

Isabella Rosa Nanini

Mr. Speice

Independent Study and Mentorship 1B

13 April 2018

Assessment 21

Mentor: Dr. Timothy Pirolli

Profession: Pediatric Cardiothoracic Surgeon

Location: Children's Health Dallas 1935 Medical District Dr. Dallas, TX 75235

Date: 12 April 2018

Time: 12:00pm to 1:00pm

After a chaotic couple of weeks attempting to extend my observer badge at Children's Health Medical Center in Dallas, it was very satisfying to be able to return to the hospital for a mentor visit. My goal coming into this mentor visit was to finally be on the same page when it came to our study/research so I could plan my next steps towards completing my final product and preparing my final presentation night speech.

We began our mentor visit by discussing the results produced by Dr. Jessica Pruszynski, the pediatric cardiothoracic surgery department statistician. I realized here that I need to work on developing some research related to these statistical terms I am unfamiliar with. Through Dr. Pruszynski's analysis is where the bulk of our results lie when it comes to a prospective research, our data consisted of 30 cases performed on 26 individuals that had surgery at Children's Health Medical Center Dallas from 2004 to 2016 that fit the criteria of our research (mitral valvuloplasty and/or mitral valve replacement on an isolated mitral valve malformation that

results in either mitral valve stenosis or mitral valve regurgitation in an infant less than one year old), we excluded all AV canal patients. Part of the statistical analysis separated descriptive statistics of the 26 individuals from our research. This table highlights the deviations within our patient population which could prove themselves to be statistically significant in our results. A separate table highlights pre-surgical characteristics and includes many of the terms researched and included in my original work product: Mitral regurgitation, mitral stenosis, mean mitral valve gradient, left ventricular shortening fraction, mitral annulus, and mitral z-score. Through my original work knowledge I can assess the overall severity of mitral valve disease within our patient pool. Next table consisted on operative characteristics which included the repair types used in our patient's operations and the overall CPB and cross clamp time. Each repair type is something I would like to research to add to my understanding of my final product. Next table highlights the results of our study, a.k.a mortality and reintervention. The table is supported by two types of graphs: Kaplan Meier plots and Cox Models. The Kaplan Meier plot showcased overall survival and shows that throughout out 12 years of follow up of 26 individuals only 3 patients died within 6 months., and our second Kaplan Meier plot shows that after 10 years 48.9% of our patients lived and required no reintervention, which is quite impressive with congenital mitral valve surgery. Our Cox models analyzed variables within our population in looks for anything with statistical significance, only variable that showed statistical significance was gestational age; however, Dr. Pruszynski says this result may be due to our small patient pool and lack of variability and happened by chance.

Our next topic of study was our abstract, which was submitted to the STSA 65th Annual Meeting for possible publication. Dr. Pirolli shared with me the general guidelines within an

abstract admission to a STSA meeting, and during our mentor visit highlighted the importance of me learning the process of submission for my final product. Our abstract was limited to 250 words and could only include one table and one image. Dr. Pirolli also shared the abstract the team made for submission with included our results, overall study importance, and our Kaplan Meier plot. Overall, I am ready to begin a new phase of my research: statistical analysis, where I hope to gain a better understanding of Dr. Pruszynski's statistical analysis. I plan to spend time researching the specific mitral valve repairs included in our study and update my ISM binder to come prepared for my next mentor visit.