Education, University of Texas School of Dentistry at Houston. He earned his Ph.D. degree (pharmacology) and his D.M.D. degree at the Medical College of Georgia. Dr. Jeske is Editor-in-Chief, Mosby's Dental Drug Reference, Section Editor (Pharmacology), Cranio and Coordinating Editor, Oakstone Publishing Practical Reviews in General and Cosmetic Dentistry. He serves as an Evidence Reviewer for the American Dental Association's Center for Evidence-Based Dentistry and Fellow, International College of Dentists, American College of Dentists and the Pierre Fauchard Academy. Dr. Jeske holds memberships in the ADA, TDA and GHDS, as well as Omicron Kappa Upsilon and Delta Sigma Delta.

Non-anesthetic Uses of Ether during the Anesthesia Residency of Dr. Laurie Brown 1955-57

Background: In 1992 L. Laurie Brown, M.D., Professor Emeritus and historian at the Medical University of South Carolina (MUSC), wrote "Recollections" of his anesthesia residency at MUSC 1955-1957 (1). He described four non-anesthetic applications for ether. The aim of this study was to determine whether these now defunct practices were idiosyncratic to MUSC or supported by the literature prior to his residency.

Methods: PubMed was queried with the following search terms; ether asthma, analgesia, circulation time, and retained urinary catheter. The table of contents and indices of *Anesthesiology* and *Anesthesia & Analgesia* were reviewed from 1935-1955.

Results: Quotations (italicized) from Brown's "Recollections" (pages 28-29) are followed by quotations from literature references supporting these applications.

"We used ether rectally on occasion, mixed in olive oil, to treat status asthmaticus." "The adult dosage...was from five to seven ounces of equal parts of ether and olive oil thoroughly mixed, and twenty minutes' time was allotted for each administration. The narcosis following was usually deep, lasting several hours (2)."

"On rare occasion it was used rectally as an analgesic." "The results of the medication vary from a sedative effect to analgesia with unconsciousness and complete amnesia... In 98 per cent of 540 analgesized cases pain was greatly alleviated – of these 67 per cent had practically no pain, while 31 per cent obtained very considerable relief but not to be graded perfect (3)."

"About five minims were mixed with five drops of saline and injected into an arm vein and when either the patient or the observer smelled the ether on the patient's breath, this was the circulation time." "The intravenous injection of ether, saccharin or sodium dehydrocholate [to determine circulation time] carry with them not only disadvantages but even dangers (4)." "The normal circulation time is seriously prolonged in patients suffering from myocardial failure (5)."

"Ether was injected on occasion into a catheter which could not be removed from the bladder because the bulb could not be deflated." "...the balloon sometimes becomes exasperatingly difficult to deflate... The injection of ½ to 1 cc. of ether, xylene, or chloroform produces rupture of the balloon (6)."

14:00-14:30

Friday, April 24, 2015

Session 03A –Abstract 1

Raymond Roy, MD, PhD

Conclusions: The applications described by Brown were not unique to his institution. They were described in the literature prior to his tenure as an anesthesia resident.

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14:30-15:00

Friday, April 24, 2015

Session 03A-Abstract 2

Lori Dangler, MD, MBA

Methoxyflurane: Like a Phoenix Rising from the Ashes

Background: Methoxyflurane (MOF) is a halogenated ether first used clinically as a volatile inhalational general anesthetic. It was synthesized in 1948 by Miller {1}, an organofluoride chemist who worked on the Manhattan Project {2}. Human introduction of MOF was by Artusio {3} et al in 1960. In ten years, MOF was the leading inhalation anesthetic used worldwide. By mid 1970, MOF was shown to cause liver {4} and renal {5} toxicity in anesthetic concentrations. MOF appeared to go quickly from “Cradle to Grave” {6}. It was first voluntarily withdrawn by the manufacturer for distribution, then by the FDA for safety concerns (7).

Aim: The intent of this paper is to take a critical look at MOF through history in the US and globally. Because of Mazze’s studies {8, 9, 10}, MOF will be memorialized as a toxic anesthetic. His diligent research drastically changed anesthesia practice. So, what do we really know about this controversial anesthetic? Is it really dead, or is it living on as a unique analgesic elsewhere? If that is the case and it has acceptance elsewhere, will it ever comeback to the US?

Resources: News, Official Records, correspondence, pamphlets, narratives, journals, texts, references material, annual reports, and internet search engines

Methods: Primary methodology was a literature review from 1940s until present with emphasis on significant events and applications of MOF. Secondary methodology was internet searches.

Results: The majority of literature from 1960-1973 involved introductory studies {11, 12, 13} of this newest General Anesthetic and studies revealing its properties {14, 15, 16}. New vaporizers (17) were manufactured for precision use. Additionally, there were parallel studies in Analgesic methods {18} and initial obstetrical {19} applications using the Penthrane Analgizer {20}, Cardiff Inhaler {21} and Penhalor {22}. The early ‘70s focused primarily on toxicity with general anesthesia. Subsequently, the manufacture discontinued US and Canadian distribution and the FDA determined that MOF should be withdrawn for safety concerns {23}. Meanwhile, Australia continued with analgesic use of the Pentrox Inhaler in prehospital {24}, emergency {25} and military settings {26}. Publications in the last five years have emphasized these and additional procedural applications

{27, 28, 29} and extended settings {30, 31, 32}, with some increase in clinical trials for efficacy {33} and safety {34} of inhaled MOF via Pentrox {35}.

Results: This historical review supports the rise, fall, rebirth and resurgence of MOF globally. It was thought to be dead, but has “risen like a phoenix from the ashes. Its so-called “novelty” is now with the analgesia of the “green whistle {36}.” Inhaled MOF, as an analgesic, began in the 1970s and has continued under the radar for the past 40 years, primarily in Australia and NZ. It appears to be an effective analgesic with many applications. However, available studies showing decreases in pain scores and high patient satisfaction have been mostly observational and not controlled. Despite this, sales have shown remarkable growth {37} in Australia/NZ and the Middle East with recent expansion back to Europe. Reintroduction into the UK {38} is currently limited with studies pending. Additional published randomized control trials documenting efficacy of MF as an analgesic, occupational exposure limits, and studies of sub anesthetic doses to analyze toxicity are needed. Although currently not approved for human use, MOF has made it full circle back to the US for veterinary purposes under the trade name ANAFANE {39}.

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Friday, April 24, 2015

Session 03A-Abstract 2

Lori Dangler, MD, MBA

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Friday, April 24, 2015

Session 03A-Abstract 2

Lori Dangler, MD, MBA

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PAIN IS IN THE EYE OF THE BEHOLDER

The treatment of pain and pain management falls under the purview of almost any anesthesiologist practicing today. But what is pain? The International Association for the Study of Pain defines this as “an unpleasant sensory and emotional experience associated with acute or potential tissue damage, or described in terms of such damage¹.” This definition highlights the interplay between the physiologic and psychosocial aspects of pain. Nociception focuses on the physiologic aspect of pain and describes the neural response to traumatic or noxious stimuli. All nociception produces pain, but not all pain creates nociception¹. The issue of pain management in infants and small children becomes problematic as this population has no language, and there is no quantitative or reliable means to measure pain². Therefore peripheral physiologic markers of pain must be employed in a nervous system undergoing rapid development.

In the 1960-1970's, surgery on preterm and term infants was carried out with minimal or no anesthetics to avoid intraoperative cardiorespiratory instability due to these agents⁴⁻⁵. It was based on the false assumption that infants have no memory of pain and are unable to discriminate painful and non-painful stimuli³. Pediatric anesthesia references recommended awake intubation on infants less than 4 weeks of age, with 50:50 nitrous oxygen as maintenance⁴. A landmark paper in intraoperative pediatric pain management was published in 1981 from Robinson and Gregory. The researchers demonstrated a fentanyl-air-oxygen technique for neonatal cardiac surgery based upon their “philosophic objections” to using no anesthetics. The paper’s recommended cardio stable fentanyl dose of 30-50 µg/kg was radically higher than previously recommended max 2 µg/kg dose⁴⁻⁶. They did rudimentarily study physiologic markers of nociception as heart rate and systolic blood pressure were recorded during their study of 10 infants, and little change was noted with skin incision⁶.

In the late 1980s, Anand began publishing a series of articles which helped change the profession’s paradigm on pediatric pain management⁷⁻⁸. His paper summarized research suggesting that even in fetuses, pain pathways as well as the cortical centers for pain perception are functional⁷. Nociceptive activity in an infant clearly constituted a physiologic form of stress. Therefore, anesthesiologists can attenuate these stress responses with anesthetics. To this end, Anand later published a randomized controlled trial of 16 neonates undergoing a patent ductus arteriosus ligation. One group received the standard nitrous-muscle relaxant anesthetic, and the other group was given 10 µg/kg fentanyl bolus in addition.

Session 03B-Abstract 1

Lisa Caplan, MD

Hormonal changes to surgery were monitored as peripheral markers of stress or perception of nociception. As compared to the fentanyl group, the non-fentanyl group had circulatory and metabolic complications postoperatively and mounted a substantial stress response. Anand suggested the administration of fentanyl can attenuate this stress response, and thus improve post-operative outcomes⁸.

The intraoperative management of pediatric pain has evolved well beyond the nitrous-muscle relaxant technique. Since the 1960's, research has demonstrated the neonatal pain experience is far more complex than simple withdrawal reflexes. Contemporary studies using monitoring systems such as near infrared spectroscopy have helped to demonstrate that a noxious stimulus to the heel of a neonate evokes increased signals over the contralateral cerebral cortex⁹. These advances in the perception of pain and nociception have allowed pediatric anesthesiologists to provide better care and outcomes to this vulnerable population.

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Total Recall: The Evolution of Awake Craniotomies

The history of awake craniotomy procedures dates back to ancient times. Known as trepanation or trephination, the practice involved making a hole in the skull in order to improve pulsations and increase blood flow volume in the brain. Unlike the modern-day awake craniotomy, trepanation did not involve penetration of the dura mater and care was taken to prevent damage to the brain parenchyma. Trepanation was not only practiced for medical purposes such as in the treatment of seizures, contusions, or fractures, but also, for superstitious, magical, or religious reasons. In more modern times, awake craniotomy procedures were initially used to correct epilepsy. Today, it is employed widely in neuro-oncology as well as in the treatment of arteriovenous malformations, deep brain stimulation, and mycotic aneurysms in and nearby eloquent areas of the brain. Two major contributors have allowed advancement in this field of neurosurgery. First, the development of cortical brain mapping has allowed neurosurgeons to accurately identify areas of speech and motor function, thus allowing for maximal surgical resection with minimal functional disturbance.

Second, with the advent of longer-acting local anesthetics, anesthesiologists have contributed to improving patient comfort during longer awake procedures. Furthermore, the development and use of short-acting sedatives and analgesics has allowed intraoperative awake periods in which patients are conscious and alert enough to actively participate. Known as the oldest surgical procedure, the evolution of awake craniotomy procedures is an excellent example of the cooperative effort between surgery and anesthesia to advance a medical procedure that is not only safe and effective, but also has led to improved patient outcomes.

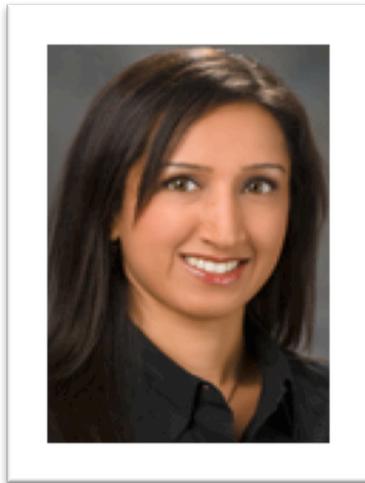
15:15-15:45

Friday, April 24, 2015

Session 04

Medicine, Monitors, and Monkeys!
Moderator: Lori Dangler, MD, MBA

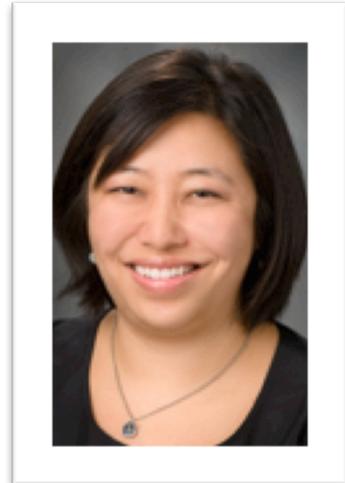
The History of Thoracic Anesthesia



Shital Vachhani, MD

Bio

Dr. Vachhani is an Assistant Professor, in the Department of Anesthesiology and Perioperative Medicine at The University of Texas MD Anderson Cancer Center in Houston, TX. She received her MD at the University of Texas Medical Branch in Galveston, TX. Her residency was at Baylor College of Medicine. She did her fellowship in Cardiovascular Anesthesiology at Texas Heart Institute and then received her Board Certification in Echocardiography. Her clinical interests are in thoracic anesthesiology and pacemakers in the perioperative setting. She is also certified by the International Board of Heart Rhythm Examiners.



Teresa Moon Calderon, MD

Bio

Dr. Moon is an Assistant Professor, in the Department of Anesthesiology and Perioperative Medicine at The University of Texas MD Anderson Cancer Center in Houston, TX. She received her MD at Texas Tech University Health Sciences Center School of Medicine in Lubbock. Her residency was at Baylor College of Medicine. She did her fellowship in Cardiovascular Anesthesiology at Texas Heart Insitute and the received her Board Certification in Echocardiography. Her clinical interests are in thoracic anesthesiology and pacemakers in the perioperative setting. Outside of the OR, she enjoys time with her new baby and family.

The History of Breathing

Background: The study of human physiology took a very long time. Much was known before breathing was understood.

Aim: To look at the wisdom of ancient philosophers and their theories and to follow their logic in the understanding of respiration.

Sources: The Internet, the Bible, The World of Late Antiquity by Peter Brown

Conclusion: Even into the Middle Ages breathing was taken for granted. This is what Buddha said "Your body just knows how to do it" It took a very long time for philosophers, who were the first scientists, to understand how we breath and it is fascinating to consider this.

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Critical Care Medicine: Hospital Ethics Committee

Though the Hippocratic Oath set ethical standards for the practice of medicine in the late 5th century BC, the systematic implementation of bioethics is a recent phenomenon. In the United States, bioethics emerged in response to scandal and uncertainty, and JCAHO mandated the formation of hospital ethics committees (HEC) in 1992. For the critical care physician, the HEC can prove an invaluable resource, helping to balance the role of cutting-edge technology with a patient and society's values. Critical care medicine is the lifeblood of bioethics. This talk will address the history of the HEC, its value and use to the critical care physician, practical approaches, and intrinsic flaws of the system. For instance, currently, JCAHO does not stipulate the qualifications for HEC membership.

Methods

1. Literature search.
2. Interviews with critical care physicians, and members of the hospital ethics committee at the University of Rochester Medical Center (URMC), Rochester, NY.
3. Project supervision by Dr. David Kaufman, surgical intensive care unit director at URMC.

References

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3. Ravitsky, Vardit, Autumn Fiester, and Arthur L. Caplan. 2009. The Penn Center guide to bioethics. New York: Springer Pub.

Beat to Beat: A Measured Look at the History of Pulse Oximetry

It can be argued that pulse oximetry is the most important technological advancement ever made in monitoring the well-being and safety of patients during anesthesia. Prior to its development, blood gas analysis was the only method of detecting hypoxemia in patients, a method that is not without pain, complications, and importantly did not provide continuous, real-time data. Even though it has become de rigeur to use pulse oximetry for every anesthetic, the road to pulse oximetry began long ago.

Oximetry is the measurement of hemoglobin oxygen saturation in either the blood or tissue. The origins of oximetry start in the early 1700s with the Lambert-Beer law, which relates the attenuation of light to the properties of the material through which the light is traveling. Then, shortly after the spectrometer was invented in 1860, Stokes and Hoppe-Seyler demonstrated hemoglobin's ability to transport oxygen. By the 1930s in Germany, it was shown that the Lambert-Beer law applied to hemoglobin solutions, which absorbed red light, and from there, the search to accurately measure oxygen saturation in the blood began.

A 2 wavelength oximeter employing an ear probe was developed in 1935 by German physician Karl Matthes. Adding the second green wavelength of light (which later became infrared) rather than just using the red alone compensated for blood volume and tissue pigments. However, it still did not measure true arterial saturation because of capillary and venous blood interference and did not account for pulsatile flow.

In London, J Squire partially solved the problem by using pneumatic pressure to squeeze the blood from the web space of the hand allowing calculation of the baseline absorbance without blood. Earl Wood, an American, then adapted this idea to an ear oximeter.

But not until the 1970s when a Japanese bioengineer became interested in the idea was the problem of arterial pulsations accounted for. Takuo Aoyagi was researching the measurement of cardiac output and using a version of Wood's ear oximeter to try to solve that problem. He encountered difficulty because of the constant artifact created by pulsations. He then realized that the variations caused by pulsations represented the change in arterial blood. The measurement taken when a pulse was not present could be used as the baseline absorption, eliminating the need for pneumatic pressure. Within a decade, commercial pulse oximeters were available providing a non-invasive, continuous measure of patient's oxygenation.

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The First Gorilla Anesthesia in the U.S.?

On June 21, 1965, Drs. A.H. Buddy Giesecke, Jr. and Charles Sloan rushed to the Dallas Zoo to provide anesthesia to Jenny, an eleven year old lowland gorilla. Jenny, at four and one half feet tall and two hundred twenty-five pounds, had been vomiting for eight days. She had taken no oral fluids for seven days and had not produced urine for four days. The Dallas Zoo veterinarian was concerned that she had bowel obstruction and wanted to perform various diagnostic procedures under anesthesia.

Anesthesia was initiated with 200 mg propionylpromazine IM. An intravenous catheter was inserted and thiopental was given in small doses of 40 to 60 mg, to a total of 600 mg. A No. 4 Guedel laryngoscope blade was used to visualize the airway. The gorilla's epiglottis was anesthetized with topical tetracaine, and the trachea was intubated with a 42 French endotracheal tube. Anesthesia was maintained with methoxyflurane in nitrous oxide and oxygen was delivered through a Heidbrink anesthesia machine. Succinylcholine was later used for muscle relaxation. After roughly seven and one half hours of anesthesia, the patient was placed in the lateral decubitus position and was extubated.

A discussion of this episode was produced by Pierre A. Fontaine, Director of the Dallas Zoo (1). Dr. Giesecke probably presented a talk based on this anesthetic at a number of events. One that was recorded audiographically was his during the President's Address at the 1972 Meeting of the Southern Society of Anesthesiologists Retired Physicians Club of the Dallas County Medical Society (2). A transcript of this audio recording was published in the Texas Society of Anesthesiologists Bulletin, July 2013 (3). There was an earlier report of surgery on a female gorilla in Basel, Switzerland in 1952 (4). Still, the report by Pierre Fontaine, and the story reported by A.H. Giesecke, appear to describe the first use of general anesthesia on a gorilla in the United States.

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18:00-21:00

Friday, April 24, 2015

Session 05

Keynote and Recognition Banquet

Moderator: David Mackey, MD



History of the University of Texas Medical Branch

James F. Arens, MD
Chairman Emeritus
The University of Texas Medical Branch

Biography

Dr. Arens earned the title of Chairman Emeritus from the Department of Anesthesiology at the University of Texas Medical Branch in January 2008 after a long distinguished career in Anesthesiology. He started his medical education at Creighton University Medical School in Omaha, NE and did his residencies in anesthesiology at Tripler Army Hospital in Honolulu, Hawaii and at Charity Hospital in New Orleans, Louisiana. His interests in cardiothoracic anesthesia accelerated his career. He quickly rose to professor and subsequently has had several academic appointments as both professor and chair from the University of Mississippi, the University of Texas Medical Branch at Galveston, the University of Texas M.D. Anderson Cancer Center at Houston, and the University of Texas Medical School at Houston. He has been a prolific lecturer and publisher. He has been active in several local, state and national professional organizations and committees and served as President for the American Anesthesiology Association and as a senior delegate to the American Medical Association. Additionally, he has received several Distinguished Service Awards from the American Society of Anesthesiologists, Texas Society of Anesthesiologists, American Board of Medical Specialties, and the American Medical Association. He continues to keep busy as a consultant for EISAI Pharmaceuticals and with residents at the TSA. He now resides with his wife back in Brenham, TX after leaving briefly in Colorado.

8:00-8:30
Session 06

Saturday, April 25, 2015

Applications, Advances and Attitudes
Moderator: Katherine Hagan, MD



**NASA and Space Flight
Simulation History**

Harold Doerr, MD
The University of Texas Medical
School at Houston

Biography

Dr. Hal Doerr is an Assistant Professor at the Department of Anesthesiology of The University of Texas Medical School at Houston. He received his undergraduate degree at Rutgers in New Jersey and his MD degree at The University of Texas Medical School at Houston. He has had an interesting post graduate career in Cardiovascular Anesthesia, Echocardiography, Patient simulation and as a principal investigator with NASA. He was also on the Shuttle Rescue Team. He is an active educator and has won several teaching awards

Importing Entire Anesthesia History Book to a Database Software: Its Versatile Possibility for Historical Research

Background

Translation of anesthesia history book into Japanese is in progress by authors. To obtain best translation and understandings, we imported entire book into PC database software. Current method conducted not only better translation but also novel discovery to the historical research.

Resources

Maltby JR ed: Notable names in anesthesia. (The Choir Press, UK) Contained 84 notable names in 254 pages. Windows 7 PC, database software MS-access 2003, internet environment, Google Map, OSM(Open Street Map), GPS visualizer web site.

Methodology

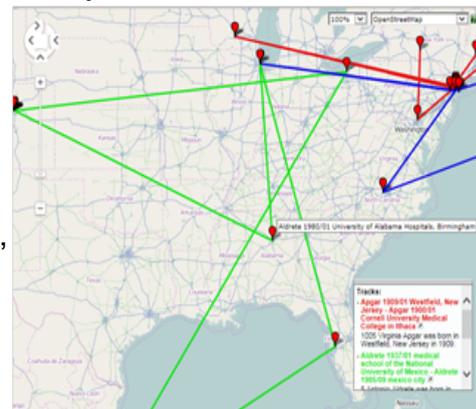
Entire book was scanned by OCR and created MS-word document include figures and photograph. All descriptions were divided into one sentence by text editor. Every sentence was transferred into MS-Access database software. Thus, one database record contained one sentence. We added each record a Japanese translation, date, place, GPS data, memo, amendments and internet URL fields. Basic functions of database software such as query, sort, narrow-down were employed for revising translation, confirmation of historical facts. Sentence with GPS data transferred into GPS visualizer website to generate his or her trace route on google or OSM map.

Results

More than 6000 sentences were imported into database. Every sentence was able to trace at least 4 times of revision history. Basic function made a chance to find new relation in history of anesthesia. For example, Brain, Bromage, Epstein and Gray went same school (Ampleforth Abbey & College, UK). GPS visualizer generated versatile trace route map. (figure showed trace routes of Drs.Apgar, Aldrete and Berman.)

Conclusion

Current method had a possibility providing a new chance to discover novel facts and relation in notable names.



The History of Euthanasia and Physician Assisted Suicide

Historically, the Hippocratic Oath taken by physicians does not support euthanasia nor physician assisted suicide, "Nor shall any man's entreaty prevail upon me to administer poison to anyone; neither will I counsel any man to do so." However, poison hemlock was used for euthanasia in Ancient Greece and Rome. Working similarly to curare it would cause respiratory paralysis and death. In the 1870's a non-physician named Samuel Williams advocated for the use of "chloroform or such other anaesthetic as may by-and-bye supersede chloroform to put the sufferer to a quick and painless death." The American Medical Association responded with opposition, stating the euthanasia proposal was "an attempt to make the physician don the robes of an executioner." In 1915, a surgeon named Dr. Haiselden withheld possible life saving surgery to a newborn with multiple deformities. In 1936, the physician Lord Dawson gave King George V a fatal dose of morphine and cocaine via the jugular vein to hasten his death from bronchitis, to give him the "dignity and serenity which he so richly merited."

Euthanasia, where the physician administers the drugs, is not legal in the US. However, physician assisted suicide has been legalized in Vermont, followed by Oregon, Washington State, New Mexico, and Montana. The Oregon Death with Dignity Act makes it legal for doctors to prescribe life-ending medications to patients, with the patients self-administering the drugs to end their life. The prescription is 9 g secobarbital (typical hypnotic dose is 100 mg) followed by 10 g pentobarbital (typical hypnotic dose is 100 mg) taken on an empty stomach to increase the rate of absorption. An antiemetic is taken one hour prior to ingestion of the drugs to prevent nausea and vomiting. Since its enactment in 1997, 1,327 patients have been prescribed life-ending drugs, with 859 dying after ingestion of the drugs.

Internationally, physician assisted suicide is legal in Belgium, Luxembourg, Switzerland, the Netherlands (via an amendment), and most recently Canada. Last year Belgium became the first country to legalize euthanasia for terminally and incurably ill children. This article will discuss the history of this controversial topic as patients and physicians attempt to balance respect for autonomy, dignity in death, and justice with the potential for abuse and the sanctity of life.

9:00-9:30

Saturday, April 25, 2015

Session 06A-Abstract2

Asca Zavala, MD, MPH

References

1. Bovens, L. Child euthanasia: should we just not talk about it? J. Med. Ethics. 2015 March 10.
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The Professor and the Student: Their Influence on Statistical Inference

Background: Two British mathematicians conducted pioneering work in the late 19th and early 20th century in the discipline of statistics. Laying the foundations of modern statistical inference were Sir Ronald Aylmer Fisher (1890-1962) and William Sealy Gosset (1876-1937). We explore the careers and influences of these mathematical giants, whom we refer to as professor and student. Although neither was qualified in the biological sciences, almost every quantitative biomedical investigation relies on their work, directly or indirectly.

Sources and methods: Published research articles, biographies and material in the public domain were used to carry out our investigation.

Results: Statistical techniques were being introduced in many industries during the early 19th century. Examples of variables examined included crop yields and yeast counts in breweries. Gosset showed that population statistics could be estimated on the basis of measurements made on random samples. Fisher explored how experiments ought to be designed to allow rigorous comparisons between groups, laying the groundwork for statistical inference. Their contributions are used in clinical and experimental medicine every time the terms T-Test, p-value, F-value, and ANOVA are used. We document the change brought about by their revolutionary work by examining original reports published in mainstream journals in 'medicine' and 'anaesthesiology', before and after their techniques were adopted by researchers.

Conclusions: Descriptive and inferential statistical techniques allow us to obtain quantitative information about variables of interest, and to understand the effect of interventions. The importance of using evidence to guide clinical practice relies heavily on the work of the professor and the student.

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2. Fisher R. Studies in crop variation. I An examination of the yield of dressed grain from Broadbalk. *Journal of Agricultural Science* 1921;11:107-35.
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08:30-9:00

Saturday, April 25, 2015

Session 06B-Abstract 1

Shreena Vyas, MBBS

4. Pearson E. 'Student,' a statistical biography of William Sealy Gosset. Oxford, UK: Clarendon Press; 1990.
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Religious Attitudes towards Pain and Suffering in mid-19th Century America

Background: It has been claimed that opposition to anesthesia in the mid-19th century, especially for the relief of labor pain, came from the Church. The basis for this claim is the partial Biblical quote, 'In sorrow thou shalt bring forth children.' We sought to obtain evidence of any religious authority opposing anesthesia during labor or operative surgery. We also examine how religious teachings may have influenced the behavior of physicians who provided medical care to these patients.

Methods: Published articles in journals, newspapers, books, and personal notes were examined for evidence against the acceptance of anesthesia, and for attitudes towards the causes of pain and suffering.

Results: Despite being stated as a common reason for opposition to the relief of labor pain, no evidence of such opposition from officers or writings of the Church could be obtained. The concept of religious opposition appears to be the expression of the personal opinions of physicians who provided care to these patients. These attitudes reflect the prevailing belief that pain and suffering are ordained by divine will, and that it was not proper for physicians to interfere. Queen Victoria's acceptance of chloroform was a major boost in overturning this sentiment.

Conclusions: We were unable to find any evidence that widespread religious opposition existed against the use of anesthesia during labor or surgical operations. The apparent religious opposition that is mentioned in the literature appears to be the reflection of the personal views of physicians, and not those of members of the clergy or other religious authorities. We offer explanations about why physicians in mid-19th century may have opposed suppression of labor and surgical pain.

References:

Farr AD. Early opposition to obstetric anaesthesia. *Anaesthesia* 1980;35:896-907.

Farr AD. Religious opposition to obstetric anaesthesia: A myth? *Annals Science* 1983;40:159-177.

The Holy Bible [King James Version] – Genesis 3:16

Anonymous. Administration of chloroform to the Queen. *Lancet* 1853;61:453

9:45-10:15

Session 07

Saturday, April 25, 2015

Winners, Wonders, and the Wood Library

Moderator: Shital Vachhani, MD



**The C. Ronald Stephen Essay
Prize Paper
The Tenacious Terrier and His
Tubes**

Peter Featherstone, MB BCh, BSc
Addenbrooke's Hospital

Biography

Dr Peter James Featherstone MB BCh, BSc (Hons), MRCP(UK), FRCA, FFICM graduated from the University of Wales College of Medicine, Cardiff in 2004 and trained in general internal medicine in Cardiff and Cambridge prior training in anesthesia and intensive care medicine in the East of England and Melbourne, Australia. He is currently a locum consultant at Addenbrooke's Hospital, Cambridge. Dr Featherstone has been active member of the History of Anaesthesia Society since 2009 and was the recipient of the 2011 Rod Calverley Fellowship from the Wood Library-Museum of Anesthesiology. Mentored by Dr Neil Adams (UK) Professor Douglas Bacon (USA) and Dr Christine Ball (Australia), he has authored several publications on the history of anesthesia and been an invited speaker at a number of national and international meetings. In 2013 he was selected to join the Australian and New Zealand College of Anaesthetists History and Heritage Expert Reference Panel as well as the international editorial board of the Journal of Anesthesia History.

10:15-10:45

Saturday, April 25, 2015

Session 07

Winners, Wonders, and the Wood Library
Moderator: Shital Vachhani, MD



The Polio Years in Texas: Battling a Terrifying Unknown

Heather Green Wooten, PhD
San Jacinto College

Biography

Heather Green Wooten earned a Ph.D. in the Medical Humanities from the University of Texas Medical Branch at Galveston in 2006. An instructor of American and Texas History at San Jacinto College, Wooten is the author of numerous publications concerning the history of medicine in Texas. Her book, *The Polio Years in Texas: Battling a Terrifying Unknown* (Texas A & M University Press, 2009) was a recipient of the T. R. Fehrenbach Book Award by the Texas Historical Commission; and the East Texas Historical Association's Ottis Lock Endowment Award (Best Book Category). In 2012 Wooten published *Old Red: Pioneering Medical Education in Texas* for the TSHA Fred Rider Cotten Popular History Series. A history of the UT-Houston Department of Surgery, co-authored with William H. Kellar, is forthcoming. Wooten's latest project involves a co-edited history of Texas medicine throughout the 20th century. Wooten is active in many state and local historical organizations, having held positions Galveston Historical Foundation, Galveston County Historical Commission, the Texas State Historical Association and the East Texas Historical Association.

Keeping Track of Audio-Video History

Introduction: The Wood Library-Museum uses SydneyPlus® (SP) as its catalog system to keep track of books, journals, living history interviews and museum objects. This presentation explains how SP functions, some of the recent audio-visual (AV) additions, and some of the problems associated with data entry and retrieval.

Methods: SP is a commercial product existing in the cloud with headquarters in Vancouver. All data entry and retrieval is via the Web, the WLM making the transition from in-house SP in 2010. Currently, the WLM has about 9,000 records in SP. Data entry into SP is facilitated by a library of forms to fit the type of artifact being accessed. Including and since his WLM fellowship in 1998, FLS has digitized more than 1000 AV artifacts including reel-to-reel and cassette audio tapes, VHS and beta video tapes and 16 mm film. Both digitization and cataloging are time consuming activities. Although only about half through digitizing the van load of material FLS brought to Iowa City in January, 2014, he and the WLM staff thought it best to start cataloging the AV material so that at least some could be identified by those desiring to do research in the AV area. Ms Jimenez, along with the SP staff, created a form especially for data entry related to AV material. Data entry for an artifact is not as simple as one might imagine. Terms used to describe the artifact must make sense to those trying to retrieve it. Therefore, SP uses authority fields, similar to drop-down menu items, to restrict the choices allowed for data entry and to simplify searching. MESH key words is an example. Author names is another authority field requiring careful construction. Searching for "Bob Stoelting" and "Robert Stoelting" must give the same results. One of the more difficult considerations, particularly when working with digital files, is where to find the file. If one is looking for a book, it can be found on the shelf using the Dewey Decimal System locator. Digital files are not so easy to track. Currently, FLS has accumulated over 2,500 files and 400 GB of data. These data are backed up X3 on portable hard drives with at least one copy remotely located. Transferring the data to servers at the WLM is a trivial process. What is not trivial is populating the field in SP that points to the location of the file on the WLM servers. YouTube has solved the problem nicely by creating a URL for each file as it is uploaded, allowing public access via a hot link. The situation for the WLM is not the same. Once the record has been initiated, the location of the file on the WLM servers must be entered. Does the WLM want to create a process so that anyone with appropriate credentials can have access to the SP catalog, do a search, find the AV file and stream it or download it?

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Session 07A-Abstract 1

Franklin Scamman, MD

That means the location field would be a URL. Or, does the WLM want the location field to be a location on its server, thus keeping the file contents totally in house and available only via request? FLS has entered a large amount of data into the file name, making it easier to identify what the file content is, resulting in some very long file names. For entry of the file location, it may be possible, once the file is present on the WLM server, or even in the cloud, to click and drag the file name to the file locator field. Does the WLM want to rent up to several terabytes of cloud space, making safekeeping of the data someone else's problem? And lastly, who is the person to enter into SP the location of the file?

Results: AV data entry into SP has just begun, using the AV template. The best method of data retrieval is yet to be determined.

Conclusion: Cataloging and retrieval of AV material is not a trivial process and is very time consuming.

History of Airway Management

Airway management has been in existence since ancient times. One of the earliest forms of airway management is described in ancient literature by means of a tracheostomy. Egyptian tablets and Hindu scriptures dating back to 3,600 BC and 2,000 BC respectively reference and give descriptions of performing a tracheostomy. Even the great warrior Alexander the Great, it is said performed a lifesaving tracheostomy on a soldier with his dagger preventing his suffocation. Another account in the year 100 AD, a tracheostomy is described as a horizontal incision between 2 rings to bypass airway obstruction; Antyllus described this. Galen, a Roman physician, in 160 AD described endotracheal intubation in a dead animal and ventilating its lungs. Following this Vesalius performed the first actual reported tracheal intubation in 1543 in an animal. Trousseau and Trendelenburg, native Germans, perfected and refined the technique of tracheostomy and intubation. In 1833, reported his experience with tracheostomy and diphtheria and the results of saving 200 patients with this disease. Trendelenburg in 1871 reported performing a lifesaving tracheostomy to prevent blood inhalation during upper airway surgery and also the first endotracheal anesthesia in a man. In 1878, Macewen reported the first elective endotracheal intubation for anesthesia in a human. He achieved this by packing the hypopharynx; hence blood and debris would not leak to the airway. Joseph O'Dwyer developed a metal tube system that could be passed blindly to relieve airway obstruction in children suffocating from the pseudomembrane formed with diphtheria infection. Following this, Rosenberg and Kuhn administered cocaine as a local anesthetic to obtund the cough reflex during intubation. Tracheostomy and intubation were broadly used during the First World War. Magill recognized the advantages of tracheal intubation. Also, by his efforts, anesthesia has become an independent specialty. In 1913 the first anesthetic laryngoscope was invented by Jackson and modified by Magill, Miller and Macintosh. These have been modified to the blades we use in practice to this day. In 1942, curare was introduced as a muscle relaxant for abdominal relaxation during general anesthesia and endotracheal intubation became routine in major abdominal and other surgeries(1). Now in the 21st century new more advanced video laryngoscopes and fiberoptic scopes have been developed to assist us with airway management.

Session 07A-Abstract 2

Acsa Zavala, MD, MPH on
behalf of Javier Lasala, MD

It is also important to mention supraglottic airway devices such as the Laryngeal Mask Airway (LMA). Dr. Brain invented this in 1983. Prior to this in Shipway introduced a cuffed oropharyngeal airway in 1935; later Dr. Leech invented the pharyngeal bulb gasway in 1937. Also, of interest in the 1930s

Guedel and Waters produced the modern oropharyngeal airways.

In conclusion, since ancient time and the evolution of the practice of medicine airway management was been a crucial part of the advancement of medicine throughout history, also it is airway management that lead to the initial development of our specialty.

Table 1: Timeline of select Landmarks Airway Management

Biblical	Airway Obstruction identified as a cause of death
1700	Metal and Leather tubes placed into trachea
1842	Ether Anesthesia discovered
1854	Indirect laryngoscopy developed
1878	Chloroform administered through a tracheal tube
1885	Intubation for diphtheria popularized
1895	Direct laryngoscopy developed
1900	Kuhn flexometallic tracheal tube

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Session 07A-Abstract 2

Acsa Zavala, MD, MPH on
behalf of Javier Lasala, MD

WWI	Intubation in military hospitals, Magill tracheal tube with inflatable cuff
1920	Jackson, Chevelier designs improved laryngoscope
1920	Magill develops blind nasal intubation
1942	Griffiths introduces curare into clinical practice
1946	Mendelson describes aspiration pneumonitis
1950	Tracheal tubes for general anesthesia
1960	Electronic patient monitoring
1962	Rapid Sequence induction developed
1970	Low-cuff pressure disposable tracheal tubes
1980	Fiberoptic intubation, pulse oximetry and capnography

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Session 07A-Abstract 2

Acsa Zavala, MD, MPH on
behalf of Javier Lasala, MD

1990	Laryngeal Mask popularized, rigid fiberoptic laryngoscopes, ASA practice guidelines
1995	Society for Airway Management founded
2000	Introduction of video laryngoscopes

References:

1. Ezri T, Evron S, Hadad H, Roth Y. [Tracheostomy and endotracheal intubation: a short history]. Harefuah 2005;144:891-3, 908.
2. Doyle DJ. [A brief History of clinical airway management]. Revista Mexicana de Anestesiologia 2009; pp164-167.
3. The Wondrous Story of Anesthesia. E. I. Eger II, L. J. Saidman and R. N. Westhorpe (editors). Published by Springer. Pp. 944. ISBN 978-1-4614-8440-0.

Sir Christopher Wren: The Father (and Lawyer) of Intravenous Therapy

Christopher Wren was born in Britain in 1632 to a family well positioned in scholarly and religious circles at the time.¹ The young Wren excelled scholastically at an early age having mastered the writing of Latin by age 9.² Through his father's relations with the physician and mathematician Sir Charles Scarborough, Christopher, now only 15 years of age, was asked to translate into Latin work that lay in a chapter on sun dials.² The original author, William Oughtred, was so impressed with the work that he is quoted as describing him as 'the kind of man from whom I can shortly expect great things, and not in vain.'¹

Wren entered Wadham College in Oxford at age 17.¹ He went on to receive a Masters degree in 1653,² the same year William Harvey published his first book in English on blood circulation.¹ The work of Harvey, an early teacher of Scarborough,¹ was passed on from Scarborough to the scholarly and energetic Wren given their continued relationship.¹

Following a stint as a fellow of All Souls College, Wren left this position in 1657 to pursue some of his greatest scientific avenues.² It was in this same year that Wren experimented with intravenous therapy.^{1,2} His first studies were performed at the house of French Ambassador Duc de Bordeaux and involved ligation of veins of a dog.³ Through the small opening in the large superficial vein of the hind leg, he introduced a syringe, made of animal bladder to which a quill was attached.³ His first experiments included infusion of alcohol and opium injections.^{1,2,3}

Persuaded by others, Wren later pursued intravenous experiments on humans as well.²

While there remains dispute as to the originator of blood transfusions, the work and vision of Christopher Wren greatly furthered the science of both intravenous medication and, at a minimum, laid the framework for future blood transfusion therapy.²

Following these medical advances, Wren moved on to other noble areas of science. After being awarded a professorship in astronomy at Oxford College in 1660, he received degrees in both civil law from the same institution and doctor of laws from Cambridge.³ Leaving his post in astronomy at Oxford, Wren next pursued architecture for which he was knighted in 1673 for his work in designing buildings following the London fire of 1666.³ Sir Christopher Wren succumbed to illness in 1723 at the age of 91.³ Due to his many accomplishments in a multiplicity of fields, some have compared him to Leonardo da Vinci.¹

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Session 07B-Abstract 1

Christopher Burkle, MD, JD

For present day anesthesiologists, Wren's work involving intravenous infusions is recognized, and will be forever appreciated, for advancing the field of anesthesiology throughout the decades and centuries that have followed; all this from a lawyer-scientist to boot.

References:

1. Gibson WC. *Med Hist.* 1970; 14(4): 331–341.
2. Berry FB, Parker HS. *JAMA* 1962; 181(9): 117-120.
3. Keys TE. *Anesth & Analg.* 1974; 53(6):853.

History of Pacemakers and Anesthesia

Knowledge of the pulse has been recorded since 280 BC in Chinese literature. Since then, association of pulse activity with electrical conduction of the heart has progressed. In the last century, empiric electrical cardiac therapy paralleled diagnosis and increasingly sophisticated treatment of cardiac conditions. Cardiac arrest due to complete heart block was first treated with an external tabletop pacemaker in 1951 by Boston cardiologist Paul Zoll. In 1957, University of Minnesota cardiac surgeon C. Walton Lillehei implanted the first myocardial pacing wire in a 3-year-old girl with Tetralogy of Fallot repair complicated by complete heart block. That year, after a three-hour municipal power failure resulted in the death of a neonate due to the lack of an external power source, Lillehei sought the assistance of Earl E. Bakken, founder of nearby Medtronic company to create the first battery-powered, transistorised pacemaker. This device, known as the 5800, was first implanted in 1958.

A pubmed literature search of “pacemakers” and “anesthesia” prior to 1950 yields no citations. After this golden era of pacemaker innovation in the 1950s, not only does documentation of pacemaker use increase, but so does its application in anesthesia practice. In 1959, Morris J. Nicholson, et al published “A Cardiac Monitor: Use During and After Anesthesia.” This cardiac monitor-pacemaker consisted of an oscilloscope with chest surface electrodes used for asystole associated with Adams-Stokes disease, reflex vagal stimulation, asystole associated with the use of cardio-active drugs, and asystole associated with anesthesia and surgery.

From 1960-1970, 44 citations of anesthesia-related pacemakers document both the types of anesthesia used for implantation of pacemakers as well as their intraoperative use and management, typically for complete atrioventricular block (AVB) and Morgagni-Adams-Stokes syndrome.

While cardiologists account for many of the references from 1970-1980 to present day, the ability to use pacemakers also allowed anesthesiologists to evaluate the influence of anesthetic agents on cardiac electrical conduction. Specifically, Dean H. Morrow, et al. assessed “Antiarrhythmic Anesthetic Action I: The Effect of Halothane on Canine Intracardiac Impulse Conduction During Sinus Rhythm.”

11:15-11:45

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Session 07B-Abstract 2

January Tsai, MD

Pancuronium bromide, methoxyflurane, halothane, and acid-base effects were also studied. Clinically, pacemakers were primarily used in cardiac surgery, but not widely used in general surgery. In the everyday anesthesia arena, cardiac pacemakers were viewed as “an anesthetic problem.” Of interest, a large amount of “pacemaker misinformation in the perioperative period” is still noted in 2004.

From 1980-2000, there is a shift toward perioperative management of patients with pacemakers and other conditions, such as the anesthetic care of patients with spinal cord stimulators and pacemakers, obstetric patients with implanted cardiac electrical devices, and intraoperative issues including pacemaker-induced tachycardia during general anesthesia. Less-invasive pacing methods such as via transesophageal probe were also introduced.

2000-2010 included advances in cardiac electrophysiology, genetic studies of familial dysautonomias, hypertrophic obstructive cardiomyopathy, long QT syndrome, and larger population-wide studies of patients with cardiac conditions requiring pacemakers and perioperative management of these devices. The advent of biventricular pacing for cardiac resynchronization therapy added to the complexity of evaluation and care.

From 2000 to present day, consensus statements regarding the perioperative evaluation and management of pacemakers have been issued, with most anesthesiologists routinely encountering these devices in everyday practice. The evolution of cardiac pacing technology has not only allowed anesthesiologists to identify and care for a wide range of patients, but it has also helped advance understanding of cardiac electrophysiology and the cardiac effects of anesthetic agents.

Optional Workshop
Moderator: Lori Dangler, MD

Research and Writers Workshop

Experts in their Fields
Location
13:00-17:00



13:00-13:45
Session 08A

Saturday, April 25, 2015

Research and Writers Workshop
Moderator: Teresa Moon Calderon, MD

Preserving Our History

Jose Javier Garza, BA, MS, C.A.S.
Archivist, Historical Resources
UT MD Anderson Cancer Center Research Medical Library

Biography

Mr. Garza is an archivist and Senior Librarian at the Historical Resources Center Research Medical Library at the University of Texas M. D. Anderson Cancer Center in Houston. He has degrees in History from Rice University, Information Studies from the University of Texas, and Health Informatics from the University of North Texas. He has given several presentations on preserving history using different methodologies. He is active in local, state and national societies of archivists and was elected to the Academy of Certified Archivists in 2008.

13:45-14:30

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Session 08B

Research and Writers Workshop
Moderator: Lori Dangler, MD, MBA

i-Genealogy

By: Jeannette Piecznski

Professional Genealogist, Lecturer and Author
LoneStar Genealogy, Demand Media, PeopleSmart and
Archives.com

Biography

Jeannette Piecznski is a professional genealogist, lecturer and author. She is webmaster of LoneStar Genealogy and author for Demand Media, PeopleSmart and Archives.com. She began the slogan "Don't Mess With The Living In Texas", to help genealogists understand the importance to protect living relative's personal information. She is known for the research used in the novel based in Houston titled "Magnolia City" by Duncan Alderson. She recently worked on the movie "Union Bound" coming Fall 2015 as one of the historical consultants and designed the ladies costumes. Jeannette actively serves as an expert witness in Texas probate courts. A member of the Association of Professional Genealogists, the International Society of Family History Writers and Editors and the Genealogical Speakers Guild.

14:30-15:15
Session 08C

Saturday, April 25, 2015

Research and Writers Workshop
Moderator: Katherine Hagan, MD

Effective Writing: Getting it Done: Tricks that Work for Me (and Might Work for You)

By: Tamara Miner Haygood MD, PhD
UT MD Anderson Cancer Center

Biography

Dr. Tamara Miner Haygood. is an Associate Professor in the Department of Diagnostic Radiology, Musculoskeletal Imaging at the University of Texas MD Anderson Cancer Center. She has worked over ten years at MDACC. She also holds a PhD in history and frequents the medical research library. She is also a talented arts and crafts person who has participated in our Faculty Art as Medicine Show.

15:30-16:15
Session 08D

Saturday, April 25, 2015

Research and Writers Workshop
Moderator: Shital Vachhani, MD

Book Publishing Tips

By: Heather Green Wooten, PhD
San Jacinto College

Biography

Heather Green Wooten earned a Ph.D. in the Medical Humanities from the University of Texas Medical Branch at Galveston in 2006. An instructor of American and Texas History at San Jacinto College, Wooten is the author of numerous publications concerning the history of medicine in Texas. Her book, *The Polio Years in Texas: Battling a Terrifying Unknown* (Texas A & M University Press, 2009) was a recipient of the T. R. Fehrenbach Book Award by the Texas Historical Commission; and the East Texas Historical Association's Ottis Lock Endowment Award (Best Book Category). In 2012 Wooten published *Old Red: Pioneering Medical Education in Texas* for the TSHA Fred Rider Cotten Popular History Series. A history of the UT-Houston Department of Surgery, co-authored with William H. Kellar, is forthcoming. Wooten's latest project involves a co-edited history of Texas medicine throughout the 20th century. Wooten is active in many state and local historical organizations, having held positions Galveston Historical Foundation, Galveston County Historical Commission, the Texas State Historical Association and the East Texas Historical Association.

16:15-16:45
Session 08E

Saturday, April 25, 2015

Research and Writers Workshop
Moderator: David Mackey, MD

What an Editor Looks For: How To Get Published In “Your Journal of Anesthesia History”

By: David Waisel, MD
Boston Children’s Hospital, Harvard Medical School

Biography

David Waisel is a pediatric anesthesiologist at Boston Children’s Hospital, Harvard Medical School. Dr. Waisel has been extensively involved in academic anesthesia history and ethics in his professional career, and he has had leadership roles in national and international related organizations. For the last 3 years, Dr. David Waisel has been the editor of a Medline-indexed international anesthesia history journal, now called the Journal of Anesthesia History, published by Elsevier.