

What's New in the Patient Safety World

September 2021

Ambiguous Language in the OR

Our January 5, 2016 Patient Safety Tip of the Week "[Lessons from AirAsia Flight QZ8501 Crash](#)" discussed the crash of AirAsia Flight QZ8501 into the Java Sea on December 28, 2014, killing all 162 people aboard. Though there were multiple contributory factors, there were several ambiguous communications that were significant factors in failure to avert the crash.

A series of serious miscommunications occurred once the stall alarm triggered. The pilot in command shouted "level...level...level" (repeated 4 times). But it was not clear whether he meant to level the wings or level the "attitude" or orientation of the plane to the ground. Then he followed with the command to "pull down...pull down" (repeated 4 times). As above, this order is ambiguous because if you pull the level/stick down, the plane goes up and accentuates a stall.

It should come as no surprise that use of ambiguous language in the OR can be dangerous and contribute to adverse events and poor patient outcomes. Liu et al. ([Liu 2021](#)) reviewed video recordings of six surgical procedures performed by residents under the supervision of specialist physicians. In all, there were 319 minutes of surgery recorded and reviewed. Overall, they found 3912 examples of potentially ambiguous language, a rate of 12.3 per minute. Of these, they identified 131 near misses associated with potentially ambiguous language.

Unfortunately, this paper is replete with words and concepts that, quite frankly, are foreign to us! Words like "deixis" and "anaphora" may be part of the lexicon of linguists but are hardly part of the vernacular of your typical clinician. (Fortunately, they do provide a table with definitions of the linguistic phenomena, along with examples). Also, the focus of the study is on the impact of ambiguous language on teaching and training of surgeons. But the important lesson of the study is that our failure to use precise language in the OR can lead to unintended consequences.

It does have a table that provides examples of how the various types of ambiguous language led to near misses and what alternative language might have been used.

Of interest to us is lack of comment on other forms of communication that should have taken place. Of course, we are talking about “**hearback**”. The Liu article does note that airline pilots must repeat safety messages back to the controller but does not go into detail about use of hearback in the OR.

Back in that January 5, 2016 Patient Safety Tip of the Week “[Lessons from AirAsia Flight QZ8501 Crash](#)” we noted another miscommunication that was one that did not take place but should have. When the pilot in control began to manipulate his stick/lever, standard operating procedure would have been to call out “I HAVE CONTROL” and responded by the other pilot transferring the control by call out “YOU HAVE CONTROL”. Had that happened, perhaps the cancelling action of operating to sticks/levers simultaneously would not have occurred. Perhaps the analogy in the OR would be communication between the surgeon and anesthesiologist regarding when it is safe to use electrocautery once oxygen flow has been stopped. It might go something like this: surgeon “READY TO USE ELECTROCAUTERY”, anesthesiologist “YOU MAY USE ELECTROCAUTERY”.

The Liu paper also does not focus another communication-related factor contributing to adverse events in medicine or other industries - language/cultural disparities. As our healthcare workforce is becoming more diverse, we do encounter some difficulties ensuring everyone understands the words we use. That is particularly problematic when we use idioms and slang terms.

Hierarchy in the OR may also affect communication. Liu et al. acknowledge that ambiguous language use between teaching and training surgeons has the potential to lead to catastrophic surgical outcomes, “especially when the training surgeon is junior”.

There is much more to language than the actual words. The way the words are spoken is critical. Tone and inflection count as well. We always tell the story about the copilot saying softly in a monotone voice “We are running out of gas” several times before a plane crashed because it ran out of gas. He obviously should have been shouting it out loudly. The hierarchical nature of that cockpit probably prevented the copilot from speaking up. How many times has that happened in the OR? Lots.

And you’ve heard us often remind everyone that 90% of communication is nonverbal. While body language may be somewhat obscured in the OR due to masks and gowns, it still occurs. People can convey an awful lot of information with their eyes.

Though the Liu article has the problems we noted above, it does have some thoughtful and useful recommendations for improving communication in the OR and avoiding ambiguity. Some are very practical. For example, defining a directional frame of reference at the start of a procedure may be very useful (eg. left-right from the patient’s perspective or the surgeon’s prospective, use “toward the head” rather than “up/down”, etc.). It’s worth having not only your surgeons, but your whole OR team, look at these recommendations.

References:

Liu C, McKenzie A, Sutkin G. Semantically Ambiguous Language in the Teaching Operating Room. Journal of Surgical Education 2021; Article in press 23 April 2021
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