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War stories: a qualitative analysis of narrative teaching strategies in the operating room

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Abstract

BACKGROUND: "War stories" are commonplace in surgical education, yet little is known about their purpose, construct, or use in the education of trainees.

METHODS: Ten complex operations were videotaped and audiotaped. Narrative stories were analyzed using grounded theory to identify emergent themes in both the types of stories being told and the teaching objectives they illustrated.

RESULTS: Twenty-four stories were identified in 9 of the 10 cases (mean, 2.4/case). They were brief (mean, 58 seconds), illustrative of multiple teaching points (mean, 1.5/story), and appeared throughout the operations. Anchored in personal experience, these stories taught both clinical (eg, operative technique, decision making, error identification) and programmatic (eg, resource management, professionalism) topics.

CONCLUSIONS: Narrative stories are used frequently and intuitively by physicians to emphasize a variety of intraoperative teaching points. They socialize trainees in the culture of surgery and may represent an underrecognized approach to teaching the core competencies. More understanding is needed to maximize their potential.

The educational value of the operating room (OR) is understudied and therefore potentially underrealized. It holds great potential as a teaching site for the spectrum of issues in patient care, from operative technique and decision making to preoperative and postoperative management. The OR experience also provides trainees with hours of unimpeded access to faculty members, during which the nonclinical aspects of surgery may be addressed; however, this is infrequently described.[1,2] Despite this richness of the OR as an educational environment, little is understood about the breadth of teaching strategies used intraoperatively. Several lists of teaching behaviors have been developed, but none have been validated in the OR in real time.[2–4]

Narrative has long been recognized as "a significant mode of human communication, a bearer of culture, and a potentially profound and far-reaching educational methodology" in other academic fields.[5] Among educators, storytelling is a familiar mechanism for highlighting learning objectives, providing

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Table 1 Story characteristics

Characteristic	Mean	Median	Range
Stories per case	2.8	2	0 to 7
Story duration	64 s	48 s	11 s to 233 s
Teaching points per story	1.9	2	1 to 4

depth to a subject matter, and connecting generations, concepts, and ideas. Based on the idea that knowledge can be simultaneously stored, retrieved, and relayed by stories, the narrative method of teaching is known for its power.[6]

Narrative is also an emerging discipline within medicine. Surgical (and medical) educators are just beginning to understand the power of stories to convey information. However, the bulk of narrative medicine focuses on its ability to humanize clinicians—to "deepen their ability to adopt or identify others' perspectives"[7–9]—or, alternatively, its utility as a methodology for gathering qualitative data and/or triggering reflection from them.[8–11] Its role as a teaching strategy, namely, narrative teaching, has yet to be described.

Charon[12] defined narratives as "stories with a teller, a listener, a time course, a plot, and a point." During an observational study using video to understand performance in the OR, we noted a recurring use of narrative by surgeons as a teaching tool. Because of the oft-drawn parallels between surgery and the military—both require rigorous training and have a traditionally hierarchical social structure, for example—we chose the term *war stories* to describe narratives told by surgeons "in the trenches" of the OR. Once this phenomenon was identified, we sought to capture and characterize narrative teaching in the OR: to measure the frequency with which this technique is used and to understand the learning objectives that it is used to illustrate.

Methods

Ten complex surgical procedures, representing 38.8 hours of intraoperative time, were audiotaped and videotaped. This paper summarizes the results of a single qualitative project within a larger parent study using mixed methods to study intraoperative performance. The procedures for data collection are described in detail elsewhere.[13] The videos were analyzed using RATE, open-access software developed by Guerlain et al[14] at the University of Virginia for playing multiple video and audio streams in synchrony. Two surgical research fellows (Y.-Y.H. and A.F.A.) independently generated transcripts of the videos, and these transcripts were reviewed by a multidisciplinary panel, including the surgeon–principal investigator, a cognitive psychologist, and an educational psychologist.

Two independent coders (Y.-Y.H. and S.E.P.) identified narrative stories told by surgeons and characterized them by duration, teller/teacher and listener/learner, and the phase of the case in which they appeared. Summary statistics were calculated around the number of stories per case, the length of each story, and the number of teaching points per story. A second pass was performed by the two coders; using grounded theory analysis, we identified emergent themes in both the types of stories being told and the teaching points they illustrated. The stories and their themes were then reviewed and verified by the entire research team.

Results

In nine of our ten cases, we identified a total of 28 narrative stories. Table 1 displays summary statistics of these stories; they appeared frequently, tended to be brief, and were often used to demonstrate several teaching points at once. Most commonly, the attending surgeon was the storyteller and initiated the story spontaneously. In a single instance, he or she was prompted by a resident's question. Four stories were told by residents, one of which was prompted by a question from the scrub technician. The intended audience was generally the surgical resident and/or the medical student, but anesthesiologists were also targeted (three times), as was the nursing staff (once). One story was told to the operative attending surgeon by a second attending surgeon who was visiting the room.

Types of stories

Three main story types emerged: practice changes from lessons learned, personal training stories, and near misses and adverse events. These were not mutually exclusive; stories could belong to more than one type. The incidence of each story type is shown in Table 2.

Stories of practice changes from lessons learned were the most commonly observed during data collection. Unlike near misses and adverse events, the focal point of a practice change story was not a particular case gone wrong; these stories usually described parallel patients from which knowledge was gained and contributed to adjustments in the management of patients or personnel. In the following example, the surgeon describes the evolution of his approach to pelvic sarcomas over time, a process that has been directed by trial and error and advice from other surgeons, rather than a discrete case that he fears replicating:

Table 2 Types of stories

Story type	Number of stories
Practice changes from lessons learned	19
Personal training experience	9
Adverse event/near miss	4

These story types are not mutually exclusive; for example, a single story may be categorized as both a training experience and an adverse event/near miss.