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# Norman Hollenberg



*Photograph courtesy of Deborah Hollenberg*

Norman Hollenberg MD, PhD, Professor of Radiology and Medicine at HMS passed away on Jan 15, 2020 at the age of 83. Dr. Hollenberg was one of the great researchers in physiologic imaging, both nationally and at BWH.

A native of Winnipeg, Dr. Hollenberg was trained as an internist and renal medicine specialist. Norm wore his Winnipeg heritage on his sleeve, or rather around his neck, as he sported his signature turtleneck sweater and a wrap-around neck scarf 365 days of the year!

Dr. Hollenberg joined the Harvard faculty in 1965. In 1968, he was hired by Herbert Abrams MD (who had just been appointed as Radiology department Chair) to become director of physiologic research in the Department of Radiology at HMS and the Peter Bent Brigham Hospital. Clearly, it was unconventional for Radiology to appoint an internist to a leadership position in our department, but the selection was inspired and extraordinarily productive. With support from Drs. Abrams and Hollenberg, Brigham Radiology faculty published 59 scientific papers in 1968, an unprecedented level of academic productivity at that time.

To cite one exceptional example, in 1971 Drs. Abrams, Hollenberg, James Adelstein and others collaborated to convince NIH to establish Brigham Radiology as one of only two national centers of excellence in imaging research and education.

Norm and Herb shared interest in the study of renal blood flow using both arteriographic, scintigraphic and pharmacologic methods. One of their many seminal contributions was to develop methods to assist the differentiation of benign from malignant renal masses by determining the way the tumor's 'neovasculature' responded to a direct arterial injection of norepinephrine. They determined that the vessels feeding malignant lesions did not constrict in response to the pharmacologic stimulus, while the vessels feeding benign lesions did. Before the era of CT, MRI and PET, renal angiography was the gold standard for differential diagnosis.

A recent focus of Dr. Hollenberg's innovative research was on establishing the pharmacologic mechanisms

under which the active ingredients in cocoa preserve renal blood flow in a group of patients with high familial risk for kidney-mediated hypertension.

In addition to his research role, Norm quickly became the mentor of choice to dozens of residents in radiology and fellows in nephrology who were interested in developing an academic career. He also had career-long collaborations with Endocrinologist Dr Gordon Williams and other scientists. Dr. Hollenberg was a caring and effective teacher and leader.

His academic accomplishments, publications, peer-recognition and awards are legendary. Over a decade ago, BWH Radiology recognized and memorialized Dr. Hollenberg's achievements with the creation of the 'Hollenberg Conference Room' in our research space on Thorn 3.

Norm is survived by his wife Deborah, his daughter Ilana and his son David.

Respectfully submitted,

Steven E. Seltzer, MD, *Chair*  
S. James Adelstein, MD, PhD  
Giles W.L. Boland, MD