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The History of Anesthesia in Roermond 1940-1945 – A City in a War Zone

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Introduction

In an attempt to find out more about the practice of anesthesia in early years at my hospital, I chanced upon hand-written hospital records dating from 1940 on. The records concerned all hospital admissions for the surgical department. One must bear in mind that in this period, surgeons performed not just surgical procedures, but also orthopedic, urological, gynecological and obstetric procedures. There was no anesthesiologist present until the early fifties. General surgeons were expected to administer anesthetics themselves. In the entire country there was only a small number of "narcologists" and these were limited to the larger cities. The term "narcologist," which was derived from "narcosis," became obsolete a short time after the war.

Background¹⁻²

The city of Roermond, in the Netherlands, which numbered 19,000 inhabitants at the time, is located a mere three miles from the German border. In 1940, tensions at the border were mounting. When the German armies attacked the Netherlands, Belgium and France simultaneously on May 10, 1940, it was clear that no effort would be made to defend the city itself. The entire country was overrun in just a few days.

Toward the end of the war, as the Allies approached, the people of Roermond anticipated liberation in late September 1944. Paris had been liberated on August 25th, Brussels on September 3rd, and the provincial capital, Maastricht, was freed on

September 6th. The allies had approached the city to within 15 miles. In the first week of September, bands of retreating Germans passed through the city with anything that had wheels carrying their wounded comrades, but also booty taken from France and Belgium. Liberation seemed to be a question of days rather than weeks.

At this point, however, the Germans managed to regroup, and established a new line of defense which roughly coincided with the pre-war line of defense known as the "Westwal," also known as the "Siegfried line." The line was adapted to include Dutch territory east of the river Maas. The city of Roermond was now on the frontline for a

period of five months, until liberated by the Americans on March 1st, 1945.³ The northern two-thirds of the country remained in German hands until May 5th, 1945.

The Saint Laurentius Hospital could be described as a small town hospital in the predominantly Roman Catholic southern tier of the Netherlands. Though the hospital has now been secularized, the Roman Catholic Church played a dominant role in the hospital before, during and after the war. Though many buildings in Roermond were severely damaged, the hospital itself remained largely intact apart from shattered windows. The near-

est bomb attack took place on November 6th, 1944, when a house 200 meters from the hospital was demolished, leaving several dead and one severely injured, buried under the rubble, who was admitted to the hospital. After that, all hospital activities were

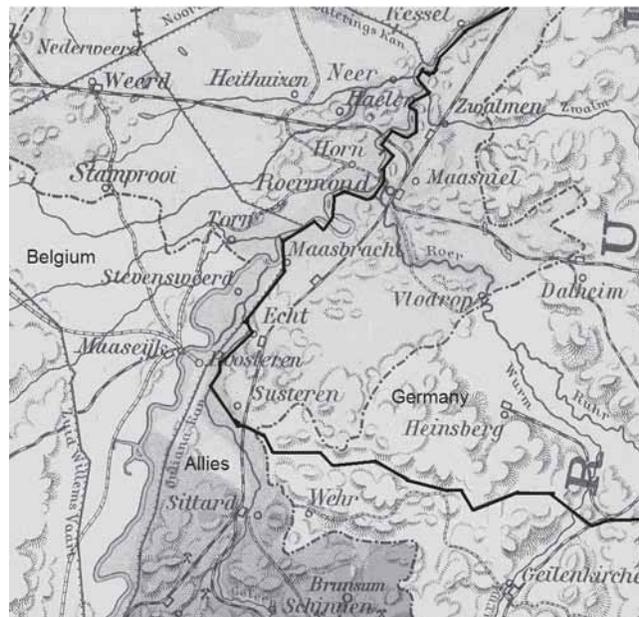


Fig. 1. Map of the Roer triangle, showing positions in October 1944 adapted from a 1931 map.³ The dark line denotes the front. Towns and villages near the front frequently suffered bombing attacks and shelling.

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History at the ASA Annual Meeting October 16-20, 2010, San Diego, CA

Patrick Sim Forum on the History of Anesthesiology

A Traditional Debate: Who Was Most Important for the Profession of Anesthesiology: Beecher, Rovenstine, Waters or Lundy?

Monday, October 18, 2010

2:00 PM to 4:00 PM

Upper Ballroom 25 A-C, San Diego Convention Center

Moderator: David B. Waisel, M.D.

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David B. Waisel, M.D.

Levon Capan, M.D.

Sandra Kopp, M.D.

Corry J. Kucik, M.D.

Mark E. Schroeder, M.D.

Panel on Anesthesia History

Anesthesia Goes to War

Tuesday, October 19, 2010

2:00 PM to 4:00 PM

Upper Ballroom 28 A-C, San Diego Convention Center

Moderator: Douglas R. Bacon, M.D., M.A.

Anesthesia and the American Civil War

Burdett S. Dunbar, M.D.

World War I -- Motorcycles and Gas Machines

Anthony L. Kovac, M.D.

90 Day Wonders - How They Came To Be and Where They Went

Douglas R. Bacon, M.D., M.A.

Lessons from the Gulf

Corry J. Kucik, M.D.

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moved to the cellars and windowless halls of the ground floor.

There was but one surgeon at the time, Dr. W.J. Landman, who took over the surgical practice from Dr. Finaly, who had died in 1939.⁴ The hospital staff included an internist, a pediatrician, an ophthalmologist and an ENT-surgeon. In 1944 a neurologist was added to the staff. There was only one operating theater.

The record books left by Dr. Landman, each contained information about 800 surgical admissions over a period of five to eight months, depending on the number of admissions in a given period. The records were not always complete. Sometimes there



Fig. 2. Saint Laurentius Hospital in Roermond. Photo taken after the war. Courtesy of Laurentius Hospital Museum.



Fig. 3. Ambulance run by nuns. The headlights blackened out. Photo taken during the war in 1942. Courtesy of Laurentius Hospital Museum.

was no information at all except for the name and address of the patient. This was particularly true of members of the clergy, who were afforded a higher degree of confidentiality.

In the majority of cases, the surgeon described the symptoms and the surgical procedure in some detail, and made a brief mention of the type of anesthesia administered. Thus I was able to get an impression of anesthetic techniques employed during the troubled war years.

Methodology

The object of this historical investigation was to get an impression of how anesthesia was practiced in the early forties, and to see what the impact of the war was on medical practice in general and on anesthetic practice in particular. The information provided by the hospital records concerning the first two months of the years 1940, 1942 and 1945, was entered into a database (Microsoft Access). The first two-month period, involved the period just prior to the war. The second two-month

period involved the German occupation period. The last two-month period involved the period when the war was brought to Roermond's doorstep, just prior to liberation and included the evacuation of 80%

of the population of Roermond in the third week of January 1945. These periods were believed to be representative of their respective phases. By choosing the same two months of the year, seasonal influences could be precluded.

Findings

To a modern Dutch anesthesiologist, the findings are quite surprising. We had always assumed that, until the founding of a professional organization of anesthesiologists in 1948, by physicians who had done their anesthesiology training mostly in Great Britain, the practice of anesthesiology was a primitive affair at best, limited to the administration of ether and nitrous oxide.

To our surprise, the most commonly used inhalational anesthetic was described as "chlooraethylaether." Known primarily as ethylchloride in the English-speaking world, (synonymous with chloroethane or

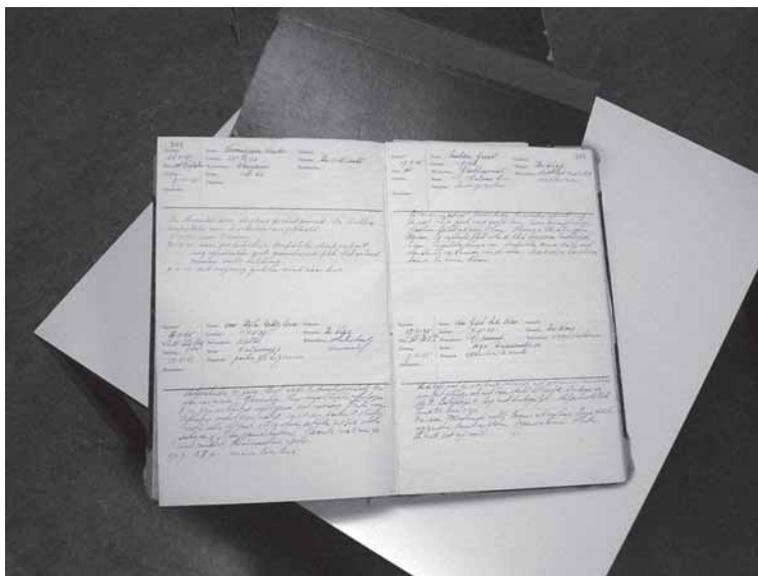


Fig. 4. Hospital record book dating from 1940.

	1940	1942	1945
ethylchloride	21	26	11
methylene chloride	0	0	2
ether	3	1	
nitrous oxide	3	10	1
nitrous oxide +ethylchloride/ether	0	3	0
Evipan (hexobarbital)	14	19	2
Evipan + ether/ethylchloride/N2O	18	8	0
epidural / spinal / caudal block	7	16	4
local anesthetic infiltration	21	58	16
infiltration of fracture hematoma	3	1	0
Scophedal + local anesthetic	0	3	0
Opial	0	1	0
no mention of anesthesia	29	40	12
"anesthesia" no specification	13	17	30
total number of cases	132	203	78

Fig. 5. Table showing types of anesthesia given during the first two months of 1940, 1942 and 1945. In these years 32%, 28% and 54% of the surgical cases respectively, the records revealed nothing concerning the anesthesia, or simply reported "in narcose" [under general anesthesia]. The sharp drop in the number of cases in early 1945 reflects the evacuation of the civilian population in the third week of January.

aether chloraetus), it had been used since 1859 as a topical anesthetic, using its highly volatile properties (boiling point 12 degrees) to freeze skin, rendering it numb. In 1847 Flourens called attention to the general anesthetic properties of ethyl chloride, but the fact was forgotten until in 1894 a dentist noted that while applying ethyl chloride to the gums, his patient fell asleep.⁵

Ethylchloride was marketed in special glass tubes with a pinhole opening covered by a spring cap. Because of its rapid rate of evaporation, it required no propellant. It was administered by spraying or dropped on a gauze mask. Induction of general anesthesia took a mere 30 to 120 seconds. Recovery after cessation of administration took 2 to 3 minutes.⁶⁻⁹

Both ether and nitrous oxide were commonly used, sometimes in combination. Furthermore, hospital records reported the use of *Solvaestin* for minor gynecological procedures. This was a brand name for methylene chloride, which closely resembles chloroform.¹⁰ Its use was men-

tioned only in the final months of the war, perhaps suggesting that other options were in short supply. In the memoirs of the head of the technical service, published in 1985, a report is made of the fact that after December 1944, no more oxygen or anesthetic gases would be delivered until after liberation.¹¹ This would suggest that supplies of nitrous oxide might have been dwindling in the last of the two month periods.

Intravenous anesthesia, which we had always assumed to have been introduced by anesthesiologists after the war, was in full use in the forties. The most commonly used intravenous anesthetic was Evipan (hexobarbital), which was introduced by I.G. Farben in 1931.¹²⁻¹⁷ Its use spread rapidly, and within two years was being used worldwide. It was first mentioned in Dutch medical literature in 1934.¹⁴ The records show that patients were given 6 to 10 cc. depending on the situation. Sometimes, its use would be followed by ethylchloride for maintainance, but with short procedures, it would be used as the sole anesthetic.

On several occasions, the drug Scophedal was mentioned. This was a compound first marketed by Merck in 1928 originally under the name S.E.E., which included oxycodon, scopolamine, and ephedrine. It was considered particularly useful for treating war casualties and was popular with the Wehrmacht doctors.¹⁸ In Roermond, it was used as an adjunct to local anesthesia.

On one occasion the drug Opial was mentioned, as an analgesic used during labor and delivery. Opial is a crude form a morphine containing 50% morphine HCl and alkaloids such as codeine, thebaine, papaverine, and noscapine. This was perhaps similar to Pantopon, marketed by Hofmann-La Roche, which was also a mixture of opioid alkaloids in their naturally occurring proportions.¹⁹

Many procedures, that today would be done under general anesthesia or a combination of general and epidural, were done under local anesthetic infiltration. This includes a large number of procedures done for treatment of peptic ulcers (operation

according to Billroth 2-Ponya). This required considerable skill and patience on the part of the surgeon and perhaps some placidity on the part of the patient. However, the surgeon was also proficient in spinal, epidural and caudal anesthesia. The most commonly used local anesthetic was tutocain (abbreviated as "tuto") in concentrations varying from 0.3% to 1%.²⁰⁻²¹ For spinal anesthesia – generally referred to as "lumbaal" at the time, the drug of choice was hyperbaric percaine. Again this was abbreviated as "perca" and therefore initially not recognized. Percaine is one of the brand names also known as nupercaine, dibucaine or cinchocaine.²²⁻²³ It was still available in eighties and was capable of rendering the patient anesthetic for more than five hours when administered intrathecally. Surgery of the prostate was done by epidural-sacral block, which we today would call a caudal block. Since the prostate was treated by electrocoagulation, the use of highly inflammable volatile anesthetics was prohibited. The same approach was used in one case for treatment of lumbago in a series of three injections of tutocaine.

Other drugs available during the forties were: Prontosil, Pyton (oxytocin), ergometrine, KMnO₄, pituitine, cod liver oil and ointment, DCP (dicalcium phosphate powder) ointment, Baxter (a general term for i.v. fluids), blood transfusion (at the time only ABO blood types were known), anti-Tetanus, adrenaline, Icoral (metaraminol), lobeline (a dopaminergic extract of the lobelia still in use for treatment of nicotine addiction), progesterone (for premature labor) and hydrogen peroxide. Leeches were used to treat thrombosis. Although these are of course not anesthetic drugs, many are used in conjunction with surgical procedures under general or regional anesthesia.

Prontosil, was the brand name for sulfonamidochrysoidine. It was the very first antibiotic drug of the sulfa type, available since the early thirties.²⁴ Gerhard Domagk was awarded the Nobel Prize for Medicine in 1939, but was unable to accept it at the time. (The Nazi government had made it illegal for German citizens to accept a Nobel Prize, since Nazi critic Carl von Ossietzky was awarded the Nobel Peace Prize in 1935). Prontosil could be administered as a tablet, an ointment, or an intravenous injection. Its bright red color betrayed its origin as a clothing dye, and was widely in use in the forties. It was rapidly overshadowed by the development of sulfonamide in France and later penicil-

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lin. Cod liver oil was also widely used as a bacteriostatic solution in contaminated wounds.²⁵ The use of Icoral (metaraminol) and lobeline was limited to a report, where it was given to a new-born child after a difficult breech delivery, that had trouble breathing. Initially there was some improvement, but the child died three hours after birth.

Conclusions

There was no indication from the surgical records, that anesthetic drugs were unobtainable at any time during the war. It is well known that many commodities were in short supply, but apparently medical supplies were given priority. In December of 1944, water and electrical supply failed. A well was dug on hospital ground to replace dwindling water supply. In order to provide heat for the building and hot water for laundering, convoys of horse drawn wagons were sent to the inland harbor of Maasbracht where the Germans had sunk 300 ships. Some were loaded with coal and were still partly above the water line.

At no point is there an indication of mortality associated with anesthetic technique. For obvious reasons, in hospital mortality was at its highest in the last months of the war, when patients were being brought in, in large numbers with gunshot wounds, shrapnel from bombing and shelling and civilians stepping on landmines or entering their own booby-trapped homes after evacuation. Hospital mortality rates went as high as 14% during the autumn of 1944.

During the initial occupation of Roermond, there were no civilian casualties that reached the hospital. This is somewhat surprising in view of the fact that the Germans had suffered several hundred casualties and the Dutch military personnel had several dozen at least. Initially people actually went outside to watch the hostilities.

In September 1944, during the chaotic retreat of the Germans following the liberation of France and Belgium, several German Soldiers were brought in to the hospital for treatment of wounds. Normally military personnel had their own facilities, but an exception was made because of the utter chaos. During the autumn of 1944, several thousand Ukrainians and Poles were brought in as forced labor to work on the defense line south of Roermond. These workers were often treated brutally by the Nazis. About a

dozen of them were treated in the hospital. In March 1945, four Americans were briefly admitted to the Hospital, until transportation could be arranged to their own facilities.

Summary

The Second World War brought much grief to the world. Roermond was at the forefront of the war for a period of five months. Before the war, in this part of the Netherlands, physicians were more attuned to scientific development taking place in Germany than in the United Kingdom. It wasn't until after the war that anesthesiology developed as a separate specialty. The impression that the hospital records give is that anesthesia was practiced at a far higher level than we had always assumed, using a wide variety of drugs and techniques, in spite of the fact that there were no professional anesthesiologists at the time. That high level was maintained throughout the war in spite of all the hardships.

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Pediatric Anesthesiologists Contributions to the Development of Pediatric Critical Care Medicine: A historical interview with John J. Downes

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I visited Dr. John Downes at his home in Philadelphia overlooking Rittenhouse Square last winter for what is to be a series of interviews about the history of pediatric anesthesiology. As one of the founders of the Pediatric Intensive Care Unit at Children's Hospital of Philadelphia (CHOP), John J. Downes, otherwise known as "Jack," has been a native of Philadelphia since 1959, when he trained at the University of Pennsylvania. Dr. Downes and his wife, JoAnn, greeted me warmly at their doorstep, along with their pet dog, Matilda, a charming Australian terrier. Dressed in a navy blue jogging suit, Jack Downes was on his way out for a brisk stroll through Rittenhouse Square, an inner city park overlooking the bustling shopping district of Walnut Street. Thus began our walk down memory lane to an era when studies of fentanyl and respiratory chemoreceptors were performed on medical students and residents, a time when polio was rampant and survival meant spending months in the iron lung. Imagine a period in time when the PACU was converted into the intensive care unit at night, and getting a blood gas required 10 mL of blood! The pediatric intensive care unit as we know it today was non-existent. This was the 1960s!

Many might know Jack Downes as the Chief of the Department of Anesthesiology at Children's Hospital of Philadelphia or the founder of the first pediatric intensive care unit in North America in 1967. Some might know of his contributions to research on respiratory failure in infants



and children or his studies in children with status asthmaticus. However, how many have spent an afternoon walking through the streets of Philadelphia with Jack Downes and asked him how he got to be where he is today? Not many. Like all of us who wake up before dawn and walk into the hospital well before the rest of the city stirs, Jack Downes was once a resident ...

Christine Mai (CM): Dr. Downes, can you tell us about your career and interests in pediatric anesthesia, starting with your background.

Jack Downes (JD): I was born in Pittsburgh, Pennsylvania, but our family moved to Chicago, Illinois, and I grew up in the suburb of Oak Park. I went to the local parish school and had the usual experiences of a middle-class kid of that era in the 1930s-1940s. I then went away to a Jesuit boarding high school in Wisconsin because my folks thought it was better quality than the local Catholic high school. And it was...I got a terrific education there.

CM: Where did you go for undergraduate and for medical school?

JD: I wanted to come home for college, so I went to Loyola University of Chicago for undergraduate school. I chose it because I could stay at home, save the family a lot of money, and earn my tuition. But I also wanted to be on their track team. After a year and a half, I realized I was never going to the Olympics but I might have a crack at medical school if I took it seriously. I went to Loyola for two years, and half way through my second year, I thought about becoming a physician. So I went to St. Louis University for an accelerated pre-medical program and got early admission to Loyola Medical School in September of 1952.

CM: What was your medical school experience like?

JD: Well, I'm looking at it through rose-colored glasses of more than 50 years distance...I found it fascinating. Some things were a bit of drudgery, but I enjoyed my colleagues and the faculty. The school at that time was across the street from Cook County Hospital where we had many clinical rotations. When we got on the clinical services in second year, I knew I had made the right decision because I really enjoyed the challenges. In senior year I took a polio elective that influenced my career. Polio was still rampant during that time. Although I graduated medical school in 1956, and the polio vaccine came out in 1954, there were still terrible residuals from the disease. In fact, a classmate of mine when I was in the eighth grade had died of polio. That really struck me profoundly, so I had an interest in the disease. I enrolled in the polio elective, which included time in the polio respiratory unit. We went to the labs to see how the vaccine was developed, then went to public health clinics and saw how they distributed the vaccine.

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In the polio unit, I saw the iron lung ventilators. The thought occurred to me that there had to be a better way to do this. They had all kinds of problems, particularly in the smaller patients. There were about 20 to 25 patients in the unit, children and adults together. It was pretty tragic to think that most of them wouldn't get out of there. There was no mechanical ventilation care at home; there was no Medicaid or Medicare at that time either.

After medical school, I got married and interned at another county hospital at Indianapolis General Hospital, which was part of the Indiana University system. I had a rotating general internship, and that's where I encountered anesthesia. The Anesthesia Department at the University of Indiana under Virgil Stoelting was an outstanding department, one of the best in the country. Anesthesia was a very sought-after elective. I had to take an extra thirteenth month of internship in order to get it. Loyola graduates who had preceded me encouraged me to learn how to do a spinal, a brachial plexus block, and administer a general anesthetic. I had no idea at the time that I would be interested in anesthesia. I didn't have very good exposure in medical school, so anesthesia was way down on my list of options. I was thinking about obstetrics or pediatrics. As an intern, when I rotated through anesthesia, I thought it was really interesting.

After Indianapolis, we moved to South Dakota in 1957, where I was assigned by the U.S. Public Health Services (PHS). I went into the Indian Health Services for two years, the first being in South Dakota. All men had to serve two years in the military or as doctors in the U.S. PHS. I had a great experience being a general practitioner in South Dakota, in a little town of 2500 people. Delivering babies on your own without the chief resident standing behind you is a terrifying experience when you know that there are no other obstetric services within 100-200 miles, and no one to do a c-section. I worked in clinics that screened for tuberculosis, which was decreasing, but still prevalent. There was infant diarrhea with a few tragic deaths. It was a tremendous experience for a young doctor!

For my second year, I was assigned to a tuberculosis hospital in Tacoma, Washington. The surgeon, Joe Wilson, was an excellent thoracic surgeon. The patients all had tuberculosis and were very difficult to operate on. They were mainly Alaskan natives, although there were some from the

Dr. John Downes and Dr. Christina Mai



Pacific Northwest. At that time, tuberculosis was rampant in Alaska, and we had really sick patients to take care of. I volunteered to be on the surgical service to operate with Dr. Wilson, and that was fantastic. We had a three-bed ICU for patients post-op. That was where I saw positive-pressure ventilators for the first time. We had positive-pressure ventilators that were piston-cylinder driven designed by Ernst Trier Mörch, a Danish-American anesthesiologist at Cook County Hospital (later Chair of the University of Chicago). It was the work-horse at that time for positive-pressure ventilators.

CM: What about the blood gases? How did you obtain a blood gas?

JD: They were done in macro. You needed about 10 cc of blood to run a sample. We didn't have a lab at our hospital, so we had to run it over to Tacoma General Hospital, which was 10 minutes away. John Bonica, the famous man in pain and obstetrical anesthesia, was head of anesthesia at Tacoma General Hospital and had a lab that ran these blood samples. I went over to see what they were doing and saw that they had cumbersome instruments by today's standards, but they were effective. They had a Clarke electrode, pH and a pCO₂ electrode. I wound up using a lot of this equipment the rest of my career.

CM: When did you decide to go into anesthesia residency and where did you go?

JD: I decided while I was in South Dakota that I wanted to go into anesthesia. My wife, our baby, and I took a trip East. I

attended a meeting at Harvard on pulmonary physiology and simultaneously interviewed for anesthesia residency at the Mass. General. I then went to Columbia to interview with (Emanuel) Papper and then to Philadelphia to interview with (Robert) Dripps. I felt that the Philadelphia residency program was the best fit for me, not that there was anything wrong with the other two programs, they were excellent. When I finished in Tacoma, we moved to Philadelphia and I started my anesthesia residency at Penn in 1959.

At the end of my first year in July of 1960, I rotated through Children's Hospital of Philadelphia (CHOP), and I found that fascinating. I found the Chief, Len Bachman, to be an extraordinary teacher. We were doing resuscitation and respiratory care throughout the hospital. During my last month, there was a newborn with a tracheoesophageal fistula on a ventilator that I spent a few nights taking care of postoperatively. Eventually after 4-5 days, the patient got off the ventilator and did fine. That was my introduction to neonatal intensive care.

CM: What were some of your research interests?

JD: I went into research after two years of clinical residency with Chris Lambertson in Penn's department of Pharmacology. When I joined Dripps' residency program, he had an NIH fellowship that committed you to four years (two years clinical and two years research). Based on my research experience in Tacoma, I felt it was something I wanted to do and to learn more about. I finished my two clinical years at HUP (Hospital of the University of Penn-

sylvania), including my two months at CHOP. I then started a two-year fellowship in the Department of Pharmacology where we really were doing research in respiratory physiology, mainly focusing on respiratory control of breathing and hyperbaric medicine. We also did a study on intravenous fentanyl, comparing it to meperidine and its respiratory depression properties. Fentanyl had just become FDA approved at that point. So I had a very interesting two years with Lambertson, who was a fabulous teacher and mentor. This was 1961-1963. I was prepared to do yet another year of research. However, I got a call from Len Bachman. I had told him when I left my rotation at CHOP that if he ever had an opening, I was really interested in going to CHOP. In June of 1963, I started my career at CHOP and have been there ever since.

CM: So when you came on as a faculty member, did you start doing research or were you mostly in the OR doing pediatric anesthesia?

JD: One of the reasons Bachman picked me over other candidates was because of my interest in clinical research, in particular my research on respiratory control in newborns that I had done with Lambertson. While I was working with Lambertson during my research years, I had gone down to Johns Hopkins a couple of days a month to work with Mary Ellen Avery on a project on newborn respiratory control. She introduced me to the world of neonatology. My project with Mary Allen Avery never bore a final fruit because a group in the University of California, San Francisco did a study very similar to ours with an excellent protocol and clear results. Nevertheless, I learned a lot from Avery and her colleagues at Hopkins.

CM: How did your interest in neonatology contribute to your creation of the PICU at CHOP?

JD: During that time, Tom Boggs was the head of neonatology at Pennsylvania Hospital, which was Philadelphia's premier neonatal unit. Tom was very receptive to the idea of my going down to Hopkins and learning more about neonatology. I was interested in respiratory distress syndrome (RDS), mechanical ventilation, and control of acid-base balance and circulation. Almost none of that was being researched except for in a few places such as Toronto

and Boston. For 4 years I spent time with Tom Boggs and his crew taking care of premature newborns with RDS. In the first year we lost all of the babies requiring mechanical ventilation that we cared for. That was kind of depressing. But after 4 years, many babies were surviving short-term mechanical ventilation.

In 1965, I got an NIH grant to study respiratory failure in asthma, bronchiolitis, and pneumonia. With that I got a travel stipend, and I arranged a trip to Paris, Copenhagen, London, and Oxford to visit neonatologists and to study the management of infants with bronchiolitis. I visited a Parisian neonatologist by the name of Joly who had developed a pediatric ICU, which was a 20-bed multidisciplinary PICU in a children's hospital, St. Vincent D'Paul. It was an ancient old building and yet it was absolutely the future! The nuns of St. Vincent D'Paul had established a foundling's home, and that had morphed into a hospital. They had blood gas labs, French ventilators, a post-op cardiac unit, a tracheostomy unit. Now that was impressive! In Oxford, I went to see the adult ICU. I saw neonatal units in London. In Copenhagen, I visited the Rigshospitalet, which was one of the first ICUs in Europe. When I came back to CHOP, I said "this is what we have to do!"

I lobbied for an ICU and Len Bachman was behind it 100%. In fact, he was in the lead, and I was behind him. In 1967, one of the surgeons became president of the medical staff, and he pushed forward the idea. They had to rearrange the ward, and the Chief of Surgery, Everett Koop, and the Chairman of Pediatrics both supported it. So we got it! We got a nice six-bed unit, a blood gas lab right around the corner, and adjacent to the OR on the same floor. The PICU opened in January 1967. That was a great experience, a very exciting time.

CM: When you opened the first PICU at CHOP, can you describe how many beds you had, what machines, monitors or labs you established?

JD: When I went to CHOP, one of the things I brought was my knowledge of blood gases because I had been working on this with Chris Lambertson. From my research with Mary Allen Avery at Hopkins, I learned to limit the amount of blood necessary for a sample. We got it down to less than half a milliliter. We ran this blood gas lab with 24-hour coverage both at CHOP and down at the Pennsylvania Hospital for the neonatal unit. We were pretty well equipped.

We had respiratory therapists who helped set up the equipment; we managed the vents ourselves. We went through a variety of ventilators, but the work-horse ventilator was the Emerson PV-1. It looked like a washing machine, a big thing with piston cylinder. The monitors we had at every ICU bedside were an EKG, an impedance pneumograph, and two pressure channels for arterial or central venous pressure. We monitored temperature with Yellow Spring thermometers, and we had heating and cooling blankets. There was one nurse for every two patients in our six-bed unit. We had room for a seventh bed which was for procedures such as bedside trach or chest tubes, but we could admit an isolation patient to that room.

CM: What were some of the evolutions that you saw in the ICUs over time?

JD: We started out with crude mechanical ventilation; the mortality was about 48%. When we moved to the new hospital 7 years later, the mortality was less than 20%. We saw much better care of the critically ill with respiratory, cardiovascular, and metabolic disorders, such as diabetes. We had patients who were candidates for ECMO, but we didn't have much success initially due to problems such as sepsis or bleeding. We abandoned ECMO until the late 1980s when we had better successes.

CM: Did you have a pediatric anesthesia or pediatric critical care fellowship?

JD: We started a fellowship in 1965. I had a respiratory intensive care fellow as part of my NIH grant and that was Theodore Striker. He was our first fellow. We were very fortunate; we recruited really excellent people. We expanded from 1 to 4 fellows. When we moved to the new hospital we doubled that to 8 fellows. They did both pediatric anesthesia and intensive care. Starting in 1975, Steve Nugent was the first non-anesthesia fellow who trained with us for a year and then went to Johns Hopkins to join Mark Rogers when he developed the PICU.

CM: Where do you foresee the future of pediatric anesthesia?

JD: An expanding population results in a large number of children undergoing sur-

Downes. . . . *Continued from Page 45*

gery, creating an ongoing need for pediatric anesthesiologists. That is going to require continuing expansion of the number of fully trained pediatric anesthesiologists. I think that pain management is still in its infancy, and anesthesiologists are the ideal physicians to develop and lead both inpatient and outpatient pain management services.

CM: Where do you see the fellowship training for pediatric anesthesia going?

JD: I think a certifying examination to qualify the individual as a trained, certified pediatric anesthesiologist will be in the near future. I lobbied with Mark Rockoff from Boston Children's and five other pediatric anesthesiologists to get us formal fellowship recognition by the ACGME. That took us three years. I feel that certification is an important identity marker. I think certification is an important step to solidify the subspecialty among the medical specialties.

CM: What do you think are some of the challenges that our future generation of pediatric anesthesiologists will face?

JD: I think research in developmental pharmacology and physiology are reaching new levels that will be applicable to clinical practice. Research in pediatric anesthesia has not been comparable to that in adult anesthesia because most pediatric anesthesiologists are still very clinically oriented. A few investigators have been trained in basic lab research and clinically applicable animal research. We need to develop more such investigators with training in biochemistry, genetics, and developmental physiology and pharmacology. There are a lot of unknowns when we anesthetize patients. This fear that we are affecting children's mental function, particularly memory, with general anesthetics may or may not be true. We need more than just big surveys. We need to understand how anesthetics affect cell and membrane function inside the developing brain. That is going to take some highly dedicated research. There aren't any quick answers.

CM: One last thing before we wrap this up, Dr. Downes, what are you doing nowadays?

JD: Well, I still am based at CHOP. I have a position as Medical Director of the Ventilator-Assisted Children's Home Program, which is now in its 30th year and is

funded by the State Department of Health. With an outstanding administration director and a team of nurses and social workers, we provide the oversight of the care plans and advocacy for 250 children and families across the state. In my work, we see some pretty complicated social and medical situations that challenge us every day. We recently lobbied successfully in Harrisburg to protect adolescents from losing their funding for home respiratory care as they become adults. In addition, I teach in the Doctoring course at Penn to medical students, and I also have a couple of little research projects. So that keeps me active and I have a good time.

On that note, I ended my day with Dr. Downes. His stories about the first PICU in North America and his extensive experience in neonatology made me question how other pediatric anesthesiologists got involved in newborn respiratory and circulatory care. For instance, what were the early neonatal intensive care units like, what monitors did we use on newborns, and how do you ventilate a 500-gram preemie? For this, tune in next time as I visit Dr. George Gregory, the co-founder of the NICU at University of California, San Francisco.

THE WOOD LIBRARY-MUSEUM of ANESTHESIOLOGY

Prints of watercolors by Leroy D. Vandam, M.D., 1914-2004



Surfside, Nantucket, Circa 1965



Beach Club, Nantucket, Circa 1972



Madaket, Nantucket, Circa 1968

The Wood Library-Museum of Anesthesiology has joined with Dr. Vandam's family to publish three of his best Nantucket watercolors. The reproductions are full size, 14" x 21", printed on heavy acid-free paper, and remarkably faithful to the originals. Prints are \$170 each. \$100 will benefit the LDV Medical Fund for the Cambodian Arts and Scholarship Foundation. \$30 will benefit the WLM.

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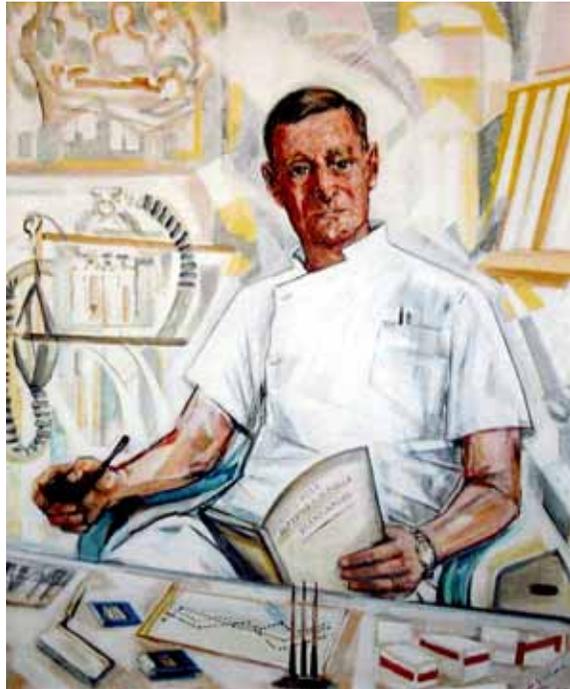
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Remembering Dr. Tosten Gordh, Sr., (1907-2010), Father of Swedish Anesthesiology

By Selma Harrison Calmes, M.D.

Co-Founder, Anesthesia History Association

Dr. Torsten Gordh, Sweden's first professional anesthesiologist, died June 25, 2010, at age 102. Dr. Gordh was an "Aqualumnus," having studied with Dr. Ralph Waters, the father of academic anesthesiology, at the University of Wisconsin from October 1938 to March 1940.¹ Gordh brought the principals of excellent anesthesia from Madison to Sweden, and led the efforts to make anesthesiology a specialty in both Sweden, and Scandinavia. He was an energetic, effective, and endearing leader well-known throughout the world. He was also a wonderful husband and father. His commitment to anesthesiology continued after retirement in 1974. He continued practice until 1988 and frequently appeared at his department to demonstrate ether anesthesia, to teach spinal anesthesia and to give lectures on the history of anesthesia to the students. He kept up with anesthesia practice also, participating in conferences in the department and regularly reading the Scandinavian journal, *Acta Anaesthesia Scandinavica*.



Portrait of Dr. Torsten Gordh; note the journal. Photo courtesy of Dr. John Severinghaus.

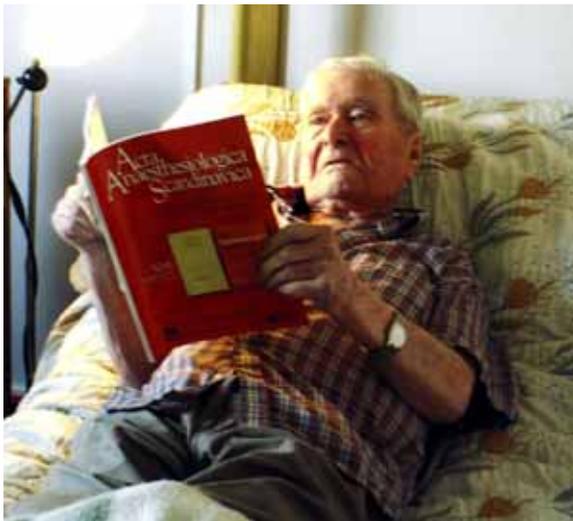
and airways, things he brought from Madison.

From this new position, he led the development of professional anesthesia in the Nordic countries. He focused, as Waters had done, on patient care first, to demonstrate the results of superior anesthesia, followed by teaching and research. He set out to teach doctors, nurses and students what he had learned in Madison, lecturing extensively and writing many articles. In 1945, five years after returning to Sweden, he wrote to Waters:

From July 1st I have the position as 'overläkre'

which means that I am in the same situation as the other heads of different departments and I can now talk about a department of Anaesthesia. Still, I have only one resident, who belongs to the surgical department, but I hope to get a resident of my own at some time. If I did not have extra help from unpaid residents, who spend 6 months for learning and education, I don't think I could manage the work. At least we couldn't have the time to keep the standard so high (as) we wish to.²

He arranged for his three first assistants to also train in Madison. These three, Olle Frieberg (later at the Sabbatsbergs Hospital in Stockholm where thoracic surgery was pioneered), Eric Nilsson (later at University of Lund) and Karl-Gustav Dhunér (later at University of Gothenburg) formed the nucleus for the spread of professional anesthesia throughout Sweden. He also encouraged and supported the efforts of the first anesthesiologist from Finland, Eero Turpeinen. The first Danish an-



Dr. Torsten Gordh in "retirement," reading *Acta Anaesthesia Scandinavica*. Photo courtesy of Dr. John Severinghaus.

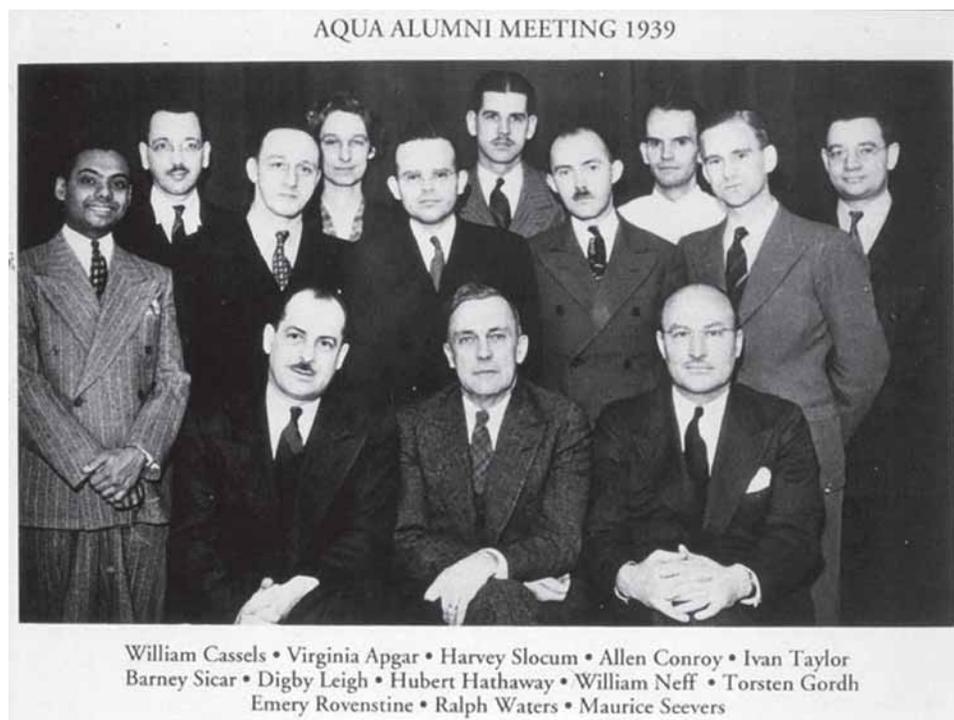
Gordh arrived back in Sweden from Madison on April 8, 1940, the day before Germany invaded neighboring Denmark and Norway. Sweden was already experiencing the effects of war: Finland's Winter

War with Russia, started in November 1939, and Sweden was actively supporting Finland. The invasion resulted in naval blockades of the North Sea by Germany and Great Britain and caused severe shortages of food and fuel in Sweden. Rationing began. Refugees, especially the Jews of Norway and Denmark, flowed into the country and needed economic support, stressing the country's economy.

In these turbulent wartime conditions, Gordh began his work to bring modern anesthesia to Sweden. He was appointed the first—and only—anesthesiologist at the newly opened Karolinska Hospital, Sweden's most prestigious hospital. He was

the only professional anesthesiologist in the country—and the only one on the European continent! His equipment was a Foregger machine, a laryngoscope, a Waters' soda-line canister, endotracheal tubes

Gordh. . . *Continued from Page 47*



The 1939 Aqualumni spring get-together, in Madison, WI. Dr. Torsten Gordh is in the second row, far right. From the Water's scrapbook, Bamforth file, WLM. Photo courtesy of the Wood Library-Museum of Anesthesiology.

esthesiologist, Ernst Trier Mörch, was convinced to enter anesthesia after spending three weeks studying with Gordh in 1942. Somehow, during this very busy time, Gordh found time to support war-torn Finland. He gave anesthesia for wounded soldiers in Helsinki and educated Finnish doctors and nurses in modern anesthesia. He made life-long Finnish friends with these efforts. After the war, he was decorated with the Finnish state medals, "The White Rose of Finland" and "The Finnish Freedom Cross."

Modern anesthesia in Scandinavia began as the result of his work, and the needed

organizations and publications followed. In 1946, the Swedish Anaesthesia Club was founded; in 1951 it became the Swedish Society of Anesthesiologists, the present face of Swedish anesthesiology. In 1949, the Nordic Anesthetic Society was formed, with Gordh as Chairman. This became the present Scandinavian Society of Anesthesiologists, which celebrated its 50th anniversary in 1999. Waters had advised Gordh early on of the need to establish a journal to publish scientific work in anesthesia, and in 1957, the journal *Acta Anaesthesiologica Scandinavica* began.

In the midst of all these organizational and development activities, Gordh managed to generate numerous papers. His PhD thesis, a massive study titled "Postural Circulatory and Respiratory Changes during Ether and Intravenous Anesthesia," was completed in 1945.³ His August 20, 1945, letter to Waters reported its

prompt clinical effect:

I was happy to get a letter from a surgeon soon afterwards. He had read the results in the daily paper after the dissertation and the next day he had a gallbladder case 'dead' on the table. Head-down (position) and oxygen saved the life and he thanked me.²

Gordh also performed and reported the first clinical studies on the new local anesthetic lidocaine, thus introducing this important drug into clinical practice. These original studies were a perfect model of how to investigate a new drug. Gordh focused on lidocaine's use in spinal anesthesia, defining the cause of spinal headaches, how to treat spinal headache and spinal's role in regional anesthesia. To recognize the importance of this work, the American Society of Regional Anesthesia awarded Gordh the Gaston Labat Award in 1977, and the European Society of Regional Anaesthesia awarded him its Carl Koller Medal in 1986.

Torsten's anesthesia career began in 1938 when he was the youngest surgical resident for noted Swedish surgeon Gustav Söderlund. The youngest resident was traditionally assigned to give anesthesia, in spite of knowing little about it. Swedish surgeons had traveled to the USA and Great Britain and had seen that anesthesia was a recognized specialty and that anesthetic techniques were improved. Visiting surgeons from abroad thought Swedish surgery was good, but anesthesia was bad! Söderlund wanted improved anesthesia in Sweden and asked Gordh if he would like to specialize in anesthesia, not yet a specialty in Sweden.

Fortunately, the noted British anesthesiologist Michael Nosworthy (1902-1980) was visiting Stockholm and a meeting was arranged. Nosworthy convinced Gordh (in a six hour meeting) that anesthesia had a great future and recommended training with Ralph Waters, because residents actually did cases in Madison, as opposed to just watching cases in England. Nosworthy facilitated this by writing Dr. Waters, who was a friend. A fellowship from the Scandinavian-American Foundation paid for travel expenses.

Gordh experienced at Madison the best education in anesthesia possible at the time. In addition to doing cases



Demonstrating ether anesthesia to medical students, 1982.

Source: Dr. Torsten Gordh, July 1999 Bulletin of Anesthesia History.



With a Swedish pike. Photo courtesy of Dr. John Severinghaus.

using newer techniques such as closed systems, there were weekly case presentation meetings, and the physiologic basis of anesthesia and its problems were actively discussed and studied. Other future leaders of anesthesia were in the department also, including Noel Gillespie, Virginia Apgar, Ivan Taylor, Digby Leigh, Bill Neff, and Emery Rovenstine, in addition to Dr. Waters. After Gordh finished training in

March 1940, he took a trip around the U.S. to visit other places where modern anesthesia was developing, for example Los Angeles where Dr. Arthur Guedel was then located.

Throughout his work in Madison and Sweden, Gordh's endearing personality charmed everyone he met. How did this characteristic come to be? He was the oldest of six children and was born in Örebro, in the middle of Sweden directly west of Stockholm. The family moved often because of his father's work as a surveyor. These moves were to small towns around the very large Lake Vänern in central Sweden. This was (and still is) a rural region, with small towns, numerous lakes, extensive forests and peasant farms. An outdoor life was naturally part of his childhood and continued to be an important part of his later life; being outdoors seemed to rejuvenate him. Torsten early on learned to ski, skate and boat. In 1935, with three friends, he made a 500-mile cross-country ski trip through Scandinavia, above timberline. His father was a hunter, so Torsten also learned to hunt and enjoyed hunting most of his life. In fact, he even shot a moose when he was 80 years old! His boat, Picasso, was kept at the Gordh summer house on the Baltic coast and was used nearly every day in the summer, especially after his retirement, and it gave him great delight. During school, he also played soccer, bandy (a ballgame on ice, similar to ice hockey) and gymnastics. He was especially proud of his gymnastics achievements.

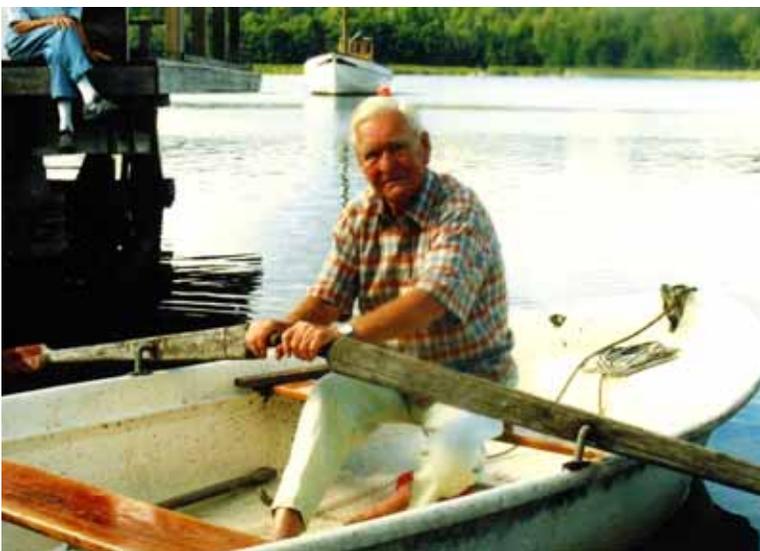


Dr. Torsten Gordh and close friend Dr. John Severinghaus, in Sweden. Photo courtesy of Dr. John Severinghaus.

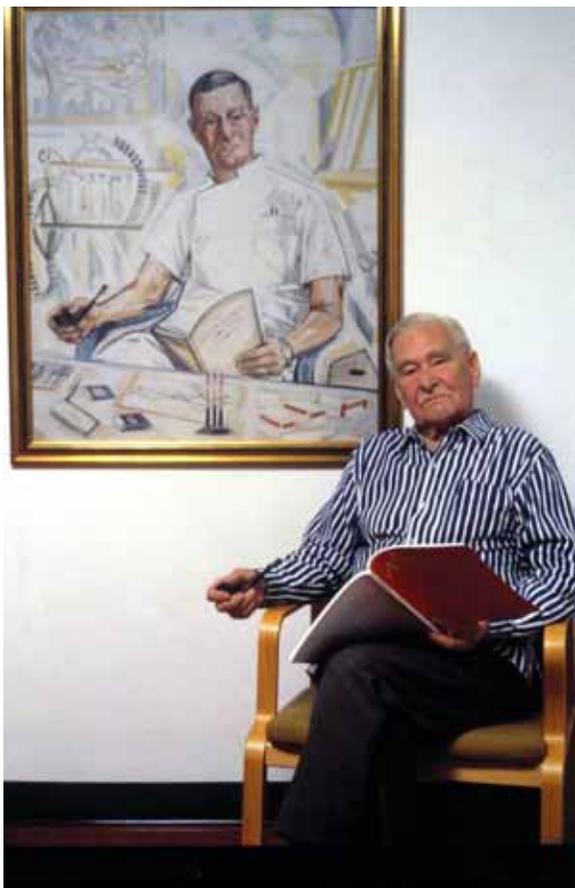
After high school (gymnasium) in 1926, he decided to study surveying, like his father. He needed some advanced math classes at Uppsala University but soon found "it wasn't his thing." In 1927, he entered the Karolinska medical school. His inspiration was most likely his uncle Axel Gordh, a district doctor in western Sweden, who he admired. (Axel Gordh died at age 43 from an infection acquired from doing an autopsy.) His mother's wishes also played a role. She had always wanted her son to become a doctor. Loans from friends and relatives paid his way through medical school.

At about age 12, his life-long interest in magic tricks began. A traveling circus run by "Brazil Jack" (Trolle Rhodin) came to town. Torsten was chosen from the audience to be the "assistant" to help the magician; he was to be hypnotized and would do strange things. The "hypnosis" act went on—after "Brazil Jack" whispered to Torsten to do exactly as he was told! "Brazil Jack" followed with some magic tricks, and Torsten's long career as a magician of close-up tricks began. He first trained himself and eventually became a member of the Swedish magic circle. His performances were dearly loved by all who saw them: children at parties, guests at dinners and attendees at the Scandinavian anesthesia meetings. And, it was clear Torsten delighted in performing and entertaining. Matches, handkerchiefs, sugar cubes, apples and playing cards were his tools.

It was because of his magic that this author met Torsten. Of course, I knew his name from his work with lidocaine but never thought we would meet. At the International Symposium on the History of Anaesthesia in London in 1987, a cruise



Rowing at his summer home, 1992. Photo courtesy of Dr. John Severinghaus.

Gordh... *Continued from Page 49*

Dr. Torsten Gordh in his 100th year. Photo courtesy of Dr. John Severinghaus.

on the Thames River was an evening social event. On board ship, I saw a crowd gathered around a small, energetic man doing



magic tricks. Eventually I learned it was Torsten and somehow we, along with his wife Ulla and later son Torsten Jr., and various other relatives, became friends. Perhaps it was my Swedish “connection”—my family was from the same area in which he grew up. Whatever it was, our friendship lasted until his death, and I was able to enjoy all the Gordhs in such places as Australia (for the World Federation meeting in Sydney) to their home in Stockholm. The extent of Gordh’s friendship was demonstrated when the horrific events of 9/11 took place: that day, he called my hospital office to express his sadness and then followed up with a written note. This was a unique response among my friends from other countries, and I will never forget it.

After his father’s death, his son, Dr. Torsten Gordh, Jr., an anesthesiologist at Uppsala University in Sweden, thought of the inscription on Robert L. Stevenson’s tombstone:

The sailor is home,
Home from the sea.
And the hunter
Is home from the hill.

And so he is now “home.” Another thought comes from Torsten Sr.’s childhood dream while under ether anesthesia for an ENT operation. He said “he saw himself as a cowboy flying, and playing with the angels in the heaven.” I for one hope he is living that particular dream now, becoming a flying cowboy playing with the angels—and no doubt with Ralph Waters also.

His memory will live on, marked by various physical reminders such as a lecture hall named for him at the Karolinska University Hospital on his 100th birthday,

Torsten and Ulla Gordh at home, 2003. Photo courtesy of Dr. John Severinghaus.



Photo courtesy of Dr. John Severinghaus.

and an annual lecture, funded by friends, colleagues and industry on his retirement in 1974 from his position as first chair of anesthesiology at the Karolinska. His many friends, colleagues and his family (daughters Elisabet, Gunilla and Josefina, and son Torsten Jr, who follows his father’s path as an anesthesiologist at Uppsala University and as an active researcher in pain; wife Ulla died in 2005) will continue to tell the tales of Torsten Sr., who made such an impact on our specialty and on all who knew him.

Dr. Gordh’s son, Dr. Torsten Gordh, Jr., of Uppsala, Sweden, gave essential help for this article, and this could not have been written without him. Dr. John Severinghaus, a long-time friend of Torsten Sr., provided the pictures. Dr. Mark Schroeder of Madison, WI, gave information on living Aqualumni. Tack vare dem!

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Lewis H. Wright Memorial Lecture: Roger Eltringham, M.B.Ch.B., F.R.C.A., to Present 'Anaesthesia for All'*

By Susan A. Vassallo, M.D.

Chair

Lewis H. Wright Memorial Lecture Committee
Wood Library-Museum of Anesthesiology

The Lewis H. Wright Memorial Lecture is sponsored annually by the Wood Library-Museum of Anesthesiology (WLM) and honors its namesake who was a pioneer in American anesthesiology. Dr. Wright was committed to enhancing the stature of anesthesiology as a clinical science and as an advanced medical specialty. He was a founding member of the WLM Board of Trustees and later served as its president emeritus. In 1973, the New York State Society of Anesthesiologists endowed this lectureship to honor Dr. Wright, who died the following year.

This year's distinguished guest is Roger Eltringham, M.B.Ch.B., F.R.C.A., Consultant Anaesthetist at Gloucestershire Royal Hospital, Gloucester, United Kingdom. Dr. Eltringham was born in Hampstead, London; shortly thereafter, the German bomb blitz of 1940 prompted his family to move to Kent in southeast England. He planned to become a physical education instructor but changed to a medicine major rather late in the curriculum. Dr. Eltringham received a medical degree from St. Andrews University in Scotland in 1964 and completed anaesthesia training at Bristol and the University of Colorado in Denver. In 1971, he became a Fellow of the Royal College of Anaesthetists (F.R.C.A.). Dr. Eltringham was appointed to two significant positions in 1974: Consultant in Anaesthesia and Intensive Care at Gloucestershire Royal Hospital and Medical Advisor to the Gloucester Rugby Football Club. He assumed responsibility for teaching programs and exchange rotations in overseas universities. His medicine and sport careers continued for decades in Gloucester, and this is the city that anchored his travels around the world.

Dr. Eltringham was elected to the Council of the Association of Anaesthetists of



Roger Eltringham, M.B.Ch.B., F.R.C.A.
Photo courtesy of Dr. Eltringham.

Great Britain and Ireland in 1980. He joined the International Relations Committee and served as Chairman from 1982-86. In this role, he responded to requests for help in creating curricula for anaesthesia education in overseas departments. He also provided guidance on selection and maintenance of anaesthesia equipment. Eventually, Dr. Eltringham "took to the road" and visited departments and hospitals to assess the challenges faced by developing countries. He gave lectures, tutorials and gentle advice to our colleagues who had limited resources.

For his years of dedication and generous service, Dr. Eltringham received the Pask Certificate of Honor Award in 1995. The Association of Anaesthetists of Great Britain and Ireland bestow this honor to recognize outstanding contributions.

The WFSA

The World Federation of Societies of Anaesthesiologists (WFSA) was founded in 1955 with the mission statement *to make available the highest standards of anaesthesia, pain treatment, and resuscitation to all peoples of the world.*¹ A refresher course for anaesthetists in Africa seemed like an ideal initiative; in 1987, Dr. Eltringham was elected Chairman of the Inaugural Refresher Course of the WFSA and the first course was given in Nairobi, Kenya. Dr.

Eltringham was a member of the WFSA Education Committee from 1988-96, and the success of the refresher course program came from his hard work and willingness to travel. In the 1990s, courses were held in other parts of Africa, the South Pacific and Asia. Since then, he has participated in 60 refresher courses in 41 countries — quite a worldwide tour.

In 1996, Dr. Eltringham was appointed Chairman of the WFSA's Publications Committee. The journal *Update in Anaesthesia* was introduced in 1992 by World Anaesthesia, and WFSA support for the expansion and distribution of the journal increased during Dr. Eltringham's tenure. The goal of *Update in Anaesthesia* is to provide current advice on practical problems to anaesthetists who have limited access to formal anaesthesia literature. Twice a year, the journal is distributed in print, and electronic issues in English, French, Spanish, Mandarin and Russian have been accessed in 134 countries. Dr. Eltringham served as the Vice-President of the WFSA from 2004-08, and he is recognized as one of its key leaders.

The Glostavent:

One of the most frustrating common difficulties noted by anaesthetists in developing countries is the lack of reliable equipment. State-of-the-art anaesthesia machines were donated at great expense, but they were nearly useless without electricity, an oxygen source and skilled biomedical engineers. In the end, simpler anaesthetics were really safer in austere conditions.

The development of the Glostavent is a superb example of ingenuity, persistence and engineering skills. In 1991, a colleague, Dr. Manley, designed and built in his garage a gas-driven ventilator, which he named the Manley Multivent. This unit was basic, economical and was intended for use in the developing world. Dr. Eltringham spent many evenings in Dr. Manley's company chatting about potential environments for this anaesthesia machine. In 1993, the ventilator was used

*Lewis H. Wright Memorial Lecture: Roger Eltringham M.B.Ch.B., F.R.C.A., to Present 'Anaesthesia for All' is reprinted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, Illinois 60068-2573.

Wright. . . *Continued from Page 51*



Photo courtesy of Diamedica Engineering.

clinically with oxygen cylinders as the power source for ventilator function. When Dr. Manley died, Dr. Eltringham continued adapting the Manley Multivent at the Gloucestershire Royal Hospital, and in 1994 an oxygen concentrator was incorporated to power the Manley Multivent. By 1997, the oxygen concentrator and the Manley Multivent were combined into a single unit and the apparatus was called "The Oxyvent." Copyright infringement concerns prompted Dr. Eltringham to change the name to "The Glostavent." He felt strongly that the appellation should reflect the city where it was developed; he was also the medical officer for the Gloucester Rugby Club, and the machine was named after the city's Rugby Team! (See figure above.)

In Dr. Eltringham's words, the Glostavent was based on the "principles of simplicity, reliability and economy." The oxygen concentrator serves two purposes: a source of oxygen for the patient and a source of pressure to power the ventilator. There is a reserve oxygen cylinder and a draw-over breathing system for inhalation anesthesia. The machine can provide safe and inexpensive anesthesia in the absence of oxygen cylinders or electricity, or even both simultaneously. Field trials in 20 iso-

lated hospitals in sub-Saharan Africa caught the notice of Diamedica, an engineering company in Devon that assumed the development and production of the Glostavent in 2003. The Glostavent is now used in 35 countries throughout Africa, Eastern Europe, Asia and South America. A 10-kilogram portable version packaged in a container the size of small suitcase has been used in military environments and in early-2010 Haitian earthquake relief missions.

This year's Wright Memorial Lecture is titled "Anaesthesia for All." The talk will highlight some of the practical problems that have hindered the progress of anesthesia in the poorest parts of the world. Dr. Eltringham will describe how certain efforts to provide help have been unfruitful and even counterproductive. His decades-long work with the WFSA has shown him that successes often occur when realistic expectations are set, when waste is minimized, when self-reliance is encouraged, and when long-term assistance is given to countries who truly can benefit.

The WLM is honored to have Dr. Roger Eltringham as the 2010 Lewis H. Wright Memorial Lecturer. He has inspired us with his commitment to providing educational and technical guidance to anesthesia centers in developing countries. His WFSA refresher courses and development and distribution of *Update in Anaesthesia* have served as didactic resources for thousands of clinicians who have limited access to formal anesthesia training. Dr. Eltringham's vision to design and produce anesthesia equipment for colleagues practicing in austere conditions succeeded with his invention of "The Glostavent." He has helped us to understand why assistance efforts in developing countries sometimes fall short of their goals. It is still disappointing to consider how many people in the world have minimal anesthesia services.

As the WFSA celebrates its 55th anniversary, it is fitting that we reflect upon the achievements in anesthesia made by those people working in harsh environments. We thank Dr. Eltringham for sharing his knowledge and skills with those less fortunate than us and for providing a practical solution to an anesthesia challenge. Throughout his career, he has encouraged local caregivers to develop the skills to solve problems at the ground level and to rely upon their own good sense. In Dr. Eltringham's words, they are an example to us all.

References available upon request from

communications@asahq.org.

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Ether Frolic: The Day Pain Stopped*

By Iris Mónica Vargas, M.S.
Cambridge, MA

Remember to get the weather in your god damned book—weather is important. That's what Ernest Hemingway wrote John Dos Passos in 1932. A century earlier, John Collins Warren already knew this lesson well.

His diaries—fragile, yellow pages that look as if they had crystallized underneath a thick cover—always begin in the same way. In each day's entry, written from 1844 to 1846, he specifies three crucial items: the temperature, the pressure, and the direction of the wind.

On the morning of October 15, 1846, it was sixty degrees, with winds blowing from the West. Warren, a senior surgeon at the Massachusetts General Hospital, which he had helped found, spent an hour at the medical school at Harvard where he dismounted a Mastodon bone. After attending two important uterine cases, Warren went to Brookline to attend to his greenhouse, possibly to pick a variety of delicious pears and berries. That night he went to sleep very late. This day would be of no relevance were it not for the fact that it precedes the next.

October 16, 1846, hailed a happy hour: on that day pain was conquered at the top of the Bulfinch building, at MGH, in the city of Boston. This round room was later christened the Ether Dome, a room that earlier filtered the horrific cries of the unfortunate, subjected to surgical procedures without anesthesia.

Some surgeons at the time still regarded surgery as an inferior part of their profession, and themselves as little more than armed savages—a remnant of the previous century when country practitioners, if lacking their usual instruments, did not hesitate to sharpen a cheese knife and borrow a carpenter's saw to get through an amputation of an arm or a leg.

The novelist Fanny Burney left the most poignant description of what it was like to undergo a mastectomy in 1810. "...when the dreadful steel was plunged into the breast ...the air that suddenly rushed into those delicate parts felt like a mass of minute but sharp and forked [daggers]...."

**Originally published online in SCOPE (The Student Publication of the Graduate Program in Science Writing at MIT). Reprinted with permission from Iris Mónica Vargas, M.S.*

Some patients, worn out by desperation and fear of surgery, committed their own deaths. Others, such as veterans of the Napoleonic campaigns, refused to subject themselves to any comforts—what they called the refuge of cowards—choosing pain over comfort proudly. In 1789, a physician named Ebenezer Hunt subjected himself to the operation of a cancerous tumor near his ear by Dr. John Warren, father of John Collins Warren, without any painkillers, bearing every stroke of the knife while sweating profusely down his cheeks but never uttering a shriek nor even flinching.

Such was the reason that would have made October 16, 1846, a memorable entry in Warren's diary. On that day, he probably underwent the services of his barber for half an hour, as was customary. Dressed in his "colored" coat with metal buttons, a waistcoat, boots, and long breeches—daily cleaned—he probably would have arrived at the hospital early to prepare for his operation, the first surgical operation to be performed under the influence of sulphuric ether.

Warren had been approached by a dentist named Morton with the request that he try an operation using a new anesthetic preparation he had supposedly discovered. Morton said this mysterious substance, when inhaled, allowed a surgeon to "regulate at pleasure" the time at which a person remained asleep. Warren, having been assured that the vaporized liquid would be harmless, agreed to employ it in the operation of Gilbert Abbot.

To the surprise of Warren and the other gentlemen present, the patient didn't shriek, although at times he did move his limbs and is recorded to have uttered "extraordinary expressions" indicating pain. Upon waking up, however, the patient assured everyone he had not felt any pain at all.

On October 16, 1846, it was sixty degrees and the wind was coming from the south. That morning Warren went to the Medical College to make experiments on the renovation of decayed bones with glue. In his diary entry he describes in two sentences the most agreeable properties of such glue. He records the operation he later performed in two more. He calls it "interesting," and doesn't say more.

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Anaesthesia and Intensive Care Cover notes book



Each issue of *Anaesthesia and Intensive Care* has a historical photo or photos on the cover. Drs Rod Westhorpe and Christine Ball also write a cover note for each issue, detailing the advancement, discovery or period to which the photo relates.

These cover notes have attracted worldwide interest since they first appeared in the journal in 1984, prepared by Dr Gwen Wilson. On numerous occasions, the authors have been asked when the collected cover notes might be published.

It has now been proposed to produce a high quality, hard cover book containing over 100 cover notes and photos from the last 20 years. The indicative subscriber price will be A\$60 plus postage.

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Calling all Friends of the WLM Exciting Ways to Become Involved this Year!

Editing: The John W. Pender Archive of the Living History of Anesthesiology could be done at home or at the museum.

Development: Volunteers who are willing to contact potential donors to consider a gift to WLM in their will.

Archives: Organizing their own or a revered friend's archives and bibliographies of important anesthesiologists.

Welcome Docents: For the ASA and other WLM formal exhibits.

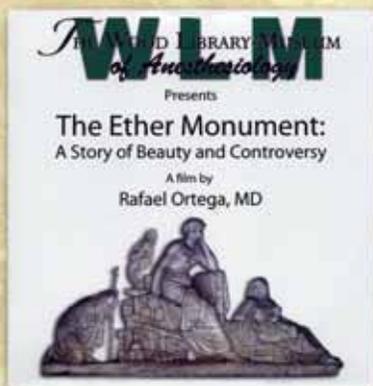
Special Projects: Acquisition of targeted books, personal archives and memoirs, and identification and acquisition of museum objects of special interest.

THE ETHER MONUMENT: A Story of Beauty and Controversy

A film by Rafael Ortega, M.D.



In October 16, 1846, the first successful public demonstration of ether anesthesia took place in Boston, Massachusetts. As one of the most important achievements in the history of medicine, inhalation anesthesia heralded the end of surgery as agony and revolutionized medical care worldwide. This documentary explains the significance of the monument celebrating this extraordinary event and strives to inspire future generations to preserve this magnificent work of art.



DVD – 22 minutes \$27.50

Recently reviewed in *Anesthesiology*, 2009; 111(5):1171-1172.

"...a delight to watch and leaves the viewer with a desire for more."



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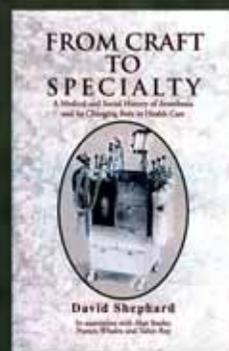
ANESTHESIOLOGY

From Craft to Specialty: A Medical and Social History of Anesthesia and Its Changing Role in Health Care.

By David Shephard, M.D., in association with Alan Sessler, M.D., Francis Whalen, M.D. and Tuhin Roy, M.D. Thunder Bay, Ontario: York Point Publishing, 2009. Copies distributed by the Wood Library-Museum of Anesthesiology, Park Ridge, IL.

Price: \$35/hardcover; \$24/paperback.

From Craft to Specialty is a medical and social history of surgical anesthesia, from long before the advent of "modern" clinical anesthesia in 1846, to the present day. Dr. David Shephard's volume provides an insightful narrative of the development and evolution of anesthesiology from a craft to a discipline and, finally, to a medical specialty. Appealing to a wide audience, those who embark on this historical adventure will be rewarded with a deeper appreciation of how advances in our specialty effected vast changes in health care.



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The C. Ronald Stephen Resident Essay Contest

The Anesthesia History Association (AHA) sponsors an annual contest for the best essay on the history of anesthesia, pain medicine or intensive care. This contest is open to all residents and fellows in anesthesiology. The purpose of the contest is to promote interest in the history of anesthesia and to advance professionalism in the specialty. Additionally this contest offers residents and fellows the opportunity to present their paper at a national meeting and to publish the results of their research. The Resident Essay Contest is named for Dr. C. Ronald Stephen, an anesthesiologist, who was a revered teacher, researcher, clinician and anesthesia historian. Dr. Stephen died at age 90 in 2006.

The essays must be written in English and be approximately 3,000 to 5,000 words in length. Judging will be in two stages. In the first stage the finalists will be chosen. These finalists will be announced at the AHA dinner meeting during the American Society of Anesthesiologists annual meeting. From these finalists, the winners will be chosen on the basis of both content and delivery during the spring meeting of the AHA. All the finalists will present their papers in a session of the AHA attended by a panel of judges. The panel of judges will make their final decision based on originality, appropriateness of topic, quality of the research, and delivery. Because the final judging will be at the time of the presentation at the spring meeting of the AHA, all who enter must agree to attend the meeting at which the presentations are made. Essays must be submitted by the 10th of September 2011, in order to be eligible for presentation at the spring AHA meeting of the following calendar year. If not received by that date they will be considered for the next year's contest.

The first, second, and third place winners receive \$500 \$200 and \$100 respectively. Awards will be made during the AHA spring meeting. The three winners are required to submit their essays to the peer-reviewed Bulletin of Anesthesia History for possible publication.

To enter, essays should be sent to:

William Hammonds, MD, MPH
Professor, Department of Anesthesiology and Perioperative Medicine
Medical College of Georgia
1120 15th Street
Augusta, GA 30912
whammonds@mcg.edu

**Entries must be received on or before
September 10, 2011.**

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