

130 Years of Medical Education at Johnson & Johnson

MEDICAL INNOVATION



1887

Johnson & Johnson markets the first mass-produced sterile sutures, the first mass-produced sterile dressings and sterile sutures. The company revolutionized the field of medicine, manufacturing the world's first mass-produced antiseptic medical supplies.

MEDICAL EDUCATION INNOVATION



1888

The Johnson brothers soon discovered that manufacturing sterile supplies was not enough—they needed to teach doctors how to use them. In 1888, the company published *Modern Methods of Antiseptic Wound Treatment*, a how-to guide on antiseptic surgery. The guide helped spread germ theory and antiseptic surgical methods. Just 13 years earlier, in 1875, surgeons had operated in street clothes and worked with unclean hands.

1895



Johnson & Johnson published *Gauze Dressings in Surgery*, a manual for the medical profession to introduce them to the new types of mass produced sterile dressings made by Johnson & Johnson, and explain their different uses in surgery, as well as the science behind their preparation.

1897



Johnson & Johnson scientific director Fred Kilmer published *Asepsis Secundum Artem* ("According to the Art of Asepsis"), a widely-read treatise on sterile wound care. A great deal of the scientific data in it was developed in the Johnson & Johnson Bacteriological Laboratory, which had been built by Kilmer to test and enhance improvements in sterilization techniques, based on the sterilization experiments of Robert Koch, one of the founders of microbiology.

1898

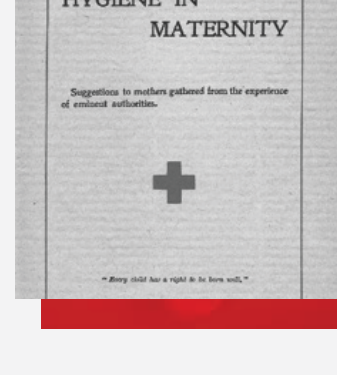
Johnson & Johnson begins publishing *Red Cross Notes*, a scientific journal for the medical profession, which contains articles related to new developments in surgery, wound treatment, asepsis and other topics. During World War I, *Red Cross Notes* featured articles designed to help inform and train surgeons on medical innovations developed to save lives on the battlefield. The company published *Red Cross Notes* from 1898 through the 1920s.



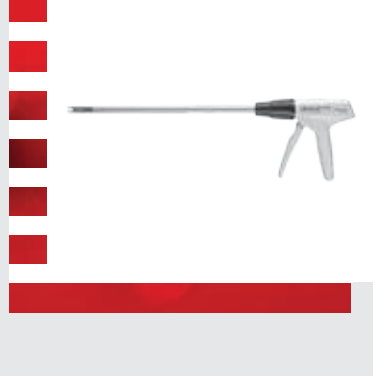
1890s

In the 1800s, most babies were born at home. Working with prominent obstetricians, Johnson & Johnson introduced maternity kits. These were large kits containing professional sterile medical supplies and antiseptic soaps -- everything a doctor would need to ensure a safe and healthy birth for a mother and child.

1902



Although the Maternity Kits were designed to be used by medical professionals and birth attendants, the science-based information was designed for broad use, because the unmet need was so great. Johnson & Johnson also published "Hygiene in Maternity," a booklet for expectant mothers covering all aspects of pregnancy, diet, delivery and how to care for a newborn baby.



1992

Ethicon Endo Surgery is established to focus on procedure-enabling innovations for minimally invasive surgery. One example of advancing MI innovation is Ethicon Endo's LIGACLIP® Endoscopic Clip Applicators, which offered groundbreaking fully automatic, reloading endoscopic multiple clip applicators that helped to give surgeons the confidence to adopt minimally invasive approaches.



Johnson & Johnson's Ethicon Endo Surgery opens its first Institute in Cincinnati, Ohio, focused on teaching minimally invasive surgery procedures. The Institute helped accelerate worldwide adoption of these approaches, from laparoscopic cholecystectomy to an ever-widening array of surgical challenges.

1993



The Johnson & Johnson Institute, then known as the European Surgical Institute, is opened in Norderstedt, Germany, by newly formed Ethicon Endo Surgery to offer training in surgical techniques for surgeons from across the world to support the safe use of Johnson & Johnson products and improve patient outcomes.

2004



THE VISION CARE INSTITUTE®, LLC was opened in Jacksonville, Florida, and subsequently expanded across the world, providing eye care practitioners with the advanced training needed to bring new products and services to their patients. In just 10 years, 100,000 professionals and clinicians were trained worldwide.



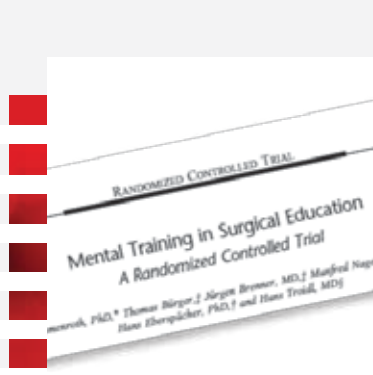
2005



The CORAIL® AMT Hip System launches with updated instrumentation to aid with the use of Anterior Approach. The Anterior Approach to hip replacement allows surgeons to work around the muscles to keep them intact and provides the potential for quicker recovery compared to traditional hip replacement surgery.¹

To expand understanding of the Anterior Approach, the Johnson & Johnson Institute collaborates with a leading expert in the procedure, Dr. Joel Matta, to hold the first Anterior Approach Learning Center on February 4, 2005. As of 2017, more than 10,000 surgeons globally have attended Anterior Approach courses.

¹ C. Christensen et al.: Comparison of Patient Function during the First Six Weeks after Direct Anterior or Posterior Total Hip Arthroplasty (THA): A Randomized Study. *Journal of Arthroplasty*, 30 Suppl. 1 (2015) 94–97.



2007

Mental training benefits for laparoscopic training are demonstrated by psychologist Marc Immneroth et al. reporting in 2007 a large randomised quantitative study on cholecystectomy training.

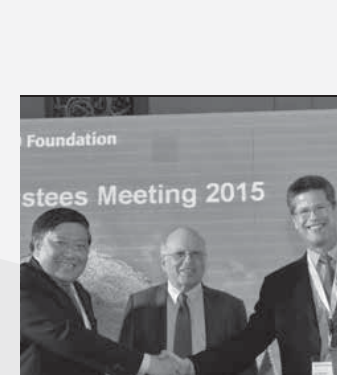
2012



The Johnson & Johnson Institute in Norderstedt, Germany, begins offering mental training, where the surgeon visualizes the operation from an inner perspective without performing any actual movements. Mental training improves patient safety through automation of surgical procedures, creation of mental capacity and the reduction of stress potentials.



2015

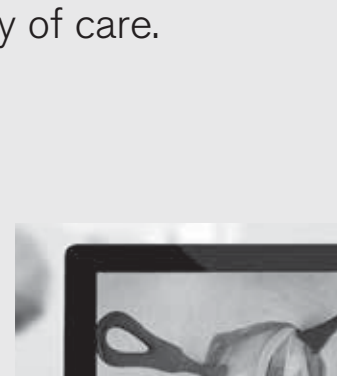


A report on global surgery, commissioned in 2015 by The Lancet, found nearly one-third of the global burden of disease can be treated surgically and that five billion people lack access to safe and affordable surgical care.¹

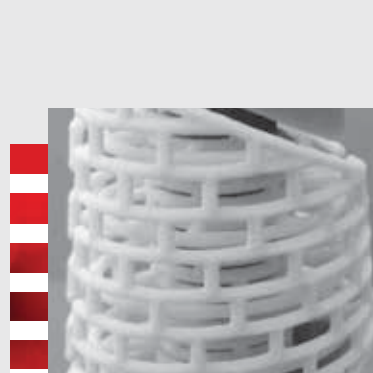
The DePuy Synthes Companies of Johnson & Johnson announced that the company has signed a five-year cooperation agreement with the AO Foundation to continue the work they began decades ago to deliver world-class professional education and develop new innovations that improve patient outcomes and increase efficiency of care.

¹ The Lancet Commission on Global Surgery, 2015, http://www.who.int/hrh/news/2015/lancet_commission_globsurgery/en/

2016



To improve the availability of surgical care by making training more accessible, the Johnson & Johnson Institute began delivering education through an app-based digital simulation platform that allowed surgeons to cognitively rehearse surgery from their smartphone anytime, anywhere.



2017



Advancements in 3D printing technology allow Johnson & Johnson to transform how the company conceptualizes, designs, manufactures and delivers healthcare solutions. 3D printing technology leads to innovations such as orthopaedic instrumentation, meniscal tissue and 3D printed resorbable trauma products (pictured).

Johnson & Johnson Institute opens a newly redesigned 3D printing lab in Raynham, Massachusetts, where surgeons visiting the Johnson & Johnson Institute learn about the 3D printing process and the various 3D printing technologies used in product development.

2017



The newest Johnson & Johnson Institute, one of 26 globally, opens in Irvine, California. The 15,500-square-foot facility is designed to enhance education with an advanced technological infrastructure, including a four-station anatomical specimen lab and three large training rooms.