Welcome to the Infinite Women podcast. I'm your host, Allison Tyra, and today we're talking about scientists who did groundbreaking research on breast cancer.

For more than 15 years, American Dr. Mary-Claire King worked tirelessly on research that most people dismissed. From 1974 to 1990, King searched for an answer to why breast cancer ran in families. Because the prevailing theory of the time was that the cause was viral, most scientists considered her efforts to find a genetic marker to be a waste of time. Even King herself sometimes worried that her work would be in vain, but she carried on, and was proven right with the identification of the BRCA1 gene in 1990. Subsequent research identified a second gene, called BRCA2, and today it is believed that they contribute to as many as 5 to 10% of breast cancer cases. Genetic links for many other cancers have also been identified.

British Dr. Jane Plant was diagnosed with breast cancer for the sixth time in 1993. Although she was a geochemist, not a biologist, she decided to investigate the relatively low breast cancer rate among Chinese women, and determined that lower dairy consumption was the most likely cause. She asserted that "basically dairy has now got a lot of oestrogen in it because it's common practise to milk pregnant cows, which has driven up the oestrogen content of milk. It also contains tiny proteins called growth factors, and these growth factors directly promote cancer." Although her reasoning was scientifically sound, her theory was, like King's, dismissed by the general scientific community, though her advice to avoid dairy did reach thousands of cancer patients. She herself followed a dairy-free diet for 18 years and remained cancer-free, until she eventually strayed from her diet due to a professed weakness for calves' liver cooked in butter. She died in 2016 due to a blood clot following chemotherapy. Years later, her theory was validated when research was published in 2020, indicating that "consistently drinking as little as one cup per day may increase rate of breast cancer up to 50%" and "Intake of dairy milk is associated with a greater risk of breast cancer in women -- up to 80% depending on the amount consumed."

Canadian oncologist and clinical investigator Dr. Vera Peters was reportedly told to "go do women's work" after she challenged the medical establishment in 1950 with a groundbreaking paper. Her research demonstrated for the first time that patients with early-stage Hodgkin lymphoma (cancer of white blood cells) could be cured if they received a regimen of high-dose radiation. Previously, the condition had been thought to be incurable. Her findings were met with scepticism, to the point that she later commented that it took more than 10 years for them to be accepted. She would later study the use of radiation therapy to treat breast cancer, and her research showed that lumpectomies - where only the cancerous tissue is removed - followed with radiation were just as effective as radical mastectomies, where one or both breasts are entirely removed, along with chest muscle and lymph nodes. Given the major impact of a radical mastectomy both physically and psychologically, lumpectomies are significantly less invasive, and radical mastectomies are rarely performed today.

Join us next time on the Infinite Women podcast and remember, well-behaved women rarely make history.