

Review Article

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Women in otorhinolaryngology: a historical perspective

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Abstract

Background. Otorhinolaryngology has an extensive history that spans nearly five millennia, and the history of women as medical and surgical practitioners stretches back to at least 3500 BC.

Objectives. To explore the history of women in ENT from ancient to modern times, and discover their fascinating role in this field over the years.

Method. A literature review was conducted using Google Scholar and PubMed.

Results. In ancient and medieval times, there were female doctors accomplished in areas pertaining to ENT. In the nineteenth and twentieth centuries, inspirational women pioneers paved the way for modern female ENT surgeons. This led to a rapid increase in the representation of female otorhinolaryngologists in clinical practice and authorship over the last fifty years.

Conclusion. The contribution of women to otorhinolaryngology has evolved since ancient times and the greatest advancement has occurred within the last two hundred years.

Ancient times

The history of women as medical and surgical practitioners stretches back to at least 3500 BC; wall paintings in tombs and temples of ancient Egypt show them performing surgical procedures.¹ Multiple centres of medical education in ancient Egypt and Greece, including perhaps the most famous institution, at Heliopolis, on the northeast edge of modern-day Cairo, trained female students as early as 1500 BC.²

In ancient times, most of the medical specialties were undeveloped, and surgeons, as well as physicians, were very much generalists. Nonetheless, evidence does exist of female surgeons with an interest in ENT.

Antiochis was a famous and well-respected female physician in Tlos, Lycia, in the first century AD. She was accomplished in many areas pertaining to rhinology, particularly epistaxis. Her father was almost certainly Diodotus, a famous physician, known from Dioscorides' *De Materia Medica*, in which Diodotus is cited as an authority. Antiochis received high official honours from her city, held the office of City Physician and had been recognised by popular vote as a public benefactor.³ Not only was Antiochis held with high regard by her fellow citizens, but her reputation expanded across the ancient world with her work being referenced by her contemporaries. Galen cites Asclepiades of Bithynia (first century BC), who quotes her as an authority on the treatment of multiple diseases. Also, Heracleides of Tarentum wrote a book on haemorrhages from the nose for Antiochis.⁴

Cleopatra Metrodora was a Greek surgeon of Egyptian origin, who lived and worked around the seventh century AD, although some researchers claim that she was born as early as the second century AD. She was an extremely capable surgeon, mostly known for gynaecological procedures, but was among the few to perform cosmetic operations, specialising in facial reconstruction. She was a highly educated female physician, with an interest in both research and basic science. She is the author of the oldest medical text known to have been written by a woman, *On the Diseases and Cures of Women*.^{5,6}

Middle ages

In middle ages, patriarchy dominated the sciences, and medical education for women was outlawed throughout Europe. In France, in 1484, all women, except the widows of surgeons, lost their right to practise surgery. In fourteenth-century England, Henry VIII proclaimed that 'No carpenter, smith, weaver or woman shall practise surgery'.⁷ In 1614, barber-surgeon charters became enforced, and it was almost impossible for women to obtain a surgical licence. If a woman broke the law and acted as a surgeon or a doctor, she was liable to prosecution and imprisonment. During the seventeenth century, medicine developed a more rigorous focus on empiricism and the scientific method, and a formal education was required, but medical education in France and England was prohibited for women, who were unlikely to use their skills after childbearing.⁸

However, even during this 'dark' period, there are examples of women who contributed to medicine, and especially otorhinolaryngology. In the thirteenth century, a clandestine Frau von Tesingen published a text on medicinal treatments for otological diseases.⁸ In Spain, Benvinguda Mallnovell was making her own contribution to the management of ENT conditions. She used herbal preparations to treat diseases affecting the throat in both paediatric and adult patients.⁹ Some historians of the period have speculated that the women's contribution to the development of ENT in this period may be underestimated because of a lack of documentation.³

Nineteenth and early twentieth centuries

In the nineteenth century, women began to return to the medical profession, even though it remained virtually impossible for them to acquire medical training. This development started with the extraordinary case of Dr James Barry (1795–1865), which shows the lengths to which some women had to go to pursue their careers. A British army surgeon, with small stature and feminine features, she pretended to be male and was renowned as a skilful operator. Her deception was not discovered until her death, and Dr Barry was officially buried as a man.¹

Dr Elizabeth Blackwell (1821–1910) was the first female physician in the USA. She trained at Geneva College of Medicine in New York, gaining her Doctor of Medicine degree in 1849. However, she could not find a job as a surgeon because patients did not want to be treated by a female surgeon. She received training as an apprentice in Europe for some time, before returning to the USA to open an infirmary and medical school in New York. Dr Mary Walker (1832–1919) is recorded as the first female surgeon in the USA. In 1855, she was the second female to graduate from a US medical school.⁷ In the UK, women were allowed to sit the Royal College of Surgeons exams in 1906 for the first time. The first female surgeon with formal recognition was Eleanor Davies-Colley, admitted as a Fellow of the Royal College in 1911.¹⁰

Inspiring women pioneers led the way in otorhinolaryngology too. Dr Alice Bryant was one of the first women to specialise in otorhinolaryngology. She attended the Massachusetts Institute of Technology in 1882–1883, but received her undergraduate degree from Vassar in 1885 and her Doctor of Medicine degree at the Women's Medical College of New York in 1890. Dr Bryant was one of the first women admitted to the American College of Surgeons, in 1914. She practised at the New England Hospital for Women and Children and at the New England Deaconess Hospital. She was a pioneer in establishing evening clinics for working people at Boston's Trinity Dispensary. Apart from being a talented clinician, she was also a great inventor. She pioneered the tonsil tenaculum and nasal polyp hook (both reported in *The Laryngoscope*, December/January 1905–1906), as well as tonsil separators, the tonsil snare cannula and bone-gripping forceps. Articles announcing these inventions appeared over the decade 1905–1915.¹¹

Dr Margaret Butler was a graduate of the Women's Medical College of Pennsylvania in 1894, and became a Clinical Professor of Laryngology and Chief of the Nose and Throat Department at the Women's Medical College of Pennsylvania in 1906.¹² Dr Butler was determined to pursue a career in otorhinolaryngology, both because of her personal interest and her intention of inspiring future female surgeons to follow the same field. She stated, 'While I enjoy obstetrics

and gynaecology, I feel a woman is needed in nose and throat work, and I have decided to work in that field'. Dr Butler spent many hours in the operating theatre performing a wide range of procedures, including: biopsy and removal of malignancy of the paranasal sinuses; tonsillectomy; and middle turbinate resection. She also had a flair for innovation; she designed a number of instruments, such as the Butler tonsil snare and a nasal septum splint for use following submucous resection of the nasal septum. She showed great interest in the education of female students. One of her most famous students was Louise Mason Ingersoll, a 1914 graduate of the Women's Medical College of Pennsylvania, who performed mission work in Shanghai, China, related specifically to the treatment of ENT pathologies.³

Dr Emily Van Loon succeeded Dr Butler as the head of the ENT department at the Women's Medical College of Pennsylvania. A skilful surgeon and an inventor within the field, Dr Van Loon, along with Dr Chevalier Jackson, is credited with the development of the bronchoscope and bronchoscopic removal of foreign bodies. It is worth mentioning that due to her professional achievement in a previously male-dominated occupation, and her treatment of police officers and firefighters in Philadelphia, she received the Elizabeth Blackwell Award from the New York Infirmary.³

Dr Eleanor Bennett was another successful female otolaryngologist of her time. She graduated from medical school at the University of Nebraska, Omaha, in 1942. Dr Bennett served as professor and chair of otolaryngology at the University of Wisconsin, Madison, in 1963, and subsequently was the first female chairperson in any department among all major medical schools in the USA. A woman of many firsts, she was also the first female member of the American Laryngological, Rhinological, and Otological (Triological) Society. She was very keen on encouraging young female doctors to pursue a career in ENT, and she established an otolaryngology residency at the University of Wisconsin that today continues to train approximately 15 residents annually.³

In the UK, one of the most influential female ENT pioneers was Mrs Esme Hadfield (1921–1992). She was born in 1921, in Bristol, and she qualified in 1945 from Oxford University Medical School. In 1957, she was appointed as consultant surgeon to the ENT department at Wycombe and Amersham Hospitals. Wycombe was most famous for its chair making, and in 1900 it was the second largest furniture producer in England. Esme Hadfield noticed the increased incidence of adenocarcinoma of the paranasal sinuses, and especially ethmoid sinuses, in the area. After further research, she proved the association between cancer of the nasal sinuses and exposure to wood dust in workers in the furniture industry. She was awarded a Hunterian Professorship at the Royal College of Surgeons in 1969–1970, and later became President of the Section of Laryngology of the Royal Society of Medicine and a member of the Court of Examiners.¹³ Esme Hadfield was a very compassionate and dedicated physician. Never a shrinking violet, she insisted on changing in the men's changing rooms as this door was marked 'Surgeons'.¹⁴

Another significant figure was Mrs Edith Whetnall (1910–1965), who was a world authority in paediatric audiology. She graduated from King's College Hospital in 1938. Early on in her career, she realised the need for clinics to detect deafness in very young children. In 1947, she set up the Deafness Aid Clinic in London. This unit developed into the Nuffield Hearing and Speech Centre in 1963, and Mrs Whetnall was appointed its first director. The centre was purpose-built

for the diagnosis, assessment and development of hearing and speech in deaf children. She laid the groundwork for the establishment of similar clinics throughout Britain and further afield. She insisted on the importance of training the mother of the paediatric patient, and she founded a hostel in 1953 for mothers to bring their deaf babies for a week's testing.¹⁵

Last fifty years

In the USA, women have been increasingly entering the otorhinolaryngology workforce in recent decades. In the mid-1970s, there were 12 practising women otolaryngologists, but this number had increased to 47 by 1980. Women otolaryngologists still comprised less than 1 per cent of the 6000 otolaryngologists in the USA at that time. By 1998, over 6 per cent of practising otolaryngologists were women. In 2006, 10 per cent of the practising American Academy of Otolaryngology – Head and Neck Surgery membership were female.¹⁶ By 2014, this percentage had only increased to 11.6 per cent, which is not as much as expected, especially when considering the rapid increase of women ENT residents over the same period.¹⁷ The American Society of Paediatric Otolaryngology has a higher proportion of female members (22 per cent) compared to five other societies.¹⁸

Women entering otolaryngology residency increased from 5 per cent in 1980 to: 19 per cent in 1997, 23 per cent in 2004 and 31 per cent in 2009.¹⁸ This is reflected in the different percentages of female ENT doctors in different age groups, as there are twice as many female otolaryngologists aged less than 45 years than there are over 45 years.¹⁷

In England, the data from the last decade show that there is an increasing number of female staff in ENT, which is similar to the USA data. The percentage of all female staff increased from 23 per cent in 2009 to almost 30 per cent in 2017, while the percentage of female ENT consultants rose from 10 per cent to 15 per cent over the same period.¹⁹

Female authorship in otorhinolaryngology has increased significantly over the last decades with respect to first authorship, overall percentage of female authorship and female authorship rank. A study examined the four major otorhinolaryngology journals: *Annals of Otolaryngology, Rhinology and Laryngology*; *Archives of Otolaryngology–Head & Neck Surgery*; *Laryngoscope*; and *Otolaryngology–Head and Neck Surgery*. The average percentage of female authorship increased from 4.1 per cent in 1978, to 8.7 per cent in 1988 and 12.4 per cent in 1998. The percentage of articles with a female 'first author' increased from 3.2 per cent, to 7.4 per cent and 11.4 per cent for the same years.²⁰ In another study, which examined the same four major otorhinolaryngology journals, but encompassed the years 1969, 1979 and 1989, there was an increase in female first authors from 2.8 per cent, to 4.3 per cent and 6.6 per cent over those years, respectively.²¹

Conclusion

The history of women in ENT traces back to ancient times. Over the years, women were discouraged from practising surgery, but brave and passionate female pioneers made ENT practice possible for more and more women. Today, even though women still comprise a minority in the field, the number of female staff in otorhinolaryngology is steadily increasing.

Competing interests. None declared

References

- Royal College of Surgeons. History of Women in Surgery. In: <https://www.rcseng.ac.uk/careers-in-surgery/women-in-surgery/history/> [20 September 2017]
- Pastena JA. Women in surgery: an ancient tradition. *Arch Surg* 1993;**128**:622–6
- Friedman R, Fang C, Zubair M, Kalyoussef E. Women's role in otolaryngologic medicine. *Bull Am Coll Surg* 2016;**101**:40–5
- Parker HM. Women doctors in Greece, Rome, and the Byzantine Empire. In: Furst LR, ed. *Women Healers and Physicians: Climbing a Long Hill*. Lexington: University Press of Kentucky, 1997;131–50
- Tsoucalas G, Sgantzios M. Aspasia and Cleopatra Metrodora, two majestic female physician–surgeons in the early Byzantine era. *J Univer Surg* 2016;**4**:3
- Tsoucalas G, Karamanou M, Androutsos G. Metrodora, an innovative gynecologist, midwife, and surgeon. *Surg Innov* 2013;**20**:648–9
- Wirtzfeld DA. The history of women in surgery. *Can J Surg* 2009;**52**:317–20
- Green MH. Books as a source of medical education for women in the Middle Ages. *Dynamis* 2000;**20**:331–69
- Whaley LA. *The Medieval Contribution, in Women and the Practice of Medical Care in Early Modern Europe, 1400–1800*. New York: Macmillan, 2011;7–25
- Makwana N. A history of women in surgery. *Int J Surg* 2014;**12**:S50
- Stanley A. *Mothers and Daughters of Invention: Notes for a Revised History of Technology*. New Brunswick, NJ: Rutgers University Press, 1995;145
- Ali AM, McVay CL. Women in surgery: a history of adversity, resilience, and accomplishment. *J Am Coll Surg* 2016;**223**:670–3
- Royal College of Surgeons. Biographical Entry: Hadfield, Esmé Havelock (1921–1992). In: <https://livesonline.rcseng.ac.uk/biogs/E007976b.htm> [20 September 2017]
- Whiteside OJ, Corbridge RJ, Capper JW. Esme Hadfield (1921–92) and the Wycombe woodworkers. *J Med Biogr* 2010;**18**:24–6
- Royal College of Surgeons. Biographical Entry: Whetnall, Edith Aileen Maude (1910–1965). In: <https://livesonline.rcseng.ac.uk/biogs/E006192b.htm> [20 September 2017]
- Ferguson BJ, Grandis JR. Women in otolaryngology: closing the gender gap. *Curr Opin Otolaryngol Head Neck Surg* 2006;**14**:159–63
- Hughes CA, McMenamin P, Mehta V, Pillsbury H, Kennedy D. Otolaryngology workforce analysis. *Laryngoscope* 2016;**126**:S5–11
- Choi SS, Miller RH. Women otolaryngologist representation in specialty society membership and leadership positions. *Laryngoscope* 2012;**122**:2428–33
- NHS Workforce Statistics. Doctors in the otolaryngology specialty by grade and gender, by headcount and full time equivalent supplementary. In: <http://webarchive.nationalarchives.gov.uk/20180328132045/http://content.digital.nhs.uk/article/7572/2017-Supplementary-information-files> [6 July 2018]
- Bhattacharyya N, Shapiro NL. Increased female authorship in otolaryngology over the past three decades. *Laryngoscope* 2000;**110**:358–61
- Rosenfeld RM. Clinical research in otolaryngology journals. *Arch Otolaryngol Head Neck Surg* 1991;**117**:164–70