



Medicine chest containing original vials with labels of medicaments used by McDowell. From the collection in the McDowell Home.

McDowell

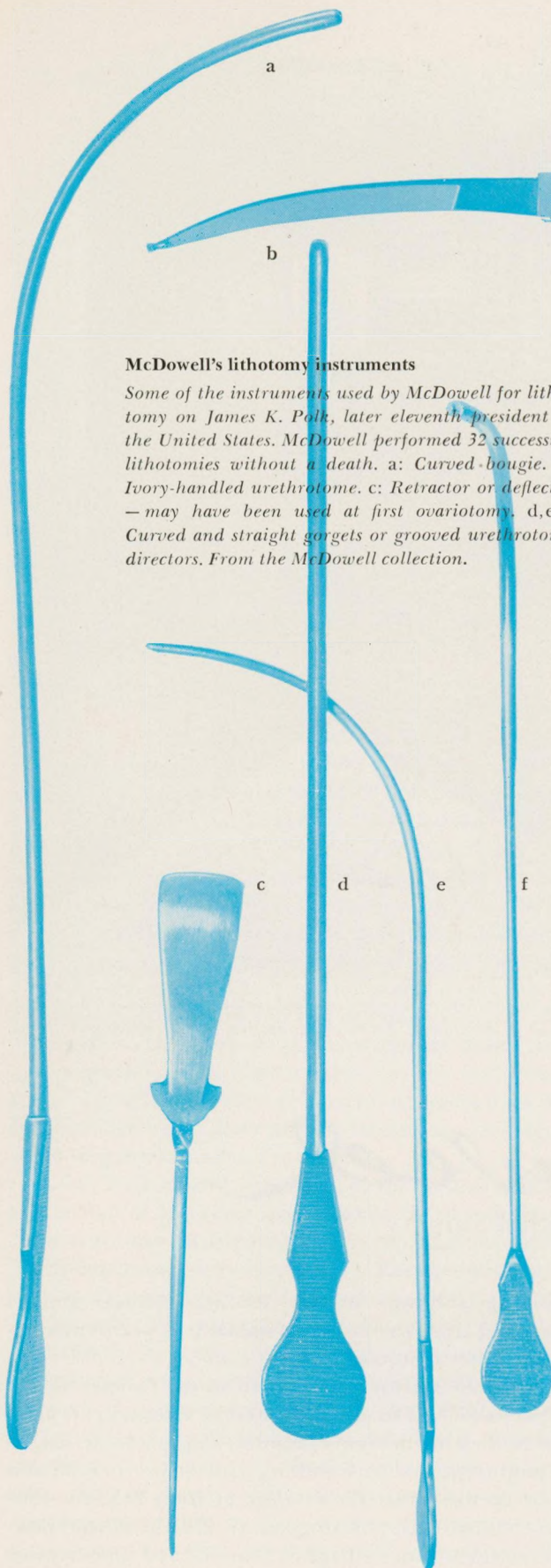
Founder of Abdominal Surgery

Christmas Day, 1809, ushered in the era of abdominal surgery. On that day Dr. Ephriam McDowell of Danville, Kentucky, performed a successful oöphorectomy on Jane Todd Crawford, who subsequently enjoyed some 32 years of useful life. Although his modest, concise report of this remarkable feat was received with incredulity, the medical profession has since paid homage to this great benefactor of humanity, who demonstrated that the human peritoneum was not a structure of scrupulous inviolability. The dogma taught by opinion-

forming surgeons in the leading medical centers stemmed from the near inevitability of peritonitis under the prevalent conditions.

Ephriam McDowell was born in the Colony of Virginia in 1771. The family moved to Kentucky in 1784. He studied medicine at Staunton, Virginia under Dr. A. Humphreys, and at Edinburg University. Part of this time he was under the tutelage of John Bell, the celebrated anatomist and surgeon. In 1795 he started practice in the frontier village of Danville and soon became

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McDowell's lithotomy instruments

Some of the instruments used by McDowell for lithotomy on James K. Polk, later eleventh president of the United States. McDowell performed 32 successive lithotomies without a death. a: Curved bougie. b: Ivory-handled urethrotome. c: Retractor or deflector — may have been used at first ovariectomy. d,e,f: Curved and straight gorgels or grooved urethrotome directors. From the McDowell collection.

the foremost surgeon west of the Alleghenies, performing all of the then known operations and in addition, 13 ovariectomies with 8 recoveries, 4 deaths, and 1 incomplete. He died in 1830.

What prompted McDowell to attempt this formidable operation in the face of the prevailing dogma that the peritoneum was inviolate? First, he must have been certain of the diagnosis of ovarian tumor, a confidence which rose from his excellent training; Bell had discoursed eloquently on ovarian disease. Secondly, since he was highly conscientious and solicitous about his patients' welfare, he probably had reasons to believe that opening the peritoneal cavity was not necessarily fatal. In this belief he was undoubtedly influenced by observations that both animals and man recovered from penetrating wounds of the abdomen. It would be surprising if during the time that Kentucky became the "Dark and Bloody Ground" he had not attended patients (a few of whom recovered) with eviscerating trauma due to farm accidents, Indian depredations, bowie knife fights, etc. Thirdly, he was spared the presence of ultra-conservative colleagues whose authority and influence might have deterred him. Finally, these pioneers, both physician and patient, were accustomed to making decisions regardless of the odds which would pit their skill and energy against almost certain death, or what was worse — uselessness.

McDowell was constantly expanding his knowledge of anatomy and pathology by means of his extensive medical library, and dissections every winter. He carefully discussed anatomical relationships with his assistants and charted the course prior to every operation. Thus he felt himself qualified to undertake this new venture that he executed with remarkable ingenuity, recalling vividly the pathological anatomy of ovarian diseases seen at autopsy under Bell.

Viewed from the vantage point of modern surgery, his basically flawless technique and speed (25 minutes) were of primary importance. A nine-inch incision was made over the crest of the tumor on the left side three inches from and parallel to the rectus abdominis. The intestines promptly eviscerated, and the tumor was clearly visualized. A strong ligature was placed around the pedicle to secure hemostasis. Fifteen pounds of "dirty gelatinous looking substance" was evacuated from the tumor. The remainder of the mass, weighing seven and one-half pounds and involving "the ovary and the fimbriated part of the fallopian tube", was then excised. The patient was turned on her left side to evacuate the blood from the abdominal cavity. The extruded intestines were replaced after bathing them in tepid water to warm them. The incision, with the ligature brought out of the lower angle, was closed by in-

interrupted sutures reinforced with adhesive plaster. In five days the patient was up making her own bed. In twenty-five days she returned on horseback fully recovered to her home sixty miles from Danville.

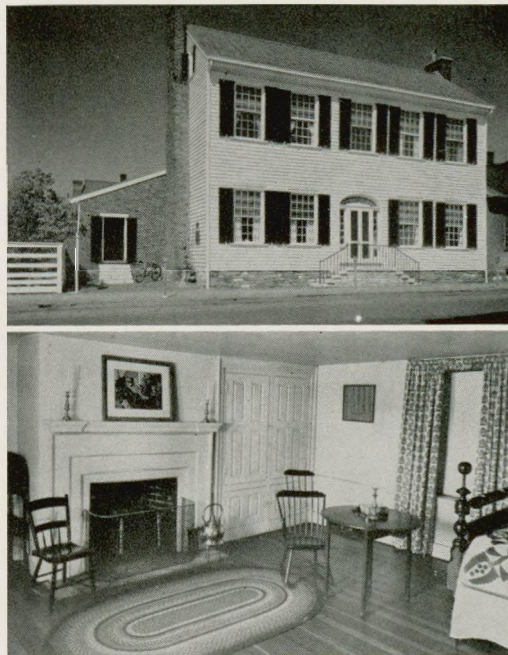
McDowell's technique differed little from the modern except for lack of asepsis. The speed with which he worked obviated surgical shock. That peritonitis did not develop in spite of considerable handling of the abdominal contents may be attributed to the low concentration of air-borne pathogens in the isolated frontier community in wintertime. The operation was performed on Sunday morning, undoubtedly shortly after McDowell had enjoyed his "weekly ablution" and donned clean clothing—certainly before he had examined other patients from whom he might have transmitted infection; in large hospitals of that day heavy exposure to infectious organisms strongly predisposed to peritonitis. Bathing the intestines in tepid (boiled?) water and emptying the abdominal cavity of blood further reduced the hazard of infection since microorganisms and fragmented tissue that would have favored bacterial growth were carried away. The ligature brought out through the lower angle of the wound probably served as a small drain to prevent accumulation of fluid.

The preoperative physical activity and early ambulation of the indomitable patient undoubtedly contributed to her recovery. Current practice in this respect reduces morbidity and mortality in surgical patients.

When his long-delayed report supported by two additional successful ovariectomies was published, many of McDowell's contemporaries regarded it as a fabrication. They remained adamantly unbelieving two years later when he reported two additional cases, which clearly demonstrated that his successes were not merely fortuitous. For instance, in one case the ligature slipped off the pedicle because of "shortness and sponginess of the part" with resultant profuse hemorrhage. He then placed a strong ligature and secured it with several sutures—probably the first transfixion suture-ligature of an abdominal pedicle, a standard practice today.

Ovariectomy, the "outrageous, murderous innovation" as it was called, remained a fallow field except for sporadic activity until the early forties. By 1850 only 18 American and fewer English surgeons had successfully performed it. By 1871, 1408 cases had been reported with a mortality of 24 per cent (415). Thus, over a half-century later with increased skill and anesthesia, results were not strikingly better than McDowell's.

Dr. Ephraim McDowell belongs to history—not as the backwoods bungler as his early detractors would have it, but as a great medical scientist. Today he is honored not only as the "Father of Ovariectomy," but more appropriately as the "Founder of Abdominal Surgery."



Ephraim McDowell Home and "operating room"

Top: Exterior of McDowell Home in Danville—a notable shrine maintained by the Kentucky State Medical Association. Center: View of room where first successful ovariectomy was performed. McDowell once received an unsolicited fee of \$1500 for a similar operation. Bottom: Apothecaries' balance used by McDowell. From the McDowell collection.

