**Biographical Summary of Dr. Nathan Smith and Joseph Smith’s Surgery**

The year 2013 marks the 200th anniversary of Joseph Smith's life-threatening typhoid fever and the experimental and successful surgery performed by Dr. Nathan Smith, founder of Dartmouth Medical School (1811). The 1813 surgery blesses millions yet today. As a thank you, the Joseph Smith Sr Family Organization is working to establish a scholarship of gratitude on behalf of Dr. Nathan Smith to the Geisel School of Medicine at Darmouth Medical College.

Prior to the 1920s, approximately 35,000 US inhabitants died each year from typhoid fever. For severe cases, such as the one experienced by Joseph Smith, involving localized bone infection and tissue decay (“necrotic osteomyelitis”), amputation was the standard cure.

Dr. Nathan Smith was the only physician in the United States who had the skill and ability to successfully treat Joseph's infection. His personal preparation, life's work, timing, and placement converged to allow Dr. Smith to operate on Joseph, saving his leg and his life, decades before Doctor Smith's surgery became accepted standard procedure.

Nathan's father died when Nathan was young, and he was educated by his mother. At age 13 he taught at a nearby school. At age 22, he assisted Dr. Goodhue in an amputation. It was common for town folk to assist in amputations; public prayers were given, assistants would help hold the patient down, administer drugs or alcohol, and in some instances, cut off blood vessels. In the 18th and early 19th centuries, amputation, today a surgery taking perhaps an hour, took 1 to 2 minutes. Dr. Goodhue noted the “intense interest Smith took in the proceedings, and ... his unflinching steadiness of nerve.” (Hayward). At this point Nathan determined to become a surgeon and asked if he could serve as an apprentice to Dr. Goodhue.

“Few physicians prior to the 1800s had received training beyond apprenticeship, and [there were] only a few hundred physicians in the entire country [who] had obtained a degree in medicine by 1800” (Wirthlin). Dr. Goodhue required that Nathan receive further education and then Nathan served for 3 years as Dr. Goodhue's apprentice. He began his practice in Cornish, New Hampshire in 1787. Although he hadn't received a college degree, he became the 5th graduate of Harvard Medical School in 1790 (Wirthlin Liahona) and then continued his practice.

Smith held a strong conviction that “his mission included raising medical standards and proficiency among his colleagues.” He traveled to London and Scotland to gather “equipment, books, and clinical experience.” He returned to open Dartmouth’s medical college. He was the only teacher for 13 years—unpaid, making his living from his medical practice and tuition from students

In 1798, Dr. Smith had developed the surgical procedure to treat osteomyelitis (bone infection). New bone growth would surround the decayed tissue. Dr. Smith instructed that the bone be punctured to allow the infection to be discharged. “The dead bone should be cut with a trephine saw in the middle and extracted with a pair of common forceps.” (Hayward). The wound was left open for some time to allow further necessary drainage and heal naturally. Dr. Smith wrote papers on both typhoid (1824) and osteomyelitis (1827), foundational works for years. He had performed this procedure for 10 to 15 years before he operated on the young Joseph Smith.

Dr. Nathan Smith accepted an invitation to leave Hanover, NH and design curriculum for the Yale Medical School in 1812. He deferred the task, however, because of the 1812 – 1813 typhoid epidemic, which had affected his own family. Just one year previous, 1811 the Joseph Smith Sr. family had moved from Royalton, Vermont to Lebanon, New Hampshire, 4 ½ miles from Dartmouth. In 1813, typhoid affected all 7 Smith children, posing the greatest threat to Sophronia, who finally recovered, and to young Joseph. Twice doctors had made incisions to discharge the disease in Joseph's leg. Each time healing began, the infection spread, causing severe swelling and pressure. In desperation, the Joseph Sr. family sought a “council of surgeons” from Dartmouth, one of whom Joseph Smith Jr. later identified as Dr. Smith.

Upon examination these surgeons realized the diseased bone in Joseph’s leg had been encased in new bone growth ensuring an internal spread of infection which would likely end in death. Their recommendation was the standardized procedure for such a case--amputation that would spare Joseph’s life. After both Lucy and young Joseph refused amputation, the surgeons agreed to perform the alternative procedure. Dr. Smith would then explain followup care and treatment. He said “I have never known any untoward circumstances to follow such operations, of which I have performed a great many.” (Wirthlin, BYU Studies 1891 p. 6)

The Joseph Smith Sr. and Lucy Smith family esteemed Dr. Smith highly. Dr. Smith disliked alcohol and opium for anesthesia and encouraged medical attendants to hold patients and talk with them during surgical procedures. Likewise, Joseph refused alcohol and asked that he not be bound but that his father hold him. Dr. Smith was a careful observer and “seemed to have an unusual appreciation for the natural reparative process.” (Wirthlin, BYU p. 6) At this time, home care was a further blessing, as the early hospitals lacked understanding of cleanliness and had a high incidence of infection.

Dr. Nathan Smith's novel procedure was used briefly during the civil war and finally became accepted as standard practice after WWI, fully 100 years after this first surgery. He was untiring in his drive to increase medical education, helping to establish 4 medical institutions. At the 200th commemoration of the founding of Yale, Dr. William Henry Welch stated that Dr. Smith,

“did more for the general advancement of medical and surgical practice than any of his predecessors or contemporaries in this country. He was a man of high intellect and moral qualities, of great originality and untiring energy, an accurate and keen observer, unfettered by traditions and theory; fearless and above all blessed with an uncommon fund of plain common sense.”

Dr. Smith not only had a great influence on American medicine but a profound effect on the future prophet who restored The Church of Jesus Christ of Latter-Day Saints. In a sense, Dr. Smith has touched all of our lives.