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My Cystic fibrosis (CF) research focuses on the effects on CF lung disease of steroid hormones and the effects of female sex hormones in particular. The CF “Gender Gap” refers to the important female disadvantage in CF in health and survival. We think that female sex hormones may be responsible, at least in part, for the CF gender gap by modifying the severity of the lung inflammation that is such an important part of CF disease. By extension, we are interested in understanding what controls lung inflammation in CF.

If we can determine how being female makes CF lung disease worse, we expect to be able to figure out how to block these bad effects, or maybe even to change conditions to produce good effects instead. One possibility might be the use of hormone blockers, something like the treatment of some forms of cancer (such as breast cancer) using blockers of the female hormone estrogen (such as Tamoxifen).

My interest in science and research came from being influenced at an early age by my parents, who both trained in a scientific field and then applied their knowledge to the benefit of people and society in general. My mother was a pharmacist who used her knowledge of how drugs work to help patients and my father was a civil engineer who used his knowledge of math and science to help with urban planning.

When I started my internship at SickKids Hospital, people with CF did not live as long as they do today. On the first day, I was assigned to work on the Respiratory Medicine ward, where there were a lot of very sick CF patients. This made me want to learn everything that was known at the time about how best to care of them and it also made me want to find out more that was not yet known. I still feel the same way now.

Click here for a complete list of Dr. Neil Sweezey’s publications at NCBI PubMed.