

# History of Surgery in Maine

Walter B. Goldfarb, MD

**T**he history of surgery, especially in New England, has been and continues to be inexorably linked to medical schools and teaching hospitals. There has not been a medical school in Maine for more than 80 years. Bowdoin Medical School, Brunswick, Me, founded in 1820, was the ninth in the United States. It foundered in 1920 on the shoals of the Carnegie-financed *The Flexner Report*. During its century of existence and for years after, this school played a major role in the medical and surgical affairs of the state of Maine, including its affiliation with the first teaching hospital in the state, the Maine General Hospital, founded in Portland in 1872, and the progenitor of the present-day Maine Medical Center.

The history of surgery in the state of Maine was first discussed before this society in the presidential address of Samuel R. Webber, MD, at the 1958 meeting in Poland Spring, Me.<sup>1</sup> Entitled "Early Days in Maine Surgery," his observations related to trauma surgery as it was associated with battles and conflicts during the early years of the 19th century, and concludes that, "Maine's pioneer surgeons were men of quality and character."<sup>1</sup>

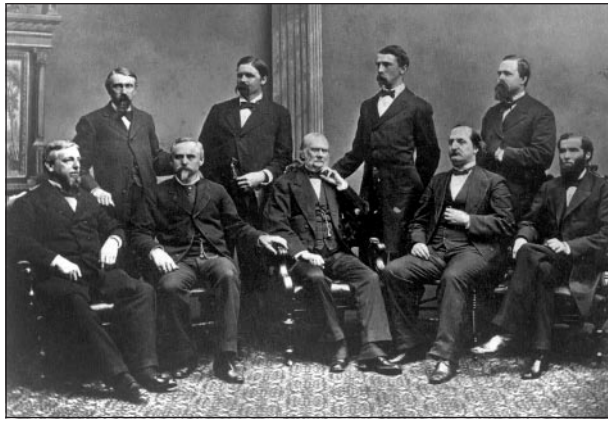
Five surgeons in the past 135 years have had major pivotal roles in the development and progress of surgery in the state of Maine. Four of the 5 were Maine natives. Three of these men are of historical interest, and 2 are contemporary. Each in his own way has made unique contributions to the advancement of surgical education, care, and knowledge. Despite the span of 135 years, these men are directly linked with the present generation of surgeons. Their written words from over 100 years ago have relevance and resonance even today. The potential major contributions to surgery of another Maine physician, not a surgeon, will also be discussed.

William Warren Greene, MD (**Figure**), was born in North Waterford, Me, in 1831. He attended Bethel Academy, Bethel, Me, and began medical studies with a preceptorship.<sup>2</sup> He then attended lectures at Berkshire Medical College in Pittsfield, Mass, and in 1866 graduated from the University of

Michigan School of Medicine, Ann Arbor. He returned to Gray, Me, as a general practitioner, and he subsequently served as a volunteer surgeon in the Federal Army. In 1862 he accepted a chairman's position in Theory and Practice of Medicine at Berkshire Medical College, "but was soon transferred to the chair of surgery for which his natural endowments and cherished tastes peculiarly fitted him."<sup>2</sup> He returned to Portland, Me, in 1865 as professor of Surgery in the Medical School of Maine where he gave the surgical course and had a large practice. He was professor of surgery at the University of Michigan in 1867 to 1868 and at Long Island Hospital in New York, NY, from 1873 to 1874 and then returned to Portland, teaching and practicing until his untimely death at sea in 1881, returning from the International Medical Congress in London, England, where he was the featured speaker. Also on the same program in a lesser role was Professor Joseph Lister.

In Maine Dr Greene was the leading surgical teacher and practitioner of his day. He was a true general surgeon also doing ophthalmic, orthopedic, and gynecological surgery. In fact, he was listed as Professor of Ophthalmic Surgery in the 1873 medical school catalogue. It was said of him that "his daring was equal to his dexterity, and, while yet a young man in the profession he performed the bold operation which more than anything else, will hand his name down to posterity."<sup>2</sup> First in 1865, and again in ensuing years, he performed and re-

*From the Department of Surgery, Maine Medical Center, Portland.*



The founding physicians of the Maine General Hospital, Portland, 1872. Included are 3 surgeons: William Warren Greene, MD (seated second from right), Frederick Henry Gerrish, MD (standing second from right), and Stephen H. Weeks, MD (seated right).

corded several successful surgical excisions of formidable goiters that were declared hopeless or inoperable by all others.<sup>3,4</sup> This was at a time when Samuel D. Gross, MD, America's leading surgical educator, had declared that, "no honest and sensible surgeon would ever engage in this horrid butchery."<sup>5</sup> This was before endotracheal anesthesia, the routine utilization of hemostats, blood transfusions, the concept of surgical asepsis, and before there were operating rooms in most hospitals. He helped establish the propriety of thyroidectomy as a safe operation.

The history of the surgery of goiter, as documented by William Stewart Halsted, MD, in his landmark essay, "The Operative Story of Goitre," is replete with the names of the most famous surgeons of the time.<sup>6</sup> The name of William Warren Greene, of Portland cited 18 times by Halsted, stands at the forefront of this illustrious group. Halsted said:

the thyroidectomies of Warren Greene deserve conspicuous mention in the history of American surgery; for this reason I have quoted at such length from the picturesque and spirited descriptions of this dauntless practitioner. We have only to bear in mind the warnings against performing this operation of Diefenbach, Liston, Velpeau, Gross, Mott and many others including surgeons even in our time and to recall the sensation made in this country by the relatively crude operations of the courageous Warren Greene . . . to comprehend in some measure the credit due to this surgeon.<sup>6</sup>

In establishing the "honors of early triumphs in surgery of the thyroid gland," Drs Halsted and Bruberger of Germany mention "the name of one surgeon for each country—Kocher for Switzerland, Watson (Edinburgh) for England, Michel for France, and Greene for America." This was quite an honor for a young man from North Waterford. It is of interest that other than in Halsted's comprehensive story of goiter surgery, Dr Greene's name does not appear in any of the many chronicles of the history of surgery of the thyroid gland throughout the ensuing 75 years.

In addition to his seminal contributions to the surgery of goiter, Dr Greene was a regular and frequent contributor to the medical literature of his day on a variety of subjects, such as fractures, cesarean section, and ovariectomy. In 1868, he was the author of the lead article in

the "new series" of the *Boston Medical and Surgical Journal*, entitled "Case of Caesarean Section: Mother and Child Both Saved," which appeared on page 1 of the very first issue of that journal.<sup>7</sup>

Although Dr Greene is remembered as a pioneer surgeon of the thyroid gland, he was also a thoughtful medical educator. To understand his concerns and commitment to quality medical education, one need only read his presidential address titled "Private Preceptorships in the Study of Medicine," which was delivered shortly before his death in 1881 to the Maine Medical Association, and later reprinted in the *Boston Medical and Surgical Journal*. In the address, he asks "how to attain a higher standard and a better system of medical education."<sup>8</sup> He condemned the then widespread practice of private preceptorships as a source of medical education, and he advocated a more structured, rigorous, and organized course of study—an early request and advocacy for a more scientific curriculum. His concerns for higher standards are as pertinent today as they were in 1881, and they were affirmed 3 decades later by the Carnegie Report on Medical Education: *The Flexner Report*.

Stephen H. Weeks, MD (Figure), an 1864 medical graduate of the University of Pennsylvania, Philadelphia, had a long and distinguished career. He was a man of many and varied surgical interests. Like Warren Greene, he was a member of the early surgical staff at the Maine General Hospital from 1874 until 1905. He was a professor of anatomy at the Medical School of Maine and a professor of surgery at the Bowdoin Medical College in Portland.

He became a member of the American Surgical Association in 1889, along with Drs Arthur T. Cabot, and John Homans, both of Boston, Mass. He was very active in the association and served as its vice president in 1904. His presentations and discussions of papers at this organization reflect wide surgical interests, a keen intellect, and intelligent scientific curiosity. In 1907, in a discussion on the treatment of breast carcinoma (and with most of the participants, including Dr Halsted, advocating the radical operative procedure), Dr Weeks "took issue with this statement that even the Halsted operation with a supraclavicular extension was a complete operation." He noted that his own results with mastectomy and node excision without removing the pectoral muscles were better, and that he only "sometimes removed the muscles." This would have been a most bold assertion for a surgeon from Maine, and possibly a man ahead of his time.<sup>9</sup>

Dr Weeks advocated in 1899, when appropriate, interval appendectomy, which was not a popular or accepted concept then.<sup>9(p228)</sup> In the 1890 proceedings discussing long bone fractures, he suggested "fixation of joints above and below the seats of fractures"—an observation referred to as "the modern sounding statement" by Hayes Agnew, MD.<sup>9(p110)</sup> That he was a thoughtful surgeon is suggested by his comments at the 1900 meeting regarding the treatment of carcinoma of the stomach. He argued that palliative gastroenterostomy rather than resection was more appropriate as "the time might come when diagnosis would improve and early operation would result in cure, but that time had not yet come."<sup>9(p244)</sup>

Dr Weeks' interests and bibliography extended to a variety of other surgical problems, including gallstone dis-

ease and choledocholithiasis,<sup>10,11</sup> renal calculi,<sup>12</sup> femoral artery aneurysm,<sup>13</sup> osteomyelitis, and even tic douloureux. He wrote 2 papers on the surgery of the Gasserian ganglion.<sup>14,15</sup> In a 1901 presentation of "Fractures and Dislocations of the Spine," he advocated that cervical spine anterior dislocations should be treated with prompt laminectomy "in all such cases for the benefit of the few who might be improved" by cord decompression.<sup>9(p257)</sup> Dr Weeks presented a paper to the American Surgical Association in 1907 entitled, "Some Considerations in Regard to Brain Surgery," which included the follow-up of a craniotomy patient operated on successfully by him in 1898 at the Maine General Hospital—surely an early foray into the infant specialty of neurosurgery.<sup>16</sup>

In a symposium led by Drs Chas Mayo and A. J. Ochsner in 1904 regarding "thyroidism" (or Grave's disease) and the role of surgery, it is recorded "there was a good deal of discussion, but only S. H. Weeks of Portland introduced a new note stating there were many cases in which medical treatment is the only plan we can adopt," using neutral bromide of quinine, which was "found to be a valuable remedy" in controlling the symptoms of Grave's disease based on the observations of R. Shattuck, MD, of Harvard Medical School in Boston.<sup>9(p321)</sup> Again, this is an early observation that has stood the test of time. At the same meeting, commenting on surgery for osteomyelitis of the tibial shaft, the discussion relates that, "S. H. Weeks of Portland, Maine seemed to understand the disease best of all." The discussion proceeded with his comments regarding adequate drainage.<sup>9(p312)</sup>

Like many of the famous surgeons of his day, Dr Weeks was slow to embrace Dr Lister's concepts. In this, he diverged from his colleague at the Maine General Hospital, Frederic Gerrish, MD. In 1889 in a discussion of the use of drains for wounds, he said, "it is not the province of this paper to discuss the germ theory of disease," then further stated that he was "not a complete convert to Listerism."<sup>9(p102)</sup>

Despite this, a catholicity of surgical interests, an inquiring and inquisitive mind, and a willingness to question the prevailing surgical wisdom earned for him a place in Maine's surgical pantheon. An example of his commitment and compassion is noted in the opening remarks on the "Sanitary Condition of the Almshouse and the Poor of the City of Portland," read at the 1870 meeting of the Maine Medical Association<sup>17</sup>:

It is certainly gratifying to know that the members of the medical profession are coming to realize that the preservation of health and the prevention of disease are as important a part of their duty as the treatment and cure of disease. . . . No worthier object can engage the mind and heart of the philanthropist than that which relates to the promotion and preservation of health. . . . If health is justly deemed an inevitable possession to those surrounded by all the comforts of home and friends, and all that wealth can procure, of how much more consequence must it be to the poor, who, homeless and friendless, seek shelter within the walls of our public charities. . . . Too often it is the poor, half starved poor, half clothed unfortunate shunned, loathed, and if sick, even viewed as a culprit; while, in many cases at least, his poverty and sickness are the result of his misfortune and not his fault. It is a wise charity, therefore, that seeks to improve the physical and moral condition of this unfortunate class of our population.<sup>17</sup>

These observations relating to the prevention of disease, the care of the poor, and the moral obligation of society and the medical profession to the poor and underserved ring as true today as they did when they were made more than 130 years ago.

Surgeons in Maine were among the earliest in catching the crest of the great scientific wave of the late 19th century, facilitating surgical advances that transformed the specialty and made possible the medical miracles of the 20th century. These included the development of bacteriology, histology, the concept of antisepsis or listerism, advances in anesthesia and instrumentation, and the development and implementation of formal surgical training.

Frederic Henry Gerrish (Figure) was at the forefront of medical progress during these critical years. Born in Portland in 1845, he was a Bowdoin Medical School graduate. He had a varied, productive, and long medical and surgical career, which he began as a lecturer in therapeutics, materia medica, and physiology at Bowdoin from 1873 to 1874. After a year as professor at the University of Michigan (1874 to 1875), he continued at Bowdoin as a professor of materia medica and a lecturer on public health until 1904, when he became a professor of surgery. He lectured on medical ethics until his death in 1920. His clinical responsibilities included that of being the first pathologist at the newly opened Maine General Hospital in Portland from 1872 to 1879, and a visiting and attending surgeon from 1879 to 1893. He was Dr William Warren Greene's first assistant in some of the earliest successful thyroidec-tomies in the United States.<sup>18</sup> He became a member of the American Surgical Association, joining in 1892 along with J. B. Deaver, MD, of Philadelphia, Pa, and William Stewart Halsted, MD, of Baltimore, Md.<sup>9(p136)</sup> An active participant in this organization throughout the years, Dr Gerrish was the "invited primary discussor" after Halsted's 1898 landmark paper on the 10-year results of the radical operation for breast carcinoma at the Johns Hopkins Hospital for the prior 10 years.<sup>9(p216)</sup>

He was a member of the American College of Surgeons, the Society Internationale de Chirurgie, and one of the first surgeons from Maine to be a member of the New England Surgical Society. He was also a leader in other organizations, both local and national, serving as the president of the State Board of Health from 1885 to 1889; president of the American Academy of Medicine in 1887; president of the Maine Medical Association from 1901 to 1902; and president of the American Therapeutic Association from 1908 to 1909.

Dr Gerrish, recognizing the role of bacterial infection in surgical operations, was an early proponent and advocate of listerism, the concept of antisepsis that met with less than overwhelming enthusiasm and acceptance in the years following Lister's early observations, especially in the surgical centers of Boston, Baltimore, and Philadelphia.

The proceedings of the American Surgical Association during its first few years reflect the impassioned opinions both for and against listerism, the germ theory of infections. In 1881, Dr Gerrish edited and translated from the French an important book by Lucas Champoniere, MD, entitled *Antiseptic Surgery: The Principles, Modes of Application, and Results of the Lister Dressing*.<sup>19</sup> He also wrote the memorial for Lister in *The 1913 Transactions of the Ameri-*



can Surgical Association. He noted that Lister's initial paper, delivered in 1867, "was greeted with incredulity and derision. . . . gradually practitioners were persuaded of the efficacy of the system, British conservatism being the last to yield to the overwhelming evidence. Finally, the whole surgical profession became convinced."<sup>9(p443)</sup>

His interest in bacteriology also extended to the public health of Portland and culminated in the publication of "The Sanitary Condition of Portland," a treatise focused on public sanitation, or lack thereof, and its adverse health consequences for the population.<sup>20</sup> He reported on the distribution of infectious disease and epidemics and the relation to sewage disposal and the water supply. He related the human and economic consequences of poor sanitation and overcrowding. He advocated the necessity of a good water supply, which "should be placed under strict municipal supervision in order that the quality and quantity may be relied upon at all times." His prescience in 1877, still a subject of interest and contention, reflected a keen intelligence. Dr Gerrish even criticized the existing board of health for not having a member with medical training. His concern for public health was noted in his annual oration to the Maine Medical Association in 1878 entitled "The Duties of the Medical Profession Concerning Prostitution and Its Allied Vices."<sup>21</sup> This was a man of great social conscience.

In 1899 as professor of anatomy at Bowdoin, he edited *A Text-Book of Anatomy by American Authors*.<sup>22</sup> Although such famous surgical authorities as Arthur Dean Bevan, MD, of Chicago, Ill, and George David Stewart, MD, of New York, NY, were contributors, Gerrish was the author of almost half of this treatise.

Dr Gerrish's contributions to the state of Maine also include his important role in the establishment of the Bingham Associates Fund, whereby a rural area of Maine benefited from the relationship and educational and consultative services of a major Boston teaching hospital.<sup>18</sup> This was a result of the great generosity of a patient of Dr Gerrish, who, in his role as a psychiatric practitioner well beyond the conclusion of his surgical career, was persuaded of the need for rural medical outreach in Maine. This medical outreach concept, established almost 100 years ago, was possibly the first of its kind (certainly in New England) and predates the current era of telemedicine.

The final clinical chapter in this most varied and interesting life was devoted to the study of psychotherapy and the therapeutic role of hypnosis and suggestion. He was a pioneer who made major contributions to the development of the concept of psychosomatic medicine. He wrote several papers on the subject, and in 1908, contributed a chapter in the book *Psychotherapeutics* and participated actively in symposia on the subject.<sup>18</sup>

In 1910, as the death knell of the report of the Carnegie Foundation on medical education was sounding—eventually to end the 100-year existence of Bowdoin's Medical School—Dr Gerrish wrote a scathing, brilliant literate criticism of *The Flexner Report*.<sup>23</sup> It stands as an articulate and reasonable exposition of the need for medical education at the time, reflecting the depth of his insight in defense of a medical school in Maine.

After his death in 1920, he was remembered as the greatest faculty member of his era by the graduates of Bow-

doin Medical School. It was said of him, as Oliver Wendell Holmes said of Dr Nathan Smith of Dartmouth, that he occupied "a whole settee of professorships" from 1873 until his death.<sup>18</sup> He was a multit talented man—surgeon, physician, psychiatrist, anatomist, bacteriologist, public health visionary—a unique individual, and a man for all seasons. In 1937, the library at the Central Maine Medical Center in Lewiston was dedicated in his name. Thus from Brunswick to Portland to Bethel to Lewiston, to the numerous Bowdoin Medical graduates that he influenced, Dr Gerrish had a profound and positive effect on medicine and surgery in the state of Maine.

These pioneer surgeons in Maine—Drs Greene, Gerrish, and Weeks, each of whom made distinct and important contributions to their craft and to the public good—were independent-thinking New England surgeons. They challenged conventional wisdom in pursuit of the science of surgery: Greene doing some of the earliest thyroidectomies in the United States and establishing the propriety of the operation; Gerrish advocating the new and unpopular concept of listerism to a doubting profession; and Weeks' bold questioning of the role of "the radical operation" of Halsted for the treatment of breast carcinoma. All are examples of an independent intellectual spirit. That they had no formal or structured surgical training, certainly as we know it today, makes them and their contributions all the more remarkable and deserving of our admiration and respect.

Toiling in the remote medical and surgical vineyards of Maine in the mid 19th century meant working in relative obscurity as compared with the big city medical centers of Boston and New York, and consequently, suffering the accompanying lack of scientific peer recognition. Thus, the possible seminal contributions of Obediah Durgin, MD, remain unknown even to this day. His obituary in the 1879 *Portland Daily Press* described Dr Durgin<sup>24</sup>:

always a studious man and possessed much originality of thought and idea. . . . As a result of his patient study and investigation, he may justly claim to have first discovered the anesthetic qualities of sulfuric ether. Nearly forty years ago (about 1838) while suffering from a distressing chronic disease and searching for a substitute for opium and its various preparations, which he was prevented by personal idiosyncrasy from using, he experimented with ether. Having constructed a simple apparatus for inhaling it he found it to be the long sought remedy. He at once introduced it into his practice thus anticipating its after discovery as an anesthetic by several years.<sup>24</sup>

These assertions were further noted in 1928 by A. J. Spalding, MD, who said of Dr Durgin<sup>25</sup>:

In his practice he proved a faithful man, a good man for medicine, but nothing of a surgeon. Unfortunately for his actual fame in using ether in surgery, Dr. Durgin never happened to think of trying in surgical opportunities his sulphuric ether apparatus, which he personally invented and from time to time improved. In point of fact, his practice was so exclusively medical, he saw so little, if any, surgery that it never occurred to him to extend his inhalations of ether to insensibility, and to use them for operations. . . . So that I am obliged to claim simply, that he came near to fame, to great fame, as the discoverer of the untold value of sulphuric ether in surgery, but that he never happened to cross the borderline between its medicinal and its surgical uses. . . . The date of the invention of his por-

table inhalation apparatus for his own use, first, and then for his first patients, afterward, long antedated the year 1840.<sup>25</sup>

This was approximately 8 or 9 years before the first use of sulfuric ether as an anesthetic at the Massachusetts General Hospital, Boston, in 1846. Although ether had been used before then, as noted in Dr Edward Churchill's, *To Work in the Vineyard of Surgery*, ether experiments and "frolics were popular among medical students prior to 1846." He quotes a letter from one Morrill Wyman, MD, describing the recreational use of ether by house officers, stating that "experiments with ether at the Massachusetts General Hospital in 1836 had reached me."<sup>26</sup> Could it be that Dr Durgin's use of ether to control pain may very well have been one of the first, if not the first, demonstration of its clinical utility in the relief of pain? Had Dr Durgin been a surgeon, one could easily imagine the Ether Dome being located in Portland.

Isaac M. Webber, MD, was born in South China, Me in 1895. He was a graduate of Bowdoin College in 1917, and of Bowdoin Medical College in 1920, the last year of its existence. He had several years of residency training in general surgery at the Mayo Clinic, Rochester, Minn, and in 1927, he returned to practice surgery in Portland for the next 52 years. He was the first fully trained, board-certified surgeon in the state. He was a pioneer in many areas of surgery, bringing modern techniques of the day to the state. A Maine man of few but important words, he was the backbone of the surgical service at the Maine General Hospital during the 1930s and 1940s and the guiding force in the founding and nourishing of the surgical residency program, which was formally approved in 1947, and is now in its 53rd year. He was vice president of this surgical society in 1971.

Emerson Drake, MD, certainly deserves a place in the surgical history of the state of Maine. Born in St Paul, Minn, in 1918, he is the only one of our surgeons who was, as they say in Maine, from "away"; this despite 47 productive years as a surgeon in Portland. He was the first board-certified thoracic surgeon in the state. In addition to his role as chief of surgery during the formative years of the training program, he was the father of cardiac surgery in Maine, performing the first open heart surgery in 1957. He was a bold pioneer in Maine, and he helped get the cardiac surgical program up and running, so that now, 1600 to 1800 operations per year are done at the Maine Medical Center; this is more than are performed at most New England hospitals. He was the very model of what a New England surgeon should be: a solid citizen who was actively engaged in community affairs, as well as a fine clinician and teacher. His leadership was recognized by the New England Surgical Society serving as its treasurer for 5 years, and as president in 1976.

No history of surgery in the state of Maine would be complete without acknowledging that most famous and renowned of surgeons (albeit a fictional one), Dr Hawkeye Pierce—the creation of the fertile imagination of one Richard Hooker, the nom de plume of the late Richard Hornberger, MD, a surgeon in Maine for many years. The antics of the madcap characters in *M.A.S.H.*, and subsequently *M.A.S.H. Goes to Maine*, capture the essence and character of the true Mainers. Hawkeye, Trapper, and the

others associated with the "Spruce General Hospital" and the "Finestkind Clinic and Fish Market" articulate with jest and sarcasm many of the characteristics and verities seen in present-day Maine and portray the popular imagination of the surgeons as personalities.<sup>27</sup>

Thus, from Drs Greene, Weeks, and Gerrish, to Hawkeye Pierce; from fact to fiction; from the 19th century to the present; through all the changes in science and society, these Maine surgeons, independent minded, intellectually honest, and socially concerned, have served their patients and their state with dignity and honor, and we salute them.

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*Corresponding author: Walter B. Goldfarb, MD, Department of Surgery, Maine Medical Center, 72 West Street, Portland, ME 04102 (e-mail: wbg@maine.rr.com).*

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