



# The Christmas miracle of 1809: How a “backwoodsman without a diploma to practice” became the father of abdominal surgery

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“Therefore it appears to me a mere Humbug about the Danger of the Peritoneal Inflammation so much talked about by most surgeons.”

- Excerpt from a January 2, 1829 letter written by Dr. Ephraim McDowell to Robert Thompson, medical student at the University of Pennsylvania and son of a close friend, on his defiance of surgical dogma that breach of the abdominal cavity universally results in peritonitis and death and should be avoided, 20 years after his first successful abdominal operation<sup>1</sup>

## Introduction

The events of December 25, 1809 occurring at the home of Ephraim McDowell of Danville, Kentucky were not accidental, arbitrary, or an ‘act of god’ although the participants were religious, the date of operation (Christmas day) was deliberate and a prayer was written before commencement. This operation took place because of the confluence of events and individuals: a patient who sought to avoid a certain, slow and painful death (likely to be replaced by a rapid demise) with a surgeon who had travelled abroad to study with the great surgical thought leaders and textbook writers of the day. McDowell was willing and able to offer a

last gasp ‘experiment’ and remove an expanding and debilitating intra-abdominal tumor—a feat that had never been successfully accomplished and was expressly forbidden by the European-based surgical intelligentsia of the day, because of the conviction that any breach of the peritoneal lining of the abdominal cavity would universally lead to peritonitis and death. Indeed, this proposed operation would truly be an act of desperation! The events of Christmas day 1809 have previously been described, although limited by the very brief publications of the event by the surgeon and direct participants of the operation, leaving plenty of room for improvisation and embellishment of the true facts related to this most interesting case report of the first successful abdominal operation—the removal of an ovarian mass and fallopian tube (salpingo-oophorectomy). This single success would lead to further abdominal operations and would open up the abdominal cavity to interventions and operations that would forever change the field and profession of surgery. How could this have happened? How could a “backwoodsman without a diploma to practice” on the fringe of the new frontier of the “New World” make such an astounding breakthrough that defied the great surgical minds of Europe and beyond?<sup>1–3</sup> A surgeon who only had sparse formal training and not even a degree to prove it? The following treatise is an attempt to put the actual events into perspective and weed out the fiction, distortion and misinformation that has been woven into the tapestry of the storytelling over the past 2 centuries. Although the veracity of some aspects of the case cannot be substantiated because of limited supporting information, hopefully, it will provide some clarity regarding this remarkable first step into what would become the vast and ever-expanding field of abdominal surgery.

## Family background- Scotland/Ireland

The elder Ephraim McDowell (1673–1773), great grandfather of Dr. Ephraim McDowell, descended from a strict Presbyterian sect in Scotland, which demanded civil and religious freedoms as taught by John Knox, migrated with others of his kindred to settle in the north of Ireland. This population would become known as the ‘Scotch-Irish’, not so much to indicate the mix of race, but rather a trail of migration. Within this clan, Thomas McDowell married Anne Locke and she bore 10 children, the 3rd son, Ephraim, was

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born March 3, 1673 in Connor, Antrim, Ireland. On December 7, 1688, at age 15, he and 2 brothers were pressed into the siege of Londonderry in the north of Ireland and were among the apprentice boys who aided in its defense by closing the gates of Londonderry against the Catholic forces of the deposed King James II's Army, ousted by Parliament in favor of his protestant daughter Mary and her husband William of Orange. During the long siege of 1689, Ephraim was conspicuous for his endurance and bravery. He also fought at the Battle of the (river) Boyne and in many other battles. He would become a blacksmith in Glenoe, like his father. He married Margaret Irvine in Longford, Londonderry in 1702 and they had 4 children. Margaret passed away in 1728. Ephraim was drawn to colonial America because of the wide acceptance of religious freedom, and so at 56 years of age he migrated to America with 2 of his sons, John and James, and 2 daughters, Mary and Margaret, along with other kinsmen (including 7 brothers-in-law) and co-religionists who sailed 118 days to the Pennsylvania colony on the ship, "George and Anne", from May 9 to September 4, 1729. Reportedly, 10 McDowells died during the voyage. While in Pennsylvania, his 2nd eldest son John (grandfather of Dr. Ephraim McDowell) married Magdalena Wood and their oldest son Samuel (father of Dr. Ephraim McDowell) was born on October 29, 1735. James McDowell, the 3rd son of the elder Ephraim, settled on the south river of the Shenandoah Valley in the Virginia colony in the spring of 1737. In the fall of 1737, after 8 years in the Pennsylvania colony and again confronted with government restrictions, the elder Ephraim, his son John's family and his daughter Mary and her husband James Greenlee followed James McDowell's lead and also settled in the Virginia colony at Sewell's Creek. The elder Ephraim is credited with building the first road through the Blue Ridge Mountains to the Shenandoah Valley.

A weary stranger asked for hospitality and introduced himself as Benjamin Burden, an Englishman who was issued 500,000 acres of land on the Shenandoah or James Rivers on the condition that at least 100 families would settle there within 10 years, with 1000 acres given to each family with the privilege of purchasing an additional adjacent 1000 acres at a shilling per acre. Burden offered 1000 acres to the McDowells for assistance in finding his land grant. John McDowell, born and raised in Ireland with an English education, was a skillful surveyor, an occupation most useful and remunerative on the frontier. He found and surveyed Burden's Grant and received his large share of land. Hence, the McDowells persuaded friends, kindred and co-religionists in the Pennsylvania colony, Ireland and Scotland to come to this area of the Virginia colony. This group of Scotch-Irish were to become very important in the development of America and especially the southern and eastern areas of Virginia and Kentucky where they built many schoolhouses and churches.

Dr. Thomas Walker, a physician and surveyor, was the first white man to enter Kentucky in 1745. He named the Cumberland River, Cumberland Mountains and the Cumberland Gap where he found a deep division in the mountains on April 13, 1750. Daniel Boone was the first white man to make a permanent settlement, Boonesborough, in Kentucky in 1775.

On Christmas Day, 1743, John McDowell and 8 of his men pursued American Indians who had raided their settlement. They were ambushed and all 9 were killed. John McDowell's eldest son, Samuel McDowell (1735–1817) learned self-reliance, love of liberty and fear of God. He would provide frequent and meritorious military service in the French and Indian War under General George Washington and he was an aide-de-camp of General Isaac Shelby, who would become the first governor of Kentucky. At the age of 18, Samuel married Mary McClung, also of Scotch-Irish descent. Samuel McDowell was one of the 2 representatives from Augusta County (later renamed Rockbridge County because of a large,

natural bridge of rock) to the convention of delegates of the Virginia House of Burgesses, who met in St. John's Episcopal Church in Richmond on March 20, 1775, where the famous speech of Patrick Henry ended with, "I know not what course others may take; but as for me, give me liberty or give me death!", which further set the Revolutionary War in motion. Samuel was also a member of the convention that met in Williamsburg in 1776, that instructed the Virginia delegates to the Continental Congress to "Declare the united colonies free and independent states, absolved from all allegiance to or dependence on the crown of parliament of Great Britain".<sup>1</sup> Following the Revolutionary War, Samuel was commissioned a colonel of a regiment from Augusta County that would guard the mountain passes from Indian advances from the west and south. Samuel also participated in the North Carolina campaign, the turning point of the war. He participated in General Greene's pursuit which drove Cornwallis to Wilmington and defeat, the termination of the Revolutionary War.

The 9th child (of 11) of Samuel and Mary McDowell, Ephraim, was born November 11, 1771, 8 miles north of Lexington, Virginia. Samuel McDowell was a trustee of a Presbyterian school in Rockbridge County, later to be named Liberty Hall Academy (forerunner of Washington and Lee University), established to educate the youth of the Shenandoah Valley. Undoubtedly, his children attended this academy. Following the conclusion of the Revolutionary War, Samuel was appointed surveyor of the public lands in Fayette County, then one third of the District of Kentucky. On March 3, 1783, he was one of 2 judges appointed to the first court of common law in the District of Kentucky. Ephraim moved with his family over the increasingly traveled road from Virginia to Kentucky, known as the Wilderness Road, which extended through the Cumberland Gap and into central Kentucky to a settlement, later established as the town of Danville by a statute of the Commonwealth of Virginia on December 4, 1787. Danville would become the seat of the most refined and cultured society in the west. A log courthouse was constructed in the public square, deeded for use by the Supreme Court of the Kentucky District of the Commonwealth of Virginia. Judge Samuel McDowell presided over the 9 conventions called to meet in Danville to consider the question of separation from Virginia, as the mountains interfered with the timely defense of the Kentucky District by the Virginia militia. Therefore, developing a militia was a primary incentive to separate and become an independent state. He was also president of the 1792 convention which framed the first state constitution of Kentucky, which became the 15th state of the Union that year. In 1775 there were only a few hundred settlers in the Kentucky District, by 1784 there were 30,000, by 1790 there were 73,577, by 1800 there were 220,955 settlers and by 1809 the population of the new state was close to 400,000.

The first governor of Kentucky, Isaac Shelby (1750–1826), was a "far-seeing and brilliant" man who favored opening the Ohio and Mississippi rivers to free navigation, predicted the downfall of slavery and that a Civil War would be inevitable to accomplish that end. He built a beautiful home of granite, known as Traveler's Rest in Lincoln County, 5 miles from Danville.<sup>1</sup>

### The education of Ephraim McDowell

Little is known of the early education of Ephraim McDowell, other than he most likely attended Liberty Hall Academy. Young Ephraim was described as being thoughtful, studious and particularly interested in books. He later attended a classical seminary maintained by 2 gentlemen, Worley and James, located first in Georgetown and later in Bardstown, Kentucky. Soon after leaving the seminary at 19 years of age, Ephraim decided to become a doctor, his motivation to do so is not known. In the early days of

Colonial America, a young man who wished to become a medical doctor would become a student or apprentice to a practicing physician. During this apprenticeship the student acted as a handyman about the office or house and performed all of the necessary chores, including sweeping floors, building fires and preparing medicines to dispense such as tonics, powders and pills.

In 1765, Dr. John Morgan (1735–1789) and Dr. William Shippen, Jr. (1736–1808), both graduates of the University of Edinburgh Medical School, started the College of Philadelphia Medical School, the first medical school in Colonial America which would later be renamed the Medical College of the University of Pennsylvania.<sup>4</sup> The standard courses were anatomy, physiology and chemistry. In 1805, surgery and anatomy were made separate courses. In 1813, the first lecturer on midwifery was added to the staff.

In 1791, young Ephraim McDowell travelled back over the mountains for an apprenticeship under Dr. Alexander Humphreys of Staunton, Virginia where he remained for 2 or 3 years. Humphreys was a distinguished and well-known physician, a graduate of the University of Edinburgh in Scotland, at that time considered the finest medical school in the world. It is not clear how these arrangements were made. Humphreys may well have known Ephraim's father, Samuel McDowell, because of his prominence in state politics. Students paid for these apprenticeships with a stipend and for many physicians of the day, this represented the entirety of their medical education. The students read medical books and accompanied/assisted the doctor in the care of his patients. Usually, the student was named a doctor of medicine when the instructor approved. Humphreys insisted that his students learn anatomy by dissection. Another of Humphreys' students during that time was Samuel Brown, a brother-in-law of Humphreys. Against the wishes of his father, Ephraim would go on to attend the University of Edinburgh Medical School with American colleagues who would all be founders of US medical schools: Samuel Brown, John Beale Davidge and David Hosack. Hosack was the family physician of Alexander Hamilton and attended to both son Philip Hamilton's death following an 1801 duel and Alexander Hamilton's own death from his infamous, ill-fated duel with Aaron Burr at the same site at Weehawken, New Jersey on July 11, 1804.

Samuel McDowell preferred Ephraim not go abroad, but rather finish his education in Philadelphia at the University of Pennsylvania, the only medical school in the country at that time. Ephraim arrived in Edinburgh during the 1792–1793 session (Fig. 1). Samuel Brown would comment that “Dr. McDowell went to Edinburgh a gosling and returned a goose”. Records of his borrowings from the library included 5 books on chemistry and one on Hamilton's “Female Complaints”.<sup>1</sup> Hamilton wrote that Caesarian sections in Great Britain had been uniformly fatal because exposure of the intestines to cold air during this operation produced “dreadful pain and inflammation... which generally proved fatal”. Surgery was still considered a manual craft and not an intellectual discipline, however, the surgeons undertook the task of education and established Edinburgh's reputation as a center of surgical teaching. In 1778, King George III granted a new charter giving the surgeons' corporation the title “The Royal College of Surgeons of the City of Edinburgh”. During Ephraim's 2nd year he took a private course outside of the university under Mr. John Bell (1762–1820), the most celebrated surgeon in Europe at that time and the most popular lecturer in Edinburgh. Bell was said to have dwelled in detail on diseases of the ovaries, speaking of their hopeless character, that little had been done to cure any patient with diseases of these organs, however, he thought the possibility of excision of diseased ovaries should be considered. Interestingly, John Bell's 3 vol set, “Principles of Surgery”, depicted in the 1820 Patrick W. Davenport portrait of Ephraim McDowell (Fig. 2), did not include anything on this subject matter.



Fig. 1. Portrait of Ephraim McDowell, circa 1790s.

Ephraim's brother, Colonel James McDowell and James' son Wallace W. McDowell, both claim Ephraim graduated from the University of Edinburgh Medical School, however, no diploma was ever located and McDowell's name cannot be found on the roll of

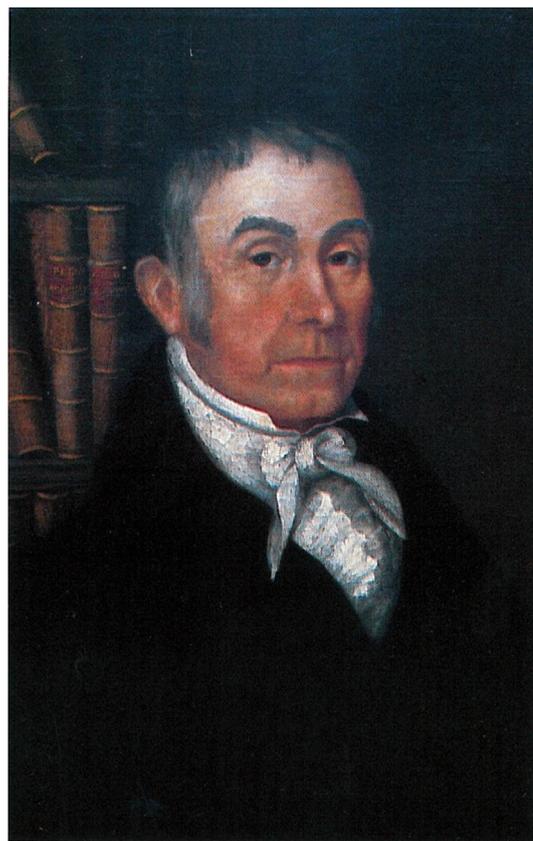


Fig. 2. Portrait of Ephraim McDowell (age 48) by artist Patrick W. Davenport, 1820 with the 3 vol textbook “Principles of Surgery and anatomy of the human body” by Mr. John Bell depicted in the background bookshelf.

graduates of the University of Edinburgh. Despite these facts, McDowell signed his few medical writings as “Ephraim McDowell, M.D.” These circumstances would lead some to call McDowell, “a backwoodsman without a diploma to practice”.<sup>3</sup> In 1825, the College of Medicine of Maryland bestowed an honorary degree, due to the efforts of McDowell's fellow student and friend from Edinburgh, Dr. John Beale Davidge, the founder and first dean of the College of Medicine of Maryland, which is the oldest public and fifth oldest medical school in the United States (US).

### Ephraim McDowell- the surgeon

Ephraim McDowell would grow to become physically strong and agile, and at nearly 6 feet tall, a commanding figure, handsome with black eyes and dark hair, a penetrating gaze and an engaging personality that won him lasting friends through life. He was said to have a lively social temperament and was an excellent conversationalist with a ready wit that made him the delight of every group. He was kind hearted and amiable, overflowing with cheerfulness, good humor and readily approachable. He was said to invariably dress in black with silk stockings and ruffled linen. He was scrupulously neat, but plain and unassuming, fond of music and master of the Scottish dialect. His character was considered exemplary. He did not use tobacco and was temperate in his use of alcohol, sparingly taking whiskey or cherry bounce-an alcohol concoction of whiskey in which cherries are macerated with sugar and various spices. He never appeared to assume that there was any difference between the “plane of his vocation and that of the humblest, unlettered artisan”.<sup>1</sup>

In 1795, Ephraim McDowell returned to Danville and established his medical practice. He would court and marry 18 year-old Sara Shelby, daughter of Kentucky Governor Isaac Shelby, at Traveler's Rest in 1802. After their marriage, Sara prevailed upon Ephraim to join the Episcopal Church and in 1828, he complied and joined the Episcopal Church in Lexington, 35 miles northeast of Danville. He would later donate land for an Episcopal Church in Danville upon which the Trinity Episcopal Church was built and still stands.

They would have 8 children, 6 daughters and 2 sons, their son Shelby died in early childhood of accidental aspiration. His medical practice would call him 100 miles away or more, therefore, he was absent from home for several days at a time. He had an overseer to manage the farm. He owned slaves, who were said to be devoted to him. He did not traffic in slaves as he did not wish to separate families. He was one of the original incorporators and curators of Centre College in Danville. He did not obtain great wealth in his lifetime and was said to be worth \$40-\$50,000.

According to the writings of Samuel Gross, he performed various operations including repair of incarcerated hernias, tracheotomies, excision of various surface tumors, drainage of abscesses, repair of lacerations and removal of bladder stones. In 1812, he removed a debilitating stone from 17 year old James K. Polk of Tennessee. In 1826, Polk would write a letter of appreciation to McDowell, and included that he “was in full enjoyment of perfect health”.<sup>1</sup> As a politician, Polk would become Chair of the US House of Representatives Ways and Means Committee (1833–35), 13th Speaker of the US House of Representatives (1835–39), 9th Governor of the state of Tennessee (1839–41), and 11th US President (1845–49).

Characterizations of McDowell the surgeon, include the words: bold, resourceful, candid and truthful as he insisted his patients realize the risks of their operations. It was his strong opinion that surgeons should be expert anatomists. He was exceedingly cautious and his assistants were carefully drilled. It was said he preferred to operate on Sunday mornings in order to have the prayers of the church with him. He admonished his students against the free

prescription of medicines. He believed that medical drugs were more of a curse and that quackery, by the use of these medicinals, caused much illness. His character was forged from experience, and subjected to danger from Indian attacks and the rigors of travel in the mountains and through the wilderness. Courage, decision-making and determination were his heritage.

### Jane (Jenny) Todd Crawford - the patient

The Todds were also of Scotch descent from Dunbar, but fled to the north of Ireland, a short distance from the coast of Ayr, Scotland during the 1679 Battle of Bothwell Bridge, between the Catholics and the Covenanters (Scottish Presbyterians). In 1737, sons of John Todd (1660–1719), who were dissenters from the Church of England, came to America and settled in the Pennsylvania colony before migrating to the Shenandoah Valley of Virginia. Both Jane Todd Crawford and Mary Todd Lincoln (1818–1882), born in Lexington, Kentucky and the wife of Abraham Lincoln, the 12th US President, were descended from 2 of these brothers who settled in Pennsylvania (Samuel Todd I and Robert Todd, the youngest of the brothers). Jane Todd's grandfather was Samuel Todd I and Mary Todd Lincoln's Great Great Grandfather was Robert Todd who also brought along his son, David Todd (Mary Todd Lincoln's Great Grandfather) who was 14 years old when they emigrated to America.

In 1762, Samuel Todd II and his wife Jean (Jane) Lowry Todd came to Whistle Creek in Augusta County, Virginia. This was the same Virginia county that Ephraim McDowell's parents settled, 2 miles north of the home of the Todds. Jane Todd was born December 23, 1763, the 2nd of 6 daughters along with 2 brothers. She was named after her Mother and went by the nickname ‘Jenny’ (on her marriage certificate her name was written ‘Jenny Todd’<sup>5</sup>). The children likely received their earliest education at the same precursor to Liberty Hall Academy as the McDowell children. Her grandfather Lowry left a part of his estate to Jane's father. Jane's parents owned black slaves sufficient to care for their lands and home, and several were later inherited by Jane. As a girl, she declared that she would learn to cook and keep house, to spin and to weave and marry a farmer. All of which she accomplished.

On January 9, 1794, Jane (Jenny) Todd married Thomas Crawford January 5, 1794 in Rockbridge County, Virginia. The ceremony was performed by the Rev. Samuel Houston whose infant cousin Sam Houston would become the 6th Governor of Tennessee, the 1st and 3rd President of the Republic of Texas and the 7th Governor of the state of Texas. Only 8 years before, Thomas Crawford's family had moved from Pennsylvania to a log cabin not far from the ‘natural bridge of rock’ which gave Rockbridge County (originally Augusta County) its name. On November 5, 1805 they arrived in Kentucky with 4 children (a 5th child died in infancy): James age 11, Alice age 8, Samuel age 6 and Thomas age 2. They built a log cabin 9 miles south of Greensburg, Kentucky and 60 miles southwest of Danville. They were joined by Thomas Crawford's sister Rachel and her husband Tom Mitchell who became neighbors. The population of the area was about 40,000 at that time, but the white population increased rapidly so that by 1809 it approached 400,000. On February 12, 1809 Abraham Lincoln was born in a similar log cabin in Hodgenville, 35 miles north of the Crawford farm.

In the spring of 1809, now past 45 years of age, Mrs. Crawford developed an enlargement of the abdomen, assumed to be a natural pregnancy, although unusual given her advanced age (Fig. 3). By December 1809, her abdomen was very large, especially given her small stature. Her two physicians, puzzled and powerless, believed she was pregnant with twins and overdue for delivery. They sent for Dr. Ephraim McDowell of Danville, then 38 years of age, for consultation. After 2 days of travel on horseback to cover the 60



Fig. 3. Portrait of Jane (Jenny) Todd Crawford, around the time of the operation.

miles, he arrived at her home on Wednesday, December 13, 1809.

### Diagnosis, operation and recovery

Mrs. Crawford, presumed to be pregnant with twins, and having considerable and consistent pain was evaluated by Dr. McDowell. Upon simple physical examination he was able to ascertain that she had a normal, closed cervix and normal uterus although shifted to the right by a large left adnexal mass that filled the pelvis and abdomen up towards the level of the xyphoid process. It was not fixed, but able to be shifted on palpation, consistent with a large cystic left ovarian tumor. Patients with these tumors would typically develop marked abdominal pressure and great discomfort due to the size of the tumor, making work or even walking quite difficult to impossible. Transabdominal aspiration (paracentesis) may give temporary relief, but was always followed by recurrence and the potential for adhesions to develop and trap loops of bowel, making repeated attempts at aspiration dangerous and potentially fatal if bowel injury occurred. After a discussion with the patient regarding her grave situation, Dr. McDowell offered an operation to remove the tumor as an “experiment” as it had never been previously performed with success (survival with full recovery), but rather universal death from peritonitis. Furthermore, she would have to travel by horseback to Danville, crossing several rivers and going up and down Muldraugh’s Hill, the highest terrain, during the trip. Mrs. Crawford was said to be a woman of unusual courage and strength of mind. She apparently immediately assured Dr. McDowell that she was willing to attempt surgical resection, an act of desperation, most likely leading to swift death but preferable to the slow, painful death that would otherwise be her fate. Days later, she parted from her husband and 4 living children, now 6, 10, 12 and 15 years of age, most certainly never to see them again. On Saturday December 16, 1809, she started the 3 day trip on horseback accompanied by a neighbor, Mrs. Baker. They arrived at the McDowell house on Tuesday December 19, 1809. She was allowed 6 days of rest and recuperation before the operation. The trauma of the abdominal mass constantly pounding the saddle during the long ride caused a large bruise on the skin and soft tissue over the

mass. James Crawford Brown, a grandson, stated that “her supreme faith in the Heavenly Father, her high ideals of strength and beauty, and her complete confidence of the physician to who she entrusted her life, are beautiful examples of the model patient”.<sup>1</sup> She was said to recite selected Bible Psalms as an attempt at distraction or self-hypnosis to endure the extreme pain during the 25 minute operation. She was probably given a dose of laudanum (an alcoholic herbal preparation of opium) and/or cherry bounce for pain relief. McDowell typically performed his operations on Sunday mornings, because he wished for the prayers of the church to be with him. However, Sunday December 24, 1809 was Christmas Eve, therefore, the operation was arranged for Christmas Day, Monday December 25, 1809, to take full advantage of this special day. Furthermore, on the fly leaf of a prayer book, Dr. McDowell inscribed in his handwriting the following prayer which reportedly was recited: “Almighty God, be with me, I humbly beseech Thee in this attendance in Thy holy hour; give me becoming awe of Thy presence; grant me Thy direction and aid; that in confession I may be humbled and truly penitent in prayer, grateful and sincere; and in hearing Thy word attentive and willing and desirous to be instructed; give me true faith in the atonement of Thy Son as alone sufficient to procure Thy favour and blessing; that worshipping Thee in spirit and in truth, my service may be accepted, through His all sufficient merits. Amen.”<sup>6</sup>

The other witnesses to this operation, consistently included in the few published accounts of the operation, were nephew and surgical assistant Dr. James McDowell (who died in 1812 before performance of the 2 other cases included in McDowell’s first publication), Mrs. Baker—the attendant for Mrs. Crawford, and McDowell pupil Charles McKinny.

### (Double) publication and reaction

William Hunter (1718–1783), Scottish anatomist and the lead obstetrician of his day was very pessimistic regarding intervention for ovarian disease. In his “The History of an Emphysema” read October 31, 1757 and later published in *Medical Observations and Inquiries* in 1762, he concludes, “If I may form a judgment from what I have seen, both in the living and in the dead body, I should believe that the dropsy of the ovarium is an incurable disease and that a patient will have the best chance of living longest under it who does the least to get rid of it. The trocar is almost the only palliative. It has been proposed indeed by modern surgeons, deservedly of the first reputation, to attempt a radical cure by incision and suppuration, or by excision of the cyst. I am of the opinion that excision can hardly be attempted; and that incision and suppuration will be found by experience to be an operation that cannot be recommended, but under very particular circumstances.”<sup>2,7</sup>

Although successful removal of the ovary had never been accomplished, William Hunter’s younger brother, John (1728–1793), appointed surgeon to King George III in 1776, had considered the issue and consequences of oophorectomy in a lecture delivered in 1785:

“I cannot see any reason why, when the disease can be ascertained in an early stage, we should not make an opening into the abdomen and extract the cyst itself. Why should not a woman suffer spaying, without danger as well as other animals do? The merely making an opening into the abdomen is not highly dangerous. In a sound constitution perhaps a wound merely into the abdomen would never be followed by death in consequence of it.”<sup>2</sup>

In 1816, with the urging of nephew William McDowell, who assisted in the later operations, Dr. McDowell drafted a manuscript describing his 3 operations to that point in time, including the

dramatic first operation on Mrs. Crawford in 1809 and 2 other operations on slaves, and sent copies to 3 prospective editors. The paper was rejected outright by Dr. Philip Syng Physick of Philadelphia. However, Dr. Thomas Chalkley James, professor of midwifery at the University of Pennsylvania School of Medicine and an editor of the *Eclectic Repertory and Analytical Review*, one of 2 American journals at that time, accepted it for publication in 1817. The following is the entire manuscript:

"In December 1809, I was called to see a Mrs. Crawford, who had for several months thought herself pregnant. She was affected with pains similar to labor pains, from which she could find no relief. So strong was the presumption of her being in the last stage of pregnancy that two physicians, who were consulted in her case, requested my aid in delivering her. The abdomen was considerably enlarged, and had the appearance of pregnancy, though the inclination of the tumor was to one side, admitting of an easy removal to the other. Upon examination, per vaginam, I found nothing in the uterus, which induced the conclusion that it must be an enlarged ovarium. Having never seen so large a substance extracted nor heard of an attempt or success attending any operation such as this required, I gave to the unhappy woman information of her dangerous situation. She appeared willing to undergo an experiment, which I promised to perform if she would come to Danville (the town where I live) a distance of sixty miles from her place of residence. This appeared almost impracticable by any, even the most favorable conveyance, though she performed the journey in a few days on horseback. With the assistance of my nephew and colleague, James McDowell, M.D., I commenced the operation, which was concluded as follows: Having placed her on a table of the ordinary height, on her back, and removed all her dressing which might in any way impede the operation, I made an incision about three inches from the musculus rectus abdominis, on the left side, continuing the same nine inches in length, parallel with the fibres of the above-named muscle, extending into the cavity of the abdomen, the parietes of which were a good deal contused, which we ascribed to the resting of the tumor on the horn of the saddle during her journey. The tumor then appeared full in view, but was so large that we could not take it away entire. We put a strong ligature around the Fallopian tube near the uterus, and then cut open the tumor, which was the ovarium and the fimbriated part of the Fallopian tube very much enlarged. We took out fifteen pounds of a dirty, gelatinous-looking substance, after which we cut through the Fallopian tube and extracted the sack, which weighed seven pounds and one-half. As soon as the external opening was made the intestines rushed out upon the table, and so completely was the abdomen filled by the tumor that they could not be replaced during the operation, which was terminated in about twenty-five minutes. We then turned her upon her left side, so as to permit the blood to escape; after which we closed the external opening with the interrupted suture, leaving out, at the lower end of the incision, the ligature which surrounded the Fallopian tube. Between every two stitches we put a strip of adhesive plaster, which, by keeping the parts in contact, hastened the healing of the incision. We then applied the usual dressings, put her to bed, and prescribed a strict observance of the antiphlogistic (anti-inflammatory) regimen. In five days I visited her, and much to my astonishment found her engaged in making up her bed. I gave her particular caution for the future, and in twenty-five days, she returned home as she came, in good health, which she continues to enjoy.

Since the above case I was called to see a negro woman, who had a hard and very painful tumor in the abdomen (1813). I gave her mercury for three or four months with some abatement of pain, but she was still unable to perform her usual duties. As the tumor was fixed and immovable, I did not advise an operation; though, from the earnest solicitation of her master, and her own distressful

condition, I agreed to the experiment. I had her placed upon a table, laid her side open, as in the above case, put my hand in, found the ovarian very much enlarged, painful to the touch, and firmly adhering to the viscera urinaria and the fundus uteri. To extract I thought would be instantly fatal; but by way of experiment, I plunged the scalpel into the diseased part, such gelatinous substance as in the above case, with a protrusion of blood, rushed to the external opening, and I conveyed it off by placing my hand under the tumor and suffering the discharge to take place over it. Notwithstanding my great care, a quart or more of blood escaped into the abdomen. After the hemorrhage ceased, I took out as cleanly as possible the blood, in which the bowels were completely enveloped. Though I considered the case as nearly hopeless, I advised the same dressings and the same regimen as in the above case. She has entirely recovered from all pain and pursued her ordinary occupation.

In May 1816, a negro woman was brought to me from a distance. I found the ovarian much enlarged, and as it could be easily moved from side to side, I advised the extraction of it. As it adhered to the left side I changed my plan of opening to the linea alba. I began the incision, in company with my partner and colleague, Dr. William Coffey, an inch below the umbilicus, and extended it to within an inch of the os pubis. I then put a ligature around the Fallopian tube and endeavored to turn out the tumor but could not. I then cut to the right of the umbilicus and above it two inches, turned out a scirrhous ovarian (weighing six pounds) and cut it off close to the ligature put around the Fallopian tube. I then closed the external opening, as in the former cases, and she complaining of cold and chilliness, I put her to bed prior to dressing her; then gave her a wineglassful of cherry bounce and thirty drops of laudanum, which soon restoring her warmth, she was dressed as usual. She was well in two weeks, though the ligature could not be released for five weeks, at the end of which time the cord was taken away, and she now, without complaint, officiates in the laborious occupation of cook to a large family."<sup>2,8</sup>

The 3rd editor to receive a copy was his former instructor Mr. John Bell in Scotland, who happened to be convalescing in Rome from a horseback riding injury. Bell never recovered and subsequently died April 15, 1820 and was buried in Rome. Therefore, McDowell's manuscript fell into the hands of Mr. John Lizars who was covering Bell's practice and was also a presiding editor of the *Edinburgh Medical and Surgical Journal*. This proved to be fortuitous, as Lizars, who did not initially publish the manuscript, obviously took it to heart. After receiving a 2nd American manuscript from Dr. Nathan Smith of Yale University (New Haven, CT) describing an operation similar to McDowell's cases, Lizars chose to publish the Smith manuscript in the *Edinburgh Medical and Surgical Journal* in October 1822, as it was drafted by an academic surgeon from a renowned institution rather than an unknown from the Kentucky backwoods.<sup>9</sup> One year later, in October 1823, Lizars himself attempted to duplicate the operation. In the October 1824 issue of the *Edinburgh Medical and Surgical Journal*, Lizars published his single case under the title, "Observations on extirpation of ovaria with cases", which included the old McDowell manuscript still in his possession.<sup>10</sup> Lizars simply attached his single case, a negative exploration of the abdomen in a woman who had abundant adipose tissue both within the abdominal wall and the bowel mesentery, but no intra-abdominal tumor could be found. She made a full recovery. This single case report of Lizars was still valuable, however, in that it pointed out that the abdominal cavity may be breached for an abdominal exploration for expected disease/disorder with relative impunity. Therefore, Lizars concluded that a delay to perform an abdominal exploration (he uses the term 'gastrotomy') to potentially diagnose and correct life-threatening intra-abdominal pathology may be more dangerous than the

operation itself.<sup>10</sup>

“From this case and those which I have enumerated, it appears to me that there is little danger to apprehend, in laying open the abdominal cavity; and that in diseased ovarium, extrauterine conceptions, foetus in utero with deformity of the pelvis preventing embryulcia, aneurism of the common iliac arteries or of the aorta, volvulus, internal hernia, cancer of the uterus, and foreign bodies in the stomach threatening death, we should have recourse early to gastrotomy. The delay in such cases is more dangerous than the operation.”<sup>10</sup>

The Lizars publication gave McDowell's previously published work, hidden in an obscure American medical journal, a wide European and even worldwide audience and exposure that would not have occurred given the limited impact and readership of the fledgling American journal.

Two years after McDowell's first publication, his second and last manuscript was published, again in the *Eclectic and Analytic Repertory* in the form of a September 1819 letter to Dr. Thomas C. James, “Observations on diseased ovaria” in which he added 2 more cases.<sup>11</sup> He started this letter to the editor by addressing some of the criticisms of his first publication, with interesting observations regarding his first patient, Mrs. Crawford:

“I would observe that my patient was a woman of small stature; her abdomen had become so pendulous, as to reach almost to her knees; the size of the tumor was ascertained from actual weight... Excision I esteem less perilous than any other mode of treatment; and the only certain cure”<sup>2,11</sup>

To further emphasize his claim that excision is the only certain cure over incision and drainage procedures, percutaneous or otherwise, he provides follow-up on patient number two, the slave whose ovarian tumor had “adhered so firmly to the neighboring parts, that I did not attempt its extraction, but made a free incision into it with the scalpel, and discharged its contents; she recovered of the operation, and I thought her well of the disease; but, she informed me some short time since, that it had been growing for the last twelve or eighteen months, and says it is now, about the size it was when I opened her six years ago.”<sup>2,11</sup>

This account of patient number two's long-term follow-up provides further evidence that mere incision and drainage of these massive ovarian tumors is inferior to definitive excision and prone to recurrence.

Lizars' October 1824 publication in the *Edinburgh Medical and Surgical Journal*, brought sarcasm and derision from the editor of the *London Medico-Chirurgical Review*, James Johnson, who fanned the flames of controversy over this new operation that dared to breach the peritoneum and abdominal cavity. In Johnson's review of Mr. Lizars' paper, published in the January 1825 issue of the *London Medico-Chirurgical Review*, he ridiculed the brevity and simplicity of McDowell's manuscript, with the implication that it was more fantasy than reality.

“Doctor Mac visited the patient at the end of five days, though she had come to his own residence to have the operation performed! He found her engaged in making her bed! She soon returned to her native place quite well. (Credat Judoeus, non ego.)”<sup>2,12</sup>—rough translation of the Latin end note - ‘tell it to someone else, not me’.

Furthermore, Johnson's review also chastised Lizars for publishing McDowell's cases, “Passing over the records of surgery, all of which cannot be depended on, we shall come at once to the recent facts, or alleged facts, communicated in this paper by Mr. Lizars. Three cases of ovarian extirpation occurred, it would seem, some years ago in the practice of Doctor MacDowell, of Kentucky, which were transmitted to the late John Bell, and fell into the hands of Mr. Lizars. We candidly confess that we are rather skeptical respecting these statements, and we are rather surprised that Mr. Lizars

himself should put implicit confidence in them.”<sup>2,12</sup>

In the same January 1825 issue of the journal, in response to another author writing favorably on the future of ovariectomy, Johnson writes, “In despite of all that has been written respecting this cruel operation, we entirely disbelieve that it has ever been performed with success, nor do we think it ever will.”<sup>2,12</sup>

By October 1826, Johnson finally relented and seemed convinced of the veracity of McDowell's published reports, “Extirpation of an Ovarium—A back settlement of America—Kentucky has beaten the mother country, nay, Europe itself, with all the boasted surgeons thereof, in the fearful and formidable operation of gastrotomy with extraction of diseased ovaria. In the second volume of this series, page 216, we adverted to the cases of Doctor MacDowell, of Kentucky, published by Mr. Lizars, of Edinburgh, and expressed ourselves as skeptical respecting their authenticity. Doctor Coates, however, has now given us much more cause for wonder at the success of Doctor MacDowell; for it appears that out of five cases operated on in Kentucky by Doctor M, four recovered after the extraction, and only one died. There were circumstances in the narrative of some of the first three cases that raised misgivings in our minds, for which uncharitableness we ask pardon of God and of Doctor MacDowell, of Danville. Two additional cases now published (for it appears that the cases were published, though in a very unsatisfactory form, in the *American Eclectic Repertory*) are equally wonderful as those which our readers are already acquainted.... It was the mode of narration that excited our skepticism, and we must confess it is not yet removed.”<sup>2,13</sup>

Another particularly egregious mode of attack by Johnson against McDowell included racist rants, such as the following in the same October 1826 issue of the *London Medico-Chirurgical Review*:

“When we come to reflect that all the women operated upon in Kentucky, except one, were negroes, and that these people will bear cutting with nearly, if not quite, as much impunity as dogs and rabbits, our wonder is lessened, and so is our hope of rivalling Doctor MacDowell on this side of the Atlantic.”<sup>2,13,14</sup>

Unfortunately, McDowell was not a prolific writer and his 2 publications: the first successful abdominal exploration with salpingo-oophorectomy (3 cases) published in 1817, and the 1819 publication (2 more cases for a total of 5 operations, with one death) are his only known contributions to the medical literature.

Dr. McDowell also issued a ‘Card’ or pamphlet in 1826, in defense of the publications related to his operations for ovarian disease, addressed to the “Physicians and surgeons of the West and particularly to the Medical Class and Faculty at Transylvania University” (Medical College of Transylvania University, Lexington, Kentucky), as noted by Dr. Samuel Gross. Dr. Gross stated that this pamphlet was accompanied by 3 certificates testifying to the truth of his publications, from: Mrs. Crawford and also Mrs. Baker and Mr. Charles McKinny (McDowell's student), the latter two had witnessed the operation.

“My nephew, Dr. James McDowell, whom I had brought up, had graduated a few months before this time, in Philadelphia (University of Pennsylvania School of Medicine), and had commenced business as my partner. Being in delicate health at the time, it was my intention to remove to the country in the spring, or so soon as I could establish my nephew in business.

From the time of Mrs. Crawford's arrival, he had made frequent attempts to persuade me from operating; but, finding my determination was fixed, he agreed to be present, but not until the morning I operated, and as my partner, to assist; for should the patient die, the responsibility was all my own; should the patient live, it would assist him in his outset in business.

The day having arrived, and the patient being on the table, I marked with a pen the course of the incision to be made; desiring him to make the external opening, which, in part, he did; I then

took the knife, and completed the operation, as stated in the Medical Repertory. Although the termination of this case was most flattering, yet I was more ready to attribute it to accident than to any skill or judgment of my own; but it emboldened me to undertake similar cases; and not until I publish anything on the subject. I then thought it due to my own reputation and to suffering humanity to throw all the light which I possessed upon diseased ovaria.”<sup>1</sup>

To put his ‘pamphlet’ into context, McDowell was addressing one of the criticisms against his work, a claim that it was his nephew, Dr. James McDowell, who had actually performed the operation. The fact that James had died in 1812, before any of the other successful operations, was further proof against this theory. Furthermore, having his first assistant make the skin incision (after drawing a line on the skin with a pen) was the style of Dr. McDowell, who would repeat this same maneuver over and over again with another nephew, Dr. William McDowell, on future cases. Having junior surgeons or trainees perform the simple tasks of the operation at hand, such as the skin incision, would become an acceptable and even expected maneuver over the next 2 centuries of surgical education.

The following letter is the only known writing in Dr. McDowell’s hand describing the operation on Mrs. Crawford, a January 2, 1829 letter to Robert J. Thompson, son of a close friend and at that time a medical student at the University of Pennsylvania School of Medicine, one year before the sudden death of Dr. McDowell:

Mr. Robert Thompson  
Student of Medicine  
No. 59 Spruce Street  
Philadelphia, Pennsylvania  
Danville January 2, 1829  
Sir:

At the request of your father I take the liberty of addressing you a letter giving you a short account of the circumstances which lead to the first operation for diseased ovaria. I was sent for in 1809 to deliver a Mrs. Crawford near Greentown of twins; as the two attending physicians supposed. Upon examination per vaginam I soon ascertained that she was not pregnant but had a large tumor in the abdomen which moved easily from side to side. I told the lady that I could do her no good and carefully stated to her, her deplorable situation. Informed her that John Bell, Hunter, Hay and A. Wood four of the first & most eminent surgeons in England and Scotland had uniformly declared in their lectures that such was the danger of peritoneal inflammation, that opening the abdomen to extract the tumor was inevitable death. But not standing for this, if she thought herself prepared to die, I would take the lump from her if she could come to Danville. She came in a few days after my return home and in six days I opened her side and extracted one of the ovaria which from its diseased and enlarged state weighed upwards of twenty pounds. The intestines as soon as an opening was made run out upon the table, remained out about twenty minutes and being upon Christmas Day they became so cold that I thought proper to bathe them in tepid water previous to my replacing them; I then returned them, stitched up the wound, and she was perfectly well in 25 days. Since that time I have operated eleven times and have lost but one. I now can tell at once when relief can be obtained by an examination of the tumor if it floats freely from side to side or appears free from attachments except of the lower part of the abdomen. I advise the operation, having no fear from the inflammation that may ensue. I last spring operated upon a Mrs. Bryant from the mouth of Elkhorn from below Frankfort. I opened the abdomen from the umbilicus to the pubis and extracted sixteen pounds. The said contained the most offensive water I ever smelt, and the attendants puked or discharged except myself. She is now living; from being successful in the above

operation. Several young gentlemen with ruptures have come to me. I have uniformly cut the ring open, put the intestines up if down then cut the ring all around, every quarter of an inch then pushed the parts closely together and in every case the cure has been perfect. Therefore it appears to me a mere Humbug about the Danger of the Peritoneal Inflammation so much talked about by most surgeons. After wishing you Health and Happiness.

I am yours sincerely.

E. McDowell

P.S. Your father looks better than I have ever seen, your sister is also in health.<sup>1</sup>

This account by McDowell provides some insight into the fear and risk associated with this operation, with the surgeon lacking all of the essential elements we take for granted in the present day: general anesthesia, intravenous fluids, availability of blood products for transfusion, nasogastric tubes, Foley catheters, good lighting, precision instruments and retractors, suture materials, trained assistants, monitoring devices and adequate space and personnel for patient recovery. The list goes on and on. The most dramatic moment of the operation had to be initial entry into the abdomen and the immediate evisceration of the bowel with the release of pressure caused by the massive tumor that had taken up most of the intra-abdominal cavity. The intestines could not be returned to the abdominal cavity. “The intestines as soon as the opening was made run out upon the table, remained out about twenty minutes and being upon Christmas day they became so cold ” and required a warm water rinse before returning to the abdomen and closure. The patient may well have noted tremendous relief of her preoperative abdominal pain following the evisceration, perhaps compensating for the severe agony of the vertical paramedian incision required to gain entry into the abdomen.

Upon graduation from the University of Pennsylvania, Dr. Robert Thompson would return to his boyhood hometown of Woodford County, Kentucky, and become a highly respected physician until his death in 1887.

A remembrance, said to be handed down among the relatives of Mrs. Crawford in Green County, was that Dr. McDowell did not charge for his operation and services, but that Mrs. Crawford’s husband, Thomas, nevertheless paid him a sum of \$1,000.<sup>15</sup>

Dr. August Schachner’s 1921 textbook on Ephraim McDowell quotes E. Randolph Peaslee regarding the impropriety of the use of the term ‘ovariotomy’ throughout the literature and most publications and musings on the subject. The operations performed by Ephraim McDowell were NOT ovariotomy (except for 1 difficult case in the first publication), but rather laparotomies with oophorectomy or salpingo-oophorectomy (e.g. Mrs. Crawford’s operation). Peaslee, refers to the term ovariotomy as “ a barbarous compound of Latin and Greek, which, besides, does not express the meaning intended. It means ‘cutting an ovary’, or Latin ovario-section; while the term used should signify ‘cutting out an ovary’, or Latin ovario-section. From all analogy, the terms should be derived from the Greek, which gives oophorotomy, ovary and to cut, and oophorectomy, to cut out the ovary.”<sup>2</sup>

Previous operations prior to McDowell’s salpingo-oophorectomy, were merely percutaneous drainage of large ovarian cysts (true ovariotomy). Therefore, the use of the term, ‘ovariotomy’, for McDowell’s operations are not only inaccurate, but downgrade his accomplishment and aligns it with primitive incision and drainage procedures, such as that of Robert Houston in August 1701 near Glasgow, Scotland and published in 1724.<sup>16</sup> Some critics would falsely claim that Houston had performed the first ovarian extirpation (oophorectomy) a century before McDowell. However, this is inaccurate as Houston merely made a subcutaneous incision through which he would “thrust” a “strong fir splinter ... into the wound” to drain 9 quarts of “matter” from a

large, left ovarian cyst (the patient would live another 13 years, dying in 1714), rather than salpingo-oophorectomy through a 9 inch paramedian abdominal wall incision as performed by McDowell on Mrs. Crawford.<sup>8</sup>

According to the January 2, 1829 letter to Robert Thompson, Dr. McDowell counted a total of 12 operations with a single mortality, however, Schachner could track only 8 cases (4 white patients, 4 black patients) with notations (including the 5 published cases). Five of the 8 cases were complete operations or actual oophorectomy. His nephew, Dr. William McDowell believed the actual count to be 13, based on “reliable testimony” with the last case probably occurring in 1828.<sup>2</sup> Regarding the materials used in these operations, Dr. William McDowell noted that Ephraim McDowell used waxed cobbler’s thread for ligatures and sutures. Dr. McDowell also used silk for sutures later in his series. In 1822, the 6th operation on a Mrs. O was performed in Nashville, Tennessee at the Hermitage, home of Andrew Jackson, 7th US President (1829–37), who was said to have assisted in comforting the patient during the operation.<sup>1</sup>

### Surgeon and patient slip into history

On June 20, 1830 after a short episode of severe abdominal pain, Dr. Ephraim McDowell passed away, presumably from an attack of appendicitis. Danville had 432 inhabitants at the time of the operation on Mrs. Crawford which increased to 804 at the time of McDowell’s death. Following McDowell’s death, no other operations for ovarian tumors were published until the first report by Mr. Charles Clay in 1842 in Manchester, England. With the introduction of anesthesia and the concepts of anti-sepsis of Lister, surgeons would eventually adopt and advanced the practice of abdominal exploration and ovarian operations. By 1873, Washington L. Atlee of Philadelphia reported 387 operations, by 1874 Clay of Manchester had operated on 276 patients and by 1879 Mr. Spencer Wells of London had performed 938 operations for ovarian tumors. In the same general time period in New York, Edward R. Peaslee performed 77 operations, Gaylor Thomas 126 operations and Gilman Kimball 240 operations.

On December 8, 1810 Thomas Crawford sold the Crawford Homestead to John Motley (the area would come to be known as Motley’s Glen), freed his slaves and moved gradually with his family across Kentucky over the next 7 years and in 1817 crossed over the Ohio River into Indiana where they cleared a farm in Jefferson County near the town of Madison. Thomas Crawford died tragically from a fall into a hidden cellar-way while clearing the land and was instantly killed. Jane Todd Crawford would eventually reside with her son, the Reverend James Crawford and his wife Mary in the village of Graysville, Indiana in Sullivan County (Fig. 4). She passed away on March 30, 1942 at the age of 78, 32 years following her famous operation. She is buried in Johnson Cemetery, northeast of Graysville. A few miles south of her final resting place, an Indiana State Park was developed around the gravesite of Nancy Hanks Lincoln, to honor the mother of Abraham Lincoln.<sup>15</sup> Of note, the Crawford’s youngest son, Thomas Howell Crawford, would become Mayor of Louisville in 1859–60.

### Belated recognition and redemption

Much of the credit for the ultimate redemption and recognition of Dr. Ephraim McDowell’s career and his role as the ‘Father’ or ‘Founder’ of abdominal surgery goes to Samuel D. Gross (1805–1884), himself immortalized in Thomas Eakins’ famous portrait, “The Gross Clinic” (1875). Dr. Gross, a graduate of the Jefferson Medical College in 1828, began his medical career in Cincinnati, but moved to Louisville with Dr. Daniel Drake and spent the next 16 years of his career there before returning to Jefferson



Fig. 4. A daguerreotype of an elderly Jane (Jenny) Todd Crawford, circa 1840–41, holding an image of her deceased husband, Thomas Crawford, in customary fashion.

Medical College in 1856. He would become one of the founders of the American Surgical Association. Dr. Gross, the 19th president of the American Medical Association (AMA) (1868–69) and the 4th president of the Kentucky Medical Association, was a historian. He would first resurrect Dr. McDowell’s career and publications in his exhaustive address, “A History of Surgery in Kentucky”, to the Kentucky State Medical Association in 1852, later published in the *American Medical Biography* in 1861.<sup>17</sup>

It was Dr. Gross who would bring to light the ‘Card’ or pamphlet issued by Dr. McDowell in defense of his operations, which would not have been published otherwise.

The slow, gradual recognition and associated notoriety of Dr. McDowell’s career would stir interest in other scholars, including Professor George Kasson Knapp (1833–1910), who was the first to attempt to portray the events of December 25, 1809. Knapp was born near Syracuse and became Professor of Drawing and Painting at Syracuse University from 1873–79. His painting was completed in 1877 and was exhibited at the 29th annual meeting of the AMA in Buffalo, NY June 4–7, 1878. The painting came into the possession of the Syracuse University College of Medicine and its successor, SUNY- Upstate Medical University where it hangs in the Department of Historical Collections of the Health Sciences Library. Of the 2 portraits of the operation, it is the more accurate depiction of the events and the known participants, including Dr. Ephraim McDowell, his student Charles McKinny, his nephew Dr. James McDowell and the patient, Mrs. Jane Todd Crawford. It also includes an older, unnamed assistant and a black servant/slave. Mrs. Crawford’s attendant, Mrs. Baker, presumed to be present at the operation was not included among the 6 individuals in the painting. Dr. McDowell with knife in hand, is depicted performing the operation with his

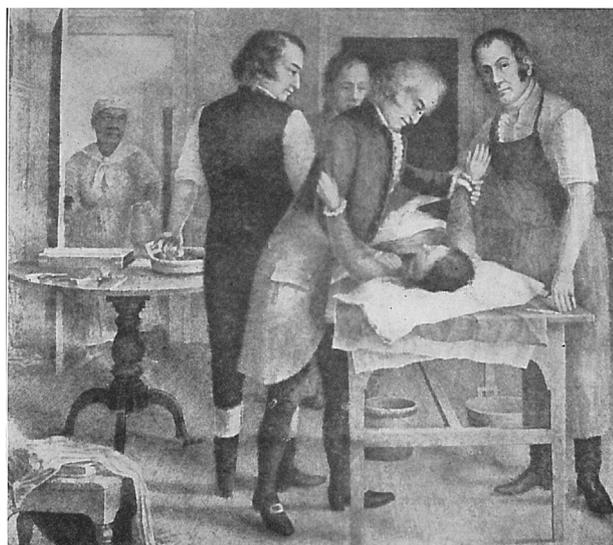
nephew assisting from across the table (Fig. 5).

The other portrait of the McDowell–Crawford operation, by artist Dean Cornwell (1892–1960), was commissioned by Wyeth laboratories (Philadelphia, PA) for its “Pioneers of American Medicine” series (1939–42). This painting has 7 individuals, including Dr. Ephraim McDowell, student Charles McKinny, a black servant/slave, the patient Jane Todd Crawford, an older gentleman biting his fingernail and next to him the look-alike nephew Dr. James McDowell on the left. A white-haired man in pioneer garb is also included in the portrait, thought to be the artist taking liberties and representing the patient’s husband, Thomas Crawford, who did not travel to Danville for the operation (Fig. 6).

Based on Dr. McDowell’s growing reputation, money was raised by the Kentucky Medical Society in 1879 to construct a granite shaft monument for placement in a development known as McDowell Park, formerly the old Danville cemetery, donated by the citizens of Danville as the site for a memorial monument to Dr. Ephraim McDowell. Ephraim McDowell was originally interred, later joined by his wife 10 years later, in the family burial ground of his in-laws, the Shelbys, at Traveler’s Rest. The remains of Dr. McDowell and his wife were moved from Traveler’s Rest and re-interred at McDowell Park near the monument. Dr. Gross returned to Kentucky to deliver a public address at the dedication of this monument on May 14, 1879. This was said to be the first monument erected in the US to a physician by grateful members of the organized profession of a state.

The president-elect of the AMA (1880–81), Dr. Lewis A. Sayre, provided an address at the memorial exercises held in Danville that day. He also recognized the role of the heroine of the famous operation, Jane Todd Crawford, on this momentous occasion.

“Another fact strikes me very forcibly, Mr. President, and that is, the heroic character of the woman who permitted this experimental operation to be performed on her. The women of Kentucky in that period of her early history were heroic and courageous, accustomed to brave the dangers of the tomahawk and scalping knife, and had more self-reliance and true heroism than is generally found in the more refined society of city life; and hence the courage. Mrs. Crawford, who, conscious that death was inevitable from the



**Fig. 5.** Portrait of “The first ovariectomy” by George Kasson Knapp 1877, Ephraim McDowell on the right with sleeves rolled up and knife in hand, an assistant across the table in the foreground restraining Mrs. Crawford, another assistant, nephew James McDowell with his left hand reaching for the table, student Charles McKinny at the foot of the table in the background, probably restraining Mrs. Crawford’s legs and a domestic servant/slave in the doorway of the bedroom.



**Fig. 6.** Portrait of the “Dawn of Abdominal Surgery” by artist Dean Cornwell from the Pioneers of American Medicine series (1939–42), Ephraim McDowell standing on the right, apprentice Charles McKinny bending over the tray of surgical instruments on the right with a domestic servant/slave, an older gentleman biting his fingernail and look-alike nephew James McDowell standing to the left. The patient is lying supine on the table clutching the Bible. The artist may have represented the patient’s husband, Thomas Crawford, who was not in attendance, in pioneer garb in the lower left foreground holding a black kettle of warm water.

disease with which she suffered, as soon as this village doctor explained to her his plan of affording her relief and convinced her judgment that it was feasible, immediately replied, “Doctor, I am ready for the operation; please proceed at once and perform it.” All honor to Mrs. Crawford! Let her name and that of Ephraim McDowell pass down in history together”.<sup>2</sup>

### Monuments, memorials and more

The Seal of the Southern Surgical and Gynecological Association, founded October 12, 1887, incorporated a sketch of the profile of Ephraim McDowell that first appeared in the 1890 Transactions of the Southern Surgical Association (SSA). At the SSA meeting in 1932, Dr. Louis Frank presented a gavel made from wood from the McDowell House to the SSA. The gavel currently resides in the Archives of the University of Alabama–Birmingham.<sup>6</sup>

Upon the 100<sup>th</sup> anniversary of the operation on Mrs. Crawford, the American Gynecological Society (established 1876) struck the McDowell Memorial Medallion to commemorate the event.<sup>1,2</sup> Furthermore, in 1972 the Junior Fellows Committee of the American College of Obstetrics and Gynecology (ACOG) were given the gift of a gavel from the ACOG Board of Governors made from wood from the McDowell House.

The John B. Murphy Memorial Building at E. 50 Erie Street in Chicago, was built from 1923–26 to honor Dr. Murphy, one of the founders of the American College of Surgeons who died suddenly from heart failure in 1916. The Murphy Memorial Building has bronze doors built by the Tiffany Studios of Louis Comfort Tiffany for \$19,650. The bronze doors include 6 commemorative panels, one of which has the figure of a surgeon removing an abdominal mass from a supine patient, representing Dr. McDowell’s 1809 operation on Mrs. Crawford.

Each state of the Union provides 2 statues of distinguished citizens of their state in Statuary Hall in the National Capitol Building. A statue of Dr. Ephraim McDowell (politician Henry Clay is the other honoree from the Commonwealth of Kentucky) was installed in Statuary Hall by the Commonwealth of Kentucky in March, 1929 (Fig. 7). The statue was later moved to the Senate entrance to the House of Representatives Chambers in 1930.

The Women’s Auxiliary of the Kentucky State Medical



**Fig. 7.** Statue of Ephraim McDowell by Charles H. Niehaus commissioned by Isaac Wolfe Bernheim, initially installed in Statuary Hall in the Capitol Building, Washington, D.C. in 1929, later moved to the Senate entrance to the House of Representatives Chambers in 1930.



**Fig. 8.** The restored Ephraim McDowell - Jane Todd Crawford Memorial Home, Danville, Kentucky under the auspices of The McDowell House Museum, Inc.

Association for years had been searching for a proper memorial to the woman who endured the first successful abdominal operation. On January 12, 1932, The Jane Todd Crawford Trail was approved by the Kentucky State Highway Commission to memorialize the 60 mile route Mrs. Crawford rode on horseback over 3 days from her cabin in Greene County to the McDowell home in Danville. This was to be Kentucky's first memorial to Jane Todd Crawford, but it wouldn't be the last. On Memorial Day, May 30, 1935, a special service was held in McDowell Park and a monument was erected by the Kentucky State Medical Association to honor Jane Todd Crawford with the same inscription as on her tombstone in Johnson Cemetery in Graysville, Indiana. The entire program was broadcast on local radio WHAS, published in the *Kentucky Medical Journal*<sup>18</sup> and reported in *Time Magazine*.<sup>19</sup>

The Kentucky State Medical Association was able to purchase the McDowell House which had fallen into disrepair on November 22, 1935 and conveyed to the State Park Commission 2 days later. State ownership of the property allowed money to be secured from the Works Progress Administration for its restoration and also assured its care in perpetuity. The restored property was dedicated to the memory of the hero and heroine of the 1809 Christmas Day operation and on May 20, 1939 became known as the Ephraim McDowell-Jane Todd Crawford Memorial Home,<sup>20</sup> now under the auspices of the McDowell House Museum, Incorporated (Fig. 8).

On May 12, 1940 the Indiana Hospital Association erected a large granite monument honoring the memory of Mrs. Crawford, depicting her on horseback. In 1942, a resolution was introduced in the Kentucky Senate directing the governor of the state to proclaim December 13 of each year as "Jane Todd Crawford Day".<sup>21</sup>

Ten miles north of Lexington, Virginia, historical markers

identify the ancestral McDowell homesite and birthplace of Ephraim McDowell (none of the original home remains) and the family cemetery is marked by a monument erected in the center of the plot.

The US Postal Service issued a commemorative 4 cent stamp on December 30, 1959, 5 days following the 150<sup>th</sup> anniversary of the operation. A few years later, in 1962, the 25 bed acute care Jane Todd Crawford Memorial Hospital opened in Greensburg, KY to serve the rural community of Green County. In 1987, another community hospital in Danville, Kentucky, upon the centennial of its founding in 1887, was renamed the Ephraim McDowell Regional Medical Center. All lasting and fitting tributes to the participants in the first successful intra-abdominal operation.

## Epilogue

The anonymity of this "back settlement" surgeon, Ephraim McDowell, practicing in the wilderness territory west of the Allegheny Mountains was both a blessing and a curse. Operating alone in the wilderness, far from academia and the plentiful advantages of his surgical colleagues located in the rapidly developing cities on the East coast of the US, provided both the necessity and the opportunity for this "experiment" which most assuredly would have been condemned and not allowed to proceed in New York, Boston, Philadelphia or elsewhere, given the standard teachings of the day. T. Spencer Wells of London, perhaps the most distinguished surgeon of his time, in his 1873 textbook on ovarian disease, described McDowell as "a free man, in a new country, clear from the conventional trammels of old world practice".<sup>1,22</sup>

On the other hand, the geographic and academic isolation would prove to be a formidable barrier when the time came for publication and recognition of the achievement. I have attempted, as much as possible, to stay true to the actual proceedings, however, given the few published accounts of the operation and its participants, this has been a challenge and leaves a minimal, bare sketch of the events that is rife for some to recklessly fill in with details. Furthermore, one has to overcome the misinformation that has been published decades after the operation long after the natural deaths of the main players in the drama, who are the only ones who may definitively counter such inaccuracy. Dr. McDowell's own granddaughter, whom he never knew, published a biography almost a century following the operation filled with fiction, such as the townspeople of Danville set to lynch McDowell if the patient did not survive.<sup>14</sup> This adds to the drama of the undertakings and perhaps helped sell her book, however, this certainly was not factual and there is no supporting documentation of this activity or

anything approaching a mob, angry or otherwise. Moreover, it would make no sense for townspeople to lynch one of the few trained physicians in this western territory, especially with lingering hostilities from Native Indians and British Loyalists threatening injury, rampant disease and death, even from the mundane such as childbirth (a main cause of death for frontier women).<sup>14</sup> Unfortunately, some subsequent authors have included these untruths in their textbooks, which have the cumulative effect of damage to the reputations of all involved.<sup>23</sup> Hollywood has been complicit, Metro-Goldwyn-Mayer produced an 11 minute ‘short’ titled “One against the World” released on August 19, 1939, which used the false “lynching” component to add to the dramatic climax of the film.

It has been left to surgeon authors, Samuel Gross, MD (1861),<sup>17</sup> August Schachner, MD, FACS (1921)<sup>2</sup> and Laman A. Gray, Sr., MD, FACS, (1987),<sup>1</sup> to set the record straight regarding the actual events of this saga in published biographies, as best as can be determined. We are all indebted to these surgeons for their prodigious efforts to determine the truth and honor those involved in this bold and courageous event that was a giant step forward in the evolution of the surgical disciplines. This current manuscript was originated in the hopes of setting an example for future historical lectures to be delivered at the annual meeting of the Midwest Surgical Association (MSA). As surgeons, we should not delegate the story-telling of these important historical figures and vignettes to non-surgeon authors who may veer off into fiction or fantasy or not truly comprehend the merits and achievements of the subjects or subject matter portrayed. The McDowell-Mrs. Crawford “miracle” operation, although not so much a miracle as the expected result of a prepared, knowledgeable and skilled surgeon operating on a courageous, compliant patient, seemed an appropriate first foray into historical lectures of the MSA, given that Dr. McDowell lived and practiced not far from the Ohio River, in a geographic area that is close enough to be considered part of the Midwest (at least for the purpose of this historical lecture).

“Some day we hope that the whole medical profession will realize the debt it owes this hero, to whom it has accorded such scant recognition, and will then take the lead in arousing humanity to the step of finally honoring Ephraim McDowell, as it should have done long since.”

- August Schachner, M.D., F.A.C.S.<sup>2</sup>

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None

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#### References

1. Gray Sr LA. *The Life and Times of Ephraim McDowell*. Louisville, KY: V. G. Reed and Sons; 1987.
2. Schachner A. *Ephraim McDowell: “Father of Ovariectomy” and Founder of Abdominal Surgery; with an Appendix on Jane Todd Crawford*. Philadelphia, PA: J.B. Lippincott Co.; 1921.
3. Bowra J. Making a man, a great man: Ephraim McDowell, ovariectomy and history. In: *Social Change in the 21st Century Conference*. Brisbane Australia: Queensland University of Technology; 2005. October 28.
4. Bengtsson B-OS. Founding Physicks: the lives and times of the physician signers of the charters of freedom. *J Med Biogr*. 2011;19:95–104.
5. Sparkman RS. Presidential address: the woman in the case- Jane Todd Crawford, 1763-1842. *Ann Surg*. 1979;189(5):529–545.
6. Frank L. Let us forget. *Trans South Surg Assoc*. 1932;45:580–587.
7. Hunter W. *The History of an Emphysema. Med Observations and Inquiries, Vol ii*. London: William Johnston, Ludgate Street; 1762.
8. McDowell E. Three cases of extirpation of diseased ovaria. *Eclectic Repertory, and Analytical Review*. 1817;7:242–244.
9. Smith N. *Edinburgh Med Surg J*. 1822;20(10).
10. Lizars J. Observations on extirpation of the ovaria, with cases. *Edinburgh Med Surg J*. 1824;22(10).
11. McDowell E. Observations on diseased ovaria. *Eclectic Repertory and Analytical Review*. 1819;9, 546-533.
12. Johnson J. *Editorial*. January: London Medical-Chirurgical Review; 1825.
13. Johnson J. *Editorial*. October: London Medical-Chirurgical Review; 1826.
14. Ridenbaugh MY. *The Biography of Ephraim McDowell, “The Father of Ovariectomy”*. New York, NY: Charles L. Webster Co.; 1890.
15. McCormack AT. Our pioneer heroine of surgery- Mrs. Jane Todd Crawford. *Filson Club Hist Q*. 1932;6(2):109–124.
16. Houstoun R. An account of a dropsy in the left ovary of a woman, aged fifty-eight, cured by a large incision made in the side of the abdomen. *Trans Roy Soc*. 1724;33(8):2–4.
17. Gross SD. Ephraim McDowell (1771-1830). In: Gross SD, ed. *American Medical Biographies: Lives of Eminent American Physicians and Surgeons of the Nineteenth Century*. Philadelphia: PA Lindsey & Blakeston; 1861:207–230.
18. The Jane Todd Crawford Memorial. *Kentucky Med J (suppl)*. 1935;33(9):1–36.
19. Ovariectomy No 1. *Time Mag*. 1935;25:40.
20. The Ephraim McDowell-Jane Todd Crawford Memorial Home. *Kentucky Med J (suppl)*. 1939;37(11):1–38.
21. Senate Resolution No 23. *Commonwealth of Kentucky General Assembly, Regular Session, February 21*. 1942.
22. Wells TS. *Diseases of the Ovaries: Their Diagnosis and Treatment*. New York, NY: D. Appleton & Co.; 1873.
23. Flexner JT. A backwoods Galahad: Ephraim McDowell (1771-1830). In: Flexner JT, ed. *Doctors on Horseback: Pioneers of American Medicine*. New York, NY: Viking Press; 1937:121–162.