Communication Breakdown Leads to Cascade of Errors

Case History: Mr. R was a 54-year-old man who underwent elective left total knee replacement that devolved into a transfemoral amputation due to miscommunication from the orthopedic surgeon to the hospitalist, and then from the nursing staff to the physician, when a change of condition occurred.

By the time the surgical team became involved the day following the surgery, Mr. R’s pulses were no longer palpable. After three unsuccessful surgeries to revascularize and salvage the limb, they had to amputate it.

Mr. R blamed the surgeon and the hospitalist for failure to diagnose a large popliteal pseudoaneurysm that had completely occluded the left popliteal, tibial, and peroneal arteries below the knee. If this had occurred in a skilled nursing facility, the facility likely would have been a target defendant as well, due to the evening nurse’s failure to report the change of condition.

The hospitalist defended himself by saying he was only consulted for one thing — the postoperative tachycardia. If the documents supported that focused content of the medical consult, then it was even more incumbent upon the surgeon to examine the patient when he was informed of the uncontrolled pain, and for the evening nurse to report to the surgeon when she discovered Mr. R was having trouble moving his toes and his pulses were barely palpable.

Communication Breakdown
This scenario presented communication breakdowns in at least three instances.

First, Mr. R complained of excruciating pain that was not normal for this procedure, and it was not well-controlled even with high doses of opioid analgesics. The orthopedic surgeon was notified of the uncontrolled pain and the elevated heart rate and ordered a hospitalist consult. The hospitalist did not examine Mr. R’s left leg during the consult and only addressed the elevated heart rate. Because the surgeon ordered the consult after being notified of both complaints of pain and elevated heart rate, the hospitalist should have addressed both and not assumed that only the surgical team would address the leg issue.

Second, the surgeon did not follow up that same day with the hospitalist to find out if the leg had been examined. Had the surgeon followed up, there still may have been time to revascularize the leg.

Third, the evening nurse charted that Mr. R was having difficulty moving his toes, and the pulses in his left foot were barely palpable. This is obviously a significant and ominous change of condition that should have been immediately reported to the surgeon.

In the SNP setting, physicians rely on the nursing staff to be their eyes and ears, and admittedly, complications like those experienced by Mr. R are rare. However, this does not mean that nursing staff (or physicians) can assume that complications will not arise. The uncontrolled pain combined with decreased toe movement and decreased pulses should have prompted the nursing staff to notify the surgeon. Better communication pathways among the hospitalist, the surgeon, and the nursing staff could have prevented Mr. R’s amputation.

Sentinel Event
Mr. R suffered an avoidable “sentinel event.” According to The Joint Commission, a sentinel event is an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury specifically includes loss of limb or function. The Joint Commission uses root cause analysis to determine how a sentinel event occurred.

Root cause analysis does not capture the entire picture of all the errors that potentially create a sentinel event. One response to this has been the advent of “cascade analysis,” which defines the overall story of what went wrong as an “incident,” and the individual mistakes within the incident as “errors.” If an incident involved multiple errors it is termed a “cascade.” In this instance, the errors were identified as “proximal” and “distal.” A proximal error was the first or underlying error. The distal error was the final or ultimate error in the cascade. In Mr. R’s case, the proximal error was the miscommunication between the orthopedic surgeon and the hospitalist. The distal error was the evening nurse’s failure to report his change of condition to the surgeon.

Cascade analysis shows that Mr. R’s scenario was made up of multiple errors, all based on a lack of communication. The initial communication error was the referral from the surgeon to the hospitalist. This issue has become more problematic given the loss of one-on-one peer relationships, the increased use of asynchronous communication (i.e., email, text message or electronic medical records), lack of training in communication, and the disincentives for communication that exist in the current health care system. This is one reason why the warm handoff or warm handover, which involve direct communication among providers — such as between silos of care like hospital and nursing — have been emphasized as a way to reduce errors.

Better Referrals
The first line of defense against miscommunication in the referral setting is the referral letter or order. However, in many instances there is no referral letter or order spelling out exactly what the requesting physician wants the specialist to do. Development of template referral letters can help avoid miscommunication, but once the template is created, the letter is still only as good as the information contained within it. The physician must take the time to provide enough information to the specialist regarding medical history, diagnostic studies, laboratory results, and other pertinent information, and spell out exactly what is being requested of the specialist.

One study (Gandhi et al., “Communication Breakdown in the Outpatient Referral Process” J Gen Intern Med 2000;15:626-31) noted the large discrepancy between what a group of primary care practitioners and a group of specialists thought was important information to convey, and what they were actually communicating to each other. One of the key barriers to communication was lack of time to create an adequate note. The study found that specialists were dissatisfied with the timeliness of information they received, with 68% reporting that they received no information prior to the referral visit. Specialists who have no referral communication before the referral visit are significantly less likely to know what problems and issues caused the referral in the first place. This lack of communication opens the door to assumptions of care that eventually can turn multiple errors into a sentinel event.

A second line of defense against miscommunication in the referral setting is using another standardized communication technique, SBAR (situation-background-assessment-recommendation). SBAR distills content into a quick format that works within tight time constraints. With this technique, nurses are trained to report in narrative form, providing many more details than may be necessary for a telephone call to a physician. Physicians are trained to communicate in “bullet point” form, and to provide only necessary information. SBAR creates a shared mental model that ensures the message sender and message receiver are on the same page in terms of how information is conveyed. The SBAR technique is part of many paradigms for transfers and reporting changes of condition, including the INTERACT program.