



Peter J. Safar, MD

“Father of CPR,” Innovator, Teacher, Humanist

Mike Mitka

PETER J. SAFAR, MD, HAS SPENT HIS career giving life to people. Known as the “Father of CPR,” Safar is credited with helping create the first US intensive care unit and the first paramedic emergency service. His latest research focuses on developing “suspended animation for delayed resuscitation,” which is finding a way to protect the brain and heart of trauma patients in the field through therapeutic hypothermia.

His innovative work in cardiopulmonary-cerebral resuscitation alone would assure Safar an honored place in the annals of medicine. But his life-giving talents are not limited to medical practice and medical research. In his long career, his humanity and respect for people have enriched students, colleagues, and friends; he is a man whose caring soul is perhaps best reflected in his love of music.

Safar summed up his philosophy during his February 28 honors convocation presentation at the University of Pittsburgh, where he has cared for patients, taught, and performed research for the past 42 years.

“Humanism is more than Greek and Latin,” Safar said. “It should mean all that focuses on the goodness in *Homo sapiens*, ranging from the sanctity of human life, to an appreciation of the humanities. These include history, languages, literature, fine arts, music philosophy, the social sciences, and the physical sciences.”

Medicine is a mix of art and science, he said. “Excellence in professional schools is promoted by the humanities, which make life exhilarating.”

AN INQUISITIVE MIND

Many colleagues have seen that humanism and exhilaration in the 79-year-old Safar.

“Safar is constantly inquisitive, wanting to understand everything—and not just medicine or science,” said Samuel A. Tisherman, MD, associate director of the Safar Center for Resuscitation Research at the University of Pittsburgh



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School of Medicine, who calls his colleague and former teacher a Renaissance man.

Tisherman relates a typical “Safar moment” during a taxi ride from the airport to a meeting in the Salt Lake City area. “For the whole taxi ride from the airport, he was constantly asking the driver questions about the Great Salt Lake and the area,” he said. “Everything is interesting to him.”

That interest carries over to his interactions with people, said Patrick M. Kochanek, MD, director of the Safar Center. “If you are ever a friend or colleague of Safar, you are a friend or colleague forever,” Kochanek said.

“Despite the million things he’s involved in, if you have a problem, he will go to bat for you. If you have been his friend—when maybe no one else is your friend—Safar will come and help you,” Kochanek said. “He has no fear. Friendship supersedes all other risks.”

While many of those who know Safar speak of his humanism and humility, he is best known for his career-long devotion to resuscitation medicine.

His choice of medicine as a career was never in doubt. Safar was born in 1924 in Vienna, Austria; both his parents, Karl Safar and Vinzenzia (Vinca) Landauer Safar, were physicians.

“I grew up among a big circle of physicians,” Safar said, who recalls marveling at tissue viewed through his father’s microscope. “My decision to go to medical school was self-evident. My parents were great role models.”

But getting into medical school was not easy at a time when Adolph Hitler’s Germany annexed Austria. Safar—who was not considered “Aryan” by the Nazis because a maternal great-grandfather had a Jewish background—used a few tricks, friends, and understanding officers to avoid being sent to Stalingrad as part of the German forces and entered the University of Vienna Medical School in 1943.

In 1948, Safar went to Yale University to pursue a surgical fellowship. There he made a life-defining discovery.

“While at Yale, I realized surgery would not advance without better life support,” Safar said. “And you learn life support in anesthesiology.”

Safar went on to serve his anesthesiology residency at the University of Pennsylvania. “I loved to give anesthesia,” Safar said. “And I learned that the anesthesiology used in the operating room can be applied effectively outside the operating room. That led to interest in resuscitation inside and outside the operating room.”

THE “A-B-C” SYSTEM

In 1952, Safar and with his wife Eva—whom he married 2 years earlier—moved to Lima, Peru to fulfill a visa requirement. While in Peru, Safar created the first academic anesthesiology de-



partment in that country at the National Cancer Hospital in Lima.

He returned to the United States 2 years later to join the staff of Johns Hopkins Hospital in Baltimore. There he encountered friction; the hospital leadership ruled out creating a separate department of anesthesiology. Safar then moved to the Johns Hopkins-affiliated Baltimore City Hospital, where he founded his second academic anesthesiology department.

Safar's interest in resuscitation outside a hospital turned his attention to emergency aid for people experiencing life-threatening emergencies away from medical settings, including mass disasters. He sought methods that could be taught to laypersons, thus bringing resuscitation medicine into the streets in the form of "life-supporting first aid."

Starting in 1957, he documented steps "A" (airway) and "B" (breathing) in the "ABC" of basic life support ("C" [circulation] was documented by others) and extended the work to include other steps in advanced and prolonged life support. His research methods nearly half a century ago—which Safar said would not be allowed today due to more stringent requirements to minimize risk for research participants—involved using curare (without a tracheal tube) to temporarily stop the breathing of volunteers, to discover the best techniques to clear the airway and to commence breathing through mouth-to-mouth resuscitation (*JAMA*. 1958;167:335-341 and 1961;176:574-576).

PUBLIC HEALTH ADVOCACY

"Safar's public health advocacy in the resuscitation effort was a phenomenal first step—calling the public's attention to assist and intervene when somebody has collapsed on the street or had a serious trauma," said Thomas P. Detre, MD, former senior vice chancellor for the health science at University of Pittsburgh. "People who usually live in the operating room . . . don't venture into the real world—but Peter did."

Safar also realized the need to provide life support around the clock for long periods for comatose and un-

stable patients. As he recalls in *Careers in Anesthesiology: An Autobiographical Memoir, Volume V* (2000. The Wood Library-Museum of Anesthesiology, Park Ridge, Ill): "Our postanesthesia recovery room was not staffed at nights. A specially staffed area was needed, not only for patients still comatose after CPR attempts, but also for patients who had undergone critical operations and still needed controlled ventilation or fluid resuscitation from shock."

And so, in 1958, Safar initiated what many consider the first physician-staffed multidisciplinary intensive care unit in the United States.

While Safar enjoyed his years at Baltimore City, he wanted to create an anesthesiology department at a major university, to teach the next generation of health professionals, and to carry out research. He found that chance in 1961 at the University of Pittsburgh, where he also launched the world's first critical care medicine program training physicians in intensive care.

He also continued to compose national guidelines to improve care outside medical settings, given that many people in a community who experience a medical crisis need help faster than the time it takes to get them to hospitals. That idea gained tragic weight in 1966, when the Safars were in Chicago attending a medical conference. Their 11-year-old daughter, Elizabeth, who remained in Pittsburgh, died after slipping into a coma following an asthma attack. The following year, Safar initiated the Freedom House Enterprise Ambulance Service, which employed the first paramedics drawn from a Pittsburgh inner-city community.

Time hasn't dimmed Safar's passion for research. In recent years, he and colleagues performed painstaking animal studies demonstrating that by rapid, deep chilling of an injured animal with a cold saline solution flushed into the aorta, the animal can be resuscitated an hour or two later with no damage to the brain. Earlier, Safar's group had documented that mild cooling (34°C) after normothermic cardiac arrest in dogs can improve cerebral outcome. The effi-

cacy of that method was demonstrated recently in clinical trials in Europe and Australia (*N Engl J Med*. 2002; 346:549-556, 557-563, and 612-613).

Safar credits colleagues, friends, and other team members who brought new programs to fruition. He also acknowledges the help of his wife Eva in building the department and taking care of the family. One son became a US Army lawyer; the other a music teacher and composer.

A PASSION FOR MUSIC

Safar lives his conviction that a life in medicine is a mix of art and science. When he is not in the laboratory or advocating for resuscitation medicine, he's likely to be recharging his passions through music, playing piano in chamber ensembles. One pleasure is chamber music at colleagues' homes.

"We prepare and rehearse and then start playing in the middle of the afternoon," said Charles Brindis, MD, an anesthesiologist and pianist who has attended and played at several of these gatherings. "Then there's a dinner, and sometimes we get together for classical jam sessions."

While he likes many kinds of music, Safar is particularly drawn to two Austrian composers—Gustav Mahler and Anton Bruckner.

"The creations of Mahler stir your feelings and thoughts to the greatest depths and heights that the human brain can create," Safar said. "And going almost parallel to Mahler is Bruckner, whose creations summon higher powers—God."

Safar's passion for music was also expressed through another art form—ballroom dancing. It was a natural pastime for the Viennese couple, who won Pittsburgh Symphony Orchestra waltz contests.

His love of music, embrace of humanism, and innovative research make Safar special, someone who "has integrated all aspects of culture into his science," said Kochanek. "He is the complete professor—he lives it. He doesn't own a fancy car or suit; he just enjoys life. It's something amazing." □