Salomón Hakim

- Normal Pressure Hydrocephalus
- Gait Apraxia and Hakim's Disease: A Historical Review
- Salomon Hakim, MD (1922-2011): A honeymoon with Neurosurgery
- Salomon Hakim: the man behind normal pressure hydrocephalus
- Placenta Imaging Workshop 2018 report: Multiscale and multimodal approaches
- Salomon Hakim and the discovery of normal-pressure hydrocephalus
- From congenital to idiopathic adult hydrocephalus: a historical research
- Magnetic resonance assessment of pelvic anatomy and pelvic floor disorders after childbirth

Salomón Hakim first identified the Idiopathic normal pressure hydrocephalus in 1957 at the Hospital San Juan de Dios in Bogotá, Colombia. Even after decades of international focus and thousands of publications on his disorder, Hakim's story remains largely untold.

Professor Hakim first published his thesis in 1964 and 6 case reports of NPH in The New England Journal of Medicine and the Journal of the Neurological Sciences in 1965. Hakim rose to the forefront of academic medicine as he described a newfound ability to reverse symptoms of “neurodegeneration” that had long been considered irreversible. [1)].

He spent the next 7 years formulating his hypothesis which was presented in this thesis a half century ago [2)].

He later went on, with his son Carlos Hakim, Ph.D., a biomedical engineer and neuroscientist, to design the programmable or adjustable shunt for the treatment of NPH and other forms of hydrocephalus, which still bears his name.

Dr. Hakim, whose family name means “doctor” or “wise man” in Arabic, earned his medical degree from the Universidad Nacional in Bogotá and continued his medical education in neurosurgery at Harvard, also earning a Ph.D. in neuropathology. During his neuropathology fellowship research, Dr. Hakim performed autopsies on patients who died from central nervous system (CNS) neurodegenerative conditions, such as Alzheimer’s disease. He noted, in many of the cases, the brain ventricles were enlarged without destruction of the brain cortex. At that time, nobody was able to explain the reason for this observation. This led Dr. Hakim to hypothesize that these patients suffered from what he described as “Normal-Pressure Hydrocephalus” or “NPH,” after finding a 16-year-old living patient with this condition. Dr. Hakim described his discovery in the foreword to the English translation of his 1964 thesis entitled “Some Observations on C. S. F. Pressure. Hydrocephalic Syndrome in Adults with “Normal” C. S. F. Pressure (Recognition of a new syndrome.)” In his own words:

“While searching for a rationale to explain this paradox, a case with hydrocephalus secondary to subarachnoid bleeding was reviewed and speculated upon. Research was conducted into the possible physical principles involved. Then the importance of the area of the ventricles was recognized, and the mechanism of symptomatic hydrocephalus with normal C. S. F. pressure was explained on the basis of increased force due to the pressure-area relationship of the ventricles (F = P x A).*

After a patient was seen with this combination of symptoms and findings but without any history that would account for the hydrocephalus (intracranial hemorrhage, trauma, meningitis, surgery, etc.), a

search was begun for the so-called idiopathic cases. These patients are most important and surprising because of the danger that they will be misdiagnosed and placed in a hopeless category (organic brain diseases). It is in the large group of patients with late-life dementia that further cases must be sought . . .”

*Force= Pressure x Area

The publication of Dr. Hakim’s 1964 thesis was followed by the publication of 6 case reports of “normal pressure hydrocephalus” in The New England Journal of Medicine and the Journal of the Neurological Sciences in 1965 [3] [4] [5].

[1]
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[2], [3]
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[4]
Hakim S, Adams RD. The special clinical problem of symptomatic hydrocephalus with normal cerebrospinal fluid pressure. Observations on cerebrospinal fluid hydrodynamics. J Neurol Sci 1965, 2:307-329.
[5]
Adams RD, Fisher CM, Hakim S, et al. Symptomatic occult hydrocephalus with “normal” cerebrospinal fluid pressure. A treatable syndrome. NEJM 1965, 273:117-126.

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