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EDITORIAL

Surgical safety

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I am writing this editorial in the heat of the COVID-19 crisis. A huge challenge in dealing with this pandemic is the lack of knowledge about the treatment, risk factors, preventive measures, economic impact of such measures, etc. due to the speed at which it hit us. The current topic issue about surgical safety is the exact opposite of that situation. About 200 years ago, abdominal procedures were almost uniformly fatal due to infection and surgeons chose speed over precision to limit the horrible screaming of their unanesthetized patients [1]. Thousands of scientific breakthroughs later we have perfected the craft and scrutinized every little detail of it. But, we must continue to be vigilant. In 2004, the World Health Organization (WHO) still counted 7 million surgical patients worldwide who suffered significant (often avoidable) complications with 1 million of them dying during or immediately following surgery [2]. What efforts are possible in everyday practice to get those numbers as low as possible?

Each surgery starts with selecting the right patient and balancing risks versus benefits. The safest form of surgery is sometimes not performing surgery at all—primum non nocere. The patient, family, anesthetist and surgeon need to be on the same page with all parties properly informed, prepared and consented [3, 4]. Many other stakeholders have their own specific responsibility in that pre-surgical space like hospitals, medical device companies, governments through reimbursement criteria, etc. [3].

Within the confines of the operating theatre, it is mainly focus, teamwork and skill that improve outcomes. The efficiency of the WHO checklist is purported to result from behavioral change in the operating theatre, creating an atmosphere of effective communication and a culture of safety, just as much as from actually ticking the boxes [4, 5]. The anesthetist, our indispensable ally on the other side of the blood–brain barrier, can make or break the surgery by appropriate fluid and pharmacological management [4]. Trained nurses who master the magical skill of reading a surgeons' mind can make that life-saving difference [6].

And then, whether we like it or not, the surgeon obviously plays a lead role in the success of any procedure. The years of see one, do one, teach one have long gone. Surgical training has improved, learning curves are calculated and proficiency criteria are defined [6]. But training does not stop after residency. High-volume centers are showing better outcomes, experienced surgeons show better results [7]. Even 200 years ago, specialization was a leading force in improvement of quality [1]. Subspecialization or centralization might be the modern extension to this.

Last but not least, the evolution of the world into digitalization, big data, artificial intelligence, etc. takes surgical safety to another level [8]. Keeping track of complications, patient-reported outcomes and success rates is at the verge of being common practice [9]. Trustworthy feedback on performance drives intrinsic motivation for improvement [9]. Furthermore, an unprecedented amount of surgical knowledge is at the surgeons' fingertips thanks to the internet, social media, online courses, etc. [8].

In summary, surgeons around the world have been motivated and creative at successfully improving their craft. When we finally beat COVID-19, with similar determination, there is definitely more growth ahead.

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