

Unavoidable Conclusion

Thoracic surgeon John Alexander's heroic work brought a new era of treating pulmonary tuberculosis to the U.S. BY JAMES TOBIN

JOHN ALEXANDER WAS ONE OF those young men whose early life seemed blessed on every side. But he achieved distinction not by good luck but in response to deep misfortune.

Born in 1891 to a well-to-do Philadelphia family, he grew up to be tall, athletic and brilliant. He attended fine prep schools; captained the varsity crew at the University of Pennsylvania; earned a master's degree in English literature in 1913 and a degree in medicine from Penn in 1916.

With World War I raging in Europe, Alexander joined the medical corps of the French army, then shifted to the American Expeditionary Force in 1917. During this time he became, as a friend put it, "fanatically devoted" to studying the most deadly disease of the era, pulmonary tuberculosis (TB), and after the war, he remained in Europe for advanced training.

He went home intent on an academic career. The U-M hired him as an instructor in surgery in 1920. Then, with his work just beginning, he discovered that he himself had contracted tuberculosis.

TB was not quite a death sentence in 1920, but it was close, and Alexander's symptoms were severe. He had TB of the spine, known as Pott's disease — tubercular arthritis of the intervertebral joints. He told the

Medical School he had no choice but to follow the inevitable course for TB patients — those who could afford it, at least. He dropped his teaching, left Ann Arbor, and took up indefinite residence at the Trudeau Sanitarium in Saranac Lake, New York.

The sanitarium treatment for TB had arisen in the mid-1800s. With no reliable medical or surgical weapons against the disease, physicians advised their patients to get a maximum of rest, good nutrition and fresh air in hope the body would heal itself. At retreats like Saranac Lake, a remote village in the Adirondack Mountains, some TB patients found that they did, indeed, get better.

Alexander was confined to a Bedford frame, a contraption which supported the limbs of recumbent patients. He also wore a plaster body cast. He was

gravely ill and all but immobile, but he decided his work was not done.

In Europe, he'd learned of astonishing successes among central European surgeons using new techniques to fight TB by resecting ribs and compressing diseased lungs. Many people with advanced TB were going home after surgery substantially improved and in some cases fully cured. The new surgeries were no miracle; they applied mostly to people with unilateral lesions, which left out many TB sufferers. Still, they offered hope to thousands who would otherwise die.

Yet when Alexander returned to the U.S., he found that scarcely any TB specialists were aware of the new surgical treatments. New textbooks in the U.S. barely mentioned what was happening in Europe. American surgeons still held the traditional

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view that survivors of chest surgery for TB would be “grossly mutilated and crippled,” as Alexander would write, and could “only hope to drag themselves through a few extra years of burdensome life.”

He blamed their ignorance on a few misleading journal articles and the hurdle of language barriers, particularly where highly specialized procedures were concerned, and he had the idea of remedying this ignorance with a book of his own.

He called for supplies and rigged up a stand that allowed him to work a typewriter while flat on his back. Then he wrote to surgeons all over Europe and the U.S. He met with the sanitarium’s medical librarian and wrote to the U-M’s medical librarian. He amassed articles and books. He even asked faraway colleagues for case notes and data they themselves had not yet published.

Working steadily, month by month, he learned everything there was to know about the surgical treatment of pulmonary TB. He described its early stumbles, its slow progress, and especially the breakthroughs of European surgeons — phrenicotomy, thoracoplasty and pneumolysis, all of them sophisticated surgical techniques for compressing and saving diseased lungs. By early 1925, more than four years after he entered the sanitarium, he had amassed a manuscript entitled *The Surgery of Pulmonary Tuberculosis*. It was published later that year, the first treatise in English on the revolution in TB surgery.

Then, in 1926, Alexander walked out of the sanitarium, returned to

Ann Arbor, and assumed his new position as assistant professor of surgery.

At first many surgeons were doubtful. A prominent professor at two major university hospitals wrote Alexander: “My surgical and medical friends here ... agree that they have never seen the slightest benefit from [Alexander’s approach] and they do not recommend it in any case.”

But Alexander’s book proved otherwise. Certainly he’d persuaded Hugh Cabot, M.D., professor of surgery and dean of medicine at the U-M.

“The data ... are here spread before us,” Cabot wrote in an introduction to Alexander’s text. “After carefully reading his manuscript, I cannot avoid the conclusion that we in America have neglected a great field in which surgery may alleviate suffering and bring hope.”

The book sparked a new era in the treatment of TB on this side of the Atlantic. The techniques he explained were taken up and saved thousands of lives. Alexander became one of the great thoracic surgeons of his era. He founded Michigan’s service and residency in thoracic surgery, and he trained more thoracic surgeons than any professor of his time. He became consulting surgeon to sanitariums throughout the U.S., including several in Michigan.

In the early 1930s, his TB returned. Again he fought it off. During a second long convalescence, he produced a second book, *The Collapse Therapy of*



John Alexander

Pulmonary Tuberculosis, then returned to his duties. He practiced and taught for many more years, carefully regulating his routine to conserve energy. When antibiotics revolutionized the treatment of TB in World War II, his interests shifted to new problems in thoracic surgery. He died in 1954.

“His courage, cheerfulness, and optimism in the face of recurring illness were a source of wonderment and admiration to all who knew him,” wrote one of his residents, Cameron Haight, M.D., “and his personal charm and graciousness won him legions of friends by whom he was equally revered and respected.” [M]

Sources include Herbert Sloan, M.D. (Residency 1949), “Historical Perspectives of the American Association for Thoracic Surgery: John Alexander (1891-1954),” *Journal of Thoracic and Cardiovascular Surgery* (February 2005); Cameron Haight, M.D., “John Alexander” in John D. Steele, M.D., ed., *The Surgical Management of Pulmonary Tuberculosis* (1957); A.L. deBreu, “John Alexander: An Appreciation,” *Annals of Thoracic Surgery* (February 1969); and John Alexander, *The Surgery of Pulmonary Tuberculosis* (1926).