

Remembering Dr. Patricia Bath for Women's History Month: Ophthalmologist, inventor and humanitarian with many firsts

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I recently became aware of a physician, educator and inventor, Dr. Patricia Bath (1942-2019). For those of you who do not know her remarkable story, I felt compelled to share it with you during Women's History Month.

Patricia Bath was born in Harlem and was recognized early as being gifted. Her father was the **first** Black motorman for the New York City subway system. He served in the U.S. Merchant Marines, traveled the world and was an occasional newspaper columnist. Her mother was a homemaker and a domestic worker who used her earnings to make sure her children had an excellent education. Both parents encouraged Patricia to excel in school, and with their support she attended Charles Evans Hughes High School in New York.

As a student, Patricia was selected for a National Science Foundation summer research program in biology at Yeshiva University. When classes were over, she worked in a cancer lab. Patricia became part of the science team, analyzing experimental data, and developed a math equation to predict cancer cell growth. Her mentor, Dr. Robert Barnard, listed her as a co-author on a research report. This led to her receiving Mademoiselle magazine's Merit Award in 1960 at age 17 (1).

She was off to a fast start. After attending Hunter College in New York City, she went to medical school at Howard University, where for the first time she was exposed to Black professors who became her mentors. At Howard, she received several National Institutes of Health student fellowships and spent a summer in Yugoslavia on a children's health project. She became motivated to help disadvantaged people and served as a medical coordinator for the Poor People's Campaign that marched in Washington, D.C., for economic rights in 1968.

After medical school, she interned at Harlem Hospital followed by an ophthalmology residency at Columbia University. As an ophthalmology trainee in New York City, she learned that African Americans had a high frequency of blindness due to glaucoma, cataracts and other disorders. She performed community-based research by establishing an eye clinic system that increased the amount of eye care to those who could not afford to see medical professionals (2). When Dr. Bath graduated from the ophthalmology

residency program in 1973, she was the **first** African American to complete a residency in ophthalmology in the United States.

Her career took her to California as an assistant professor of surgery at both Charles R. Drew University and at the University of California, Los Angeles, where she became the **first** female faculty member in the Department of Ophthalmology and the **first** African American woman to serve on staff as a surgeon at UCLA Medical Center. In 1976, she co-founded the American Institute for the Prevention of Blindness (AIPB), which proclaimed that "eyesight was a basic right." In 1977 and 1978, she served on the White House Counsel for National and International Blindness Prevention Program. Then in 1983, she had another **first** when she created the ophthalmology residency training program at UCLA-Drew, becoming the **first** woman to lead a post-graduate training program in ophthalmology.

That is a lot of **firsts**, but Dr. Bath was not done. Laser surgery for cataracts was in its early stages and she wanted to learn more. In 1981, she went to the Rothschild Eye Institute of Paris and then to the University of Berlin where she became a laser researcher. She did experiments with excimer laser photoablation on human eyes in eye tissue banks. She invented the term "Laserphaco" for the process, which is short for laser PHotoAblative Cataract surgery. As a result of her research and investigations, she developed a less painful and more precise device called the Laserphaco Probe to ablate and remove cataracts (3). In 1988, she was awarded a patent for this instrument, becoming the **first** African American female doctor to receive a patent for a medical invention. The Laserphaco produces a powerful concentrated beam that quickly and painlessly dissolves a cataract with a laser, irrigates and cleans the eye, and permits the easy insertion of a new lens. The device is now used throughout the world. The Laserphaco is responsible



for improving and restoring sight to thousands of people. Dr. Bath continued to improve on her device and had additional patents awarded in 1998, 1999, 2000 and 2003.

In 1993, she retired from UCLA and became the **first** woman elected to the honorary staff of UCLA Medical Center. She returned to Howard University, where she was named a “Howard University Pioneer in Academic Medicine” in 1993. Hunter College had previously placed her in its Hall of Fame in 1988. A children’s book on her life and work was published in 2017 (5). Through the AIPB, she traveled the world performing surgeries, teaching and lecturing at universities. In Africa, the AIPB provided computers and other resources for visually impaired students. In recognition of her philanthropy, President Obama placed her on his commission for digital accessibility for blind children. In 2019, Dr. Bath testified about gender disparities in the STEM field and lack of female inventors in a hearing called “Trailblazers and Lost Einsteins: Women Inventors and the Future of American Innovation” (6).



In 2017, Medscape named her one of 12 “Women Physicians who Changed the Course of American Medicine” (7). In the same year, another **first** as Time magazine highlighted her in their “Firsts: Women who are Changing the World” for being the **first** to invent and demonstrate Laserphaco cataract surgery (8).

Dr. Bath died in 2019 at age 76. Recently, I came across a story of how her children were lobbying to have her inducted into the National Inventors Hall of Fame, the most prestigious society for inventors in the United States (9). The sad reality is that she was nominated 11 times before she died! One can only wonder why she was never elected into this society while she was alive. Apparently, the society does not give the award to inventors posthumously. Her children are trying to get this changed, and [this video](#) provides a look into those efforts. I suspect it will be another **first** for this remarkable woman.

References

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