

## Original Work Log Documentation

Date	Time Started	Time Ended	Time Worked	Place of Work	Description	Total Time
10/19/2018	3:00:00 PM	4:00:00 PM	1	Affinity Neurocare	I met with Dr. Dike to discuss ideas for the original work project. As we talked, he suggested that I should do a patient case study in which I analyze certain patients who have complex yet similar neurological problems and diagnose them accordingly with a variety of tests. Then, I could compare and contrast the diagnoses with each other in order to come to a conclusion of what caused the differences in the treatment to arise. Dr. Dike said that once I complete this work to the best of my ability, we could even look into publishing my research in an academic journal.	1
10/22/2018	6:00:00 PM	8:00:00 PM	2	House	Using the suggestions of Dr. Dike, I expanded on it more by creating a schedule of when I should plan to have different aspects of my original work finished. I decided that before I could even begin looking at the patient case studies, I must do independent research using assessments about neurological diseases and medical tests. I outlined my plan in my original work proposal.	3
10/24/2018	4:30:00 PM	7:00:00 PM	2.5	House	I completed an assessment over MRI scans and sequences. First off, I found certified educational and medical videos describing the physics behind MRI scans and how to interpret the sequences. I watched these videos and took notes over them. Finally, I consolidated all of my research into an assessment which highlighted the important facts that I learned.	4.5
1/3/2019	8:00:00 PM	9:00:00 PM	1	Home	I researched seizures and how EEG technology can be used to detect seizure patterns. I learned how seizures are often a side effect of a bigger problem, and after noting the different trends that can be decoded in an EEG, I realized that there are many methods through which a problem with seizures can be detected. I can use this research for my original work because when I analyze the case studies of different patients, I can look for such patterns in the EEG.	6

1/4/20 19	12:00:00 PM	1:30:00 PM	1.5	Affinity Neurocare	<p>I met with Dr. Dike to discuss plans for my original work. We looked through Dr. Dike's patient files and after discussing the different cases, we decided that I should write my report over a patient suffering from Guillian-Barre Syndrome and a patient suffering from Bickerstaff encephalitis. Dr. Dike told me to research these two diseases more in depth so that when I meet with him next time, I have a general understanding of what I am dealing with. The reason that we decided to pick these two patients was because the diseases that they are afflicted with are very rare, so there is ample opportunity to learn.</p>	7
1/6/20 19	2:00:00 PM	4:00:00 PM	2	Home	<p>I researched about Guillain-Barre Syndrome (GBS) and Bickerstaff's Brainstem Encephalitis (BBE) so that I would have a basic understanding about the disease before going on my mentor visit to discuss the patient cases with Dr. Dike. In order research, I found articles from online medical journals and took notes over the most important information. In addition, I also noted areas where GBS and BBE were similar and different. Doing this will help me in the future when I am writing an report on the similarities and differences in between the two patient care studies. Furthermore, I also spent time reading over the outline of how to write a patient case study so that I can begin working on some of the less intensive portions.</p>	9

1/6/20 19	6:00:00 PM	7:00:00 PM	60	Affinity Neurocare (Mentor's Office)	<p>I met with Dr. Dike to learn more about the different patient cases. I explained to Dr. Dike what I had learned from the articles that I found online. We discussed how both BBE and GBS start off from similar origins but they have some key differences. This started off a conversation on the field of neuro-immunology and Dr. Dike explained the different types of antibodies and how this ties into GBS/ BBE. During my independent research, I had noted how the articles talked about how GBS and BBE are often caused post-infection or vaccines. This sparked a conversation over why many people are apprehensive about vaccines these days. In addition, I talked to Dr. Dike about the outline of the case studies, and we decided that rather than writing a full-on report over the differences and similarities on GBS and BBE, I should make an infographic instead. After this discussion, Dr. Dike said that he would send me some in-depth articles from his medical journal subscriptions and a descriptions of the patients.</p>	10
1/7/20 19	6:00:00 PM	8:00:00 PM	2	Home	<p>I started writing the case study using the patient reports that Dr. Dike has explained to me. Furthermore, since over the summer, I was able to meet and interact with the patient who had GBS, I was able to add more of a personal touch to the case studies. Since many of the treatments and scans that were in the patient files are not something that the average person is familiar with, I did more research so that I could write my case study in layman's terms. For example, I spent ample time learning about IVIG treatments and plasmapheresis. Since both of these treatments are viable options for both GBS and BBE, it was interesting to see why one</p>	12

					treatment was preferred over another in each specific case.	
1/8/2019	5:00:00 PM	8:00:00 PM	3	Starbucks and Home	I worked on the case study and home, and finished the introduction and management/outcome portions of the GBS case study. At the mentor visit, I showed my mentor the progress that I had made on my original work. He said that I needed to make my case study for simpler. Dr. Dike also brought up how a Cowboys player had developed GBS, so I could tie that into my report. Dr. Dike and I also went over the different tests that are used to diagnose GBS and BBE.	15
1/11/2019	5:00:00 PM	8:00:00 PM	3	Home	I worked on discussion and introductions portions of the GBS case report. First of all, I read and annotated the articles that Dr. Dike had sent me, and I was able to learn more of the technical part of the disease. Then, I started to write the discussion using a clear format in which I talked about what GBS is, how it occurs, different treatments, and long-term outlook. I made sure to explain each medical and scientific concept so that the layman could also understand it. For the introduction, I talked about Travis Frederick, a Cowboys player who was diagnosed with GBS.	13
1/12/2019	10:00:00 AM	11:30:00 AM	1.5	Starbucks	During the mentor visit, Dr. Dike reviewed the case report that I wrote over Guillain-Barre Syndrome. We talked about some of the concepts that I was still unclear and/or confused about, such as how plasmapheresis works, and I added that to my paper. In addition, Dr. Dike told me that he would pull up the tests and scans from the cases so that I could add them to my report the next time we meet. Dr. Dike also helped me come up with an introduction for my case report on BBE; he said that I could talk about the rarity of this disease. He also supplied me with more articles that I could read, and he gave me a sample case report that I could use a reference to guide me.	14.5
1/12/2019	7:00:00 PM	11:30:00 PM	4.5	Home	I read and annotated articles over the similarities and differences in BBE and GBS. I also conducted my own independent research over the anti-GQ1b antibody syndromes and this allowed me to learn about Miller-Fischer Syndrome and Acute Ophthalmoplegia. After researching and developing an understanding on this diseases, I created an infographic over anti-GQ1b syndromes so that people who visit Dr. Dike's office can learn more about this rare syndrome. After this, I also worked on the introduction for the BBE case report.	19

1/13/2019	10:00:00 AM	3:00:00 PM	5	Home	I wrote the case study over Bickerstaff's Brainstem Encephalitis. Because I had already written a case study over GBS, writing this case study was much easier because I was familiar of the format. For the BBE case study, I talked more about the Innocent Bystander Theory so that both of my case studies had different topics that they focused on. After completing the case study, I also edited both of the papers, added citations, and formatted it. In addition, I also got my infographic printed so that I could show Dr. Dike during the mentor visit. I printed two so that I could have one for my showcase and one to turn in.	24
1/13/2019	5:00:00 PM	7:00:00 PM	2	Mentor's Office	During the mentor visit, I showed Dr. Dike what I had typed up for Bickerstaff's Brainstem Encephalitis Case Study. For the discussion portion of the case study, I was confused on what to write about since this condition is quite similar to GBS. Dr. Dike advised that I could talk more about its identity as an Anti-GQ1b Syndrome and the Innocent Bystander Theory. In addition, I also showed Dr. Dike the infographic that I made about Anti-GQ1b Antibody Syndromes. He really liked it, and said that he couldn't wait to hang it up after Showcase. Dr. Dike was unable to get the scans and case presentation, so he said that he would send it to me tomorrow morning.	26