

Niku Tabatabai

Mr. Speice

Independent Study and Mentorship- 3A

9 March 2018

Many Stages

Mentor Visit Assessment #3

Mentor: Dr. Marius Meintjes

Profession: Reproductive Endocrinologist

Location: Frisco Institute of Reproductive Medicine, 8380 Warren Pkwy #201, Frisco, TX
75034

Date: 8 February 2018

Time: 1:30pm- 4:00pm

Assessment:

My third mentor visit with Dr. Meintjes was significant in the progression of my mentorship experience. After much discussion in regards to my final product, my mentor was able to help me begin the research process. We began by printing many patient records, which showed the results of preimplantation genetic screening (PGS). The whole purpose of our research is to compare day five and six embryos, which means the first stage of my final product consists of identifying the day five and six embryos in each patient's PGS results. Not only did I spend my time on the computer looking at patient records and test results, but I also had the opportunity to observe an embryologist working in the andrology lab.

Dr. Meintjes and I's research into the differences between day five and six embryos, along with the differences between physicians, must be conducted in stages. This mentor visit allowed me to begin the first major stage in identifying the embryo dates on patient PGS result sheets. Such a process is not complicated, but it is tedious. Learning to navigate through the office's EClinical database was quite interesting, for I learned many new things about the egg retrieval and testing process. As I was attempting to find patient test result records, I discovered many documents regarding egg retrieval and the freezing process. It is incredible to see those who freeze their eggs and are able to use them many years later. Such information simply reinforced the groundbreaking science involved in the field of infertility. This experience made me realize that if I would like to enter into such a field, my career would consist of constant learning, for the science continues to change and improve exponentially. Looking back to the 1990's when in-vitro fertilization first began to blossom, it is incredible to see how far the field has come. Therefore, the changing nature of this field and constant learning is something I must accept if I choose to pursue such a career in the future.

While this initial step is mainly clerical work that must be done on the computer, I was able to take a little break in order to observe a sperm analysis in the andrology lab. A sperm analysis is one of the first steps in checking a couple's infertility. This form of analysis is the simplest because it is non-invasive and can give fast results. There are many factors that lead in the determination that a sperm sample is abnormal. First of all, looking at the sample itself, the viscosity is a large determinant. If the sperm is sticky, then that means it will have a harder time traveling to the egg, as opposed to liquid sperm that can quickly spread out. Furthermore, the composition of the head is extremely important, for the top section is made of an enzyme and the

bottom portion is all DNA. Some sperm have unequal portions, such as much less enzymes on top. Such a scenario would result in the sperm not being able to surpass the egg's membrane, which means no fertilization or pregnancy. Everything I witnessed in the lab furthered my excitement for my potential future working in infertility. A main difference between obstetrics and reproductive endocrinology is that fertility specialists have a mixture of lab work and direct patient contact. The fact that I find the lab aspect so intriguing means that the whole purpose of ISM is working effectively. A large reason behind joining ISM 2 was for me to see if fertility specialty was something I was even remotely interested in. Fortunately, I have discovered that my interest runs quite deep.

The stages that Dr. Meintjes and I's research involves has taught me a great deal about scientific research in general. In order to conduct a successful study, a great deal of planning and details must go into the process, which will warrant the best results. As I have mentioned numerous times before, I am aiming to utilize my time in college to conduct my own research. My experience with Dr. Meintjes is continuously teaching me about the process and preparing me for the next chapter of my life. Through this preparation, I may be able to create something impactful for the medical community, and much faster than I had anticipated. Furthermore, the mere exposure to the lab culture I experienced will be a further asset in the research process. I witnessed proper lab conduct and much more, which will, along with my entire mentor experience, propel me forward in my future scientific goals.