

In Memoriam


**In Memoriam: Dr. Jorge Antonio (“Tony”) Aldrete
1937-2025**
Kenneth D. Candido, MD¹ and Ricardo Plancarte Sanchez, MD²

Professor Jorge Antonio “Tony” Aldrete, 1937-2025, was a pioneer in anesthesiology and pain medicine, having led a distinguished career spanning more than 5 decades. Originally interested in creating pathways for the first liver transplant surgeries conducted in the world at the University of Colorado while working with the world’s leading transplant surgeon, Dr. Thomas E. Starzl, he was credited with developing the Aldrete Scale to determine fitness for discharge from the post-anesthesia care unit which has been adopted worldwide. In the 1970’s, Tony turned his attention to local-regional anesthesia and pain management. He was one of the first to implement use of ultrasound-guidance to assist in the performance of nerve blocks. He utilized ketamine for the management of painful conditions before it became widely adopted. Along with Professor Ricardo Plancarte Sanchez from Mexico, he studied superior hypogastric plexus block and ganglion impar block for chronic pelvic pain. He was an early proponent for the use of epidural analgesia with continuous catheters for managing chronic radicular pain. Scientific evaluation of the dural sac and epidural space after surgery and trauma led him to develop a comprehensive protocol for diagnosing and treating arachnoiditis, and he created a foundation for the exclusive study of this chronic condition. Dr. Aldrete published more than 300 scientific papers in English and Spanish, more than 105 textbook chapters in medical texts, and was the editor of 16 unique books dedicated to anesthesia and pain management. He died in Florida on January 12, 2025.

Affiliations: ¹Chicago Anesthesia Pain Specialists, Chicago, IL, USA; ²Department of Pain Clinic National Institute of Cancerology Mexico, Mexico City, Mexico

Conflict of interest: Each author certifies that he, or a member of his immediate family, has no commercial association (i.e., consultancies, stock ownership, equity interest, patent/licensing arrangements, etc.) that might pose a conflict of interest in connection with the submitted manuscript.

Free full article:
www.painphysicianjournal.com

TRIBUTE

Professor J. Antonio “Tony” Aldrete was the second of 2 famous physician sons born to parents Joaquin and Carmen Aldrete on February 28, 1937, in Mexico City (DF). The parents owned a travel agency in Mexico City, and both brothers were exposed early on to the glamour and excitement of national and international travel. His older brother, Joaquin Salcedo Aldrete had been born one year earlier, on March 2, 1936. Older brother Joaquin became a famous physician and surgeon in the United States, specializing in transplant surgery, where he conducted numerous kidney and liver transplants, including performing the first 20 liver transplant procedures done in the Southeastern United States. Joaquin spent some 30 years at the University of Alabama in Birmingham, attaining the academic rank of Professor and Vice Chairman of the Department of Surgery before he retired from medicine in 2000. He produced more than 100 scientific articles and was considered a pioneer in the field of advanced transplantation surgery. He died at the age of 87 on May 4, 2023, some 20 months before Tony’s death on January 12, 2025.

The younger Aldrete, Tony, followed closely in Joaquin’s footsteps, earning a Bachelor of Science Degree from the University of Mexico, and one year after his brother did so, his MD Degree from the University of Mexico, School of Medicine in Mexico City. Like his older brother, Tony looked to the United States for his advanced training and took an internship in Flint, Michigan at St. Joseph’s Hospital, before pursuing a residency first in surgery, following in the footsteps of his brother, at Mercy Hospital in Denver (1961-1962) and Charleston General Hospital in West Virginia (1962-1963). While in his surgery residency, Tony became fascinated by the work of his colleague anesthesiologists and from 1963 to 1965 he trained as an anesthesiologist at University Hospital in Cleveland. He gained his anesthesia training from 1965-1966 at the University of Colorado Medical Center in Denver, immediately making an international impact by leading the liver transplant program for the anesthesiology department. He

became a Fellow of the American College of Anesthesiologists in 1965 and was certified by the American Board of Anesthesiology in 1967, while also earning an MS Degree from the University of Colorado in Boulder. Always interested in pain mechanisms and therapies, Tony earned an Added Qualifications in Pain Medicine when the examination was first offered in 1993, becoming one of the first physician anesthesiologists to be so designated. From 1972 to 1978, Tony was an examiner for the American College of Anesthesiologists.

His career exploded in the 1970's and 1980's. He was Director of Anesthesiology at the Denver Veteran's Administration Hospital from 1966-1980. Tony was on the Faculty of the University of Colorado after completing his anesthesia residency until 1980; serving on many important committees including Chairing the OR Committee (1975-1980) and being the Director of OR Services during that same time period. It is no coincidence that Tony took an interest in transplantation surgery and anesthesia management of those patients, having an older brother who was destined to become the preeminent liver transplanter in the Southeast. Tony worked on the transplant team with Dr. Thomas E. Starzl, the genius who pioneered and who performed the first 200 human liver transplants (1963 first case and first successful liver transplant in 1967), creating anesthetic pathways to safely guide the first 180 liver transplantations performed. His liver transplant anesthetic protocol was widely adopted and copied worldwide. "Few anesthesiologists had the skills or the determination to handle these difficult cases," according to Starzl. Dr. Starzl is noted on PubMed to have 1,796 citations, by far the greatest volume of peer reviewed work in medical history. We find the first notations of the world famous "Aldrete Score" for assessing post-surgical patients in 2 presentations he delivered in 1971; first in Chihuahua Mexico on August 7th, and later in Uruguay on October 11th ("Factores que Influyen la Hipoxemia Postoperatoria," and "Método de Valoración de Pacientes Después de la Anestesia," August 7, 1971 in Chihuahua; Hospital de Clínicas, Montevideo, Uruguay: "La Escala Aldrete ("the Aldrete Scale") de Recuperación Post-Anestésica," October 11, 1971).

The "Aldrete Scaled Score" for assessing post-surgical patients. A score > 9 is considered reliable to discharge patient.

- a) Activity: 0-2: Unable to move any extremities (0); Able to move voluntarily or on command two extremities (1); Able to move spontaneously or on command four extremities (2).
- b) Respiration: 0-2: Apneic (0); Dyspnea, shallow or limited breathing (1); Able to deep breathe and cough freely (2).
- c) Circulation: BP + 50 mmHg of pre-sedation level (0); BP +20-50 mmHg of pre-sedation level (1); BP + 20 mmHg of pre-sedation level (2).
- d) Consciousness: Not responding (0); Arousable on calling (1); Fully awake (2).
- e) Skin Color: Cyanotic (0); Pale, dusky, blotchy, jaundiced, other (1); Normal (2).

Dr. Starzl's departure from the University of Colorado in 1981 to the University of Pittsburgh corresponded roughly to Tony's plan for moving first to Birmingham and later to Chicago, at that time to become Chairman of the Department of Anesthesiology and Critical Care at the Cook County Hospital, becoming one of the first Hispanics to lead a major anesthesiology training programs in this country and he Chaired the Department from 1986-1988. Previously, in 1973, Tony had been an invited lecturer at the County, delivering talks on anesthesia for organ transplantation and magnesium use in anesthesia, so he was very familiar with the program and its importance in American medicine. Dr. Aldrete was extremely popular at the County, leading innovations in general and regional anesthesia and pain management. His work on low flow and closed system anesthesia, cerebral ischemia, and trauma anesthesia management was inspirational at this point in his career.

By early 1975, according to a detailed review of his curriculum vitae, Tony began to focus heavily on local anesthetics and regional nerve block procedures, while still continuing to promote his work in the postoperative recovery score and transplant anesthesia management. He also studied and lectured extensively on the use of opioid analgesics and ketamine, with his focus being the management primarily of acute pain syndromes and conditions.

During the 1980's and 1990's, Tony served in a multitude of national and international committees. He was a prolific contributor to the American Society of Anesthesiologists, at the VA System, at the University of Miami, at the University of Louisville School of Medicine, and at the Florida Society of Anesthesiologists, among others. He also served on numerous editorial boards as both a reviewer and as an editor. From 1992-1996 he was an on-site reviewer for pain program accreditation for the American Board of Pain Management. Dr. Aldrete was noteworthy

as having been intimately involved with, among others, the national anesthesia societies of Mexico, Chile, Argentina, Brazil, Spain, Ecuador, and was a frequent participant in several venues at the University of Alabama in Birmingham, where his brother was a veteran surgeon and transplant expert. He led rescue efforts in Mexico and El Salvador after major earthquakes, including the 1985 Mexico City Earthquake that claimed the lives of at least 5,000 people. He assisted the Mexican Red Cross in recovery efforts, and single handedly obtained much needed aid and supplies from the Colorado Medical Society to provide support after the destruction of several local area hospitals. He took educational sabbaticals in Sweden (1980), The Netherlands (1982), and Argentina (1984). He lectured in Beijing and Shanghai, China in 1986 about the use of closed-circuit anesthesia, introducing these novel concepts for the first time to that country. In 1987, he was invited to speak at Illinois Masonic Medical Center in Chicago on respiratory problems after cervical laminectomy. Twenty-two years later, Dr. Candido as Chairman of that Department would bestow upon Professor Aldrete a "Lifetime Achievement Award" acknowledging his 50 years of dedicated service to the worlds of anesthesiology, critical care, and pain management. In the late 1980's, Tony became interested in awareness under anesthesia, and he led the charge towards identifying and preventing this occurrence.

While the early phases of Dr. Aldrete's professional career were clearly focused primarily on transplant anesthesia, which he mastered and became world renowned for, at some point he shifted gears towards the study of common and uncommon acute and chronic pain conditions, becoming a prolific author and educator on conditions of the spine, primarily. One of his earlier pain publications in *Anesthesiology* was a landmark description of the technique of superior hypogastric plexus block, which he pioneered with Dr. Plancarte Sanchez, in the same edition of the journal wherein Dr. Plancarte described his novel approach to Ganglion Impar Block (1990).

Anesthesiology
73:236-239, 1990

Superior Hypogastric Plexus Block for Pelvic Cancer Pain

Ricardo Plancarte, M.D.,* Cesar Amescua, M.D.,† Richard B. Patt, M.D.,‡ J. Antonio Aldrete, M.D.

Blockade of the superior hypogastric nerve plexus was performed for relief of chronic cancer related pelvic pain. The targeted sympathetic nerves lie anterior to the sacral promontory. Twenty-eight patients with neoplastic involvement of pelvic viscera secondary to cervical, prostate, and testicular cancer or radiation injury were treated with neurolytic superior hypogastric plexus block. Sympathetically mediated pain was significantly reduced or eliminated in all cases and no serious complications occurred. Superior hypogastric plexus block is recommended for diagnostic/prognostic and therapeutic purposes in patients with chronic pelvic pain, particularly when pain is of neoplastic origin. (Key words: Anesthetic techniques: hypogastric plexus block. Pain, intractable: pelvic neoplasms.)

viscera *via* the hypogastric nerves and surgical interruption of the hypogastric plexus (presacral neurectomy) relieves a variety of painful pelvic conditions.^{7,10} The frequency of visceral pelvic pain in association with oncologic disease^{11,12} served as a motivation for our group to devise a reliable percutaneous approach to blocking the nerves in this region.

Methods

After informed consent was obtained, superior hypo-

Downloaded from

Incredibly, an unknown fact is that Dr. Aldrete was one of the documented, proven leaders in the recognition and implementation of the use of ultrasound for regional nerve blocks. Credit for who "discovered" ultrasound use for regional anesthesia is something that many would like to adopt; however, it is undeniable that Aldrete was a pioneer in its use. In fact, in 1992, he delivered a lecture on this topic to the American Society of Regional Anesthesia (ASRA) Annual meeting, preempting the commonplace use of ultrasound for this purpose by many years (17th Annual Meeting of the American Society of Regional Anesthesia, Tampa, Florida: "Use of Ultrasound as an Adjunct to Locate Anatomical Landmarks in Regional Anesthesia," March 26-29, 1992). Many in attendance would soon follow in his footsteps, but he was far ahead of even ASRA leadership in introducing these concepts into routine clinical practice. By 1993 he had joined the very first class of American physicians sitting for and passing the ABA Pain Medicine Boards, which documents a paradigm shift in his attention somewhat away from OR anesthesia and towards the management of pain. His documented lectures and publications beginning at this time marked a turning point in his distinguished career away from the OR and transplant anesthesia to local-regional anesthesia and pain management.

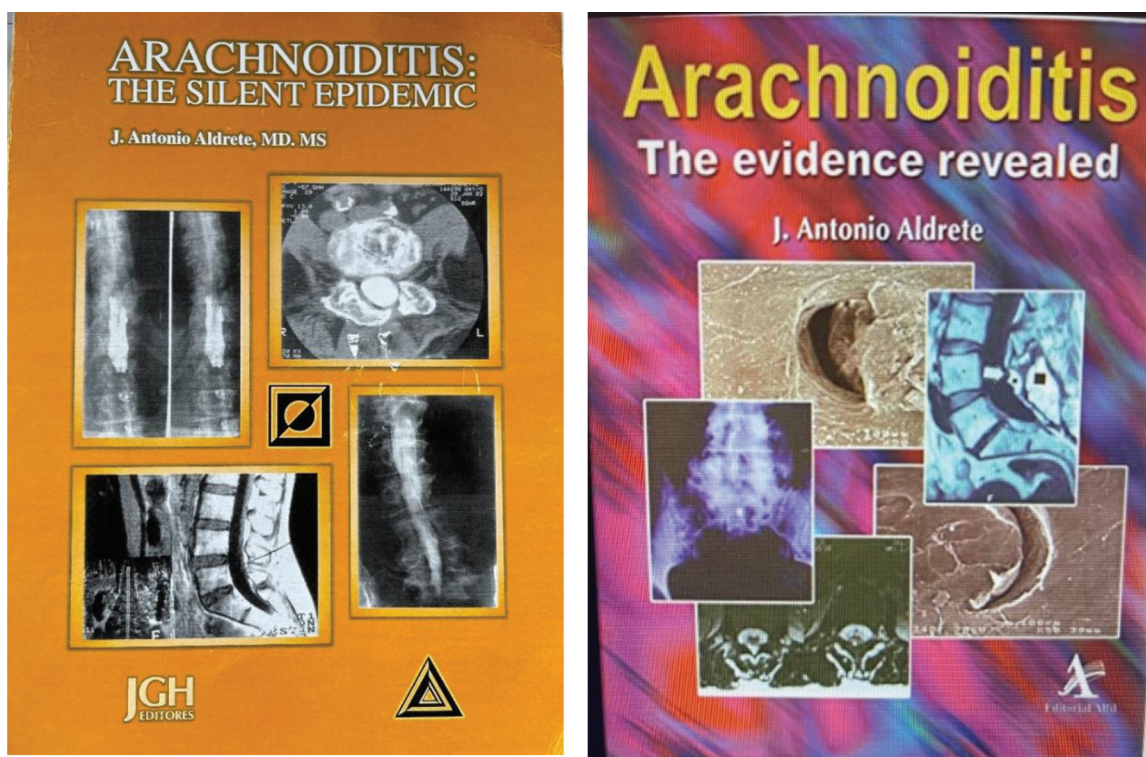


Dr. Candido with Professor Aldrete, 1998 and 2009.



Dr. Candido presents a "Lifetime Achievement Award" to Professor Aldrete (2009).

He studied and spoke about epidural analgesia, post-dural puncture headache and the use of Dextran-40 for this purpose, myofascial pain; cervical radiculopathy treated with catheter insertion for long-term analgesic administration at home, migraine headache treatment, and in 1993, in what would transform his career once again, epidural fibrosis following chronically implanted epidural catheters. It was here that Dr. Aldrete began his search for the causes of and treatment for the condition of arachnoiditis, which would lead him to an exhaustive investigative research journey, including the publication of 2 textbooks on the subject. His lecture at the American Society of Anesthesiologists (ASA) Annual Meeting indicates his expanding interest in this subject: (Annual Meeting of the American Society of Anesthesiologists, Washington, D.C.: "Epidural Fibrosis Developing in Chronically-Implanted Epidural Catheters," October 9-13, 1993). By 1995, he had become fully enmeshed in studying, lecturing and publishing about arachnoiditis and its treatment. (American Pain Society



Two of Dr. Aldrete's Textbooks on Arachnoiditis (2000, 2010)

1995 Annual Meeting, Los Angeles, California: "Combined Intrathecal-Epidural Block for Severe Low Back Pain from Arachnoiditis," November 9-12, 1995. American Pain Society 1995 Annual Meeting, Los Angeles, California: "CSF Proteins in Patients with Spinal Arachnoiditis with and without Pain Control by Intrathecal Morphine," November 9-12, 1995). He conducted anatomical studies of the dural sac in laboratory animals and based upon MRI analyses of humans who developed the syndrome. In 2004, the ASA interviewed Dr. Aldrete for their "Living History" segment, a testimonial to his enormous contributions to the specialty and to memorializing his legacy and impact. He also studied the condition of "Failed Back Surgery Syndrome," which included him writing a tome dedicated exclusively to that condition.

Professionally, after leaving Cook County Hospital in 1988, in the 1990's, Dr. Aldrete worked at Humana Hospital in Destin, Florida, and at the Pain and Spine Institute of NW Florida Community Hospital in Chipley. He also founded the Arachnoiditis Foundation in Birmingham, Alabama, and served as a Professor of Anesthesiology at the University of South Florida in Tampa.

His bibliography includes at least 194 PubMed Indexed articles, with many high impact English language publications in journals including *Anesthesiology*, *the Canadian Anaesthesiology Society Journal*, *Anesthesia Analgesia*, *Journal of Trauma*, *Anesthesia*, *Postgraduate Medicine*, *JAMA*, *JADA (dental)*, *Surgical Gynecology and Obstetrics*, *Surgical Clinics of North America*, *Archives of Surgery*, *Surgery*, *Southern Medical Journal*, *Regional Anesthesia*, *Annals of Surgery*, *Critical Care Medicine*, *Clinical Therapeutics*, *Acta Anaesthesiologica Scandinavica*, *Anesthesia & Intensive Care*, *Journal of Emergency Medicine*, *Acta Anaesthesiologica Belgica*, *Middle East Journal of Anesthesiology*, *Journal of Neurosurgical Anesthesiology*, *American Journal of Pain Management*, *Journal of Pain and Symptom Management*, *The Pain Clinic*, *Pain Reviews*, *Pain Digest*, *Regional Anesthesia Pain Medicine (RAPM)*, *American Journal of Anesthesiology*, *Journal of Clinical Anesthesia*, *Practical Pain Management*, *The European Journal and Pain*, and *Journal of The Peripheral Nervous System*. His final indexed publication was in *Pain Physician* from 2012: (Minimally invasive interventional therapy for Tarlov cysts causing symptoms of interstitial cystitis. Freidenstein J, Aldrete JA, Ness T. *Pain Physician* 2012; 15:141-146).

In addition to his prolific peer-reviewed publications, Professor Aldrete also contributed about 100 Spanish language publications across the world and authored about 105 textbook chapters as well.

Professor Aldrete also edited 16 textbooks, in both English and Spanish languages. Below is a listing of his contributions to enduring materials:

- 1) *Malignant Hyperthermia*. Aldrete JA, Britt BA. Grune and Stratton, New York, 1978.
- 2) *Low Flow and Closed System Anesthesia*. Aldrete JA, Lowe H, Virtue RE. Grune and Stratton, New York, 1979.
- 3) *The Hidden Dimension: Emotional Responses and Psychological Responses to Anesthesia and Surgery*. Guerra F, Aldrete JA. Grune and Stratton, New York, 1980.
- 4) *Trends in Intravenous Anesthesia*. Aldrete JA and Stanley T, Year Book Medical Publishers, Chicago, 1980.
- 5) *Texto de Anestesiología Teórico-Práctica*. Aldrete JA and Associate Editors. Editorial Médica Salvat Mexicana de Ediciones, S.A. de C.V., Mexico City, Mexico. Vol. I, 1986.
- 6) *Texto de Anestesiología Teórico-Práctica*. Aldrete JA and Associate Editors. Editorial Médica, Salvat Mexicana de Ediciones, S.A. de C.V., Mexico City, Mexico. Vol. II, 1990.
- 7) *Cost of Anesthesia*. Aldrete JA. Mediglobe SA, Fribourg, Switzerland, 1990.
- 8) *Tratado de Algiología*. Aldrete JA. Ciencia y Cultura Latinoamérica, S.A. de C.V., Mexico, 1999.
- 9) *Manual de Anestesia para Laparoscopia y Toracosopia*. Aldrete JA Ciencia y Cultura Latinoamérica, S.A. de C.V., Mexico, 2000.
- 10) *Arachnoiditis: The Silent Epidemic*. Aldrete JA. FutureMed - CCL, Denver/Mexico, 2000.
- 11) *Cefalea, migraña y algias cefalocervicales*. Aldrete JA. Editorial Alfil – Mexico City, Mexico, 2003.
- 12) *Analgesia posoperatoria y futuro del manejo del dolor*. Aldrete JA, Amescua García CA. Editorial Alfil – Mexico city, Mexico, 2003.
- 13) *Texto de Anestesiología Teórico-Práctica*. 2ª edición. Aldrete JA. Manual Moderno – Mexico City, Mexico, 2003.
- 14) *The Human Factor in Anesthesia and Surgery*. Aldrete JA. FutureMed - CCL, Denver/Mexico, 2004.
- 15) *El factor humano y la atención al paciente durante la anestesia y la cirugía*. Aldrete JA. FutureMed - CCL, Denver/Mexico, 2004.
- 16) *The Failed Back Surgery Syndrome*. Aldrete JA. Corpus Editorial y Distribuidora, Rosario, Argentina, 2006.

Dr. Tony Aldrete died on January 12, 2025, in Florida, after a prolonged neurological illness. He spent the last several years of his life supported by his loving wife of 35 years, Valentina.



Professor Aldrete and wife Valentina on his 69th birthday in 2006.

In Memoriam

His contributions to the science of anesthesiology and pain management are undeniable. He was by all accounts a genius and innovator; an inspirational, and at times polarizing figure in the landscape of acute and chronic pain diagnosis and treatment. His revolutionary use of ultrasound for nerve blocks preceded its common application in clinical practice. His discovery of conditions of the spine associated with surgical trespass and pain interventions leading to scarring of the dura and epidural space contributing to arachnoiditis were preeminent. His versatility in leading early American liver transplant anesthesia was enough to consider him an enduring figure in American medicine. His Aldrete Score was sufficient to elevate him to a status of immortality. The intellectual curiosity that propelled him, mid-career, in pursuing pain mechanisms and treatment are unrivaled. The world lost an iconic mentor and scholar; one who touched the lives of trainees and clinicians across continents and languages. A pioneer unmatched in his productivity and impact, he shall not be forgotten for the foreseeable future.

Dr. Aldrete is survived by his wife Valentina, and his children, Dr. Jorge Aldrete (internist in Mexico City), Dr. Andrés, Ana and Laura, and his grandchildren, Dr. Sol del Mar (infectious disease specialist, Milwaukee), José Manuel, Dr. Jorge Camilo, Winona, Olimpia, Roman, Aracelia, Alex and Aristides, and his great grandchildren, Camila, Constanza and Scott.

Both Drs. Plancarte and Candido consider themselves privileged to have contributed to publications and textbook chapters as invited authors at the behest of Professor Aldrete.



The authors, Drs. Kenneth D. Candido and Ricardo Plancarte Sanchez, in 2021 and 2023.

