

Antara Gupta

Mr. Speice

Independent Study & Mentorship

6 March, 2019

Shadowing

Assessment 16 - Observation

Observed: Dr. Dike

Profession: Neurologist

Location: Affinity Neurocare 3388 Main St. #100 Frisco, TX 75033

Date: February 1st, 2019

Time: 1:00 p.m - 4:40 p.m

Assessment

With the original work project finally done, there was now time for me to shadow Dr. Dike and learn about different patient cases through first-hand experience. Thus, this visit served a dual purpose; I discussed with Dr. Dike some potential final product ideas and I also observed him as he talked to different patients. Going into the observation visit, I knew that I would be exposed to a variety of different, mostly unrelated cases, so my main goal was to gain an understanding of different diseases and see what methods Dr. Dike used to assess and diagnose the patients.

The most interesting patient I saw was suffering from epilepsy, and Dr. Dike allowed me to look at the EEG scans. Before I had attained a mentor, one of my biggest goals was to use research assessments to learn about different types of scans that are used in neurology. Since I had never been able to learn how to interpret EEG scans, I was quite thankful for this opportunity to learn from Dr. Dike about the different EEG patterns and their interpretations. Basically, an EEG measures brain wave activity, and different abnormal patterns can sometimes give indications about how to treat seizures and epileptic attacks. What I found most interesting about the scan was how it could be used to detect the anxiety level of the patient. Everytime the patient blinked, a small trough formed, and when there was a high frequency of blinks, it indicated that the patient was nervous. Dr. Dike explained that most of the time, patients will have a high frequency of blinks for the first two or three minutes. I had never considered how such scans could be used to detect emotions, and seeing this phenomena made me wonder if there were other tricks like this that could show other emotions.

Another interesting case that I saw was related to migraines. Dr. Dike showed me how MRI scans could be used to detect migraines. Since I had done a research assessment over interpreting MRI scans, I was able to spot the abnormality: there were small white spots all over the gray brain matter. The spots looked quite similar to the ones that form after a stroke occurs, and when I brought up this point to Dr. Dike, he explained how migraines and strokes share similar risk factors. During my previous semester, I had spent a lot of time learning about the risk factors of strokes, and it made me quite interested in migraines.

This led into a discussion about final product, and when I told Dr. Dike that I wanted to try to conduct some research of my own, he suggested that I look into what I found interesting

during the observation: migraines. Since not much research has been done on migraines, Dr. Dike explained how there was a lot of potential for me to explore and make my own findings. Thus, I look forward to spending the next week looking into migraines and what kind of research can be done about them.

Overall, this visit was quite successful because I was able to achieve two main purposes: gain first-hand experience and gain insight about my original work. In the next few weeks, I hope to develop a solid final product idea and begin work.