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Patient Safety in the Operating Room. Edited by Michael H. Wall, M.D., F.C.C.M., Lebron Cooper, M.D. Philadelphia, Lippincott, Williams & Wilkins, 2013. Pages: 220. Price: \$176.

Patient Safety in the Operating Room updates the reader on improvements in patient safety in the new millennium. This excellent monograph even includes a reference as to when the first operating theaters were built at St. Thomas Hospital in 1751 (page 96). In the 1960s, halogenated inhalation agents replaced explosive ether and cyclopropane. In the 1980s, pulse oximetry and capnography became mandatory for all patients and the American Society of Anesthesiologists Closed Claims Projects attributed dramatic reductions in the incidence of undiagnosed esophageal intubation and cerebral anoxia to the monitoring of these two physiologic variables. However, at the close of the 20th century, other causes of harm seemed intractable. For example, drug errors continued to occur at a rate of 1/133 anesthetics.

The story covered in this monograph begins in the 21st-century operating room with computer-equipped barcode readers that can scan drug labels directly into the electronic medical record. This basic innovation, available at checkout counters worldwide, coupled with pharmacy-prepared, ready to use syringes stamped with electronically printed labels, should help eliminate many drug errors. Even electronic infusion pumps are now incorporating scanners to prevent improper programming of drug infusion rates.

The chapter devoted to central-line placement concludes that technology should replace blind-insertion techniques. Ultrasonography should target the internal jugular vein and guide wire placement. Should video endoscopes routinely be used to verify placement of endotracheal tubes above the carina?

Checklists, protocols, and algorithms now abound for managing the difficult airway, cardiac arrest, and transfusion reaction. The list has grown as the utility of having a comprehensive set of instructions to use as a guide for infrequent challenges and has proven invaluable. The electronic medical record can be programmed to display these lists, which can then be available for both documentation and prevention of omission of a critical drug or laboratory test, for example, tryptase level when anaphylaxis is suspected. Not only do critical events need checklists but also routine handoffs in the operating room and intensive care unit need to be documented in the electronic medical record.

The chapter on checklists includes one for verifying a properly functioning anesthesia machine (page 184). Dr. Spiess bemoans that it is “not documented in a rigid manner the way that aviation documents preflight checklist completion.” The electronic medical record should be able to fill this void.

One can take the approach that all errors are amenable to technological fixes. The chapter “Decision Making, Situation Awareness, and Communication Skills in the Operating Room” is the most intriguing of the whole volume. The psychology of decision making under uncertainty is covered. It reviews the Nobel prize-winning work of Kahneman and Twersky in economic theory and applies it to critical medical decision making. In summary, we are either intuitive or analytical. The former uses previous experience to categorize situations and is prone to cognitive biases (examples listed on pages 115–117). The latter, analytical, lends itself to computer programming. It has its basis in Babbage’s 19th-century mechanical computer. In the 20th century, Turing and the staff at Bletchley Park used the first electronic computer, Colossus, to decipher German military codes. We are all aware of IBM’s Big Blue and Watson’s ability to defeat chess and Jeopardy champions.

Patient Safety in the Operating Room concentrates on areas where anesthesiologists work, but we all know patient safety begins long before the patient enters the operating room. There is an expression: “it takes a whole village to raise a child.” Similarly, the entire hospital staff must be actively involved to enable the patient to be safely discharged from the medical center. The medical technician, who must identify the patient, draw and label the blood with the correct code, is as active a participant in this whole process as is the surgeon and anesthesiologist. Even the “pit crew” that scrubs the operating room floor and disposes of the waste during room turnover must follow proper protocol.

I would like to see a sequel to this monograph that would include the topics of fire prevention, electrical, laser, and radiation safety in both interventional radiology and the magnetic resonance imaging suite. Perhaps, it could include patient transport safety in ambulances and helicopters. More mundane checklists to include making sure the operating room table and gurney are locked before patient transfer would be helpful.

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