

In Memoriam: Robert Hawes Bartlett (8 May 1939 – 20 October 2025)

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Received 5 November 2025. Revised 10 November 2025.

Accepted 12 November 2025.

How to cite:

Soynov I.A., Kornilov I.A. In Memoriam: Robert Hawes Bartlett (8 May 1939 – 20 October 2025) [Translated from the Russian original published in *Patologiya krovoobrashcheniya i kardiokhirurgiya = Circulation Pathology and Cardiac Surgery*. 2025;29(3):58–60. (In Russ.)]. *Circulation Pathology and Cardiac Surgery*. 2025;29(3):69–71. <https://doi.org/10.21688/1681-3472-2025-3-69-71>

Funding

The study did not have sponsorship.

Conflict of interest

The authors declare no conflict of interest.

Authors' contribution

All authors made a substantial contribution to the conception of the work, acquisition, analysis, interpretation of data for the work, drafting and revising the work, final approval of the version to be published and agree to be accountable for all aspects of the work.

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Abstract

Robert H. Bartlett (1939–2025) was an eminent American surgeon and scientist, widely recognized as the “Father of ECMO” (extracorporeal membrane oxygenation). His clinical and research work brought revolutionary changes to intensive care and surgical practice, directly contributing to the survival of more than 100,000 patients worldwide. Beginning his efforts to improve membrane lungs in the early 1970s, Bartlett achieved the first successful clinical applications of ECMO in adults (1971) and in neonates (1975). In 1989 he founded the Extracorporeal Life Support Organization (ELSO), which today unites over 750 centers in 66 countries. His research was continuously funded by the U.S. National Institutes of Health for 54 years – a remarkable record in medical science. Beyond his scientific achievements, Dr. Bartlett was an outstanding mentor, humanist, and cultural figure. His legacy continues to shape standards of critical care and to inspire new generations of clinicians.

Keywords: ECMO; Robert H. Bartlett; intensive care; history of medicine

Without Dr. Bartlett, there would be no ECMO.

Elizabeth Maringer, Board Member, ELSO

20 October 2025 – the medical world lost one of its great innovators. Dr. Robert Hawes Bartlett, a man universally recognized as the father of extracorporeal membrane oxygenation (ECMO). His scientific and clinical work directly contributed to the survival of more than 100,000 patients worldwide, from premature neonates to elderly patients with severe cardiopulmonary failure.

Early life and education

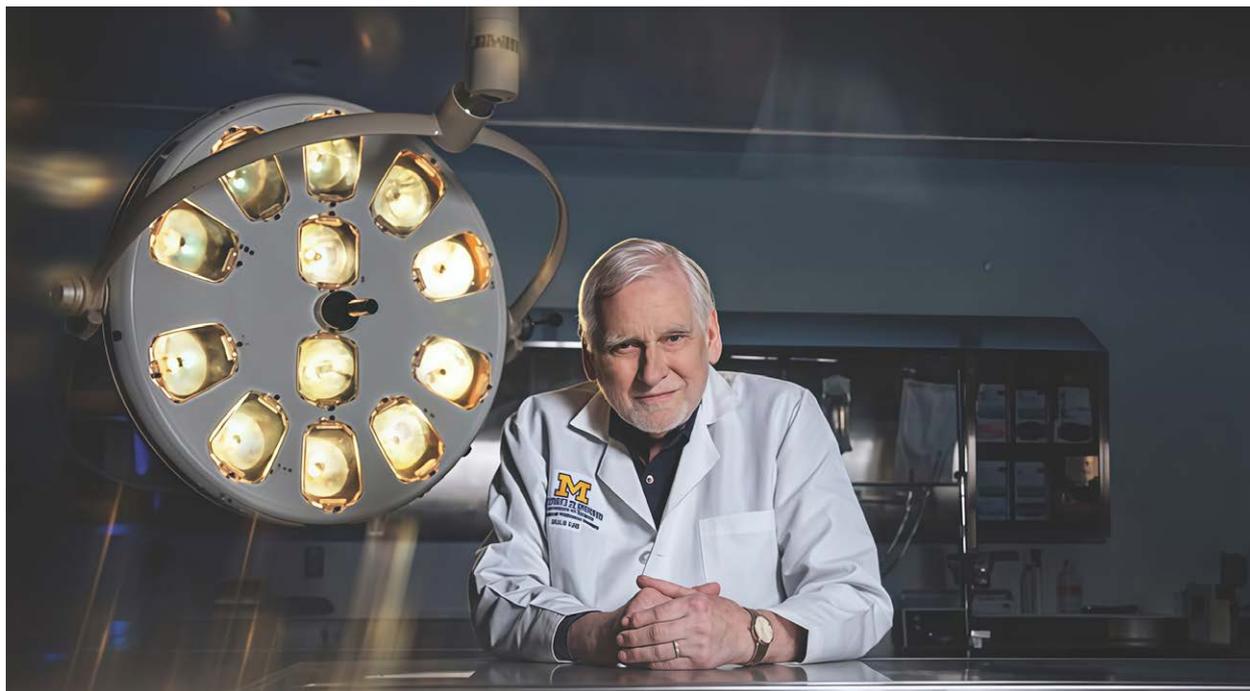
Robert H. Bartlett was born on 8 May 1939 in Ann Arbor, Michigan. After completing secondary school, he enrolled at Albion College (Michigan) where he received his Bachelor's degree in 1960. His outstanding academic performance and determination led him to the University of Michigan Medical School, which he graduated from with honors in 1963. He completed his surgical training at the renowned Peter Bent Brigham and Children's Hospitals in Boston, Massachusetts. Even at this early stage his energy and organizational abilities placed him in key positions: chief resident in thoracic surgery, Arthur Tracy Cabot Teaching Fellow, Harvey Cushing Fellow, and participant in the National Institutes of Health (NIH) academic surgery training program at Harvard Medical School.

The birth of a life's work – ECMO

The story of ECMO in Bartlett's career began with a brief remark by his mentor, Professor Robert E. Gross, who, when asked by the young surgeon whether membrane lungs could be improved, replied: “Maybe you should work on that”. Bartlett took this as a challenge and embarked on systematic efforts to improve the technology for prolonged extracorporeal cardiopulmonary support. In 1970 he moved to the University of California, Irvine (UCI), where he served as Assistant Director of Surgical Services and Director of the Burn Center. There his research gained new momentum. In 1971 the literature recorded the first successful use of ECMO in an adult patient. Four years later, in 1975, the first newborn infant was rescued with ECMO [1]. Because of her extraordinary survival story, the nurses named her Esperanza (“Hope”) [2].

Scientific breakthrough and continuous NIH support

In 1971 Bartlett's research was funded by the U.S. National Institutes of Health (NIH); the initial grant aimed to demonstrate the feasibility of prolonged extracorporeal circulation using a membrane lung for



Robert Hawes Bartlett (Source: <https://www.elseo.org/>)

several days. Remarkably, the NIH continued to fund his projects uninterrupted for 54 years – a record duration in the history of medical research.

Return to Michigan and the founding of ELSO

In 1980 Dr. Bartlett returned to his alma mater, the University of Michigan, bringing his team to establish the Extracorporeal Life Support (ECLS) laboratory. The laboratory remains active today, training up to 100 students, residents, and researchers annually [2]. In 1989 he founded the Extracorporeal Life Support Organization (ELSO), a global professional community for clinicians and scientists engaged in ECMO. Its mission was to unite researchers and clinicians, facilitate knowledge exchange, stimulate research, and advance technology. Today ELSO comprises approximately 750 centers in 66 countries, which convene annually at conferences and scientific meetings to support global collaboration [3].

International recognition Over the course of his career

Dr. Bartlett received the highest honors in medicine, including:

- the Medallion for Scientific Achievement of the American Surgical Association (2002; one of only 30 recipients since 1970);
- the Jacobson Clinical Award of the American College of Surgeons for surgical innovation;

- the Medal of Special Recognition from the National Academy of Surgery of France;
- the Earl Bakken Scientific Achievement Award from the Society of Thoracic Surgeons;
- Lifetime Achievement Awards from the Society of Critical Care Medicine (2019) and from ASAIO (American Society for Artificial Internal Organs) (2024);
- the Ladd Medal and the Robert E. Gross Award from the American Academy of Pediatrics and the American Pediatric Surgical Association. In 2003 he was elected to the Institute of Medicine (now the National Academy of Medicine), and in 2024 he received ELSO's special award, "Gibbon's Challenge Fulfilled", bestowed only once in the history of the organization.

Personality and interests

Dr. Bartlett was not only an outstanding clinician and scientist but also a humanist, mentor, and cultural figure. He deliberately declined patents on some of his inventions, believing that such technologies should serve the benefit of humanity rather than be treated as sources of personal profit. Outside of medicine his life was rich with sport, art, and travel: he played hockey, sailed (especially in his beloved San Juan Islands), performed on the double bass, and was a co-founder of

the University of Michigan's Life Sciences Orchestra. He authored works of fiction as well as numerous scientific papers, and supported student initiatives such as the long-running Galens Smoker variety show. With his wife Wanda, Dr. Bartlett raised three children. He remained devoted to the Ann Arbor community, was an avid supporter of University of Michigan sports, attended Musical Society events, and took an active part in the cultural life of the town.

Legacy

The medical community will forever remember Dr. Robert H. Bartlett as a figure who transformed the history of intensive care. He left behind not only technical innovations and global organizations such as ELSO, but also a generation of trainees inspired by his example [4]. His work continues to save lives every day, and his name will be spoken with gratitude in intensive care units and operating rooms around the world. He was a source of knowledge, optimism, and profound respect for human life.

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