Wrong-site craniotomy

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In this issue of the Journal of Neurosurgery, Cohen and colleagues’ report on a systematic review of the medical and legal literature as well as media reports relating to wrong-side craniotomies. Included with their description of 35 reported cases, they have provided analysis of possible contributing factors. Not surprisingly, the most common contributing factor was a breakdown in communication. What is most striking and disconcerting is the observation that only one of the cases was reported in the peer-reviewed medical literature. A failure to recognize and discuss such events within the neurosurgical and broader medical community does nothing to prevent them. Instead, silence may actually permit these events to recur because valuable lessons learned by the hospitals and physicians involved are not shared with colleagues. This concern is not limited to neurosurgeons. Devastating events in other specialties are rarely discussed openly within our medical communities. Unfortunately, they are often broadcast widely in the public media with a laser-beam focus on the physician or the incident and issues of malpractice. This commotion and defensive posturing consume energy that would be better directed at improving processes to avoid such events.

As reflected by publication of this article, the impact of medical errors on both an individual and societal level has received increased attention over the past decade. In 2000, the Institute of Medicine report “To Err Is Human: Building a Safer Health System” estimated that preventable medical errors could be responsible for up to 98,000 deaths per year in the US. After the IOM report, the National Quality Forum published a list of 27 preventable adverse events that should never occur in the US health care system. These events were labeled as “never events.” Three of the 27 never events were surgery on the wrong site/side, wrong procedure, or wrong patient. The inclusion of these dramatic and possibly catastrophic events resulted from an alert released by the Joint Commission, formerly known as the Joint Commission on Accreditation of Healthcare Organizations, in August 1998, examining wrong site/side surgeries. The alert included a review of 15 cases that had been voluntarily reported to the JC Sentinel Event system, which was established in 1995. This database was loosely fashioned on the federal aviation event reporting system in which errors or incidents that could or did influence flight safety are anonymously reported. The most recent review of the Joint Commission database updated through June 30, 2009, reveals that of the 6244 events in the database, wrong-site/side, wrong-surgery, or wrong-patient events account for the largest single category of adverse events with 837 cases (13.4%). Similar to the findings in this paper, the most commonly cited contributing factor for these events was “a breakdown in communication between surgical team members and the patient and family.”

In response to these findings, the Joint Commission issued a number of process requirements for all hospitals to implement with the goal of preventing these events. As part of the National Patient Safety Goals, the Universal Protocol for preprocedural/surgical events includes performing detailed perioperative patient and procedure verification, preoperative site marking, and a preprocedural pause. Despite implementation of these safety checks in the surgical environment wrong-site/side, wrong-surgery, and wrong-patient events continue to be reported. The Pennsylvania Patient Safety Authority, which mandates reporting of a broad range of medical safety incidents from all Pennsylvania health care centers, documented 76 such cases in 2008 and 12 in the first quarter of 2009. In another study using multiple different databases including malpractice claims data, Seiden and Barach estimated that 1300–2700 such events occur annually in the US. An evaluation of claim records for the insurance company that covers nearly one-third of Massachusetts physicians, the rate of non–spine related wrong-site/side/patient surgery was 1 in 112,994 operations. However, the true number of such events may never be known unless there is universal mandatory reporting. Unfortunately, these types of events seemingly fall under the legal principle of res ipsa loquitur, which is Latin for “the thing speaks for itself.” This refers to situations in which it is assumed that a person’s injury was caused by the negligence of another individual because the injury was the sort that would not occur unless someone was negligent. For the majority of these wrong-side surgeries, this is an incorrect view. However, hospitals, physicians,
systems become more complex, both from a technologi-
and aviation industry and the US space agency, that as
high reliability organizations, such as the nuclear power
of an operation. Never assume that any individual, includ-
communicate. Communicate early, frequently, and with as
additional information or questioning of unclear infor-
consultation notes are steps that permit the exchange of
procedural referencing of imaging data, consent forms, and
briefing being advocated by some organizations. The use
inquiry from care team providers around you and actively
ing the surgeon, has all the answers. Second, be open to
unfailures should be considered as a “normal”
process. The conclusions from his analysis led to titling
his report “Normal Accidents,” which indicates that these
events are going to be inherently part of our ever increas-
ingly complex systems. As in other high reliability orga-
izations, health care providers are increasingly working
in an extremely complex, dynamic, and interdependent
system. These people no longer possess all the required
information about the system to safely monitor it. Unfor-
幸tunately, this allows seemingly small errors or failures to
propagate through the system and can lead to catastrophic outcomes such as those reported here.

Assuming that an easy system fix is impossible, what
can a surgeon do to minimize the risk of these events? As
described by Cohen et al.,\textsuperscript{1} the most important first step
that we as surgeons can take to avoid these events is to
communicate. Communicate early, frequently, and with as
many people, including the patient, as possible leading up
to an operation. Never assume that any individual, includ-
ing the surgeon, has all the answers. Second, be open to
inquiry from care team providers around you and actively
listen as others might have vital information. This type of
exchange is the rationale behind the preoperative team
briefing being advocated by some organizations. The use
of a preoperative team briefing as well as active prepro-
cedural referencing of imaging data, consent forms, and
consultation notes are steps that permit the exchange of
additional information or questioning of unclear infor-
mation. In a study by Makary et al.,\textsuperscript{11} the authors
demonstrated that a team briefing significantly improved
the team’s perception of reducing the potential for a wrong-
site/surgery/person event. Third, never assume that the
radiographs being used for surgery are correctly labeled
or interpreted. If possible, the neurosurgeon should try
to access and review the source images to confirm lateral-
ity. It is naive to assume that images are automatically
labeled correctly by the computer because at some point
human input into laterality is required.

In conclusion, the article by Cohen and colleagues\textsuperscript{1}
joins a growing body of medical literature that discusses
our failures at providing the very best care for our pa-
tients. Their intent is to educate us all, not to cast blame.
Without a doubt, these are extremely tragic events for
the patients, their families, and the providers involved.
However, not rigorously reporting, analyzing, and sharing
these events with the broader medical community com-
ounds the tragedy for we are prevented from learning
and avoiding a repetition of these tragic errors.

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dure, and wrong patient adverse events. Are they preventable?

Response

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We appreciate the reviewer’s insight into this crucial
area of medical errors. We knew of additional cases that we
could not report because of various nondisclosure agreements, which goes to the very heart of the editorial comments, and underscores their importance and relevance.

Neither did we include some of the more novel and creative methods for reducing these “never events.” One such method is for every hospital to designate one individual as a “Correct Side Surgery Officer”. This person’s only job and responsibility is to check and verify patient identity, type of operation, laterality, consent, and surgeon for every single procedure and operation that is performed at that facility.1

Before implementing such personnel-intensive prevention systems, universal attempts should be made to adhere to currently accepted safeguards. In our review, nearly half of the cases involved inadequate preoperative checks including basic surgical time-outs, which have gained increasing acceptance as standard protocols for preventing wrong-site surgery.

We must all work harder to not only avoid such errors, but to create a culture where it is as safe as possible to discuss them openly.

Reference