Bacterial Endotoxin Testing at Nelson Laboratories in Salt Lake City, Utah

Introduction

Nelson Laboratories, located in Salt Lake City, Utah, is a leading provider of microbiological testing to assure sterility of medical devices. Though the lab provides hundreds of various tests for medical device and pharmaceutical companies, I was placed in the department focused specifically on Bacterial Endotoxin Testing.

After an item is sterilized, the dead bacteria left behind may leave behind endotoxins in their cell walls; these are also known as “pyrogens” because they will cause a fever if they encounter the patient’s blood. Limulus amebocyte lysate, which comes from horseshoe crab blood, is capable of detecting such endotoxins, and is therefore used to test the sterility of blood-contacting medical devices and medications.

My Role

In the Bacterial Endotoxin Test department, I was largely assigned to work in sample preparation, though I sometimes assisted in incubation and drawing aliquots for testing.

A challenging aspect of sample preparation is the vast variety of samples that are sent to the lab: though the same general principles are followed, each device has unique characteristics that require different methods of preparation, and learning the tricks for each sample could be difficult.

Learning Objectives

Over the course of the internship, I planned to achieve the following objectives:

1. Gain autonomy in the laboratory.
2. Be able to clearly explain the procedures I perform.
3. Be able to explain the importance of the lab work in context.
4. Understand the history of the experiments performed in the lab.
5. Learn aseptic technique.

Conclusion

Throughout my internship, I was able to attain each of my listed objectives. I also learned an extensive amount about the private sector of lab work and how that differs from the typical research projects I was accustomed to. The two kinds of work are hardly comparable, and I found that there are aspects of each that I enjoy. This experience taught me that there are so many different career options that I hadn’t even known about previously.