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Soto-Sonnenschein lab

Tufts University School of Medicine

In the 1960's, one out of 14 women developed breast cancer. Today, one out of every 8 women gets breast cancer. Despite that increase in incidence of the disease, the number of women who die from breast cancer has actually declined since the 60's to under 40,000 currently. This decrease is mainly because of advances in treatments, earlier detection and increases in awareness.

Breast cancer is a very personal topic, since two of my family members died from it. My grandmother lost her life because of breast cancer in 1982 at the age of 42. I never got to meet her. My great aunt Bella died from breast cancer in 1992 at the age of 48, also before I was born. They lost their long battle with this illness because, back then, doctors didn't have the advanced treatments that we have today. Finding out if you have higher chance of getting cancer is very important.

This year I had the opportunity to take AP Biology and Environmental Science. Although I am awed by learning about the phenomena of science, I wanted to be able to take my experience outside the classroom and play an active role in discovering. The things we learn in classrooms have been discovered by other people who worked in the lab doing research. As a kid I knew that I want to make a difference in the world. I wanted to be part of that piece of the process where I'm the one who's searching for

answers to questions and not just reading or learning about the answers found by others; and hopefully making a difference.

This summer I worked with people who really are making a difference to the world at the Soto-Sonnenschein lab.

On the T to the Tufts University School of Medicine, with my partner Ashtyn Greenstein, we were not sure what to expect. Both Ashtyn and I had very little knowledge on environmental links to breast cancer and never worked at a lab before. However, we knew that it was an unbelievable opportunity to work with Professor Ana Soto and Professor Carlos Sonnenchein and we would work hard. When we finally got to the building we were greeted by Ms Cheryl Michaelson who then sat us down at our new office and gave us a background of what we would be learning about; we both started feeling much more comfortable. After our introduction Ashtyn and I were given a lab safety test to give us authorization to work at the lab. We were also given many articles to read and some were written about Carlos and Ana's work! Every day different members of the lab would let Ashtyn and I observe their research and even show us how to do some of the things they did. From processing E-SCREENS (a method to identify environmental estrogens) to mounting histology slides we both learned how everyone in the lab is needed and every one of their tasks connects to help the research. By the second week along with smaller projects we were given every day Ashtyn and I were counting the acini and ducts present in 3D culture preparations of breast tissue.

The amount of knowledge that I've acquired in those 3 weeks is probably more than I ever will learn in such a short amount of time. This experience has really educated me about how environmental factors can change our bodies and even cause cancer. For

example, bisphenol-A (BPA), which is found in plastics and lining in cans, alters breast development and increases breast cancer risk. I would like to thank the Breast Cancer Coalition and the Soto-Sonnenschein lab for giving me such an incredible experience.

I believe that cures for this terrible illness are around the corner and we may soon find it. I want to be part of the solution.