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SUNY Upstate Cardiovascular Perfusion
AmSECT Safety Committee Essay

Patient Safety in Perfusion

There is no field of medicine that is more invasive than the field of perfusion, and when the life of a patient hangs in the balance on a daily basis, there is little room for avoidable errors. This is precisely why the concept of patient safety is among the most foundational practices in our field. Despite research and technological advancements such as safety equipment, AmSECT's standards and guidelines, and techniques like evidence based medicine, failures still occur. These advancements all prioritize best practices and minimize risks for our patients, but I have found that communication failures are still commonplace which can jeopardize patient care. I will explore this idea using a real life scenario, talk about the issues surrounding communication, and propose practical solutions to mitigate these risks.

I've had the wonderful opportunity to work in the field of Perfusion for over 3 years now. My first two years were spent as a Perfusion assistant and for the last 7 months I've enjoyed the life of a Perfusion student. During my time as an assistant, I got to experience a plethora of emergency situations, from oxygenator failures to cell saver bowl ruptures. However, one experience that sticks out to me in terms of how communication affects patient safety occured about a year ago. In this case, the chest was closed and right before moving the patient from the OR table, they entered ventricular fibrillation. This was a shocking moment, but one that had to be responded to with decisive action. Compressions were started, the surgeon was called, but unfortunately, yelling ensued. The Perfusionist had assembled the new pump prior to the arrhythmia, but I ran to get the ECMO cart. The Perfusionist primed it as the surgeon performed compressions and handed up the lines, but due to a communication failure, the scrub tech cut the

loop before the Perfusionist clamped off. So not only was it an unusable ECMO pack, but the last ECMO pack on the shelf. The Perfusionist, being decisive, quickly rolled the pump over and began priming and drawing up prime drugs. The loop was handed up, but thankfully the patient came out of the arrhythmia and was not harmed in the end. This incident demonstrates how detrimental even small miscommunications can be for patient care.

A study out of Hong Kong tracked 379 sentinel events over 10 years and found that 186 of them resulted from poor communication. This study highlights an important question: why do communication breakdowns happen in the first place? Some reasons include untrained staff, ego, misunderstandings, and emotional reactions. In my experience, the emotional response is often the culprit. A life is on the line, which means all hands are on deck and there is no time to waste. This can manifest positively, but it can also manifest as yelling, arguing, and overall chaos. Poor communication breeds disorganization, and disorganization can significantly delay care. A lack of training is also an important consideration. Emergency situations are intimidating especially for new personnel like students and recent graduates who are likely unfamiliar with the team and how to be of assistance. This results from a lack of preparation and training. As Benjamin Franklin said, “By failing to prepare, you are preparing to fail”. Perfusionists end up being the most important person in the operating room during an emergency because they are the safety net. This means that it is important for a Perfusionist to know who they are working with in an emergency and anticipate any possible failures in communication.

The solutions for communication issues can be found in safety mitigators. In other words, figuring out how the communication errors can be avoided in the first place so that not only are patients protected from the consequences of these breakdowns, but the instances are minimized. This is where the concept of safety mitigators arises as they are the first line of defense in

reducing risk to patients. Primarily, protocolization of emergency plans can be a huge safety mitigator. Just like we have protocols for surgeon preferences, the same can be created for emergency situations. While these protocols are never a one-size-fits-all solution, establishing clear responsibilities and expectations for each team member can significantly improve the response in an emergency. This protocol can include anything from what equipment is needed, what medications to obtain, who to notify, what to prepare, and so on.

Another important safety mitigator is training. Having a protocol is only one piece of the pie, and for these protocols to truly be effective, drills and simulations should be incorporated into training for all staff. Going through both scheduled and unscheduled walkthroughs allows staff to rehearse their assigned roles and practice communication skills, leading to efficiency and confidence during emergency situations. I cannot begin to describe how many emergencies I have been involved in that consist of many people yelling non-specific orders to a room full of people. Protocols and training will streamline this process and establish who's in charge and what personnel need to be involved. Going into emergencies blind can be especially difficult from the perspective of Perfusion because of all the tasks that are expected to be completed in a very short amount of time such as priming a circuit, handing off equipment like cannulas, maintaining sterility and many other responsibilities, usually during active CPR.

To conclude, patient safety is a major priority in the field of Perfusion and proper communication is paramount to mitigating harm in emergencies. The near-miss event exemplifies how failures in communication can lead to exceptional risks. Communication breakdowns can be commonplace in high-stress situations due to lack of experience and heightened emotions. As a result, protocols for responding to emergencies and training should be implemented to clarify the roles and responsibilities of team members and reduce preventable

errors. Ultimately, it is the duty of every Perfusionist to advocate and prioritize patient safety and communicate effectively to safeguard the lives of patients in the operating room.

Works Cited

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