

Assuring Excellence: The Inventions, Life, and Leadership of Edgar Garrison Ballenger

Alice T. Chu¹, Samuel R. Donnenfeld^{*,1}, Vikram M. Narayan¹

¹Department of Urology, Emory University, Atlanta, GA

*Correspondence: Samuel Donnenfeld, Emory University Department of Urology, Emory University School of Medicine, Building B Suite 1403, 1365-B Clifton Road NE, Atlanta GA 30322

Introduction: Edgar G Ballenger (1877-1945) was a leader in early 20th century American urology, now honored as the namesake for the AUA Southeastern Section's Ballenger Memorial Lecture. Our objective was to learn more about Ballenger's career, his leadership, and how he came to effect such positive change in the development of modern urology in the southeastern United States.

Sources and Methods: We conducted a review of the literature authored by or on Edgar Ballenger, MD. We accessed archives of Emory University School of Medicine, the Atlanta History and Kenan Research Centers, and newspaper archives of the Atlanta Constitution and Salisbury Times.

Results: Ballenger was born and raised a North Carolinian but graduated from medical school and trained in Maryland before returning to the deep South. He volunteered for medical service during the First World War, serving with many others from the Emory University community, and was eventually promoted to the rank of Major. He finally returned to Atlanta in 1919 and began a 20-year illustrious career as a urologist, innovating the surgical management of prostatectomy, providing insights into the control of infection and new thinking on urinary voiding dysfunction. Author, editor, and educator, he served as President of the AUA itself in 1939. He died at 67 after an apparent cardiac arrest and a 7-story fall in the historic Georgian Terrace Hotel. The keynote address of the annual meeting of the AUA's Southeastern Section is the Ballenger Lecture, named in his honor.

Conclusions: Edgar Ballenger was an early 20th century innovator in urology, a thought leader and decorated war hero, whose indelible mark on his colleagues and trainees has been forever honored by the tradition of the annual Ballenger Lecture.

Keywords: Edgar G Ballenger, Southeastern Section, AUA History

Edgar Garrison Ballenger, MD, was one of the foremost leaders in urology in the United States in the early twentieth century demonstrating unparalleled leadership and ingenuity. Within the contemporary urology community, the Ballenger name is most commonly associated with the Ballenger Memorial Lecture, the major invited scientific lecture at the annual meeting of the Southeastern Section of the American Urological Association. Less is known about his life and contributions to the field of urology. This biographical article aims to provide a comprehensive overview of Ballenger's training, contributions, and leadership from his birth in 1877 until his death in 1945.

SOURCES AND METHODS

A comprehensive literature search was performed using PubMed and the Emory University Library database to

identify scholarly articles authored by Edgar G. Ballenger, and historical documents and newspaper articles mentioning his name. The Kenan Research Center at the Atlanta History Center provided additional historical information and a photo of Ballenger. We also accessed the archives of the Atlanta Constitution and Salisbury Times for contemporary news stories of Ballenger and his community. Additional resources include the National Library of Medicine at www.nlm.nih.gov.

RESULTS

An early life

Edgar Garrison Ballenger, MD was born on November 20, 1877 in Tryon, North Carolina, to Anna Garrison and Thomas Theodore Ballenger. Young Edgar attended Furman University and the University of North Carolina,

graduating in 1897. He graduated with his Medical Degree from the University of Maryland in 1901 at the age of 24. After completing Internship at the University of Maryland Hospital, he served as Company Surgeon to the Maryland Granite Company in Guilford, Maryland for 18 months. Following this, Ballenger moved to Atlanta, Georgia, where he specialized in urology.(1)

In 1917, at the outbreak of America's involvement in World War I, Ballenger joined Base Hospital 43, a civilian medical regiment formed in response to a recruitment effort to obtain high quality medical personnel.(2) Base Hospital 43 was more commonly known as the 'Emory Unit', due to its volunteer physicians, nurses, and other enlisted personnel being predominantly from Emory University.(3) He served in Blois, France as Captain, and then was promoted to Major (Figure 1). He served as Chief of the Genito-Urinary Department and Commanding Officer of Annex Mixte—an Annex where patients with infections, venereal diseases, contagious diseases, and overflow patients were treated (Figure 2).(4) Base Hospital 43 was officially relieved on January 21, 1919. Ballenger then transferred to Division 26, then the Seventh Corps of the United States Army, where he served a year in France and Germany.(5)

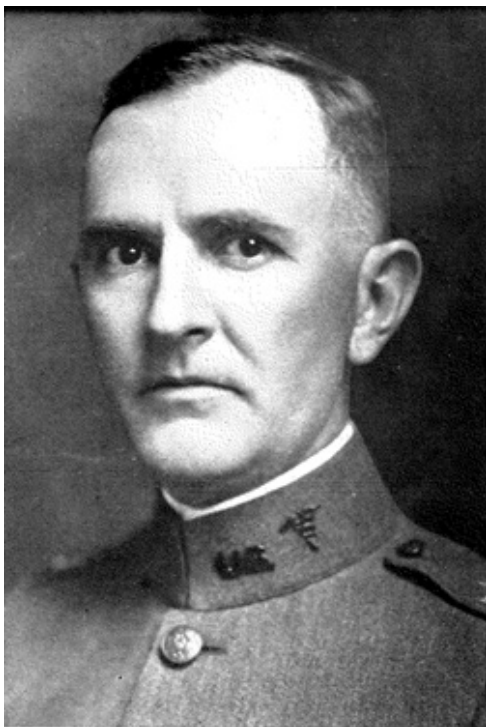


Figure 1. Edgar G. Ballenger (1877-1945), US Army, c 1918, preparing for assignment to the western front with a large contingent of volunteers from Emory University Medical Center known as the 'Emory Unit'. Courtesy Kenan Research Center, Atlanta.

A Rising Giant

Following his service with the U.S. military, Ballenger returned to practice in Atlanta, Georgia, which was located in the historic Healey Building on Forsyth Street, focusing on genito-urinary surgery. Over his career, he practiced as a genito-urinary surgeon at Grady Memorial Hospital, Wesley Memorial Hospital (now incorporated into Emory University Hospital campus), Davis-Fischer Sanitarium (later Crawford W. Long Memorial Hospital and now Emory University Hospital Midtown), Presbyterian Hospital (now defunct), as well as a Lecturer at the Atlanta School of Medicine and Clinical Professor of Genito-Urinary Disease at Emory University from 1918-1927.

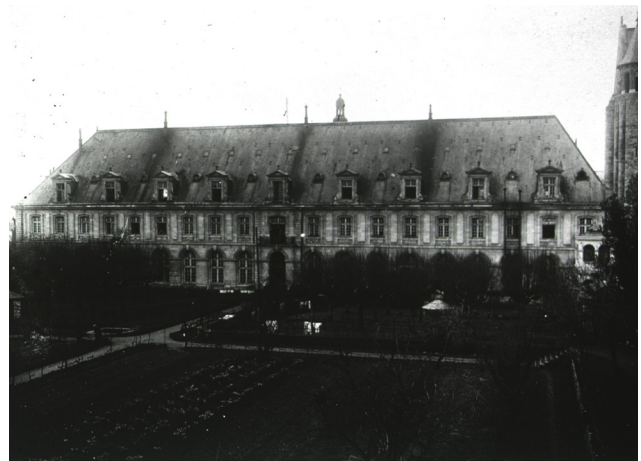


Figure 2. Base Hospital 43, Blois, France, the 'Annex Mixte' or the 'Emory Unit' where Ballenger was stationed and chief of the genito-urinary ward, 1918-1919. At its peak, the unit accommodated more than 2000 casualties. National Library of Medicine, Bethesda.

Throughout his years in practice, Ballenger published numerous articles in the *Journal of Urology*, *Journal of the Medical Association of Georgia*, *Journal of the American Medical Association*, and the *Southern Medical Journal* detailing novel discoveries in medicine, urology and various applications of instruments he invented. He published on a wide variety of topics from venereal diseases to urethral strictures, and the pathophysiology of impotence.(6,7,8) He was among the first to comment on male voiding distance as a proxy measure for urinary flow rate, which is a key and important precursor to the invention of uroflowmetry in 1948.(9,10) Ballenger was among the first to recognize the antimicrobial properties of silver nitrate and its potential for topical applications and irrigation in the genitourinary tract.(11) He was the first to describe transvesical resection of the prostate through a suprapubic cystotomy approach, prior to the advent of resectoscopes, and later

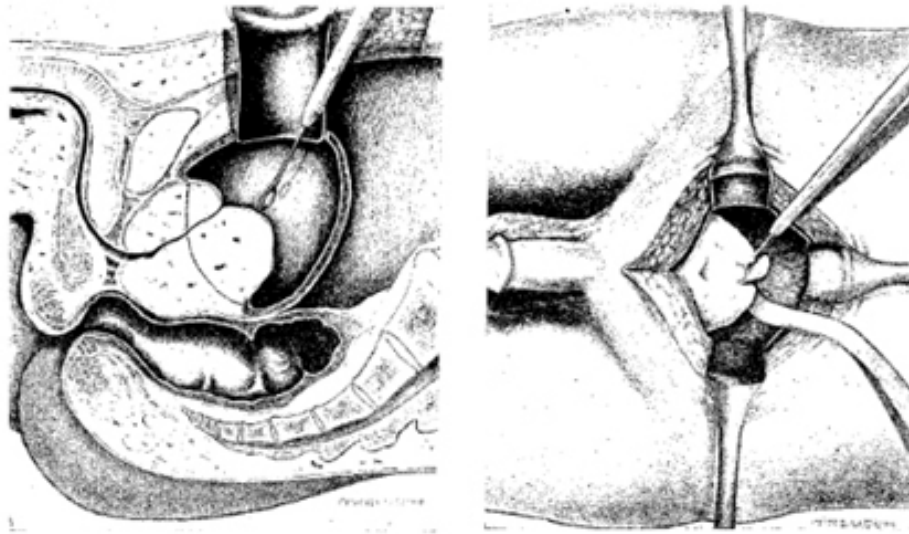


Figure 3. "Drawing on the left shows sagittal section of very large prostate protruding into the bladder, exposed by suprapubic cystotomy. Intravesical tissue is removed by loop electrode above dotted line. ON right is suprapubic view showing cutting electrode removing tissue" from Ballenger EG et al. (12)

two-way resection via transvesical and transurethral approach, offering a more minimally invasive and less bloody operation than prostatectomy.(12) Ballenger's inventions include a novel urine collection system for suprapubic cystotomies, pneumatic scrotal compressor, and the aptly named Ballenger urethroscope. (13,14) The Ballenger urethroscope was a 24 French scope with a short, curved beak designed for operations on the posterior urethra (could be purchased for \$13.25 or \$2,328.00 today).(15)

An Atlantan Institution; an AUA President

Dr. Ballenger's other notable texts include *Genito-Urinary Diseases and Syphilis*, published in 1908, a textbook targeted at medical students whom he felt did not have an adequate text for this matter. He was also an editor of *History of Urology*, Volumes I and II, published in 1933. He also served as editor of the *Atlanta Medical Journal* from 1905-1915, and on the editorial board of the *Southern Surgeon*, the official publication of the Southeastern Surgical Congress.

Ballenger's leadership in medicine and urology is represented by his legacy within the numerous regional and national associations he participated in. He was the President of the Fulton County Medical Society (now known as the Medical Association of Atlanta) in 1911, then served as President of the Southeastern Surgical Congress in 1930-1931.(16) He was President of the

Southeastern Section of the AUA in 1934-1935, and later the President of the AUA in 1939. He also served as the president of the Southern Medical Association (SMA) in 1944-1945 until his untimely and sudden death.

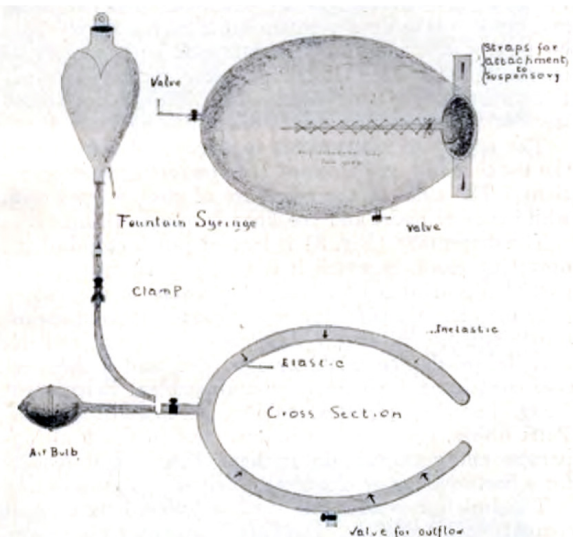


Figure 4. Ballenger's 1907 description of a "scrotal compressor" for the treatment of chronic epididymitis, allowing for either pneumatic or hydraulic pressure.(11)

Dr. Ballenger died on June 1, 1945, at the age of 67, after an unfortunate seven-floor fall over the banister of a Georgian Terrace hotel stairwell where he was residing. (17) He had been complaining of dizziness during

breakfast and had dispatched his attendant for help. Moments later, his body was found on the mezzanine floor and he was pronounced dead at the scene. His son, Colonel Edgar G. Ballinger, Jr. had ironically been driving through the night from Mississippi to visit his father and arrived just 20 minutes after the fatal fall. As a prominent physician leader, Dr. Ballenger's funeral was well-attended by the medical community of Atlanta and included members of the Southern Medical Association and the Fulton County Medical Society. He is laid to rest at Westview Cemetery in Atlanta, GA. Posthumously, the annual Ballenger Memorial Lectureship was established by the Southeastern Section of the AUA as its major scientific presentation to commemorate his service and prominent work in the field of urology.(18)



Figure 5. The vertiginous residential stairwell of the old Georgian Terrace Hotel, Atlanta. Kay Gaensler Photography, Creative Commons .

CONCLUSIONS:

Edgar Ballenger was a pivotal leader in the development of urology in the early 20th century, establishing the academic and clinical rigor of the southeastern (SE) section of the AUA. His service as President of the SE section, the AUA itself, and later the Southern Medical Association point to one of the most highly influential and revered surgeon thinkers of his time, and rightful honoree of the Ballenger Memorial Lecture at the annual meeting of the SE AUA section.

REFERENCES

1. Dabney MY, Loranz CP. Edgar Garrison Ballenger: President-Elect of the Southern Medical Association. *Southern Med J.* 1944;37(1).
2. History of the Emory Unit: Base Hospital 43, U.S. Army, American Expeditionary Forces. Publisher unknown. Atlanta, GA: 1919.
3. Davis R. When Emory Doctors Went to War. Emory University Emory Magazine Web Site. https://www.emory.edu/EMORY_MAGAZINE/issues/2017/spring/points-of-interest/dooley-noted/index.html. Spring 2017. Accessed 28 Nov 2022.
4. Clark MA. Base Hospital 43: The Emory Unit. *MedGenMed.* 2007;9(3): 10.
5. Major Ballenger Given Discharge and Returns Home. *The Atlanta Constitution.* 30 May 1919.
6. Ballenger EG, Elder OF, McDonald HP. Impotence. *J Urol.* 1936;36(3): 250-254.
7. Ballenger EG, Elder OF, McDonald HP. Concerning the Diagnosis of Rarer Types of Obstructive Lesions in the Male Urethra. *J Urol.* 1930;3(2): 259-268.
8. Ballenger EG, Elder OF. Microscopic Examination of Semen to Determine the Presence of Seminal Vesiculitis. *J Urol.* 1923;10(5): 405-406.
9. Ballenger EG, Elder OF, McDonald HP. Voiding distance decrease as important early symptom of prostatic obstruction. *South Med J.* 1932;25: 863-868.
10. Chancellor MB, Rivas DA, Mulholland SG, Drake Jr WM. The invention of the modern uroflowmeter by Willard M. Drake, Jr at Jefferson Medical College. *Urology.* 1998;51(4):671-674.
11. Ballenger EG, Elder OF. A Preliminary Report of the Germicidal Character of Emanations from Colloids of Certain Silver Salts. *J Urol.* 1923;9(1): 37-43.
12. Ballenger EG, Elder OF, McDonald HP. Two-Way Resection of Very Large Prostates. 1933;30(5): 531-536.
13. Ballenger EG. Pneumatic Scrotal Compressor for Use in Epididymitis. *JAMA.* 1907;XLIX(21):1771.
14. Ballenger EG. Device for Collecting Urine from Suprapubic Incisions. *J Urol.* 1926;16(6): 539-540.
15. Haslam F, et al. Illustrated catalogue of surgical instruments: and of allied lines. Brooklyn, NY: The Co; 1917.
16. MAA Past Presidents. Medical Association of Atlanta Web Site. <https://www.maa-assn.org/page/pastpresidents> Accessed 28 Nov 2022.
17. Fall Fatal to President of Southern Physicians. *The Salisbury Times.* 2 June 1945.
18. Carson R. Fifty Years of History: Southeastern Section of the American Urological Association Web Site. <https://sesaua.org/about/history.aspx>. Published Dec 1981. Accessed 29 Nov 2022.