

Regina Roofeh's essay

Summer 2008

On my first day, the orange line train broke, a water bottle exploded in my bag, and I spilled soda on my jeans. But that was the worst that happened during my two weeks in Boston.

Once I got to the Ana Soto Lab at Tufts Medical Center, everything changed. Dr. Maffini met me at the elevator and introduced me to everyone in the lab. They were all so welcoming and completely accepted me. Around lunch, Silva, a post doc from Germany, told me "We all eat lunch together. It's nice, we all like each other." She wasn't kidding. Everyday at noon, we went outside together and enjoyed our lunches. It felt weird to sit with people who are so intelligent, but also so normal. It was always filled with witty jokes and hysterical laughter; very different from the drama that fills my school lunches. Even the lab meetings, which are meant to plan for the coming weeks and are supposed to be at least a little serious, were spotted with quick jokes and one-liners. By the end of my two weeks, I felt like I was starting to become friends with everyone there, even though most of them were at least ten years older than me.

Dr. Maffini explained that their lab researched how to *prevent* breast cancer, rather than how to cure it. She gave me news articles, professional papers, and explained power points that were shown to some of the top scientists in the country. She kept saying "Don't hesitate to stop me if you don't understand a word or concept. Sometimes we get caught up in our work and terminology." On the first day, I had no idea what she was talking about. How could plastic effect mammary glands? If you ingested plastic, it would go to your stomach and digestive tract, right? Sort of. Sure, if you ate a wad of plastic, it would go the way of

food, or the penny you ate when you were two. But the lab was concerned with a chemical in plastic that leeches out and effects hormone levels. Bisphenol-A (BPA) is considered a xenoestrogen that assimilates into the body and alters the level of estrogen, which alters the level of mammary gland proliferation. In my head, I understood it as "an estrogen faker that causes the body to go into estrogen overload and changes the rate that cells are produced". I learned that BPA could also affect other reproductive organs, hyperactivity and obesity.

Over the two weeks, I heard "Oh, let me show you instead." more times than I can count, not because I was doing something wrong, but because it's hard to fully comprehend what they're doing with words. Everyone tried to explain what they did with words and fancy terms, but anything they said couldn't compare to what they could show me under the microscope or on a slide. Explaining how a normal mammary gland should look is a lot less resounding than seeing a real mammary gland with branches that were clearly not normal.

By my last day, I was comfortable in the lab and far from confused about what they were doing. I was even coming up with my own hypotheses about what else BPA could be affecting. My experience in Boston was incredible and really opened up the world of research to me. I applied to this program on a whim, I wasn't doing anything over the summer yet, I liked biology, and my teacher told me he thought I would enjoy it. True, it got a little lonely, but I wouldn't change my experience for anything.