



### Select Milestones from the ACS Interactive Timeline

#### **1913 – The American College of Surgeons Launches**

The American College of Surgeons was launched in May 1913 at the fourth Clinical Congress, attended by 4,000 in Washington, DC. Signature events at the founding included Lister's Gavel Presented by Royal College of Surgeons, Requirements for Fellowship Leads to 60 Percent Rejection Rate, and The "No Fee-Splitting" Pledge.

#### **1920 – Dr. Ernest A. Codman Starts First Cancer Registry in the United States**

The first cancer registry in the United States, a Bone Sarcoma Registry, was started by a committee organized by Ernest A. Codman, MD, FACS, to advance the concept of end-results reporting. The Registry collected and reviewed cases of bone sarcoma, including the X rays and microscopic slides of each case. The committee quickly realized that many of the cases were not actually bone sarcomas and that even among the true cases, there was no standard terminology. By circulating the slides, as Dr. Codman and colleagues noted in their 1923 report, "we shall all have an opportunity to see what Mallory means by osteo-myxo-fibroblastoma or Ewing means by xantho-sarcoma." For the first time, disease terminology became standardized across institutional and specialty boundaries and treatment outcomes were analyzed on an international level. The Registry was based on an idea first suggested by British physician Sir Thomas Percival in 1803.

#### **1941 – Dr. Charles Drew Advances Techniques to Collect and Process Blood Plasma**

In anticipation of mass casualties from Hitler's inevitable invasion of Great Britain, the U.S. organized a Plasma for Great Britain effort. Administering the effort was Charles Drew, MD, FACS, who was recommended for the position on the strength of his 1940 doctoral thesis on blood preservation techniques. Dr. Drew created locations in eight New York City hospitals where volunteers could donate blood for wounded soldiers. He took the successful laboratory experiments of many blood researchers and transformed their methods into mass production techniques. For example, on learning that the British had successfully modified an ordinary cream separator to separate plasma from the red blood cells, Dr. Drew ordered two of the machines from England as prototypes and then had similar equipment constructed in the United States so that clear plasma could be produced on a large scale. Although the Plasma for Britain Project was terminated when Hitler's invasion failed to materialize, America's imminent entry into the war prompted an effort to stockpile blood reserves for U.S. soldiers.

#### **1954 – First Successful Human Organ Transplant Procedure Performed**

With identical twin brothers, Ronald and Richard Herrick, serving as donor and recipient, Joseph E. Murray, MD, FACS, performed the first successful human organ transplant—a kidney—at Boston's Peter Bent Brigham Hospital. Dr. Murray recounted that "although I was well aware of the time ticking away throughout the procedure—everyone was—I could only continue to work carefully and systematically and, at all costs, efficiently. We would know soon enough whether I had succeeded. There was a collective hush in the operating room as we gently removed the clamps from the vessels newly attached to the donor kidney. As blood flow was restored, Richard's new kidney began to become engorged and turn pink... There were grins all around." Identical twins were used to eliminate any problems of an immune reaction. In 1990, in recognition of the first successful human organ transplant and other medical accomplishments, Dr. Murray received the Nobel Prize for Medicine.

### **1962 – Dr. Charnley’s Hip Replacement Becomes Established Procedure**

After years of research, Sir John Charnley, MD, FACS (Hon), successfully implanted a two-component hip replacement made of metal and plastic, which created an artificial joint similar to a natural one. As with many successful inventions, the Charnley hip replacement had many fits and starts. For instance, in attempting to keep friction within the device to a minimum, Dr. Charnley initially used a self-lubricating substance called polytetrafluoroethylene (PTFE). Unfortunately, after the device was implanted in patients, PTFE wore out unexpectedly fast and was rejected as a foreign substance by patients’ bodies. Finally, a new type of plastic was used, and this time the Charnley hip replacement procedure became a practical reality and gold standard surgical treatment. In fact, clinical and radiographic success of the Charnley procedure was confirmed in patients for as many as four decades after the early procedures took place. Even so, Dr. Charnley continued to refine his device and procedure over the next few decades. The Charnley total hip replacement technique has gone on to benefit millions of patients throughout the world.

### **1974 – Tommy John Surgery Becomes a Household Name**

Orthopedic surgeon Frank Jobe, MD, performed a pioneering tendon-to-ligament grafting procedure called ulnar collateral ligament (UCL) reconstruction for professional baseball pitcher Tommy John. After 18 months of rehabilitation, John resumed his 26-year career, finishing with 288 career wins, more than half of them after his so-called “Tommy John procedure.” The procedure has preserved the career of many professional and amateur athletes, particularly baseball pitchers.

### **1981 – First Open Fetal Operation Performed**

Michael R. Harrison, MD, FACS, and colleagues at the University of California, San Francisco, performed the first open fetal operation. Dr. Harrison and team corrected a dangerously blocked urinary tract in a fetus by sewing into place a bladder shunt, a little tube about the size of dry spaghetti. Dr. Harrison said that at the time “everyone was a skeptic and that’s not surprising because the idea of fetal surgery was sort of shocking.” Although fetal intervention started with crude surgical tools used to cut and sew during open operations, it quickly evolved through minimally invasive techniques and endoscopic and image-guided manipulation. Dr. Harrison was the recipient of the College’s 2002 Jacobson Innovation Award.

### **1994 – World’s First Face Replant Performed**

Abraham George Thomas, MD, a plastic surgeon, conducted the first full-face replant operation on nine-year-old Sandeep Kaur, whose face and scalp were pulled off when her hair was caught in a thresher. Sandeep was brought to the Christian Medical College and Hospital in Ludhiana, India where Dr. Thomas, an experienced microsurgeon, spent 10 hours sewing on Sandeep’s detached face and scalp. The operation was successful, although she was left with some muscle damage as well as scarring around the perimeter where the facial skin was sutured back on.

### **2001 – ACS Introduces ACS NSQIP into Private Sector and Not-for-Profit Hospitals**

With grant support from the Agency for Healthcare Research and Quality (AHRQ), the College introduced its National Surgical Quality Improvement Program (ACS NSQIP<sup>®</sup>) into 14 private sector and not-for-profit hospitals as part of an extended trial. After a three-year study showed that the program was effective at reducing morbidity and mortality rates in surgical patients, ACS NSQIP became available to all private hospitals. Developed out of a similar program at the Department of Veterans Affairs (VA), ACS NSQIP has become the leading nationally validated, risk-adjusted, outcomes-based program to measure and improve the quality of surgical care in the private sector. ACS NSQIP has given surgeons evidence-based tools, such as best practice guidelines, regular conference calls, and case studies, to help them implement effective quality improvement efforts. Named “Best in the Nation” for surgical quality by the Institute of Medicine, ACS NSQIP has developed measures endorsed by the National Quality Forum (NQF), and the Centers for Medicare and Medicaid Services (CMS) is expected to adopt key ACS NSQIP outcomes measures as soon as 2015. A study in the *Annals of Surgery* concluded that the program helped each hospital prevent 250- 500 complications and saved 12- 36 lives per year.