

## History of Anesthesia <sup>[1]</sup>

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The history of anesthesia has a painful background. The 18th century observed numerous medical advances and discoveries.

The primary motive was to save countless lives that were lost every year by diseases and conditions unknown to the physicians of the time. This led to the increased practice of surgery which was often hindered by the excruciating pain it brought to the patients.

In an effort to relieve pain during surgery, surgeons employed all kinds of means they could. Some used derivatives of herbs and plant extracts like opium and marijuana and others preferred alcohol concoctions to knock out a patient. Some even went as far to consider physically placing a blow on the head to render unconsciousness. Such processes were arbitrary and often rendered detrimental consequences emphasizing the need of an effective anesthetic agent.

## History of Surgical Anesthesia

Research on modern techniques to reduce surgical pain began when an English scientist Joseph Priestley (1733-1804) discovered that inhalation of nitrous oxide might relieve pain. Others followed suit and dug up other gases like carbon dioxide which produced similar effects. Cocaine injections in the eye, mouth and other areas of body were also found useful in blocking nerve impulses. However, nitrous oxide and diethyl ether gained popularity as two American dentists began using the gas in their practice until it failed to work on a patient during a demonstrational tooth surgery at Massachusetts General Hospital.

William Thomas Green Morton (1819-1868), a Boston dentist correctly concluded that the idea was right but the gas wasn't potent enough. Morton began experiments with another gas called sulfuric ether. After successful attempts on various animals and dental patients, on October 16, 1846, he publically demonstrated the application of ether to remove tumor from the neck of his patient. The operation was successfully painless. By the end of 1847 books and pamphlets about ether anesthesia appeared in the United States and many countries in Europe and for the first time, a safe and consistent "anesthesia" was established.

## Crawford Long and Surgical Anesthesia

Not too many medical revelations could be termed as significant and elementary as the

discovery and development of Anesthesia. It was a turning point for the world of medicine and surgery, as the physicians and surgeons could concentrate on the case at hand without either worrying about the safety of the patient in terms of enduring pain or the shrieks that shook the hospital buildings.

Different anesthetic practices were in use in his time when Crawford Long revived the field of surgical anesthesia by using diethyl ether as an anesthetic. This ingenious discovery based on his insightfulness and keen observation established him as the pioneer of surgical anesthesia. In the honor of his groundbreaking achievement, the day of his discovery is recognized as 'Doctor's day' to celebrate the birth of anesthesia which conquered human pain.

## **Life, Education and Profession**

Crawford Williamson Long was born on November 1, 1815 in Danielsville, Georgia. His father was a wealthy merchant and planter who later became a State senator. At the age of fourteen he applied to the University of Georgia in Athens. Long received his Masters of Arts degree from the university in 1835 at just 19 years of age. In 1836, he began his medical education at Transylvania College in Kentucky, where he studied under Benjamin Dudley, a renowned surgeon. He later transferred to the University of Pennsylvania and earned his medical degree in 1839. He was acknowledged as a solicitous and high-bred gentleman. He returned to Georgia in 1841 and settled in the small town of Jefferson, modestly avoiding the limelight that could have been his due. He spent the rest of his life as a simple and humble rural practitioner.

## **Ether As Surgical Anesthetic**

In Germany Johann Friedrich Dieffenbach (1795-1847), a pioneer in plastic surgery, wrote:

"The wonderful dream that pain has been taken away from us has become reality. Pain, the highest consciousness of our earthly existence, the most distinct sensation of the imperfection of our body, must now bow before the power of the human mind, before the power of ether vapor."

Dr. Crawford W. Long applied his social observations with ether to surgery well before Morton's discovery. During his time in Philadelphia, it was tasteful among young socialites to inhale gases such as sulphuric ether to induce euphoria. During one such "ether frolics", Long observed an attendee take a heavy fall but display no indication of pain. With this reference, he performed his first surgical procedure using the gas on March 30, 1842, when he removed a tumor from the neck of a young man who did not feel any pain.

Long did not publish his findings as he wanted to be sure of his discovery. He began writing his own account of his discovery only after an editorial ran in the December 1846 issue of Medical Examiner about the Boston dentist Morton who claimed to have used ether as an anesthetic. In 1849 he presented his findings to the Medical College of Georgia in Augusta.

## **Death**

Crawford Long died on June 16 of a stroke in 1878, at the age of 62 after administering ether to a woman in labor. As he lay dying, his last words were, "*care for the mother and child first.*"

Commemorated by a statue in the National Capital's Hall of Fame, he has come to be regarded as the father of modern anesthesiology.

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