

# BREAST CANCER

## A PATIENT'S STORY

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A patient's story, especially if that patient is a scientist, can bring a sense of reality and poignancy to biomedical research. As a Ph.D. trained molecular biologist and program manager at the Northwest Association for Biomedical Research (NWABR), my story is in harmony with NWABR's mission: to promote the understanding of biomedical research and its ethical conduct. For over twenty years, NWABR's Speakers Bureau has brought passionate scientists and courageous patients into classrooms, science cafés and other public venues to explain the critical role of animal research in influencing medical discoveries. This November, when invited to speak at the first high school Junior Science Café of the academic year, I jumped at the chance.

I titled my talk "Demystifying Breast Cancer: A Personal Tale," hoping that I could encourage students to ask questions – to demystify something that has touched, and sometimes killed, so many. I began by asking 12 percent of the girls in the room to stand to illustrate how many of them were likely to personally experience breast cancer during their lifetime. When I next asked those who knew someone with breast cancer to stand, I was shocked to see over two-thirds of the thirty-nine students rise from their seats. So young, yet touched by something so serious, so frightening.

After building vocabulary with an introduction to images and terms like breast carcinoma in situ and metastasis, I moved from an explanation of what breast cancer is to how and why we can treat it. I presented an overview of breast cancer anatomy, risk factors, and the molecular and cellular biology of breast cancer treatment, made possible by biomedical research and the use of animal models. I also shared my personal story about battling stage 2a breast cancer, including my experiences with chemotherapy. During my presentation, I emphasized an appreciation for the many lab animals that died so I could receive the best drugs at optimal concentrations to kill the cancer, but spare my own cells. I also discussed my deep appreciation for all of the women who participated in the many breast cancer clinical trials that made my treatment possible.

When these students first learned about DNA replication and the cell cycle in their science classes, did they have any idea that drugs like cyclophosphamide, doxorubicin and taxol would be developed to capitalize on this knowledge and prevent cancer cells from dividing and spreading to other parts of the body? When they learned about X-rays and radiation, did they ever imagine that this technology could be harnessed to prevent a recurrence of cancer?



### The talk was short – only twenty-five minutes or so – to leave plenty of time for student questions. But would they ask any?

Indeed they did! After my final slide went down, over a dozen hands shot up.

*"Mice are so different from people. Are mice a good model to study chemotherapy and cancer?"*

*"Who gets breast cancer, and why?"*

*"How long do cells stay in each stage of the cell cycle?"*

*"What has changed most about you since your diagnosis with breast cancer?"*

An equal mixture of scientific and personal, the questions raised by the students of Garfield High School's Junior Science Café were straightforward, insightful and sensitive. The emcee announced there was time for one more question. He pointed to a young man near the front.

*"Are you afraid you might die?" he asked.*

It was the elephant in the room, the question so many were thinking about, and I was strangely relieved he had asked. They had a right to know, and I needed to admit it to myself as well as to them.

"Yes, I am," I replied simply. "Every day. But I know I'm sitting here, talking to you, with the best chance of surviving I could ever have, because of all the mice, and all the women, and all the researchers who came before me. Because of the doctors and nurses, friends and family, who help me every day, I am here."

The comments on the student evaluations were equally enlightening and moving.

*"I never knew that chemotherapy works by interrupting the cell cycle."*

*"The speaker was fun and energetic. I like how the presentation came from a personal perspective."*

*"Get well soon."*

I am an ordinary woman in the long and extraordinary story of the treatment and cure of breast cancer, and it is a story made possible by biomedical research.

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