

Dr. Robert Devloo: A Pioneer in Cardiac Anesthesia

Peter Southorn, M.D.



Dr. Robert Devloo (photo courtesy of Ms. Marilyn Crawford)

Our department has benefited from its unsung heroes: people who never sought the limelight but who made significant contributions to the specialty. One such person is undoubtedly Dr. Robert Devloo. Today a remarkable, spright 89-year-old gentleman, he retains his inquisitiveness, intellectual curiosity, and delightful self-deprecating sense of humor that was evident during his pivotal career in establishing anesthesia for cardiopulmonary bypass and cardiac surgery and at the Mayo Clinic.

From Belgium, the outbreak of World War II found him as a newly qualified medical doctor doing his national service in the Congo. He promptly joined the exiled Belgium government's army medical corp and saw service with it over the next six years, being decorated several times. His unit was based in the Far East, principally in India and Burma. Becoming interested in improving the quality of anesthesia given to wounded soldiers, he sought and obtained basic training in this field by attending a course put on in Calcutta. Today, he recalls that in the hot climate, diethyl ether was largely useless, and chloroform was far preferable.

After the war, he decided to specialize in anesthesia. To accomplish this, he came to the Mayo Clinic in 1948 as a fellow in anesthesiology. Following his three years of training, he served as a research assistant to Dr. Harry Beecher at the Massachusetts General Hospital for two years and then returned to the Mayo Clinic in 1953. Here he soon joined colleagues Drs. Robert Patrick, Emerson Moffitt, and Richard Theye as part of the pioneering group drawn from multiple disciplines establishing cardiac surgery. The head of this program was cardiac surgeon Dr. John Kirklin; certainly somebody who was authoritarian, appreciated competence, and did not tolerate mistakes. In

Bob, by all accounts, he found his ideal anesthesiologist—bright, self-disciplined, hard working, and totally dedicated. Nobody spent more hours in the operating suite than Dr. Devloo. What little spare time he had was also usually devoted to improving patient care. In this quest, he often employed his lifelong fascination with mathematics, physics, and electronics. To this day, people remember his work at that time quantifying the patient's acid-based changes. He was by nature a perfectionist and expected no less from his residents. Dr. Jack Michenfelder recalls that as a resident, he once requested that he not work with Dr. Devloo given his demanding nature and his practice of never letting anybody take a break. Later residents, such as the author, found that they could get around the latter problem by deliberately spilling a small quantity of blood on their scrubs. Bob hated slovenliness and, on seeing the blood, would immediately send you out of the operating room to get changed. Dr. Devloo has always praised the outstanding work of his CRNA colleagues. Led initially by Curly Crofton and Bernie Gillies, they would often spend hours manually ventilating the patient's lungs in the early days when mechanical ventilators in the operating room were not available. The dedication and work of the early perfusionists and monitoring technicians was also critical to the success of the whole team. Today, Dick Finley, head of the monitoring technicians, remembers Dr. Devloo with affection and recalls how Dr. Devloo, having pioneered percutaneous arterial catheterization, taught him how to do the procedure.

When Dr. Devloo retired in 1980, his colleagues honored him by establishing the Devloo Award to be given to the student who graduated top of the nurse anesthesia training program each year. Perversely to what would appear sensible to most of his friends, Bob and his wife, Dr. Anna Blancquaert, Professor of Pediatric Cardiology at the University of Ghent, would

spend their subsequent summers in Belgium and return each winter to Minnesota. They enjoyed art and music and became avid travelers. Whenever in Rochester, Bob continues his advocacy for studying, and the library

remains a good place to find him. Today, his mind is as sharp as ever, and his insightful comments on a paper or article are still very much valued. He is truly an inspiration to all of us.

The First Human Demonstration That Intrathecal Opiates Produce Pain Relief

Peter Southorn, M.D.

In 1979, Anesthesiology's Drs. Josef Wang and Lee Nauss together with Dr. Juergen Thomas from Neurology first reported that morphine injected intrathecally relieved severe incapacitating pain secondary to cancer. The following is an account of the people involved and the events that led to this landmark study.

Lee and Joe joined the department in 1974, and with the encouragement and support of our then chair, Dr. Richard Theye, established the Pain Clinic. To permit Joe to pursue his interest in pain research, Dick Theye prevailed upon Dr. Frederick Kerr who directed Neurosurgical Research to provide Joe with laboratory space. In 1976 Drs. Tony Yaksh and Thomas Rudy in Madison, Wisconsin, reported that opioids injected intrathecally in rats produced pain relief with this being antagonized by naloxone. On a site visit to Madison in 1975, Fred Kerr learned about their studies, began trying to recruit Tony, and encouraged Joe to pursue their line of inquiry here at Mayo. Joe first confirmed their findings including their observation that the intrathecally applied morphine produced no adverse toxicological effect on the spinal cord. Given this, IRB permission was obtained in 1977 to study whether such intrathecally applied morphine could help patients with intractable pain secondary to malignancy involving the lumbosacral plexus. One of the reviewers of the proposed study was Dr. Sheila Muldoon. She was the first to suggest that preservative-free morphine be used for intrathecal injections to reduce the risk of spinal cord injury but such a preparation was unavailable at that time. Juergen Thomas's role in this study was to

examine each patient carefully to ensure that indeed no neurological injury occurred. Patients were enrolled, and they received on a double-blinded crossover basis either 0.5 or 1 mg of morphine intrathecally or a saline placebo control. With the morphine, each patient experienced dramatic pain relief with this lasting on average 20 hours in duration. Lee recalls that he administered the first dose of intrathecal morphine. Apparently, he immediately became unblinded as to the nature of the injection he had given when the patient began to cough vigorously once his pain, which had previously prevented him coughing, disappeared. Dr. Peter Wilson, a resident in the Pain Clinic at that time and still very active in the field, also remembers giving some of the intrathecal injections.

The paper* reporting these findings made the perceptive suggestion that the pain relief achieved by this means could be possibly sustained for long periods if the morphine were administered from a drug reservoir into an implanted intrathecal catheter. It also made the suggestion that the pain relief afforded by this means might find value in treating postoperative pain and that associated with childbirth. We can all be proud that this study emanated from our department. It and a study from Israel showing epidural morphine had a similar efficacious effect, also published in 1979, have had a profound impact on our practice. Of interest, Tony Yaksh did come here to work with Fred Kerr in 1977. While at the Clinic and then subsequently in San Diego, he has continued his groundbreaking basic science studies which have contributed so much to our understanding of the mechanisms of pain and its management.

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