

Remembering Eugene Braunwald: Personal Tributes from the Indonesian Cardiovascular Community



Eugene Braunwald Obituary

Teguh Santoso

Medistra Hospital, Jakarta, Indonesia

The world of cardiovascular medicine mourns the passing of Eugene Braunwald, one of the most influential cardiologists of the modern era. Widely regarded as a founding figure in contemporary cardiovascular medicine, he transformed our understanding and treatment of heart disease and shaped the practice of cardiology as we know it today.

Over a distinguished career spanning more than six decades, Dr. Braunwald made pioneering contributions to the pathophysiology and management of coronary artery disease, heart failure, and acute coronary syndromes. His leadership in major clinical trials helped establish evidence-based therapies that remain the cornerstone of cardiovascular care, saving countless lives across the globe.

As the founding editor of Braunwald's Heart Disease, he educated generations of physicians worldwide. More than a textbook, it became a guiding light for clinicians and trainees, reflecting his clarity of thought and relentless pursuit of excellence. Through his mentorship, he shaped not only careers, but the future of cardiology itself.

Born in Vienna in 1929 and forced to flee Nazi-occupied Europe, his journey was marked by resilience and determination. From those early challenges emerged a physician-scientist of extraordinary vision—one who bridged science and clinical care with rare brilliance.

At institutions including Harvard Medical School and its affiliated hospitals, he built environments where discovery, education, and patient care thrived together. Yet beyond his towering academic achievements, he was admired for his humility, discipline, and unwavering dedication to patients.

Even in his later years, Dr. Braunwald remained deeply engaged in advancing the field he helped create—driven by an enduring curiosity and a profound commitment to improving human health.

His passing marks the end of an era. Yet his legacy lives on—in every catheterization laboratory, every heart failure clinic, and every physician inspired by his work. It lives on in the millions of patients whose lives have been extended and improved through the knowledge he helped bring to light.

In remembering Eugene Braunwald, we honor not only a pioneer of cardiology, but a physician who embodied the highest ideals of medicine: intellect, integrity, compassion, and an unwavering devotion to the care of others. He will be deeply missed, and forever remembered.

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Eugene Braunwald Obituary In Memoriam, Eugene Braunwald, MD, MACC (1929-2026),

A Maestro Who Shaped Modern Cardiology

Muhammad Munawar

Chairman, Medical Ethics Committee

Indonesian Heart Association (PERKI)

The Indonesian Heart Association (*Perhimpunan Dokter Spesialis Kardiovaskular Indonesia, PERKI*) joins the global cardiovascular community in mourning the passing of Professor Eugene Braunwald, one of the most influential physician-scientists in the history of modern medicine. His death on 22 April 2026, at the age of 96, marks the end of an extraordinary chapter in cardiovascular science and clinical medicine.^{1,2}

For many cardiologists of my generation, especially those who underwent residency training in developing countries such as Indonesia during the 1980s, Professor Braunwald was already a legendary figure long before the era of digital medicine. At that time, there was no internet, no instantly accessible online journals, no YouTube lectures, and certainly no overwhelming flow of medical information through social media. Textbooks were not merely educational materials; they were intellectual companions throughout the demanding years of residency and fellowship training.

Two textbooks stood prominently in the education of cardiology trainees during that period: *Hurst's The Heart and Braunwald's Heart Disease*. While *Hurst* emphasized bedside medicine and clinical reasoning, *Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine*, first published in 1978, provided the rigorous scientific foundation of cardiovascular medicine.³ Systematic, comprehensive, and academically authoritative, it became the definitive reference for generations of cardiologists worldwide.³

Although many of us in Indonesia never had the privilege of meeting Professor Braunwald in person or attending his lectures, we came to know him intimately through his writings, scientific contributions, and intellectual leadership.^{1,2} His work shaped the modern understanding of ischaemic heart disease, acute myocardial infarction, heart failure, and cardiovascular therapeutics. His pioneering leadership of the TIMI Study Group transformed the management of acute coronary syndromes and established many of the evidence-based strategies now considered standard of care worldwide.²

Professor Braunwald's scientific achievements were immense. He was among the first investigators to demonstrate the progressive nature of myocardial necrosis and the importance of early reperfusion, laying the conceptual foundation for the principle that "time is muscle."⁴ He also contributed fundamentally to the clinicopathologic and therapeutic foundations of modern cardiology, including the study of valvular heart disease, coronary syndromes, and post-infarction ventricular remodeling.¹⁻⁶

In collaboration with John Ross Jr and colleagues, he contributed to landmark studies of aortic stenosis, ventricular function, and the concepts of afterload mismatch and preload reserve.^{1,5} Their observations demonstrated that the onset of symptoms in severe aortic stenosis—angina, syncope, and heart failure—is associated with a steep decline in survival, thereby defining the need for timely valve intervention.⁵

Braunwald's influence extended beyond pathophysiology to therapeutics and long-term outcomes. Experimental work on infarct size after coronary occlusion helped establish the biologic rationale for early reperfusion therapy in acute myocardial infarction.⁴ Later, clinical studies, such as the SAVE trial, clarified the role of angiotensin-converting enzyme inhibition in preventing adverse left ventricular remodeling after myocardial infarction and in reducing cardiovascular mortality.⁶ Together, these advances helped cement the evidence-based approach that characterized his era.¹⁻²

Yet beyond his scientific accomplishments, Professor Braunwald represented something even greater for physicians in countries far from the world's major academic centers. He symbolized intellectual discipline, scientific curiosity, humility, and lifelong dedication to medicine. Through his textbooks and publications, he taught generations of young cardiologists not only to understand cardiovascular disease but also to think critically and to care deeply for patients.¹⁻³

On a personal level, his impact on my professional journey has been profound, even though I never met him. I vividly remember a meaningful moment after completing my fellowship training in electrophysiology at Austin Hospital, Melbourne, when my mentor, Professor Andrew Tonkin FRACP, kindly asked what gift I would like to receive as a remembrance from the institution. Without hesitation, I requested a copy of *Braunwald's Heart Disease*. To me, the book represented far more than a textbook; it symbolized a lifelong journey in cardiology and a connection to the intellectual legacy of Professor Eugene Braunwald himself.³

The passing of Professor Braunwald is therefore deeply felt, including by the cardiology community in Indonesia. Even from afar, his influence reached our hospitals, classrooms, coronary care units, catheterization laboratories, and training programs. Countless Indonesian cardiologists have learned from his writings, referenced his studies on aortic stenosis, infarct size limitation, and ventricular remodeling, and practiced medicine guided by principles that he helped to establish.^{3,5-6}

His legacy transcends institutions, countries, and generations. It lives on in the millions of patients whose lives have been improved or saved through advances in cardiovascular medicine that he helped pioneer.^{1-2,4,6} It continues through the physicians, researchers, educators, and trainees inspired by his example. On behalf of PERKI and the Indonesian cardiovascular community, we express our deepest gratitude and respect for Professor Eugene Braunwald. Farewell, Professor Braunwald. May you rest in eternal peace.



Father of Modern Cardiology

Amiliana M. Soesanto

Department of Cardiology and Vascular Medicine, Faculty of Medicine, Universitas Indonesia/National Cardiovascular Center Harapan, Jakarta, Indonesia

While Eugene Braunwald was widely known as the “Father of Modern Cardiology,” my first “contact” with him was through his textbook, *Braunwald's Heart Disease*, when I was a cardiology resident. The textbook was our main resource during our cardiology residency to build a broad understanding of the field. Many of us do not know him personally, but knowing his academic works, including his books, research, scientific talks, and other scientific works, we understand that he was a visionary and brilliant person, a great educator, and a leading cardiologist of his time with a global influence. His dedication to the academic world was extraordinary. He had never stopped inspiring us to be the best versions of ourselves, using his long life to produce something valuable for the next generation, and he had always remained relevant to any period of which he lived. Braunwald's legacy is not just about his academic works but also about the way he lived his life, with hard work, dedication, and integrity. He was an excellent role model whom we can emulate and whose principles we can apply to our professional lives, continuing his legacy for a brighter future in cardiology.



Echoes of Inspiration: Remembering Eugene S. Braunwald

Teuku Muhammad Haykal Putra

Jakarta Heart Center, Jakarta, Indonesia

I feel, in many ways, unworthy to offer a few words about the father of modern cardiology. I never had the privilege of meeting or conversing with him. What kind of personal testimony can I truly provide? I know him as a legend. And that is precisely how I will remember and describe him in these passages.

I consider myself a young cardiologist (hopefully still true in the eyes of my colleagues). It was 17 years ago, during my cardiology clinical rotation in medical school, that both my seniors and attending consultants emphasized one essential

resource for surviving this demanding period: *Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine*.³ It was regarded as mandatory reading material for any medical students rotating through cardiology. It was still an age when we needed to look up the glossary or the table of contents to find where a specific disease was being discussed. Yet even then, I clearly remember noticing the name Eugene S. Braunwald inscribed on the back cover.

I can only begin to imagine the magnitude of his legacy and its impact on generations of physicians. How many patients have been successfully treated because their doctors learned from that book? How many research questions were inspired by ideas explored within its chapters? How many physicians found their calling in cardiology after reading its preface and foreword? (I was one of them). It remains a personal regret that I never had the opportunity to be in the same room with him. Otherwise, I would have eagerly sought to engage in a conversation. And perhaps a photograph to commemorate meeting someone who profoundly influenced my path.

I have read numerous testimonials from renowned figures in cardiology who knew him personally.^{1,7} Their accounts affirm that his legacy is no exaggeration. He is consistently described as resilient, hardworking, deeply committed, unwavering in his dedication, and humble. Qualities that I hope each of us can one day achieve.

We will always be there to ensure his name continues to echo across generations of cardiologists. A founding figure of modern cardiology who witnessed (and actively shaped) multiple eras of diagnostic and therapeutic advancement over more than 6 decades.⁷ He not only observed the evolution of cardiology but remained a central contributor throughout it. His passion and dedication are undeniably contagious. Those who know of him carry forward his legacy, striving to contribute meaningfully to the field he helped define.



Exhibit A: The Mechanical Maestro and the Left Main Coronary **Bayushi Eka Putra**

Cardiologist at RSUD Berkah Pandeglang, Pandeglang, Indonesia
Developer of CardiologyVault

I have never shaken the hand of Eugene S. Braunwald, nor have I ever stood within the same geographical zip code as his legendary fountain pen. To me, he exists entirely as a highly organized rumor. A towering, mythical figure rendered in 11-point font across several thousand pages of heavy, cream-colored paper.

My obsession with his architecture began during the sleepless, clueless, and distinctly unskilled nights of my medical school clinical rotation. At the time, I was a young, perpetually exhausted student carrying a stethoscopic kit that was far too large for my pockets. The senior physicians, a group of stern individuals with perfectly combed hair, pointed toward a massive, cloth-bound brick of a volume. It was an object designed for heavy lifting, frequently used as a counterweight to hold down unstable stacks of patient charts.

It was *Braunwald's Heart Disease*. Navigating its dense interior required a transparent ruler and a steady thumb on the glossary. Yet, upon reading his preface, a strange, precise gear clicked inside my mind. I realized I did not merely want to practice medicine; I wanted to decode the absolute geometry of the human circulatory system. I became fascinated by the sheer, unadulterated knowledge behind hemodynamics, the strict, beautiful laws of pure physics neatly wrapped in the nomenclature of Cardiology. I decided right then to become a cardiologist.

If one were to sketch a cross-section of modern cardiovascular science, Dr. Braunwald's initials would be found stamped upon every single valve, catheter, and randomized clinical trial of the last sixty years. He did not merely watch the historical transition from rudimentary wooden stethoscopes to complex, high-resolution fluoroscopy; he actively curated the timeline. He treated the coronary tree not as a chaotic bundle of organic tissue, but as a magnificent, temperamental Swiss timepiece that required absolute, microscopic precision to repair.

The Chief Architect has officially left the building. He has packed his slide rules, adjusted his spectacles, and turned off the green-shaded lamp in his study. But for those of us who spend our days navigating the narrow, delicate channels of the human heart, we will continue to keep his machinery running, immaculately oiled, perfectly calibrated, and precisely on time.

Furthermore, I make this distinct, solemn promise: the name of the Indonesian Cardiologist will eventually echo across the global theater. We will contribute to this mechanism, perhaps not with a roar as loud as his, but with a voice entirely distinct, perfectly measured, and large enough to be recognized widely on the world stage.

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