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Guest Editorial

M. Gazi Yasargil (1925–2025): Architect of cerebral precision, founder of modern microneurosurgery

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The global neurosurgical community bids farewell to one of its most revered figures. Professor M. Gazi Yasargil passed away on June 11, 2025, at the age of 100. In the century that defined his life, he reshaped the contours of neurosurgical science, not only by advancing technical limits but also by elevating the ethos of the surgical craft.

Born in Lice, Turkey, on July 06, 1925, Yasargil's early life was shaped by geopolitical upheaval and intellectual discipline. He began his medical studies in Germany, continuing in Switzerland, where he completed his degree at the University of Basel. In Zurich, under the mentorship of Professor Hugo Krayenbühl, he found the ideal environment to question convention and redefine surgical practice. What began as a curiosity in neurological anatomy soon evolved into an obsession with refining the human interface with the brain.

Yasargil is universally acknowledged as the founding figure of microneurosurgery – a discipline that emerged from his fusion of anatomical brilliance, technical innovation, and the courage to challenge surgical orthodoxy. He introduced the operating microscope into neurosurgery at a time when precision was elusive, and outcomes were constrained by limited visualization. With this step alone, he reoriented the field toward a future where delicacy and safety could coexist.[1]

His achievements are staggering in both depth and scope. He was the inventor of microsurgical clipping systems for cerebral aneurysms, a developer of bipolar coagulation for hemostasis, and a relentless promoter of microsurgical dissection along natural neurovascular planes. His six-volume work, microneurosurgery, remains a monument of surgical literature and a comprehensive documentation of a lifetime devoted to operative excellence.[2]

From 1973 to 1993, he led the Department of Neurosurgery at the University of Zurich, transforming it into the foremost center for advanced neurosurgical training. Surgeons from every continent came to observe his work – not only to learn technique but also to absorb a philosophy rooted in humility, discipline, and reverence for the brain. In Yasargil's view, the surgeon was not only a technician but also a custodian of human potential. His methods demanded anatomical fluency, tactile gentleness, and an almost meditative presence in the operating room.[3]

A key milestone in his career was the introduction of microsurgical techniques for cerebrovascular disorders, particularly the clipping of intracranial aneurysms and treatment of arteriovenous malformations. These innovations translated into unprecedented survival rates

and significantly reduced neurological deficits in previously high-risk cases.[4] For his contributions, neurosurgery named him "Neurosurgeon of the Century" in 1999.[5]

Professor Yasargil's life was defined not only by innovation but also by a deep pedagogical instinct. He believed that surgical skills must be passed on with moral clarity and technical purity. He trained over a thousand neurosurgeons directly and influenced thousands more through his writings and teachings. Those privileged to stand beside him in the operating room remember a man of few words, intense focus, and an uncanny grace – his hands, almost ethereal, dancing between arteries and neural tracts.

Even in his later years, after moving to the University of Arkansas for Medical Sciences in the United States, Yasargil remained an active teacher and surgeon well into his 80s. His presence continued to inspire a new generation, drawn not only by his reputation but also by the opportunity to witness a master in action. He remained as devoted to the practice of surgery in his ninth decade as he had been in his third.[6-9]

Among the many who cherished their time with him was Professor José Joaquín Puello, Latin American neurosurgeon, who reflected:

"We met years ago in Dr. Peardon Donaghy's laboratory, and from that moment on, I admired his surgical mastery, his remarkable lectures, and his boundless drive for innovation in neurosurgical practice. Without a doubt, his contributions to our specialty are a lasting legacy for all neurosurgeons across the world."

This sentiment echoes throughout the neurosurgical world. Yasargil's influence is not only visible in operating theaters and academic publications but also lives on every patient whose life was restored through techniques he conceived and refined.

He is survived by his wife and lifelong collaborator, Dianne Yasargil, whose unwavering support paralleled his journey.

Professor M. Gazi Yasargil gave the world a new way to enter the brain: with humility, preparation, and respect for the sanctity of the mind. His impact endures in every delicate fissure dissection, in every aneurysm clip placed with precision, in every resident who picks up the operating microscope with reverence.

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