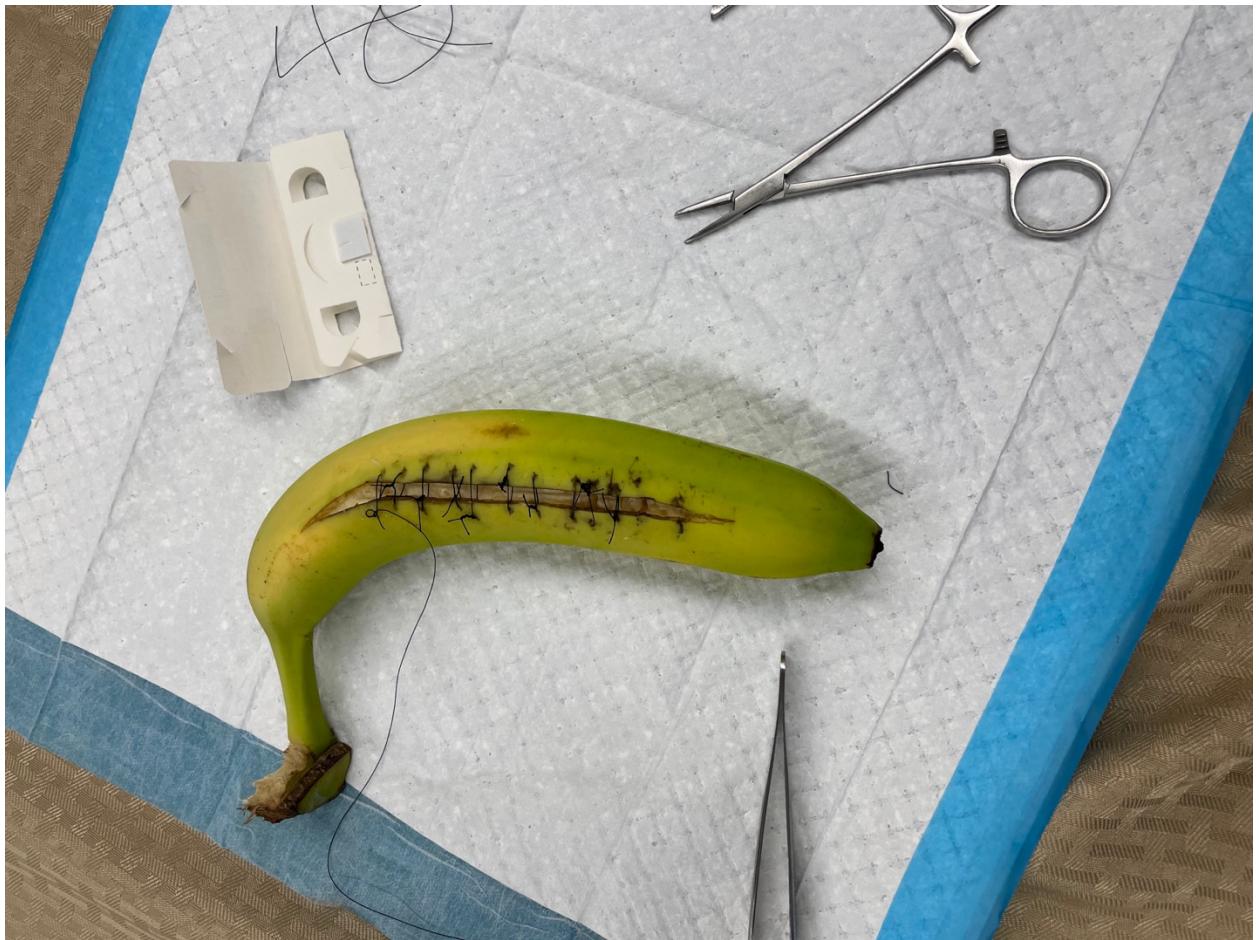


Perry Initiative Outreach Program Reflection
December 11, 2021 – Scottish Rites Hospital for Children
Mariah Cornelio

Before going into this program, I was very unsure about what career path I wanted to take in the future. I was torn between becoming a pilot or going into the medical field. But because I took this opportunity to participate in this program, I am more certain of what I want to be. Throughout the program, our advisors and mentors praised us for taking initiative and opening the doors to the future for ourselves. I am glad, too. At first, I had imposter syndrome and felt unworthy and not good enough to be there. The women there said that that feeling was okay because we are still young and deciding what we want to be. They reassured of our fears and gave their own personal stories about having to change their majors many times before being set. Dr. McIntosh talked to us about her life story and her path to becoming a pediatric orthopedic surgeon. She answered many of our questions like, “will we still be able to live normal lives being in the medical field?” She was very kind and joked around with us a lot, creating a comfortable atmosphere among us. Dr. McIntosh also spoke about having to juggle being a mom, a wife, and a surgeon at the same time. She said that even though the work she must do as a surgeon can be extensive at times, she was able to do it because it wasn’t a permanent thing. Her key lesson was that even though medical school is very tiring, all that massive workload doesn’t last forever. That reassured me because I had thought that I would be drowned with work and study permanently if I were to be a surgeon. She also told us to earn a degree that would give us a job after undergraduate school just in case we changed our minds and did not want to go on to medical school. Additionally, we were able to hear from Amy who is a third-year medical student at UT Southwestern. Her story was relatable to us because she is young and was able to reassure our fears. Amy told us that the movies make medical school seem more intense than what it really was and that we shouldn’t worry that much because she still has friends and time to balance out her life. We also got to hear from biomedical engineers and other women in the program that broke stereotypes.

Throughout the course of the day, we completed six surgeries. The first one that I did was learn how to suture a banana. Dr. McIntosh helped us with this activity. She showed us an example of her doing it and it was so fast I felt like I couldn’t keep up because her hands were moving everywhere. At first, I had a lot of trouble and that made me feel down. But once she helped me out one on one, I was able to feel more confident about my suture. She taught me how to do a simple stitch, a hand stitch, and a running stitch. Amy also helped me out on this one and taught me a strategy on how to do a square knot so that the stitch wouldn’t pop out. Dr. McIntosh talked about our music tastes because she wanted recommendations on what songs to play while she was operating on her patient. It was very fun. Here’s a picture of my banana.



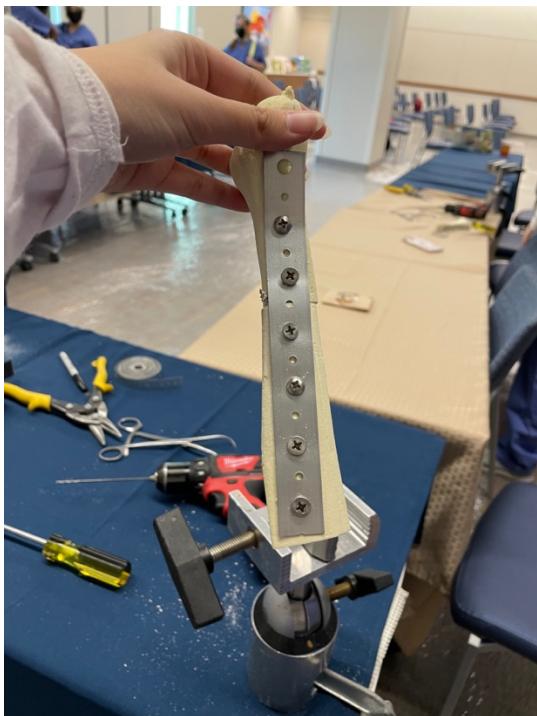
Next, we learned how to cast. I partnered up with Katelyn and she was the doctor first while I was the patient. Our situation was that we as the patient had fallen and landed on our thumb to catch ourselves and in the process, fractured the little cavity between the thumb and the pointer finger. First, we had to put on a sleeve, then we had to wrap it with the cotton. Next, we had to take the actual cast wrap and dip it in water for five seconds. After that, we squeezed it out and started rapidly wrapping. They told us that the wrap would begin to harden and be fully hardened in two minutes, so we had to rush. Once it was my turn to cast Katelyn, they gave us a choice. Take off the cast or cast the other person while we had our own casts on. I wanted a challenge, so I did it with a cast on which was very fun and challenging. They showed us the tool to take the cast off and I thought it was the coolest thing. They had this blade thing that was able to cut through the cast but not through our skin. The lady demonstrating it even tried it on her skin and she had no cuts even though the blade was directly on it. When she took mine off and the blade touched my skin, I only felt heat and a tingling. It was very cool. Here's a picture of our casts.



The third station we had to perform an external fixation on a patient that had transversely fractured their left femur. This was our first station that had to do with power tools. I'm not going to lie; I was very nervous to be working with power tools because of my bad experience with them. Back in freshman year, I had cut my thumb with a power tool while working on our project in Mr. Brown's art class. It was traumatizing so I was afraid to use the drill and oscillating saw. Our first task was to create a transverse fracture in the femur. I decided I want to do it because I was able to break the bone on the knee and it made me feel strong and powerful. Next, we had to decide where we wanted to put the rods: on the posterior, anterior, medial, or lateral side of the femur. Because this was an external fixation, we decided to do it on the anterior and lateral side of the bone. If the rod was on the posterior side, the patient would have trouble laying down. And if it was on the medial side, that would just be very uncomfortable. Our group took turns using the oscillating saw and drill and once we attached the rods on the anterior side, we did the same on the lateral side. We positioned the rod higher out to account for the skin. By the end of this surgery, I felt comfortable using power tools and it made me feel very independent. Here is a picture of our external fixation. You can see that the bone wasn't even because we did not align it accurately. But at least it was stable.



Our fourth station was internal fixation for fractures using plates and screws. Once again, our task was to create a transverse fracture and fix that bone up using plates and screws. We had trouble at first because Dr. McIntosh told us to drill into the bone perpendicular to the fracture. It was hard to drill into the bone at an angle, so we drilled in and slowly rotated the drill. It took us several tries because our projection was correct, and our first nail ended up breaking through the cortex. Dr. McIntosh reassured us and said that it happens in real life. Once our primary nail was in, we screwed the plates and nails in the bone. Here is a picture of that.



The fifth station was a knee fixation surgery. The patient had managed to completely break apart their left ACL and left PCL and our job as the doctor was to attach it back together. Drilling was probably the hardest part because once again, we had to drill the holes in the two bones diagonally. Although we ended up doing it, it looked messy. After drilling the holes, we stuck an elastic band through them so that the bones could still bend and be flexible. Then we screwed nails to secure the bands and finished. At the end, it looked pretty messy, and we didn't secure it enough so if this was real life, the knee would bend more than it should, but Ms. Ophélie said that it was great for our first try. This was probably the surgery I enjoyed doing the most because drilling the holes was challenging and it challenged me to use my perception and hand power to drill the holes. Here is a picture of our knee fixation surgery.



Our last station was internal fixation, or intermedullary femoral nailing. This was where we had to drill a hole through the entire diaphysis shaft and through the epiphysial of the bone. It took team work to do it because we had to position the femur (this was the same fractured femur we used for the external fixation, by the way) at the proximate angle of the medullary cavity to prevent drilling through cortex of the bone. After we successfully drilled the hole, we had to clean the bone dust with this device (I forgot what it was called but it looked like a long, flexible crochet stick) that also happens to stimulate the healing process of the bone. Then we had to hammer a stick inside the cavity and then nail it into place. I had a lot of fun doing this surgery, too. Here is a picture.



Overall, I am so very happy that I was able to attend this event. By the end of it, my impostor syndrome completely went away, and I felt empowered. We talked about breaking stereotypes and how important diversity was in these fields of study. Dr. McIntosh even talked to us about her experiences of how men look down on her because they find it hard to believe that she was a surgeon just because she is a woman. I recommend this experience to any female who wants to do it because it was just so empowering and mind opening. Through this program, I was able to meet many girls my age who were interested in what I was interested in and even shared the same struggles and problems that I am going through about my future. I have now built friendships with them. Through this program, I was able to open a door to my future and learned many valuable lessons. I have gained many female mentors through this program to help me with any questions and reassure me of my troubles. I'd definitely do this again. Thank you for telling me about this.

Here are a few other pictures from the experience that I was able to take. They even let us keep the models of our bone surgeries.



