Perioperative Education: Health Literacy and Patient Education Materials

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My neighbor knocked on my door last weekend. "Sorry to bother you, but can you please take a look at my hand?" She had had surgery about 3 weeks prior to release contractures in her thumb and 5th digit. She was splinted and had started PT earlier in the week. Her incisions were covered with dried out xeroform, and there were remnants of betadine still on her hand. I asked her why she wasn't washing her hand yet, and her reply was that "nobody told me I could." Also, no one had given her instructions for postoperative wound care. As I reviewed with her some easy things she could do, she started tearing up, saying, "I feel so stupid. But nobody told me any of this before surgery."

Sadly, that is a refrain echoed far too often. Perioperative patient education is an area where there are huge gaps in application and understanding. A lot of information is given to patients about surgical procedures, including, but not limited to, the indication, the risks/benefits, any side effects, functional outcome, short term and long term impact.[1] In addition, medication changes are often implemented during the time of a surgery, and these have their own set of education challenges.[1,2] Elective surgeries are very protocol- and standard-driven in general. For example, there are clinical pathways for procedures such as total joint replacements, hernia repairs, and coronary artery bypass grafting, as those are performed routinely. We have learned how to medically evaluate the patients for risk of complications due to anesthesia and also expected challenges postoperatively, such as pain, nausea and vomiting. With routine procedures, postoperative needs can usually be anticipated, i.e. transfer to a sub-acute rehab unit, or a need for physical therapy or skilled nursing. However, practical information, including what to do in the days/weeks after surgery, is lacking at times. How is this information communicated to the patient, and was it targeted to their level of understanding?

HEALTH LITERACY

Health literacy (HL) is an important factor in health behaviors and outcomes. Health literacy is defined by the Institute of Medicine as the ability to obtain, communicate, process and act on health information.[3] Health literacy also refers to the capacity of professionals and institutions to communicate effectively so community members can make informed decisions and take appropriate actions to protect and promote their health. Low levels of HL are associated with increased risk for hospitalizations, increased use of emergency services, lower use of preventive services and poorer health outcomes in chronic illness.[4] In addition, patients with lower HL were less likely to enroll in investigational studies and were less likely to heal.[5] An assessment of HL is ideally performed preoperatively, but can also be done at the time of hospital admission. Sand-Jecklin reported in 2016 that an estimated 26%-36% of all adults have inadequate HL.[6] Also, providers often overestimate a patient's HL skill set and cannot accurately identify patients with low HL levels.[6] Several studies have demonstrated it is feasible to incorporate HL assessments into admission databases and have providers use the HL status to influence their interactions with their patients.[6] Various tools to assess HL are available on the AHRQ website (see pop-out box).

PATIENT EDUCATION MATERIALS (PEM)

Patient education is done verbally, in written form, via video, hands-on demonstration, from the internet and in support groups. Education is done by doctors, nurses, physical therapists, dieticians, respiratory therapists and specialty educators. There is an abundance of Patient Education Materials (PEM) readily available in locations such as clinical education databases, medical and nursing societies, and electronic medical records. Many providers have a prepared packet of patient information that is reviewed and distributed at the preoperative visit. The National Institutes of Health and the American Medical Association advise that health literature should be written at a sixth-grade reading level.[1,2] Nurses are often relied upon to give patient information on their medical condition and their surgeries[1]. They are the ones to cut through the medicalese and give simple explanations matched to the patient's best learning mode (verbal, written etc). Patients expect to receive verbal information from their providers and have the nurses reinforce the information both verbally and in written form.[6]

- **Aim for a 6th grade reading level for PEM**
- **Health Literacy Measurement Tools:** http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/tools/literacy/index.html
- **How to Write Easy-to-Read Health Materials:** www.medlineplus.gov/etr.html
- **NIH Site for Clear Communication:** https://www.nih.gov/institutes-nih/nih-office-director/office-communications-public-liaison/clear-communication

The internet is the most widely used source for patient education. A Pew Research report from 2011 found that an estimated 74% of adults use the internet and of those, 80% had searched for health information online. Many providers deride WebMD as a useful source of valid information, but often that is usually on the first page in the web search performed by a patient. Multiple studies are reporting that PEM available on specialty society websites are written at a high school or college level.[7-10] This is well above the average patient's HL level. If the information is too complex, there is a potential for a harmful outcome.[7-10] There has been some improvement over the past 10 years, but there are still many sites which need revision.

ELECTIVE v. EMERGENCY SURGERY EDUCATION

For elective cases, the education starts in the office. However, many wound patients are admitted to the hospital with an acute infection/complication or need to go to the OR urgently, and they don't have time to prepare. In these situations, working as a team with the inpatient nursing staff is critical. Admissions for diabetic foot ulcers in particular are a prime teachable moment for patients because often they are motivated to learn more about their disease and to try to prevent future problems[.11] In order to be an effective educator, nurses need to have a clear understanding of the disease processes (DM, PAD etc), the treatment and surgical plans and the resources that will be needed postoperatively. Margolis et al found that there is a significant disparity in understanding the connection between having a diabetic foot ulcer and eventual amputation in patients.[5] This knowledge gap can be bridged by nursing staff who are well versed in limb salvage and diabetes care. This also applies to other common ulcers seen by the inpatient staff (venous, arterial, pressure). Teaching during a hospital stay can be challenging at times when the patient is very ill, but the family members and caregivers can also receive information and learn how to be active participants in dressing changes, proper foot care and diabetes self management.

SUMMARY

Perioperative education is often fragmented and not comprehensive. Assessment of health literacy can improve the ability to teach patients about their condition and treatment plans. Misinterpretation or poor comprehension of Patient Education Materials can lead to negative outcomes. PEM is often written far above the recommended 6th grade reading level. There are numerous tools available which can assess the readability level, and can be used by providers as a guide to craft easy-to-read materials for patients. There is ongoing work by specialty societies to improve the online PEM as well.

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