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Junior Editor's Report

Artificial Intelligence and Us – Reciprocal Learning

By Christina Kumi – Upper Darby Chapter

Artificial Intelligence, or AI, has always been something I was aware of in our rapidly evolving society. But until recently, I never took the time to learn about what it truly is and how it is affecting our world today. After participating in a workshop where the topic of AI's impact on making jobs easier to perform and generating ideas and solutions more quickly was discussed, I realized that AI is not just a futuristic concept; it's a present-day game-changer in the workforce, particularly in the medical field. From enhancing diagnostic accuracy to streamlining administrative processes, AI technologies are transforming healthcare delivery and patient outcomes. For this article, I decided to gather information directly from the source and interviewed Mrs. Lauren McTigue, an Operating Room Nurse at Penn Medicine.

AI has made significant strides in the medical field, particularly in surgical procedures. One notable instance, mentioned by Mrs. Lauren, where AI has significantly improved a surgical procedure is in bariatric surgery. Traditionally, bariatric surgery, which aims to decrease the size or length of the gastrointestinal tract, was once an extremely invasive procedure. However, with advancements in AI, "it has since become minimally invasive," leading to quicker recovery times for patients. Mrs. Lauren stated, "AI, especially in the context of robotic surgery, has taken over some of the physically taxing movements that would otherwise burden human surgeons. For example, AI can mimic repetitive movements and hold traction without the variable of human fatigue. This allows for more consistent and improved results."

The operating room has seen the integration of various AI tools and systems that enhance surgical precision and efficiency. Mrs. Lauren informed me that commonly used AI instruments in the operating room include tools that can grab, burn, and cut tissue, as well as suture. These tools enable surgeons to perform fine repairs that are often challenging, especially in microscopic procedures such as vascular repair, which could traditionally take 12-20 hours. With the aid of AI, the time required for these procedures is drastically reduced. "The patient benefits because

they have fewer hours under anesthesia, fewer hours in an immobile position, and fewer hours with an open cavity, which lowers the risk of infection." Imagine the immense change in post-surgery recovery.

Something I found particularly interesting during our discussion was the areas where AI is currently lacking. While AI has been beneficial in many aspects of surgery, there are certain AI technologies that present challenges. When asked whether there are any AI technologies that she found challenging to use, Mrs. Lauren stated: "I find AI that is based on algorithms for the treatment of critically ill medical patients difficult to use. I'm not sure if this is because of my age, but I learned how to spot a critically ill patient based on appearance alone. For example, an 18-year-old male who is feeling nauseated with no pulse but is talking to me? His heart rate is probably extremely high (200 beats per minute). An elderly gentleman leaning forward in his wheelchair like he is anxious? He is possibly having a heart attack." The technical nature of surgery makes it relatively easy to incorporate AI into patient care environments. Although AI will eventually improve in screening medically complex patients, I found this very interesting because I previously viewed AI as this "all-knowing technology," but that is not the case. Like humans, AI has an advanced way of thinking but also has room for more knowledge and growth.

In conclusion, while AI has greatly enhanced surgical procedures and efficiency in the operating room, there are still challenges to be addressed in the medical world and beyond. I think the biggest thing I learned from this opportunity is that we, as humans, are also growing in knowledge as AI is. Our knowledge works in unison.