

Discharge Instructions in the PACU: Who Remembers?

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The Case

A 42-year-old woman was diagnosed with a torn anterior cruciate ligament (ACL) in her left knee after a skiing accident. Before arthroscopic surgery, she had been given postoperative instructions for ACL repair, which included 50% weight bearing starting immediately. Upon examination of the knee under anesthesia and with visualization from the arthroscope, the surgeon determined that the ACL was only partially torn and that the joint had sufficient stability. Rather than ACL repair, the surgeon performed microfracture to address damage to the intraarticular cartilage as well as meniscus repair.

After the surgery, the surgeon briefed the patient in the post-anesthesia care unit (PACU) on his findings and the revised postoperative instructions. Because of the microfracture procedure, she was to be completely non-weight bearing for 6 weeks—a significant change from what had been originally anticipated. However, the patient was still groggy from the anesthesia and asked the doctor to give this information to her husband. The doctor called the number in the chart and made contact with the patient's mother-in-law who understood the surgeon to say that a second surgery would be required (rather than that a different type of surgery had been performed) and the patient should abide by the postoperative instructions he had given her. It was not understood by the mother-in-law that these instructions had in fact changed.

None of this was in writing. When the husband picked up the patient, the written discharge instructions from the surgeon were generic and personalized only with the handwritten phrase "do as instructed." Confused, the patient followed the original, now incorrect, postoperative instructions. The confusion was never discovered at two subsequent postop visits, in part because the surgeon never explained specifically how the rehabilitation guidelines had changed based on the new findings and change in plan during surgery. The patient pushed herself to bear weight several weeks after the surgery. When she experienced significant pain, she called the surgeon who then chastised her for not following the postoperative plan. Needless to say, the patient was upset and concerned that she may have harmed her chances for a full recovery.

The Commentary

This case addresses the important and challenging topic of patient–provider communication and specifically highlights the significance of these interactions during transitions in care. This commentary will review key factors that hinder communication, the implications of failures in this process, and strategies that may enhance information delivery and patient outcomes.

Transitions in care, such as those that occur at discharge from the emergency department (ED), day surgery clinic, or the hospital, are critical, high-risk moments during which patients and families assume care of a medical condition that is often new and unfamiliar. The quality of patient education and the coordination of care with outpatient providers in these situations are paramount for promoting self-care adherence and recovery while minimizing adverse events and unnecessary health care resource utilization.(1-3)

Unfortunately, communication failures during these moments of transition are common. Previous research in the ED and inpatient hospital settings reveals that many patients, like the one in this case, return home with an incomplete understanding of their care and instructions and, thus, are at risk for adverse events.(1,3-5) Studies of ED patients have found that more than 75% of patients demonstrate knowledge deficits in at least one domain of their discharge information and greater than 50% in two domains.(3,4) One study from an inpatient general medicine service found that nearly 20% of patients had adverse events within 3 weeks of discharge. The majority of these events were related to medications and nearly three-fourths could have been prevented or ameliorated.(5) Although little research has been done in the day surgery setting, significant parallels exist between these patient populations and some evidence suggests similar patterns.(6)

The origin of communication failures is multifactorial, with intersecting elements related to providers, patients, and the environment. By nature, the health care setting is inherently stressful, often chaotic, and frequently a source of anxiety and uncertainty for patients and families. Moreover, patients' physical and emotional symptoms, the direct effects of medication and treatment, as well as work-related, personal, and family stress may all negatively impact patients' opportunities to receive and process information.(7,8) At the same time, providers confront significant time constraints, as well as diagnostic uncertainty or unpredicted interruptions and events, which may undermine their efforts to communicate effectively.(7) Previous research indicates that written discharge instructions often exceed patients' health literacy levels (9), and verbal discharge instructions possess significant variability in content, frequent deficiencies, and rare opportunities to elicit patients' questions or confirm their understanding.(10)

In the featured case, it is evident that many of these factors played a role in the communication failures following the patient's day surgery. Postoperative care instructions that were given before surgery changed due to an unanticipated discovery in the operating room, the patient was unable to engage with the surgeon due to the effects of anesthesia (no written instructions on the updated recovery plan were provided), and subsequent communication occurred by phone with a family member who was not well-prepared to receive the new instructions. One can suspect that health literacy, as well as stress and other distractions, played a role in the ineffective communication between surgeon and mother-in-law, who was apparently at patient's home to provide help during the patient's surgery and initial recovery. Vague written

instructions and follow-up verbal interactions were inadequate and, therefore, failed to uncover or address existing communication failures in subsequent weeks. It is readily apparent from this case that the breakdown in communication resulted from many interconnected factors. Likewise, strategies to improve this process should be multifaceted with several complementary components.

To meet the literacy needs of diverse populations, health care systems and providers should practice "universal precautions" by ensuring that all health information and discharge materials are written at or below a 6th grade reading level. In addition, the length, complexity, and visual presentation of information should be carefully considered. The cognitive factors theory emphasizes that the capacity of working memory is limited and constrains the amount of information that any individual can absorb and retain.⁽⁸⁾ As such, effective communication is largely dependent on efforts to ensure that individuals have sufficient cognitive resources to process critical information. For written instructions, the length and complexity of sentences should be limited and attention should be given to the layout, font choice, and use of white space. In addition, the utilization of visual aids (pictures/diagrams) may augment written information and, thereby, reduce the load on working memory. For verbal communication with patients, it is important to limit the quantity of information that patients are given at any given time and to minimize distractions that may reduce available working memory at times of information delivery (e.g., pain and physical symptoms; medication effects; multiple activities at one time, such as electrocardiogram being done when information is provided). Redundancy and reinforcement of information at times after the initial interaction (when stress is typically reduced) may also facilitate the acquisition of new and complex information about a medical condition and its management.^(11,12) In this case, the surgery team could have provided reinforcement of revised discharge instructions with a phone call to the patient and/or her husband soon after returning home. Additional strategies to support information delivery include opportunities to review, such as a teach-back, which have been shown to improve patient adherence and clinical outcomes in the outpatient setting.⁽¹³⁾ In the inpatient setting, existing projects (e.g., Project RED and Project BOOST) have developed highly-structured approaches to the discharge process that involve numerous supporting elements, including nurse discharge advocates, a standardized After Hospital Care Plan, follow-up phone calls to reinforce home care instructions, and enhanced coordination of care between inpatient and outpatient providers.^(14,15) Results from Project RED demonstrated a 30% reduction in readmission and ED visit rates after hospital discharge.⁽¹⁴⁾ These inpatient projects can serve as meaningful models for the enhancement of discharge processes in other clinical settings.

In this case, the patient was given verbal instructions for recovery, which were significantly different from what had been communicated preoperatively. However, she received those new instructions while cognitively compromised by anesthesia. No one communicated the change to her husband (the designated caregiver), and the written discharge instructions did not specify the changes. In the same day surgery setting, it is important that the health care team have a reliable process in place by which both written and verbal instructions are given to the patient or their designee at a time when they can be understood. Above all, it is critical that health care providers maintain a high level of awareness regarding factors that can hinder communication and, at the same time, recognize that compromised information delivery is a complication of medical care that needs to be addressed aggressively and thoroughly. In the future, technology may be an important element in safeguarding information delivery processes by providing "backups" to our direct interpersonal interactions, in the form of online records and appropriate multimedia

(an instructional video or perhaps the attending physician's recorded instructions) which are available when needed. Although we are still far away from such a vision, this case highlights the importance of pursuing innovative approaches that can enhance the quality and safety of our health care system.

Take-Home Points

- Effective communication between providers, patients, families, and caregivers is a critically important aspect of patient care, which has significant implications for patient outcomes at times of transitions in care.
- Communication with patients should be at or below a 6th grade reading level and the complexity and quantity of information should be limited.
- Repetition and reinforcement of key information can provide patients the opportunity to receive and retain their instructions.
- Opportunities to review (e.g., a teach-back), follow-up contact with a patient after discharge, and enhanced coordination of care with other providers may improve patient outcomes at times of transitions in care.
- Providers should be sensitive to factors (related to the environment, patient, or themselves) that may make it difficult for a patient or family member to receive new information and consider approaches or interventions to minimize these challenges.

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