"Safety while we watch –What should a Patient Safety Culture in Anaesthesiology look like?"

When I was fifteen years old I experienced a case of acute appendicitis and had to undergo an appendectomy. This was my first surgery and quite frankly my first real experience in the medical world. I was frightened and anxious of what would possibly happen. Fortunately, I was greatly reassured by the anaesthesiologist on the team. The anaesthesiologist did an excellent job of clarifying exactly what to expect and helped calmed my apprehensions greatly. I was in awe of his attention to my individual worries and concern for my safety.

The field of anaesthesiology is one of the main medical specialties that strives to continuously improve patient safety (Van Aken *et al*., 2011). According to the WHO (2021), patient safety is a health care discipline that has become increasingly important over time due to the evolving intricacy in medical systems. It's primary goal is to prevent and reduce potential risks, errors or harm that may occur to patients during their course of care. The WHO (2021) also states that in order to ensure patient safety strategies are successful, it must include "clear policies, leadership capacity, data to drive safety improvements, skilled health care professionals and effective involvement of patients in their care." Moreover, the Irish Medical Council's Eight Domains of Good Professional Practice also outlines that patient safety is a fundamental aspect in providing quality and professional patient care (Medical Council, 2021).

Anaesthesiology is a field which has reached superior levels of safety in technical aspects (Van Aken *et al*., 2011). The 2010 Declaration of Helsinki outlines some of the models, theories and tools which have been implemented to optimize modern anaesthesiology (Neuhaus *et al*., 2015). Now the focus of patient safety culture in anaesthesia is shifting from improvements in technology to improvements in other aspects such as education and non-technical skills.

Checketts *et al.* (2016) states that clinically experienced and adequately trained anaesthetists are one of the main determinants of patient safety. Many studies have found that human error in anaesthesiology is frequently responsible for adverse events in clinical care. This human error can be mitigated through "safe surgery" checklists which have been adopted from the aviation industry (Checketts *et al.*, 2016). Evidence reveals that standardized checklists decrease mortality, preventable adverse events, and medical errors especially during transitions in patient care (Methangkool *et al*., 2020). These checklist ultimately improve the quality and safety of perioperative care and facilitate overall better surgical outcomes (Abbott *et al*., 2018).

Another technique that has been recently borrowed from the aviation industry is simulation training (Green *et al*., 2016). Integrating simulation training scenarios into medical curriculums is the next major method in which patient safety can advance in anaesthesiology and should be adopted more widely. Simulation scenarios create the optimal environment for safe and practical training without enlisting any harm on real patients. As anaesthesiology is a high-risk specialty with minimal tolerance for error this is an ideal training method. Simulation

training not only increases self-reported confidence but also greatly improves patient outcomes (Green *et al.*, 2016). In the future there is even interest in expanding stimulation training to also teach non-technical skills such as communication skills, interpersonal skills and team management (Green *et al.*, 2016).

Additionally, ensuring patient safety is a priority in medical schools and postgraduate training courses can heavily influence individual attitudes. The personal attitudes of anaesthetists ultimately determine the culture of the specialty. Mechanisms for patient safety can only work in a favourable culture. Therefore, if the importance of safety is emphasised early on in one's medical career it will be engraved in the culture (Van Aken *et al.*, 2011).

Another area that can impact patient safety in anaesthesiology is to reduce the workload of anaesthesia professionals by having an adequate number of trained anaesthetists available. This would result in reduced levels of fatigue and burnout rates which in turn leads to higher levels of performance. Only when anaesthesiologists are able to provide the highest standard of care, can optimal patient safety be ensured (Merry *et al.*, 2010).

Anaesthesia patient safety culture should also ensure that communication and teamwork skills are of the utmost standard, as they have significant influence on patient safety outcomes (Methangkool *et al.*, 2020). Effective communication skills in surgical crises are essential for positive outcomes. Strong communication skills are conducive to good teamwork. The surgeon–anaesthesiologist relationship is one of the most crucial elements influencing overall team performance and dynamic (Cooper, 2018). A positive relationship can promote safe and effective patient care whereas, a poor relationship can contribute to the occurrence of adverse events (Cooper, 2018).

Ultimately, the field of anaesthesiology is at the forefront of advancements in patient safety. Although many innovations in patient safety have been previously made, anaesthesiologists should continue to strive to improve the discipline. Patient safety culture should also aim to incorporate the concerns of patients and ensure their needs are met. The respect and care anaesthesiologists have for their patients and their safety is a core principle of the specialty. This sentiment may even be enough to inspire a fifteen year old girl who was afraid of surgery to pursue a career in medicine.

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