

The Rowley family of physicians— A glimpse of medical practice in Wisconsin from frontier to early modern times

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This review describes Wisconsin in its days as a territory and after statehood in 1848. Early settlers often brought infectious diseases with them that affected both American Indians and other European settlers in the region. Medical care in the 19th century was empirical and rudimentary. By the early 20th century, scientific advances and public health began to dramatically change medical practice, preparing it for the modern era. The record of three physicians in the Rowley family covers the more than 100-year period from 1854 to 1956, offering an unusual observation of the changes in medical practice from pioneer to modern times as experienced by a single family of Wisconsin physicians.

Early Wisconsin—Up to 1850 *European Settlement of the Wisconsin Frontier*

If you had crossed Lake Michigan with Jean Nicolet and landed on the east shore of Green Bay, you would have canoed in the shadow of thickly forested shores most of the way. If you had accompanied Radisson and Des Groseilliers

from Sault Ste. Marie to Ashland, you would have passed through miles of dense stands of tall pines and hemlocks and found the woods teeming with game and wildlife. Finally, if you had rowed up the Mississippi with Father Marquette and Louis Jolliet, you would have been troubled by swarms of mosquitoes in the summer and had a good chance of developing the 'ague.' American Indians have been living here for at least 2000 years, and possibly for as many as 10 or 12,000 years.

In 1671, France claimed this part of the upper Midwest, but there were very few settlers. In 1760 it became a British possession, which it remained until 1815 when it became part of the Michigan territory of the United States. European settlers began to trickle in during the 1820s. They found only a few hundred settlers in Green Bay and Prairie du Chien, who had built forts to house and protect themselves.

American Indians and Their Medical Practices

Elsewhere, the land was held and settled by Woodland American Indians, mainly of the Algonquin tribes. There were approximately 20,000 to 25,000 Indians who belonged to the Fox, Sauk, Kickapoo, Mascoutin, Menominee, Chippewa, Pottawotami, Miami, and Winnebago tribes. They were generally healthy. They practiced agriculture

and lived in semi-permanent villages. Woodland Indians were skilled in handicrafts. They gathered wild rice, nuts, and fruit, and hunted game. They knew and used metals. They had their own system of medicine. Lack of exposure had kept them from contracting the contagious diseases that were common among Europeans.

Indian medicine combined the roles of doctor, priest, and magician. They combined chanting to the gods and dancing to the spirits with ceremonies and herbal remedies to treat illness. Women served as herbalists, midwives, and bonesetters. Emetics, laxatives, coagulants, poultices, teas, and mixtures were used to treat a variety of symptoms.¹

European Settlers and the Diseases They Brought

European settlers began arriving in the 1830s, bringing with them measles, mumps, influenza, whooping cough, diphtheria, tuberculosis, and smallpox. Smallpox and other epidemics soon decimated the Indian population, reducing it to approximately 5000 by 1850.²

In 1836, Wisconsin became a territory and had a population of 11,683 European settlers. There was a large settlement at Mineral Point (lead miners), while Milwaukee was just a hamlet and Madison was not established. Wisconsin was popularly held to be

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the healthiest place in the Upper Mississippi region, but many local accounts paint a very different picture. Ague, a local term for malaria, was widespread and common, especially along the riverbanks. It had symptoms of periodic chills, fever, sallow cheeks, lack of energy, bouts of black urine, and an enlarged spleen. Ague was endemic and claimed many lives. Cholera, dysentery, and smallpox were also common and deadly. Children often died of scarlet fever, diphtheria, or measles that swept the region in epidemics. As immigrants came up the Mississippi River, they brought fresh waves of infectious disease. The population received little help from the medical profession among the settlers, as they knew nothing about the cause of these diseases and had no effective treatment. Any man could choose to call himself a 'doctor' and practice medicine, regardless of a lack of training, and some did just that. It is not surprising that early settlers often chose to treat themselves or suffer in silence.²

Wisconsin After 1850

The population of Wisconsin saw rapid growth in the second half of the 19th century, growing from 300,000 to 2 million (40% in new young cities). By the end of the century Milwaukee had grown to 290,000, and was made up mostly of European immigrants. Railroads were built, swamps were drained, and houses and farms were built with care to avoid the spread of malaria. The incidence of the disease was reduced. The excessive bleedings and purgings of the territorial days gave way to the specific medications and vaccinations of the modern era. New instruments and laboratory techniques led to better diagnosis and treatment, which in turn led to

more respect for the profession. Hospitals opened for surgical treatment with asepsis and anesthesia in the 1880s. Medical licensing laws were established and formal medical education began in Wisconsin.

Three Generations of Physicians in the Rowley Family and Their Medical Notes

The lives of three generations of physicians in one family who practiced in Middleton, Wis (Dane County), offer unusual insight into medical practice as it changed from pioneer to modern times. Each of the three physicians in the Rowley family kept diaries, which, along with other personal papers were donated to the archives of the State Historical Society. Much of this material is drawn from these sources.³⁻⁵ We owe a special debt of gratitude to Jessica Rowley Keister who wrote an account of the family in 1952 and gave a copy to the State Historical Archives.⁶

Newman Rowley (1815-1871)

Newman Rowley was born in Erie County in New York. In 1839 he trained to teach reading, writing, mathematics, philosophy, and geography. He was married in 1842 and left shortly thereafter for La Porte, Ind, to go to medical school. His father, a farmer, moved from New York to Indiana, and shortly thereafter to Wisconsin, in a restless search for better farmland and a more prosperous life. While in Indiana, Newman Rowley struck up an acquaintance with Dr Evans of Janesville, Wis and signed on as his apprentice. When not at school, Rowley worked with Dr Evans and received credit for his work.

In 1849 he transferred to the University of Cincinnati Medical School, where he got his diploma in 1854. After a brief stint in

Verona, Wis, he settled in Middleton Junction, Wis. Both Verona and Middleton were stagecoach stops, but the railroad opened a station at Middleton, and that is where Rowley made his home. Newman Rowley established his general practice with north and south circuits and an office where he saw patients. He had his own drugstore and sold paints, oils, glass, and putty through one door, and drugs, tea, coffee, and spices through the other. He had seven children, two of whom ran the drugstore. He also had two apprentices who prepared patients to see him, cleaned the office and the instruments, cared for the horse and buggy, and pulled teeth. As compensation, they were given room and board and 25 cents for every tooth they pulled.⁶

Antinous Rowley (1841-1902)

Born when the family was living in Ohio, Antinous Rowley moved to Wisconsin with his family in 1854. He served in the Civil War with the Eleventh Wisconsin Volunteer Regiment and was discharged with a disability in 1863. Following his discharge he entered Rush Medical College in Chicago and graduated in 1868. After practicing briefly in Springfield Corners, Wis, he moved to Middleton to join his father in his practice and management of the drugstore. After his father's death, Antinous worked alone until his son joined him, just before his own death in 1902. The Rowleys saw Middleton grow from a small depot village, storing grain and holding hog sales, to a small prosperous town over these 80 years.

A. Gilbert Rowley (1874-1962)

Antinous' son, A. Gilbert Rowley, graduated from Middleton High School and attended the Wayland Academy in Beaver Dam before entering Rush Medical College in

1896. He received his medical degree in 1899. At first Gilbert worked in a sanatorium for rheumatic diseases in Prairie du Chien, Wis. He also served as a surgeon for the Burlington and Quincy Railroad for a few years. When his father fell ill in 1902, Gilbert moved to Middleton to take over his practice. He worked for 50 years and retired in 1956.

Gleanings from the Rowleys' Notes Remnants of drawings of anatomy and pathology specimens show that accuracy and sophistication had reached a high level in 1835. However, clinical instruction, drugs, and therapeutic materials and treatment programs were still rudimentary. Notes from the University of Cincinnati Medical School written in 1835 by Dr Newman Rowley³ included mentions of

- Techniques of bloodletting
- Preparation of hydrochloric acid, calomel and chloride of mercury
- Oxide of iron as an antidote to arsenic poisoning
- Diseases of bone:
 - Neurological: "Atrophy produced by fractures, old age—treat with general care"
 - Hypertrophy
 - Osteitis—abscess of bone
 - Necrosis
 - Tubercle
 - Rickets
 - Hydatids (cysts)
 - Neuralgias of bone "leap rapidly from one bone to another. Prognosis generally favorable"
 - Treatment—"Attend to stomach and bowels and give quinine. Restore body tone with iron."
- Malignant diseases
 - Burns—frost bite—jaundice and carbuncle. Described with treatment recommendations

- Pain. "Pain in the head is known by the contraction of the brow. If in the belly, by elevation of the lip. If in the lungs, by short sniffs of the nose. If anywhere else, the face becomes flushed when there is a shock to the nervous system. Patients have a pe-

ror. People dying of this disease were buried at dusk with only the minister and the doctor at the grave. All others were outside the cemetery wall.

It's interesting to see the progression of the medical practice by looking at the medical school notes

The patient made a rapid and uneventful recovery, a remarkable change from the days of the bleeding, blistering, and purging of head injuries in his grandfather's days.

culiar shining skin and this is dangerous in diseases of the lung with the croup. In earaches, the cry is incessant and continuous with shaking of the head. In peritonitis, the child lies with its knees drawn up. Inflammation of the brain after delivery: small rapid pulse, pupils constrict, high fever. Treatment: shave head, general bloodletting. Blister after first stage."

Other notes by Dr Newman Rowley discuss the creation of "pest houses," located somewhere between Middleton and Pheasant Branch. These pest houses, erected by Drs Antinous and Newman Rowley, were used to quarantine smallpox cases. The first cases to contract the disease were cared for by hired help who had recovered from the disease in the past. Later convalescent cases cooked the meals and nursed new cases, and the hired help was dismissed. Before returning to the community, their old clothes were burned and they left with new clothing. This was felt to be the most effective way to handle the contagion. Diphtheria was a big killer of families and was looked upon with hor-

of Dr. Gilbert Rowley. These notes included references to

- Vitiopathy: Treatment of diseases and habits by hypnotism, magnetic healing, and suggestion
- Pharmacology: Notes on tincture of ferric chloride, tannate and gallate of iron, lead acetate and tannin, quinine sulfate, potassium iodide, potassium and sodium iodide, ammonium chloride and oxide, tinctura nucus vomica, salicylic acid, tincture digitalis and infusum digitalis, ergot, belladonna root preparations, dilute nitric acid, and carbolic acid⁷

There is an interesting report in Dr Gilbert Rowley's diary of a patient with a head injury after a fall. The man had fallen off a ladder a couple of days earlier and had steadily become drowsy and difficult to arouse. A scalp wound, unequal pupils, and asymmetric limb stiffness led to suspicion of a blood clot over the brain. Burr holes were drilled through the skull, and the clot removed. The patient made a rapid and uneventful recovery, a remarkable change from the bleeding, blistering, and purging of head injuries in his grandfather's days.

Doctor Gilbert Rowley's office

above the Bank of Middleton was connected to his drugstore, which also doubled as an operating room from the 1860s to 1890s, before hospitals were opened in nearby Madison. Patients were given chloroform before surgery for amputation or draining of an abscess. (This drugstore is being kept intact, with labeled bottles and original equipment, as a State Historical Society exhibit at the Nelson Dewey Park in Cassville, Wis.)

Parallel Changes in General Medical Practice: 1870-1910

Physician registration began in 1882, but full licensing for medical practice did not begin until 1897. State and county medical societies had regular meetings and discussed advances in technology, such as radiology. The growth of effective new drugs for symptom relief and treatment greatly enhanced medical practice. The University of Wisconsin opened a two-year pre-medical course in 1897, and medical degree colleges opened in Milwaukee in 1893 and 1894. The scientific age of medicine was ready to be launched.

The change in medicine from 1870 to the early 20th century was dramatic in Wisconsin. Physicians began using stethoscopes, ophthalmoscopes, thermometers, and laryngoscopes. The germ theory of disease was rapidly accepted and promoted in the 1880s. With the help of microscopes, blood smears and urine sediments were routinely inspected. In 1896 the Widal agglutination test was used for the diagnosis of typhoid fever, and patients received salicylic acid or antipyrine, developed in Germany in 1884, for relief of fever. Bloodletting was no longer carried out for fever, but restricted to treatment of convulsions in puerperal eclampsia and stroke. In 1876 chloral hydrate

was used as a sedative and nitroglycerine for the relief of angina pectoris. Gone were the noxious potions and elixirs of the past, replaced by pills and capsules with more specific and reliable agents.²

In the late 19th century the medical landscape was still grim. Smallpox, tuberculosis, diphtheria, typhoid, meningitis, and measles were rampant and carried a high mortality. Influenza and pneumonia were killers. Diphtheria antitoxin, introduced in the late 1890s and soon followed by anti-meningococcal serum, had a signal impact on the outcome of those diseases. Despite initial opposition from much of the public and some physicians, the widespread success of vaccines to control disease began to improve public opinion about physicians and medicine in general.^{2,8,9} In the late 1890s, Jacob S. Janssen, a pharmacist, constructed a portable x-ray machine for use in Milwaukee hospitals. His early radiographs were taken using exposure times of 45 minutes or more. Within a few years he had lost a hand and several fingers from radiation exposure.¹⁰

Aseptic surgery became popular in the 1880s. Surgeons were known

to smoke cigars during surgery, wash their hands in pans of water, and leave their aprons, covered with blood and other body products, on through several surgical procedures before strict asepsis routine was adopted. Iodoform gave way to soap and water, clean gowns, sterilization of instruments and surgical clothing, caps, masks, and gloves for the surgical team. Lastly, the surgeons reluctantly shaved off their whiskers in the interests of asepsis.²

General practitioners increasingly split into those who concentrated on surgery and those who maintained a mix of medical and surgical practice. Some surgeons were accused of reckless and excessive surgery. Malpractice litigation became common with physicians testifying against other physicians and contributing to lowered confidence in the medical profession by the public. Medical practice shifted increasingly to hospitals because of the need for clean, well-staffed operating rooms. Telephones, popular by then, made communication between doctor and patient much easier and reduced the need for house calls. Consultations with specialists also became easier.

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Over a span of 100 years, from the early 19th century to the early 20th centuries, medicine in Wisconsin went from the frontier days of the early settlers to the development of the era of modern medicine. The Doctors Rowley were witnesses to, and participants in, this entire transition. They moved from empirical bloodletting and blistering to methodical history and physical examination followed by treatment based on scientific principles. They went from circuit riding to an office-based

practice and surgery in hospitals under aseptic conditions. Such dramatic changes, begun in the 1870s, have continued unabated to the present, establishing a medical tradition that has become a part of the larger Wisconsin story.

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