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This summer I had an incredible opportunity to be a lab assistant at the Fox Chase Cancer Center (FCCC) in Philadelphia. FCCC is a cancer research center and clinical research site. Their mission is to lessen the burden of human cancer.

I was nervous going down to Philadelphia, I did not know quite what to expect. But after meeting my fellow lab partners, Josh Solomowitz, Ishara Lareef and Harrison Ferlauto, and our mentors Dr. Fathima Shariff, and Jhazelle Francis, I knew I was in for a great experience.

That first day was one of the most important ones. On that first day we learned the daily routine. Every morning we would sign in at the volunteer's service office and received a lunch voucher. We then went to work in the lab. If I had any questions, I could ask anyone in the lab, and they would always answer it to the best of their knowledge, or refer me to someone who had a better knowledge of the subject.

The main goal of our lab is to prevent breast cancer. The lab does many experiments in mammary gland development, and the environmental factors that cause the cancer. In women, there is a window of susceptibility, which is between the ages of 14 and 24 years old. During this time, mammary gland development is in a crucial stage. The mammary glands are filled with stem cells. These stem cells can easily become tumorous; they do not have a set job. It is at this stage that healthy mammary cells need to differentiate, or specify the jobs of each cell. When the cells have set jobs they are not as impressionable, and are less likely to become cancerous.

The experiment that we worked on tested healthy adolescent rats. These rats were exposed to environmental factors that would affect mammary gland development. We then looked at images of the mammary glands to see how the tissue developed. I and the other interns then used an excel spread sheet to keep track of the structures that we counted, and to determine which factors worked the best.

There were 3 factors that the rats were exposed to. The factor groups were Saline (control), hCG and a pellet that consisted of estrogen and progesterone.

Human Choriogonadotropin (hCG) is a protein-hormone that the body produces during pregnancy. This hormone is known to differentiate mammary gland structures. The pellet consisted of estrogen and progesterone. This treatment is also know to be very effective, and yet also very dangerous. Estrogen and progesterone can be carcinogenic by themselves. This means that they can also produce cancer in the body. Each of the peptides were spliced from hCG. They were used in order to find supplement, smaller treatments for mammary gland development.

hCG had the best results out of all the groups. The rats that were exposed to hCG were the most differentiated, most resistant to becoming cancerous. The pellet too worked well, but as mentioned earlier it has a very dangerous factor.

My experience in the lab was unforgettable. I enjoyed learning the lab procedures, and shadowing the other scientists. We participated in rat dissections, and we even wrote a protocol for storing the mammary gland tissue.

My experience after working in the lab was just as enjoyable. Some days after working I played basketball with some of the other interns and we hung out on weekends.

I stayed with a really nice host family. They were a family of 8 children (but only 5 were home). They even came to support me during our final presentation.

I would really like to thank the Great Neck Breast Cancer Coalition for sending me on this internship at the Fox Chase Cancer Center, and for helping me have this great lab experience. This experiment was a great step in the lab's progress, but more research is needed to be done. I feel very proud to be a part of an experiment that potentially will help create protocol to prevent breast cancer.