

**STANDING ON THE SHOULDERS OF GIANTS:  
TEACHING THE HISTORY OF UROLOGY**

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## ABSTRACT

### INTRODUCTION

The purpose of our study was to determine how medical and surgical history had been taught, how it is taught today in urology residency and what resources are available to incorporate it into today's curriculum.

### METHODS

- I. Past: A literature search for all articles using the terms "education," "history," "medicine," and "surgery" was performed.
- II. Present: Surveys regarding the teaching of the history of urology were sent to the program directors of 124 urology residency programs in the United States.
- III. Future: An outline of a list of resources that can be used to teach the history of urology today was collected.

### RESULTS

I. The teaching of the history of medicine in the United States began in the early 1800s and peaked in the early 20<sup>th</sup> Century with the development of history departments in multiple medical schools around the nation as well as a strong physician presence in contributions to medical historical journals. However, since that time there is evidence of a decline in the teaching of medical history.

II. We used our review of the literature to design a survey to identify how the history of urology is taught today. Our survey response rate was 66% (84/124). Only 49% of residency programs taught the history of urology: 89% as short historical questions in the operating rooms or on rounds, 48% in a journal club setting, 68% as introductory slides in a presentation and in only 15% as a formal dedicated lecture. Eighty five percent of all program directors believed that the history of urology should be taught in residency.

III. Resources that can be used to aid in the teaching of the history of urology in residency include: texts, journal articles, electronic resources, historical symposia and faculty members.

### CONCLUSIONS

Our study of the past literature and our current survey results reinforce the importance of teaching history during residency. Despite the limitations we face in today's hectic clinical curriculum, we can still teach the history of urology if we are both flexible and creative in how it is incorporated.

## INTRODUCTION

Though Clio, the muse of history, has been described since Hesiod's Theogony (circa 700 BC), the teaching of the history of medicine is a recent development when compared to other fields of historical endeavor. (1) (Figure 1.) The first lectures on the topic in the United States were delivered by Robley Dunglison (1798-1868), the personal physician to Thomas Jefferson, at Jefferson's suggestion. The lectures were later published by the University of Virginia in 1872. (2,3) Systematic instruction in the history of medical science was also made by Roswell Park (1852-1914) whose lectures at the University of Buffalo were published in 1897. (4) The teaching of the history of medicine and surgery would peak early in the 20<sup>th</sup> Century with the development of medical history departments in multiple medical schools around the nation. However, there has been a decline in historical teaching since that time. (5) Furthermore, although there is literature describing the teaching of medical and surgical history in the United States, there have been no studies exploring the teaching of the history of urology.

Our study is best summarized by evaluating three questions: 1.) How has medical and surgical history been taught in the past? 2.) How is the history of urology taught today during urology residency? 3.) What resources are available to help incorporate history into today's curriculum?

## MATERIALS AND METHODS

I. Past: In order to study the past, we performed a literature search for all articles and texts using the terms "education," "history," "medicine" and "surgery." Our research focused on the teaching of medical history in the United States in the 20<sup>th</sup> century.

II. Present: We used our findings from the literature search to construct a questionnaire to explore the teaching of history in urology residency today. We mailed our survey to program directors of 124 urology residency programs in the United States. We also manually searched *The Journal of Urology* and *Urology* from 1973 to 2010 to investigate trends in the publications of history articles in the urologic literature.

III. Future: In order to help with the teaching of the history of urology in the future, we collected and outlined a list of resources that can be used to aid in the teaching of the history of urology in residency.

## RESULTS

### I. PAST

Sir William Osler in 1902 stated that the history of medicine could be taught "by lectures, historical clubs, questioning students during rounds as well as informally over 'beer and baccy.' " (tobacco) However, Osler lamented that "in the present crowded state of the curriculum it does not seem desirable to add the History of Medicine as a compulsory subject." (6) Historical instruction reached a high point in the early 20<sup>th</sup> century. In 1914,

Fielding Garrison (1870-1935), an acclaimed medical historian, bibliographer and librarian of medicine published his landmark text, Introduction to the History of Medicine, which was the first comprehensive American publication on the history of medicine. (7) By 1930, the first two medical history departments were created at Johns Hopkins and the University of California at San Francisco.

It was during this time that famed historian, Henry Sigerist (1891-1957), came into his own. Known as a staunch advocate for socialized medicine, he had an enormous and controversial influence on the medical politics of his time. (8) When *Time* magazine published his portrait on its cover in January 1939, it described him as both the world's greatest medical historian and the nation's most widely respected authority on health insurance and health policy. (9) Known as a brilliant teacher and lecturer, he made medical history exciting and relevant for an entire generation of young physicians, medical students, historians as well as the general public. (8) His academic contributions included becoming professor and chair of the institute for the history of medicine at Johns Hopkins. He was founder of the *Bulletin of the History of Medicine*, the premier medical history journal of the time and helped transform the American Association for the History of Medicine into a professional organization. (8) In 1939 he performed a survey of medical schools and found that more than half offered medical history courses (46/77 medical schools) with 2/3 requiring formal instruction in medical history. (10)

Sigerist's survey illustrated the large gains that occurred since the earliest survey on the history of medicine conducted by Eugene Cordell in 1904. (11) A third survey conducted by the American Association for the History of Medicine in 1951 showed limited progress and possibly a slight decline in the teaching of medical history. (12) (Table 1.) Genevieve Miller, a medical historian, performed an extensive field survey in the late 1960s examining the teaching of the history of medicine in 108 North American medical schools. She found that instruction in the history of medicine was declining (33/85 medical schools in the United States offered medical history courses at the time), particularly as pressures on medical school curriculum increased. (13) She wrote, "Antiquarianism and mediocre teaching have tended to retard medical history in American medical education... most medical educators today are unaware of its positive values. Only by being relevant and excellently presented will the subject be accepted as an essential part of the training of physicians."

The publication trends for contributors to the *Bulletin of the History of Medicine*, one of the most prestigious American medical history journals, illustrate the changes that occurred in the field of medical history from 1930 to the 1990s. (14) (Figure 2.) In the 1930s-1960s (Figure 1A.) physicians were responsible for the majority of the medical history publications. In the 1960's we see a transition, as the history of medicine became a more specialized field, much more of it was written by medical historians and less by physicians. (Figure 1B.) The percentage of physician publications in the journal steadily declined from 1949-1950, 1959-1960, 1969-1970, 1979-1980 and 1989-1990 from 40%, 38%, 33%, 24% to 0% respectively. (14) This change and lack of physician interest was further evidenced by the decline in the teaching of the history of medicine in medical

schools as well as a demise of many medical historical societies that were so prominent in the early 20<sup>th</sup> century. (15)

Sir Isaac Newton in his letter to Robert Hooke (February 15, 1676) wrote “If I have seen a little further it is by standing on the shoulders of giants.” (16) Many of those that would shape the future of medicine would have an understanding and appreciation of the works and research of those that came before them. Thus, despite the decline in the teaching of the history of medicine and surgery, a number of prominent physicians and surgeons continued to contribute to the teaching of medical history. (17, 18, 19)

## II. PRESENT

We used the findings from our review of the literature to design a survey to assess how the history of urology is taught today. The benefits to teaching the history of medicine include: 1.) providing a sense of perspective and a connection to the past 2.) providing better judgement and reasoning 3.) allowing for a more critical approach to contemporary medicine and surgery and 4.) leading to a deeper understanding of professionalism. (6,15,17, 20-28)

We mailed our surveys to program directors of 124 residency programs in the United States and had a 66% (84/124) response rate. Forty eight percent of urology program directors stated that the history of urology was taught in their residency program. When we asked if they believed the history of urology should be taught in residency, 83% said that it should be taught. When asked why they believed it should be taught: 97% felt that it provided residents with a sense of historical perspective and connection to the past, 49% stated that it could provide better judgement and reasoning, 64% stated that it could provide a more critical approach to contemporary surgery and 66% felt it could lead to a deeper understanding of professionalism. Other reasons for teaching the history of urology included that it lead to respect for past contributions and that it could be used to help teach ethics.

We then asked program directors: How is the history of urology taught at your residency program and how should it be taught? We found that urologic history is mainly taught on rounds, in the operating room (88%) or as introductory slides to lectures (68%). Forty eight percent of the institutions teach it in a journal club setting and very few teach it as formal lectures (15%). When examining how program directors believe the history of urology should be taught, almost two-thirds felt it should be taught on rounds or in the OR (66%), as introductory slides to lectures (66%) and in journal club (64%), but almost half felt that a formal dedicated lecture was needed (49%). Other suggestions regarding how urologic history should be taught included developing an American Urological Association (AUA) online curriculum or having visiting professors teach various historical topics. We asked the 17% of program directors that felt that the history of urology should not be taught, why they believed it should not be taught. Fifty percent felt that there was no time in the curriculum, 29% felt that it had little educational value and that it was not relevant today and 79% felt that residents could read about it on their own.

We did not address the content that should be taught as part of the history of urology in our survey as this is a topic that would be well beyond the scope of this paper and likely require a formal committee. We are also in the process of surveying the residents of urology programs in the United States to investigate their views on the teaching of the history of urology.

Can we justify teaching the history of urology during residency today? With 83% of program directors responding that they believe that the history of urology should be taught, we believe that teaching the history of urology during residency is justified. Though urologic history could bridge many aspects of resident education, in terms of the Accreditation Council for Graduate Medical Education (ACGME) core competencies, it would likely best fit under professionalism and there is a growing literature that shows that history can be used to help teach ethics. (21,22,29-31)

### III. FUTURE

We created an outline of resources that could be used to help teach history during residency. (Table 3.) It is Just as Clio, the Muse of History, is commonly depicted with an open scroll, tablet or beside a chest of books, texts provide a good starting point. (Figure 1.) However, it should be noted that many of the surgical texts and short historical chapters in urology textbooks fail to delve deeper into the social context surrounding historical developments. (32,33) Very few texts are available that are solely devoted to the history of urology and most are not comprehensive. (34) This perhaps may be a future project for those in our field. The need for the use of more primary sources both in research and education is crucial to further advance the contributions to the field. The archives of many medical museums can be useful in providing these sources.

Journal articles provide an easily accessible and fresh source of historical perspective. We searched all of the issues from 1973-2010 for *The Journal of Urology* and *Urology* for historical articles that were published. (Figure 3.) Unlike the declining publications by physicians in the *Bulletin of the History of Medicine* after the 1960s, the number of historical articles in urology journals (*The Journal of Urology* and *Urology*) has increased over the past 40 years. (Figure 2.) A number of articles have also been published in urologic subspecialty journals such as the *Journal of Pediatric Urology* or as a series of articles titled “Epochs in Endourology” in the *Journal of Endourology*.

Historical conferences such as the AUA Annual History Forum or the International Congress on the History of Urology or many urologic and surgical museums, can provide a multimedia approach to help teach history. Many of these resources are accessible online via websites or as videos of presentations given at the conferences. (35) Finally and most importantly, our teaching faculty are our most important resource and enthusiastic teachers our greatest asset. Academic faculty have the opportunity to interact with residents daily and have multiple opportunities to teach and introduce history into the clinical curriculum. Whether it be professor emeriti or senior faculty members, there is no substitute for experience. Some of the most colorful and memorable stories about our past history can come from hearing how urology was

practiced from those that lived through it. In sharing their perspective, insight and experiences we can all learn a lot about how our field has evolved over the years.

Francis Moore (1913-2001), the eminent surgeon stated:

“The purpose of the teacher, the curriculum committee or the professor on a hospital service should be to introduce history whenever possible... It is often omitted in bedside rounds or amphitheater sessions because of the pressure of time and the urgency of clinical problems. Leadership can come only from those who, either as young instructors or as senior professors, take every opportunity to interest their pupils and residents in history and to encourage research and writing in this field.” (26)

## CONCLUSION

Our study of the past literature and our current survey results reinforce the importance of teaching the history of urology as well as the lack of any formal program to incorporate it into urology residency programs today. Despite the limitations we face in today’s hectic clinical curriculum, we must teach the history of urology utilizing the resources available in both a flexible and creative manner.

## ACKNOWLEDGEMENTS

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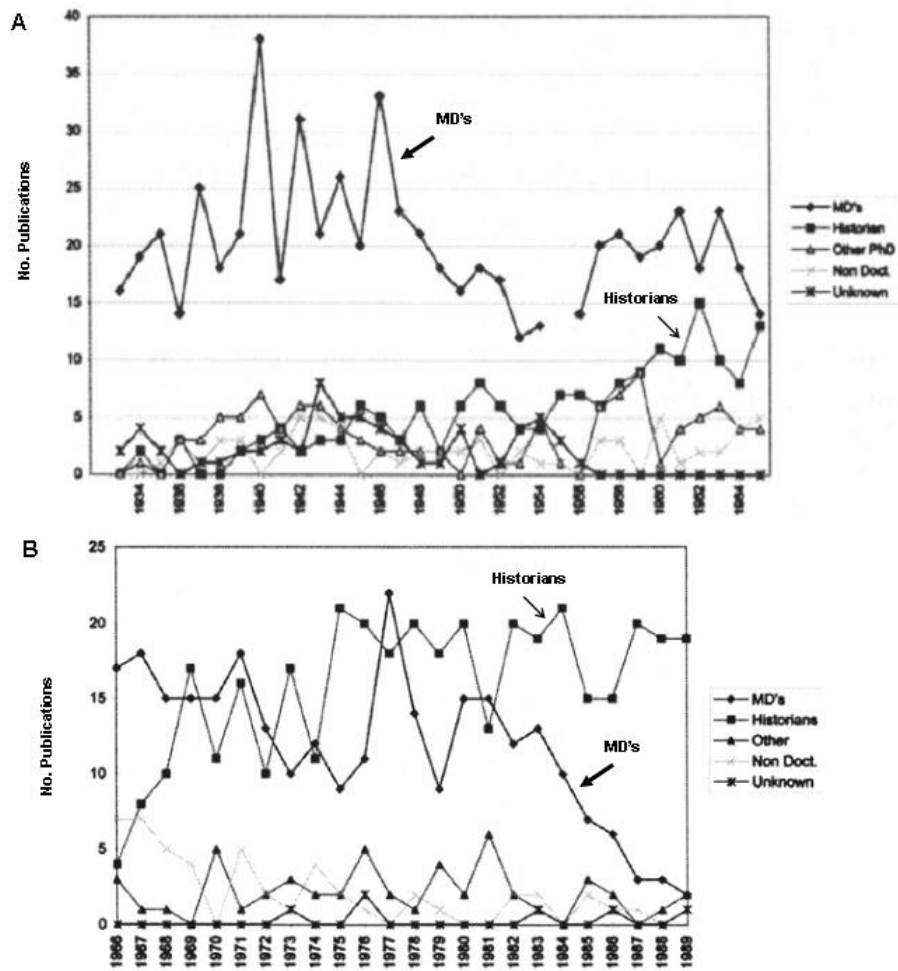
**Figure 1. *Clio, Muse of History* (1800) by Charles Meynier. (Image Courtesy of The Cleveland Museum of Art)**



**Table 1. Surveys on the Teaching of the History of Medicine**

<b>Survey, Year (Ref)</b>	<b>No. History Courses/No. Schools (%)</b>	<b>No. Required History Courses/No. Schools with History Courses (%)</b>	<b>Comments</b>
Cordell, 1904 (11)	3/14 (21%)	NA	—
Sigerist, 1937 (10)	46/77 (60%)	28/46 (61%)	18/46 (39%) had elective history courses, 54/77 (70%) had “some” historical instruction
American Association for the History of Medicine, 1951 (12)	37/79 (47%)	20/37 (54%)	17/37 (46%) had elective history courses
Miller, 1967-1968 (13)	33/85 (39%)	11/33 (33%)	—

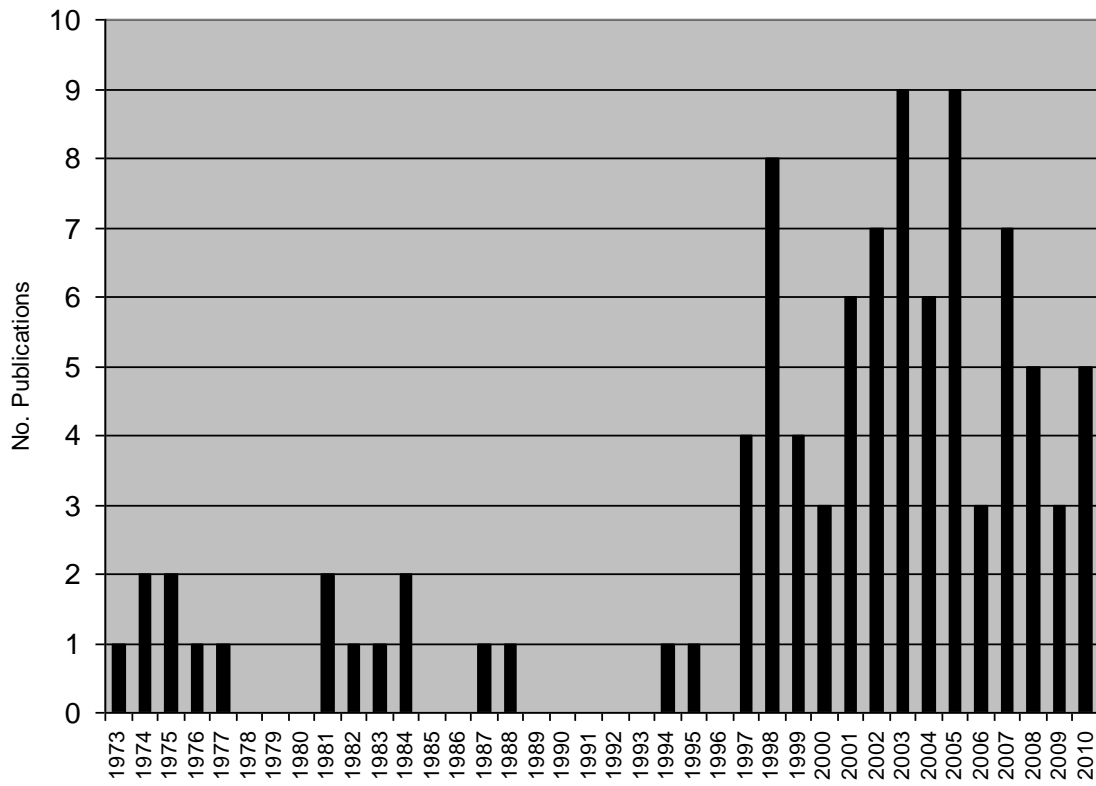
**Figure 2. Author Publication Trends in the *Bulletin of the History of Medicine*. A. 1933-1965 B. 1966-1989 (Modified from Burnham JC, 1999)**



**Table 2. Survey Results on the Teaching of the History of Medicine in Urology Residencies in the United States**

Survey Question	% (No.)
1. Is the history of urology taught in your residency program?	
Yes	48% (n=40)
No	52% (n=44)
<i>For those program directors that answered YES to Question#1:</i>	
N=40	
2. How is the history of urology taught in your residency program?	
Historical questions on rounds or in the OR	88%
Formal dedicated lecture	15%
Journal club setting	48%
Introductory slides to presentations	68%
Other	13%
3. Do you believe the history of urology should be taught in residency?	
Yes	83% (n=70)
No	17% (n=14)
<i>For those program directors that answered YES to Question#3:</i>	
N=70	
4. Why do you believe it should be taught?	
Provides residents with a sense of perspective and connectedness to the past	97%
Can provide better judgement and reasoning	49%
Can provide a more critical approach to contemporary surgery	64%
Can lead to a deeper understanding of professionalism	66%
Other	7%
5. How should the history of urology be taught during residency?	
Historical questions on rounds or in the OR	66%
Formal dedicated lecture	49%
Journal club setting	64%
Introductory slides to presentations	66%
Other	7%
<i>For those program directors that answered NO to Question#3:</i>	
N=14	
6. Why do you believe the history of urology should not be taught?	
No time in the curriculum	50%
Little educational value and not relevant today	29%
Residents would not be interested	7%
Residents can read about it on their own	79%
Other	0%

**Figure 3. Publication Trends of History Articles in the *The Journal of Urology* and *Urology* Combined**



**Table 3. Resources That Can Be Used to Teach the History of Urology in Residency**

- **Texts**
  - Historical chapters in urology textbooks
  - Texts on the history of urology
  - Primary sources
- **Journal Articles**
- **Conferences \***
  - AUA History Forum
  - International Congress on the History of Urology
- **Museums \***
  - William P. Didusch Center for Urologic History
  - The History Office of the European Association of Urology
  - The Museum of Historical Medical Artifacts
  - The Nitze-Leiter Museum of Endoscopy
  - Wellcome Institute for the History of Medicine
- **Faculty**

\* Many of these resources are easily accessible online through websites and videos