Dr. Pap's Life-Saving Test

Cornell University Medical College

His father wanted him to follow in his footsteps and practice medicine. George Papanicolaou had other ideas. Medical research was his passion.

In 1913 the 30-year-old Greek doctor and his wife arrived in New York. They spoke no English and had just $250 in savings.

The next year he began a 47-year affiliation with New York Hospital and Cornell University Medical College. There, over three decades, Papanicolaou developed the life-changing cancer screening test for women known as the Pap smear.

A Pap test, in which cervical cells are scraped or brushed off and examined for abnormalities under a microscope, can detect the early stages of cancer as well as precancerous lesions. It is one of the most successful cancer screening tests ever. "It was truly a monumental contribution" in the cancer wars, said Brian Kelly, who directs the Center for Technology Licensing office that serves Cornell's medical college. "It showed that screening is important, that cancer can be beaten."

> *In the early 1900s, cervical cancer was the leading cause of cancer deaths among U.S. women,*

> *claiming nearly 40,000 lives a year. Today, with about 13,000 new cases and 4,000 deaths annually, it's not even in the top 10. The Pap test has been credited with reducing the U.S. mortality rate from cervical cancer by more than 60 percent since the 1950s.*

In recent years, the test has been refined and in some cases replaced by screening for, and vaccination against, human papillomavirus (HPV). HPV infection causes most cervical cancer.

But neither screening method is foolproof, so some doctors are reluctant to abandon the Pap test, the gold standard in screening for more than half a century.

In a 2016 book, Neda Voutsa-Perdiki, a former student, said Papanicolaou's "secret was hard work, dedication, love of research. ...He did not want to earn money" from his test.

So, no patents or licensing for Dr. Pap.

"There was a totally different mindset at that time," said Kelly. "It wasn't about intellectual property and patents and royalties." Instead, the focus was on publishing new developments.

"Papanicolaou," Kelly said, "cleared the path many others have followed. He strategized an approach to understanding the foundations of biology."

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