4,703 YEARS OF PROGRESS

Tulane’s History of Medicine Society, the oldest such student-run organization in the U.S., exists to promote the study and appreciation of the individuals and achievements that have led to the state of medicine in the present day. On April 5, 2003, the Society will present the 51st Annual G. Bernard Weinstein Banquet, featuring a lecture by Robert L. Martensen, MD, PhD. Student tickets will be sold outside the student lounge during lunchtime throughout the first week of April.

From the Hippocratics to the genetic engineers of today, the practitioners of medicine have been discovering, amending and refining both their science and their art, some within the very walls of Tulane. Here are a few of history’s great contributors, beginning with those who went about their work while calling Tulane their home.

Charles Luzenberg (1805-1848). First to remove gangrenous hernia and suture the ends successfully.
John Riddell (1807-1865). Developed a workable system for the first binocular microscope.
Warren Stone (1808-1872). First to apply wire ligature to a human artery for aneurysm.
Stanford Chaille (1830-1911). Provided evidence linking the mosquito to yellow fever, and instituted community sewerage and drainage systems; known as the “Father of Hygiene and Health Education in America.”
Joseph Jones (1833-1894). First to discover the plasmodium that causes malaria.
Rudolph Matas (1860-1957). Holds a number of surgical firsts, including use of IV saline following blood loss; positive pressure in thoracic surgery; successful use of spinal anesthesia; and the “Matas operation” for aneurysm repair.
Charles Bass (1875-1975) and Foster M. Johns (1889-1936). First to cultivate the parasite that causes malaria; also the first to describe effective oral hygiene with a toothbrush and dental floss.
Grace Goldsmith (1904-1975). Established niacin deficiency as the cause of pellagra, and clarified the roles of folic acid and vitamin B12 in the diet.
Michael DeBakey (1908-present). First to perform aorto-coronary bypass, successfully use an artificial heart, and develop the Dacron arterial graft; also credited with developing the Mobile Armed Services Hospital (M.A.S.H.) concept for the military.
George Burch (1910-~). First used radioactive substances in the study of heart disease.
Robert Heath (1915-~). First to delineate a neurophysiological basis for pleasure in the human brain in schizophrenia, to use electrode implants in the study of deep brain activity, and to postulate schizophrenia as an autoimmune disorder.
Edward Krementz (1917-present). Developed a technique of treating cancer by regional perfusion; this localized side effects and allowed normal blood to continue to circulate through the rest of the body.
William Mogabgab (1921-2001). First to describe the behavior, properties and characteristics of influenza viruses in tissue culture, and the first to discover a common cold virus.
Keith Reemstma (1926-2000). First to transplant a primate kidney to a human being.
Andrew Schally (1926-present). First to determine structure and function of three key hormones of the hypothalamus; also established evidence for the existence of neurohormones, for which he received the 1977 Nobel Prize.
Delmar Caldwell (1935-present). First transplant of an artificial prosthetic cornea.
Ronald French (1938-present). First to use a carbon dioxide laser to perform tonsillectomy.
Louis Ignarro (1941-present). First to demonstrate that nitric oxide is produced endogenously in living systems, for which he received the 1998 Nobel Prize.

2700BC Imhotep, the first physician known by name, practices medicine during Egypt’s third dynasty.
2600BC Chinese emperor Huang-Ti publishes the medical compendium Nei Ching, which remains the standard reference work of Chinese medicine for thousands of years.
1000BC Persian physician Ibn Sina of Avicenna writes the Canon of Medicine, an encyclopedia of medicine translated and used throughout Europe until the 16th century.
500BC Indian Ayurvedic medical texts Caraka Samhita and Susruta Samhita are written, stressing the importance of balance and the environment in achieving good health.
400BC Greek physician Hippocrates founds a tradition of medicine emphasizing clinical observation and the patient-physician relationship; he holds disease as an imbalance in bodily humors.
170AD Galen, a Turkish physician in the Roman Empire, uses pulse taking as a diagnostic aid; his studies in physiology and anatomy remain widely influential until the 1500s.
British scientist and philosopher Roger Bacon publishes a treatise on how sight can be improved by using eyeglasses, which are already being worn in Europe and China.

French barber-surgeon Ambroise Paré (aka the “father of modern surgery”) first applies bandages to wounded soldiers; he replaces the practice of cauterizing wounds with hot oil.

Flemish anatomist Andreas Vesalius publishes The Fabric of the Human Body, proving wrong many of Galen’s assumptions about the human body and its workings.

British physician William Harvey publishes On the Movement of the Heart and Blood in Animals, an accurate explanation of how blood circulates in the body.

Italian physician Giovanni Morgagni publishes On the Seat and Causes of Disease, a comprehensive book that describes pathological lesions and relates them to the course of the subject’s disease.

British doctor Edward Jenner administers the first effective vaccination against smallpox; within 30 years, his treatment is practiced throughout the world.

French physician René Laënnec invents the stethoscope; he develops a method of diagnosis upon learning to correlate different sounds to various diseases.

U.S. dentist William Morton gives the first demonstration of the effective use of ether as an anesthetic; the operation—for the removal of a neck tumor—lasts 25 minutes.

Austrian obstetrician Ignaz Semmelweis introduces the practice of cleansing the hands of examining physicians; the reduction in mortality rate suggests that washing hands stops the spread of disease.

British physician John Snow determines a London cholera epidemic to be the result of contaminated water supply; his work is a landmark in infections disease epidemiology.

German pathologist Rudolf Virchow publishes Cellular Pathology, in which he elaborates on his discovery that disease—and even life itself—occurs at a cellular level.

French chemist and microbiologist Louis Pasteur publishes his findings on how germs cause disease, which he later uses to develop the pasteurization process.

German anatomist Wilhelm Waldeyer recognizes cancer as uncontrolled cell division arising from normal epithelium; he also attributes secondary tumors to metastatic spread.

German physicist Wilhelm Roentgen discovers invisible electromagnetic rays, which he calls X rays; they are used to create diagnostic images of structures within the body.

Austrian physician Sigmund Freud develops the techniques of psychoanalysis for the treatment of emotional disorders; he asserts that neuroses can be traced to disturbances in one’s sexual life.

German chemist Felix Hoffman synthesizes a form of acetylsalicylic acid that enables mass production of aspirin; it becomes the best-selling drug for pain and inflammation.

English physician Ronald Ross proves that mosquitoes are responsible for spreading the malaria parasite; his discovery marks the first realization of vector-borne disease.

Austrian pathologist and immunologist Karl Landsteiner discovers the major blood groups, and works out a blood-typing system that allows safe transfusions.

German bacteriologist Paul Ehrlich develops a cure for syphilis by administering a form of arsenic; the procedure establishes modern chemotherapy—the use of selectively toxic drugs to treat disease.

Canadian surgeon Frederick Banting and colleagues isolate insulin from the pancreas; within a few years, it is commercial produced for insulin-deficient diabetics.

British bacteriologist Alexander Fleming identifies the bacteria-killing properties of penicillin, the first safe, successful antibiotic: in the 1940s, it is refined and widely used to cure infectious diseases.

British surgeon John Wiles performs the first hip replacement operation using stainless steel for the head of the joint.

U.S. surgeon Charles Drew describes the long-term storage properties of blood plasma, which often can be used in place of whole blood to transfuse wounded or burned patients.

Dutch physican Willem Dolff develops the first artificial dialysis machine to perform the kidneys’ blood-cleansing functions.

U.S. surgeon Alfred Blalock performs the first open-heart operation; the patient, a 15-month-old girl with tetralogy of Fallot, recovers completely.

U.S. biologist Gregory Pincus reports on the first successful trials of a birth-control pill, which he developed at the urging of social activist Margaret Sanger.

British physician Cicely Saunders establishes St. Christopher’s, the first modern hospice, in London; she also pioneers aggressive pain management for the terminally ill.

Robert Gallo, of the U.S. National Cancer Institute, and Luc Montagnier, of France’s Pasteur Institute, independently publish the genetic sequence of the AIDS virus they have identified.

U.S. geneticist W. French Anderson performs the first gene therapy on a human, injecting engineered genes into a four-year-old to repair her faulty immune system.

On behalf of an international consortium, U.S. geneticists Francis Collins and J. Craig Venter announce the complete sequencing of the human genome.