

Surgical
INNOVATION

**“Renaissance man”
endows award
for surgical investigators**

*by Diane S. Schneidman,
Senior Editor*

Beginning this year, the College will offer two awards that are endowed by Julius H. Jacobson II, MD, FACS, and his wife Joan. They are the Jacobson Innovation Award, which has been presented annually since 1994, and the newly established Joan L. and Julius H. Jacobson II Promising Investigator Award, which will be given for the first time this year. The two honors rightfully bear the Jacobson name not merely because the couple provides the funding for them, but because they aptly describe this surgeon's legacy as well.

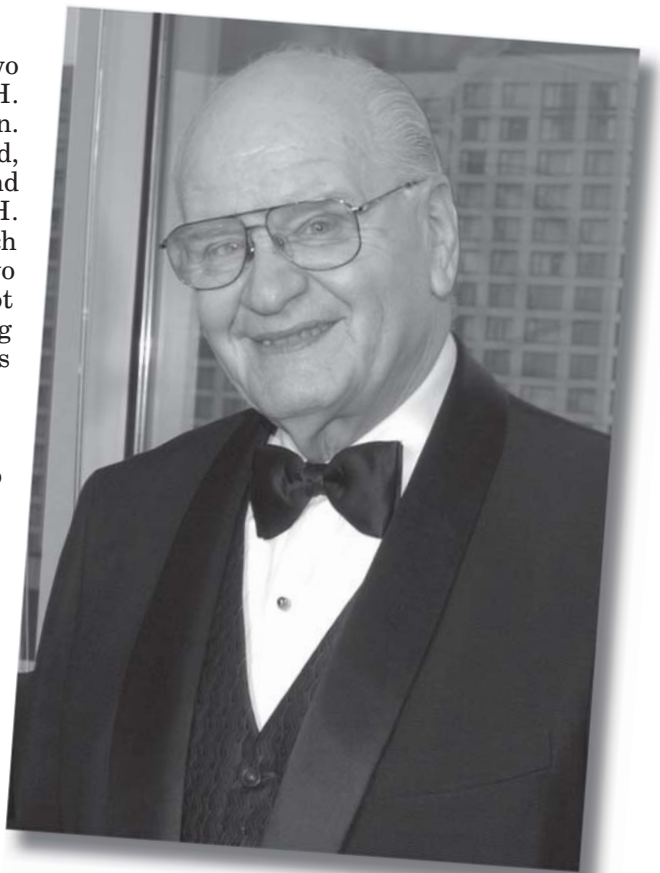
The legacy

Dr. Jacobson says his greatest contribution to surgery was introducing the microscope to the general surgery operating room. Indeed, he is widely renowned as the "father" of microsurgery, the technique that now accounts for approximately one-half of all neurosurgery procedures performed in the U.S. and that ultimately enabled surgeons to perform coronary artery bypass, limb reimplantation, and many other procedures.

According to Dr. Jacobson, the concept of using the microscope during operations came to him in one of those "aha!" moments that inspire many creative minds. In 1960, Dr. Jacobson had newly arrived as associate professor and director of surgical research at the University of Vermont, Burlington. "The teaching of the time was that you could not reconstruct blood vessels smaller than 7 mm in diameter," Dr. Jacobson said. Meanwhile, pharmacologists at the center were studying the effects of denervating the carotid artery on the action of drugs. They found that they could not reliably denervate the small carotids on the experimental animals and asked for help.

"Thus, my very first project was to denervate the carotid artery in a dog. It became apparent that the only way to be certain of complete denervation was to divide the vessel and rejoin it," he said. Dr. Jacobson realized that one of the failures of operating on arteries so small in size was that "the eye could not see to tell the hand what to do."

It soon became apparent that a two-person surgical microscope was needed so that both the surgeon and his or her assistant would have the same view of the operation in process. This diploscope



Dr. Jacobson

(the first of which is now in the Smithsonian Institute in Washington, DC) was developed with the Zeiss Company, along with a cadre of miniaturized instruments and suture materials. These instruments and techniques were subsequently applied at the Cleveland (OH) Clinic, where Donald Effler, MD, FACS, with the assistance of University of Vermont laboratory fellow Ernesto Suarez, MD, "put coronary artery bypass on the world's surgical map," Dr. Jacobson said.

Twists of fate

Dr. Jacobson attributes his epiphany to bring the microscope into the OR to the year he spent in the lab "all day, every day" at the University of Pennsylvania, Philadelphia, as a surgical investigator, using a microscope to research cell physiology, an

experience that was both the product and progenitor of chance. He had completed high school by the age of 15. He then went on to complete three years of undergraduate study at the University of Toledo, OH. At age 17 he enlisted in the U.S. Navy, where he served as pharmacist mate for a year. Just before he was scheduled to ship out with the fleet marines, the U.S. dropped the atom bomb and ended World War II. "I felt that my life was saved that day," Dr. Jacobson said.

Upon his return to civilian life, Dr. Jacobson applied to 23 medical schools and was rejected by each one, largely because so many veterans were applying. He finished up his undergraduate studies at the University of Toledo. "One of my professors had a great deal of faith in me and sent me to a friend at the University of Pennsylvania who had written the definitive book on cell physiology to begin work on a master's degree," Dr. Jacobson said. He believes to this day that had he been accepted to medical school on the first attempt and not spent the year in the research lab, microvascular surgery would have arisen elsewhere.

With encouragement from his mentor at the University of Pennsylvania, Dr. Jacobson reapplied to the medical schools and was accepted at each one. He chose to go to Johns Hopkins, Baltimore, MD, where he received his medical degree in 1952. He then spent seven years as a resident at Columbia-Presbyterian Hospital, in New York, NY. Within two months of starting his practice in general and thoracic surgery at that institution, he "got the offer you can't refuse," Dr. Jacobson said. He was asked to accept the position at the University of Vermont where he blazed the trail for microsurgery.

The award

Dr. Jacobson, Distinguished Service Professor of Surgery and director emeritus of vascular surgery at the Mount Sinai Medical Center in New York, NY, believes that many surgeons today are making equally significant discoveries. He and his wife have endowed the newest ACS award carrying the Jacobson name to give young surgeons who are conducting research the same sort of encouragement that Dr. Jacobson received. They are confident that these promising surgical investigators will advance the art and science of surgery.

The \$30,000 award will be presented at least

once every two years, with Dr. Jacobson providing all of the funding. The Jacobson Promising Investigator Award is administered by the College's Surgical Research Committee, which is currently reviewing nominations for the potential 2005 recipient. Candidates for the award must demonstrate that their research shows the promise of leading to a significant contribution to the practice of surgery and patient safety. Nominations for the award are accepted at any time. For more information about the criteria and selection process for the award, go to www.facs.org/cqi/src/jacobson.html.

Philanthropist

The Promising Investigator Award is just one of many educational activities and honors that Dr. Jacobson and his wife Joan have funded. By donating so much of his financial resources to surgery, Dr. Jacobson said he hopes he is leading by example. "We surgeons, all of us, should feel obliged and privileged to give back," he added.

The other award that the ACS presents through his generosity, the Jacobson Innovation Award of the American College of Surgeons, honors living surgeons or surgical teams who have developed a novel surgical technique.

The College is not the only entity to benefit from the magnanimity of Dr. and Mrs. Jacobson. They have provided funding for professorships in vascular surgery at Johns Hopkins University School of Medicine, Mount Sinai School of Medicine, and the Hadassah-Hebrew University School of Medicine, Jerusalem, Israel—all institutions where Dr. Jacobson has spent time. These endowments call for vascular surgeons at each institution to participate in monthly shared "rounds" over the Internet. During each session, a surgeon describes a challenging case, and the participants discuss alternative treatment methods. Dr. Jacobson said he started this program to bring the medical centers together and to foster the sort of collaboration that will advance surgical outcomes, research, and education.

The Jacobsons also have endowed a professorship in molecular biology at the University of Toledo and a chair at the Harvard School of Public Health, Cambridge, MA. The latter is currently held by the dean and is intended to promote leadership, teaching, and research for the prevention of disease and

protection of health with an emphasis on these needs in underdeveloped countries.

Furthermore, they have established a program supporting an annual conference on research initiatives in vascular disease sponsored by the Lifeline Foundation of the Society of Vascular Surgery.

Additionally, Mrs. Jacobson has established The Joan Leiman Jacobson Fund for Learning, Writing, and Teaching at her alma mater of Smith College. Founded because of her concern for the quality of expository writing, the program trains both Smith students and teachers throughout the U.S. She believes that the program will also benefit surgery. "If our brilliant investigators, surgeons, physicians, and medical writers can present papers that say what they mean, their advances will be more readily understood and take effect more quickly," she said.

Inventor

Besides being a dedicated surgical educator and philanthropist, Dr. Jacobson continues to have his fair share of "aha!" moments that lead to the development of new products and devices. Currently, he is working on a new principle in shoe design for people with diabetes and other conditions that affect sensation in their feet. The shoe will contain "what amounts to a waterbed," which will help to distribute the weight in the foot and eliminate pressure points resulting in gangrene and amputation, Dr. Jacobson said.

He also is working with a computer company to develop a system that will allow physicians to monitor patients in the intensive care unit (ICU) when they are away from the hospital. An audio-visual unit would be set up next to every bed in the ICU. If a nurse noticed that a patient was experiencing difficulties, he or she could contact the physician, who would be able to check the patient's vital signs and medications and actually see the patient through a monitor, thereby avoiding the uncertainty of making mad dashes to the hospital in the middle of the night.

Another invention that Dr. Jacobson is working on is aimed at helping athletes to avoid heat stroke. The athletes would swallow a "capsule" that telemeters out the core body temperature, which is



monitored by a central computer on the Internet. This computer would then signal the athletic field when a player is approaching a dangerous temperature level.

His inspirations

Dr. Jacobson found his early inspiration in his paternal grandparents. "I was named after my grandfather, who was a surgeon. I never met him. He died before I was born, but I had heard a lot about him and his work," Dr. Jacobson said. His grandmother was the first female graduate of the McGill University Medical School, and she went on to become a prominent member of the medical community in Edinburgh, Scotland. "I come from a great medical family," he noted.

Dr. Jacobson said he continues to find sources of inspiration, mostly in his patients. “If I could give one piece of advice to a young surgeon, it would be to be a humanist. Become friends with your patients. We in medicine have so many opportunities to become friends with really interesting people,” he said.

Music lover

When he’s not busy sponsoring a new program or coming up with his latest invention, Dr. Jacobson can be found attending performances of classical music. Recently, he decided to share his love of classical music with those individuals who are not particularly familiar with the art form.

“I’m targeting the neophyte,” Dr. Jacobson said of *The Classical Music Experience*. The 306-page book covers the works of Giovanni da Palestrina (1525-1594) through Leonard Bernstein (1918-1990) (see photo, page 13). The book includes two companion compact discs of the composers’ works narrated by the actor Kevin Klein.

Perhaps not surprisingly, Dr. Jacobson not only shares biographical information about the composers and his beliefs about why certain compositions are noteworthy, but some medical stories as well. In fact, in the introduction, Dr. Jacobson explains in layperson’s terms how hearing can be damaged by listening to overamplified music, resulting in Boilermakers’ disease.

Dr. Jacobson was stimulated to publish the book after a conversation with a woman who had indicated an interest in learning about classical music, and he was unable to find an appropriate book for her to explore. Additionally, “a patient of mine who is a musicologist and I went to the symphony one night, and they performed a new piece of music. As we were leaving, my friend ran into another musicologist,” Dr. Jacobson said. The two learned men discussed the composition and, out of politeness, asked Dr. Jacobson for his opinion. When he offered a dissenting opinion, his friend (a former patient) suggested that he write a book offering his perspective on music—“that is to say, the view of someone who knows nothing about music,” Dr. Jacobson said jokingly.

In selecting which artists to include in the book, “I just picked composers that I like,” Dr. Jacobson said.

The Classical Music Experience focuses strictly on symphonies and chamber music. Opera, except for Wagner, is omitted. The book is published by Sourcebooks, Inc., Naperville, IL. At press time, it was available only in hardback, but the paperback version should be available within a few months. Additionally, readers will be able to hear the entire musical compositions mentioned in the text by accessing a Web site.

Lasting effects

Dr. Jacobson truly epitomizes the image of a “Renaissance man.” He’s a scientist, an arts aficionado, a philanthropist. His generous funding of two current College awards will no doubt inspire a whole new generation of surgical innovators and investigators.

“It’s said that the mind can do whatever it can conceive,” Dr. Jacobson said. He seems to have based much of his life on that axiom and now he’s giving other surgeons opportunities to bring their visions to fruition. □