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Peter J. Safar

Peter Safar died on the 3 August, 2003. He was 79 years old. World-wide, he was known as “The Father of Modern Resuscitation”, but he was more, very much more, than that. When he died, literally thousands of E-mails flashed up on computer screens throughout the world within hours of the event, and the global media produced tributes. Many of us had known that it was going to happen, for he had fought a valiant battle against cancer for 15 months with optimism, courage and fortitude.

The ghastly reality was upon us */there would be no more Peter Safar */a man we respected, admired and, above all loved. The end of an era starkly was upon us. And yet, there will be still more Peter Safar to come, for the concepts and ideas that he was putting forward just a few months before his death have still to be introduced into further research and clinical practice, when that happens we will all benefit. It was ever so.

His curriculum vitae runs to well over 120 pages */no embellishments */simply a list of achievements, together with an enormous list of over 1000 scientific publications.

Peter Safar was born in Vienna in 1924 into a medical family. His father, Karl, was a distinguished ophthalmologist and his mother, Vinca, an accomplished paediatrician. There was never any doubt in Peter’s mind as a child that he would follow a career in medicine. However, his teenage years were clouded by the disastrous economic and political climate of the 1930s. In 1938, Austria was occupied by Nazi Germany and his parents were dismissed from their jobs because his mother was considered “Non Aryan”. Peter was sent into a labour camp in Bavaria, where he was abused mentally and physically and was destined to be drafted into the German Army. “Our generation was trapped. Active resistance was suicidal. . . but I was determined not to go to the front to kill and be killed”. He was saved by his initiative and his eczema which he aggravated by rubbing tuberculin cream in to the sores just before each occasion he was to have a medical examination. Eventually the authorities gave up and he achieved his ambition of starting at the medical school in Vienna in 1943. During his student years he saw the ravages of disease and starvation and the trauma of the battle of Vienna in 1945. These were to have a lasting effect on his psyche and he resolved to try to make the world a better place. He achieved this like no other.

There was one bright spot. In 1947 he met Eva. They shared similar values and a love of music and dancing they fell in love and married in 1950 and spent a lifetime of happiness together. Peter won a surgical scholarship to study Yale in 1949, a year after he qualified as a doctor, and went to the US, the land of opportunity and hope at the time compared with a Europe still in economic and political turmoil. A year later he returned briefly to Vienna, married Eva, and together they went to Pennsylvania with \$5 and four suitcases. There Peter embarked on a career in anaesthesiology, having been convinced that that was the speciality for him. At the time this was arguably the best training centre in the world led by Robert Dripps, Leroy Vandam, James Eckenhoff and Julius Comroe. Because of visa restrictions he went to Peru for a year to teach and support a very rudimentary anaesthetic service there. This was to have a profound effect and he learned that simplicity was no bar to good practice.

Returning to the US he was prevented by the US immigration authorities from working in

Pennsylvania but was allowed to work in Maryland and was appointed to the Johns Hopkins hospital in Baltimore as an anaesthesiology instructor. After a while he could not tolerate the stultifying medico-political atmosphere there with outmoded and uninformed surgical domination and moved to a happier environment across town to the Baltimore City Hospital. There he began his research career and soon became interested in the management of the airway in unconscious patients. He was able to demonstrate that head tilt, chin lift, and if necessary jaw thrust, would achieve a patent airway in almost all cases. A chance meeting with James Elam led to his classic study documenting expired air ventilation involving his medical and nursing colleagues in Baltimore. They had such trust in Safar that they agreed to be sedated and pharmacologically paralysed and subjected themselves to a comparison of expired air versus a manual method (the Holger Nielsen) of ventilation. No one came to any harm and the case for expired air ventilation was made convincingly.

Across town at Johns Hopkins, William Kouwenhoven during his study of defibrillation had, almost by chance, discovered that external chest compressions could produce a passable artificial circulation in cardiac arrest in animals. Together with Guy Knickerbocker and James Jude, they were able to demonstrate that this could be reproduced in humans. Safar put the two discoveries together to form the ABC of resuscitation, or CPR as it came to be known, which has stood us in good stead for 45 years. The concept and technique was readily accepted and introduced around the world and was married up to defibrillation which had been recently re-introduced by Beck, Kouwenhoven and Zoll and was to be further developed by Lown and Pantridge. Safar was fortunate that at this time he met Asmund Laerdal, a toymaker from Stavanger in Norway. A lasting friendship and collaboration was to develop, born of a mutual and philanthropic desire to help their fellow human being and a flare for innovation and invention. With significant contributions from Norwegian anaesthesiologist Bjorn Lind manikins for teaching the new CPR technique, impossible in the clinical environment, were designed and tested. Resusci Anne arrived, a stroke of genius, which has allowed resuscitation to be taught in every country of the world. Ever looking forward, and aware of the work of Bjorn Ibsen in Denmark during the poliomyelitis outbreak there, Safar turned his attention to the longer term application of ventilation and circulation support with the aim of improving cerebral function during critical illness and injury. This was to dominate his professional career for the next 40 years. Moving to the University of Pittsburgh to take up the Chair of the Department of Anaesthesiology in 1961, he built upon his experience in Baltimore and developed an intensive care unit with multidisciplinary participation and training, probably the first of its kind in the US.

Realising that professional pre-hospital care was vital to bridge the gap between bystander CPR and hospital intensive care he set about creating one of the early paramedic services in the US. But he did not do it the easy way. Ever concerned about the underprivileged, and against phenomenal resistance, he selected unemployed black people from an inner city ghetto and, together with Nancy Caroline, trained them to be paramedics. The pilot project, sponsored by the Falk Foundation, was called the Freedom House Ambulance Service. As with most things he did, his tenacity and example prevailed against the odds and that some aspects of this service continues today under the control of the Pittsburgh City authorities.

Tragedy struck in 1966, when his beloved daughter, Elizabeth, always a frail child, died in status asthmaticus, aged 12 years. Her death inspired Peter to develop research into

intensive care and cerebral resuscitation, and encourage organ donation, then in its infancy. Together with Ake Grenvik, he came up with guidelines for brain death which were used by the US Presidential Commission and the Harvard University group.

On the international stage, he was commissioned by the World Federation of Societies of Anaesthesiologists to write a CPR instructor manual in 1968, which blossomed into a booklet in 1982, and a landmark textbook, co-authored by Nicholas Bircher in 1988. In this venture he received substantial help, as always, from Asmund Laerdal. He continued his research into augmenting the meagre blood flow achieved by chest compressions and methods of reversing the dying process, whether this was caused by asphyxia, primary cardiac arrest, exsanguination or pulmonary failure. At this stage he became involved with Negovsky in Moscow and they collaborated on research projects together and he was able to confirm some of the remarkable results that had been achieved in Russia, but which had not been recognised because they had not been published in the western journals. He was almost unique in collaborating with scientists behind the "Iron Curtain" at this time.

In 1979, after much reflection, he decided to relinquish his executive position with the University to devote his academic life completely to research. He founded the International Resuscitation Research Centre at 3434 Fifth Avenue, Pittsburgh on the site of an old coffin (casket) factory. Peter quipped that it was a move from "resurrection to resuscitation". His work output there was prodigious and concentrated primarily on brain metabolism and protection during and after cardiac arrest. He and his group studied the effects of hypertensive fluid therapy, cardiopulmonary bypass, barbiturates, calcium channel blockers and, perhaps most significantly, hypothermia on brain recovery. He just lived to see moderate hypothermia recommended after cardiac arrest.

Throughout his life, he had a profound interest in disaster reanimatology, perhaps stimulated by his experience between 1939 and 1945, but more likely arising from his innate love for his fellow man. He had a horror of the carnage that could be produced by both natural and man-made disasters. A founding member of the Club of Mainz with Rudolf Frey in 1976, he studied injuries arising from earthquakes in Peru, Italy and Armenia. Together with Miroslav Klain and Ernesto Pretto, he was able to show that simple first aid provided by uninjured co-victims had considerable life saving potential probably more than advanced trauma life support. He was elected President of the Club of Mainz, after the tragic death of Rudolf Frey, and has always supported that organisation, now the World Association for Disaster and Emergency Medicine. He was the Editor of the Club's first journal later to become the Journal of WADEM and subsequently Prehospital and Disaster Medicine under the continuing editorship of Marvin Birnbaum in Madison, WI.

Always a pacifist at heart, and a leading member of the International Physicians for the Prevention of Nuclear War, he nevertheless enjoyed cordial relationships (and research support) from the military. He was instrumental in urging the military to divert at least some of their efforts towards humanitarian aid and care of the injured in major disasters.

In 1994 he "retired" from the directorship of the International Resuscitation Research Centre and handed over control to his friend and colleague, Pat Kochanek, who renamed the institution the "Safar Centre for Resuscitation Research" to mark the contribution that not only Peter, but also his beloved wife

Eva had made. In 1988 the Chair of Anaesthesia and Critical Care at the University of Pittsburgh was also named after Peter and Eva.

Peter Safar is a household name throughout the world, not just because of his personal discoveries and research but also because of his inspiration and practical help to friends and colleagues everywhere. We can be grateful that many of the details of his quite remarkable life have been recorded in his autobiography published by the Wood Museum-Library of Anesthesiology. He has been honoured frequently, by many institutions in the US, and by the universities of Mainz, Magdeburg, Campinas, and Vienna. He is an Honorary Member of the European Resuscitation Council, an organisation he has supported since its outset, and was Consulting Editor and frequent contributor for this journal. The European Resuscitation Council Board, Executive Committee, the Editors and Publishers of Resuscitation, and the entire membership of the ERC will mourn his loss.

Above all Peter was a humanist, a romantic and a man of culture. This was shared, and indeed inspired by Eva, his wife of 53 years. He loved art in all of its forms, be it sculpture, painting or music. He was an accomplished pianist and was enthralled by the works of two Austrian composers, Gustav Mahler and Anton Bruckner. He was a skilled ballroom dancer and the sight of him dancing the waltz with Eva in his native Vienna will live with me always. Eva has been a beautiful person at every stage of her life.

He had many, many friends all of whom adored him. He was just so kind and thoughtful. Tore Laerdal told me how he supported and encouraged him when his father Asmund died 22 years ago. He was always one to support the vigour and passion of youth and his friendship endured for ever. "He sent me a message on my birthday and on my father's birthday during every one of those 22 years".

A moving service for family and close friends was held in Pittsburgh on August the 9th. It was orchestrated by Peter and Eva's son Philip, with brother Paul playing his own music, and Peter's close friend Chuck Brindis playing music by Gustav Mahler. Family members read poems and Ake Grenvik, Pat Kochanek and Tore Laerdal gave personal testimonies. The ceremony continued at a country club in the spirit of celebration of a very special life. We will always remember those eyes that sparkled with friendship that is beyond words. . . .

Peter Baskett (on behalf of the Board of the ERC)

Further reading

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