

Peri-operative Patient Education:
What Methods of Patient Education Will Better Prepare Patients for Their Surgical
Experience; and Will Better Preparation Result in Increased Patient Satisfaction.

Thesis

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Abstract

The current trend of surgeries moving firmly towards outpatient procedures has highlighted new challenges regarding the timing, location and effectiveness of patient teaching. Once considered to be a formal hospital-based initiative, patients are now more likely to learn about the procedure itself in the surgeon's office, the patient's role and expectations (including medications to continue or discontinue, nothing by mouth status and timing, arrival time at the hospital, etc.) on the telephone from Pre-Admission Testing personnel, and post-operative care and follow-up (including teaching) from the Recovery Room staff at the hospital just prior to discharge. While this process change was inevitable, evidence shows that it isn't working effectively. This paper explores the methods of teaching that might better prepare patients for their outpatient surgery experience. Use of nurse prepared DVDs, internet resources and printed instructions are considered as methods to supplement existing teaching, accomplish effective patient teaching and to increase patient satisfaction.

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Chapter I

Introduction

Outpatient surgery has grown phenomenally in the past decade. More and more surgical procedures are offered that allow patients to have their surgery and return home to recover from their surgery on the same day. While it has long been recognized that early ambulation is a clear advantage to outpatient surgery, a disadvantage that has resulted from this trend is that very little time is afforded to the patients for teaching purposes by the staff that will care for them.

In the past, patients spent some time talking with nurses in order to learn about their procedures; what to expect on the day of surgery, how to manage wound care and pain control and what to do in the event of adverse effects. Patients came to the Pre Admission Testing (PAT) Department for this teaching, for laboratory and radiology testing and to consult with anesthesia personnel in order to assess their readiness for their procedures. Current practice is more likely to include an interview by telephone in order to obtain a health history, instruct the patients about what to expect and what their role will be, and to order laboratory and radiology testing that will take place on the day that they arrive for their surgery. There is no face-to-face contact with many patients until the day of surgery. While research has been done in the past regarding teaching of surgical patients, none has examined the current process used in the setting of same day surgeries where health care providers are seeing patients for the first time when they arrive for their scheduled surgeries.

Currently, many patients express dissatisfaction via mailed Press Ganey surveys stating that they did not feel adequately prepared for what would happen, did not know why they had to interact with so many people and that they and their family members did not receive adequate

information prior to the surgery. Information offered to patients regarding their surgery is listed in the top five opportunities for improvement from Press Ganey surveys conducted in 2007 (Press Ganey Survey 2007). Clearly, health care professionals are not managing patient education adequately, and this needs to be addressed. Along with patient dissatisfaction, inadequate education can increase the risk of threats to patient safety.

This experimental designed study of peri-operative patient education evaluates 4 types of education offered and knowledge retained by outpatient surgery patients and their resulting satisfaction at a midsized hospital in southeast Michigan. It is important to gain knowledge of why our current methods of patient education are not producing the desired results. It is highly possible that findings from this study will reveal more effective methods of teaching patients. The study can be used by administrators to improve patient preparation for their surgical procedure, including feelings of support and realistic expectations about what they may experience as well as their levels of satisfaction

Chapter II

Review of Literature

The literature related to patient education focuses on a wide variety of outcomes including, benefits, methods, content and the role of the nurse practitioner. Each will be discussed next in a separate section.

Research Related to the Benefits of Peri-operative Education

Numerous studies have been performed on many aspects of peri-operative education, but little high-quality research has assessed the effectiveness of this information on patient knowledge and ability to perform specific skills. Preoperative education has been investigated to identify its impact on a wide range of outcomes such as length of hospitalization, knowledge, anxiety, surgical complications, pain, satisfaction, analgesic usages, physical coping, behavior, mobility, independence and discharge preparation. The time of delivery of preoperative patient education has also been compared, such as pre versus post admission, and day of surgery.

A meta-analysis published in the International Journal of Evidence-Based Healthcare (Stern and Lockwood, 2005) reported information on knowledge retention and patient understanding of peri-operative education. The review method considered all studies that included adults in a hospital setting either as inpatients or same day surgical patients, and who receive some form of information and/or instruction before an operative procedure. Interventions were the methods of preoperative patient education and included evaluation of the effectiveness of different presentations of the material, such as written information, audio-visual aids, computer-assisted instruction or learning packages. The primary outcomes assessed were increased knowledge, ability to perform postoperative activities, and time to teach skills.

There has been no previous attempt to summarize research on preoperative education to evaluate its impact on patient knowledge and understanding of their upcoming procedure. A review was initiated to identify, appraise and summarize the best available evidence relating to the impact of the different types of preoperative education on patient knowledge and understanding. The systematic review method used was based on the work of the Cochrane Collaboration and the Centre for Reviews and Dissemination at the University of York (Stern and Lockwood 2005). The object of this review was to present the best available evidence related to knowledge retention after preoperative education. The specific review questions were:

1. Is the preoperative education effective in improving patient knowledge of the surgical procedure and postoperative care?
2. Does preoperative education reduce the number of misconceptions patients have about the surgical procedure and postoperative care?
3. Which form of preoperative education results in the greatest improvement in understanding of the operative procedure and postoperative recovery?
4. Which form of preoperative education results in the highest level of knowledge retention?

The review consisted of all studies that included adults in a hospital setting, either as inpatient or same day admit surgical patients, who received some form of instruction before an operative procedure. Types of interventions were presentations such as written information, audio-visual aids, computer-assisted instruction or learning packages. The structures for interventional measures were group or individual teaching, and structured or unstructured programs. The deliveries were either pre-admission or post admission. The outcome measures included increased knowledge, ability to perform postoperative activities and time taken to teach skills. The types of studies reviewed were randomized controlled trials (RCTs). Databases

searched to find both published and unpublished studies. The criteria used for the search included key words of preoperative, patient education or patient instruction contained in the title or abstract, and index terms. Fifteen RCTs satisfied the criteria.

Findings of this large meta-analysis were that patients who received peri-operative education spent 1.5 fewer days in the hospital with beneficial effects in patient recovery, psychological distress and pain.

One of the studies in the meta-analysis assessed coronary artery bypass surgery (CABG) patients and effectiveness of preoperative education. The study identified that there was little evidence to suggest that preoperative education benefited patients in the postoperative phase after CABG, especially in relation to anxiety (Stern and Lockwood 2005). However this is a surgery that requires several days of hospitalization afterwards. It is possible that the results would be different in an outpatient surgery study population.

Methods of Teaching

Eight published studies examined the effectiveness of pamphlets on patient knowledge and compliance to behaviors. The first study was a pre-admission pamphlet versus no information (Stern and Lockwood 2005). The outcome of the study was that patients who were provided specific surgical information pamphlets were able to correctly list significantly more upcoming surgical events.

A second study in the meta-analysis (Stern and Lockwood 2005) examined the effectiveness of a pre versus post admission information packet on exercise performance. Pre-admission specific booklets with step-by-step instructions and pre-admission non-specific booklets with general instructions were used. The outcome of the study demonstrated that providing a specific instruction booklet to patients before admission resulted in patients

performing significantly more exercises correctly. The pre-admission information patients from either specific or non-specific booklet groups were also found to take less time to correctly learn the exercises.

A third study (Stern and Lockwood 2005) assessed pre-admission general information packages versus pre-admission general information packages plus specific pamphlets. Within the data base there were two studies meeting this criteria. The first study outcome concluded that there was no significant difference between the two treatment groups for either pre-operative or post-operative exercise performance or in teaching times. However, the second study within the data base found that significantly more patients from the special booklet group performed the exercises.

Five studies in the meta-analysis (Stern and Lockwood 2005) examined the effect of the combination of information including pamphlets and/or patient education at pre-admission and the post-admission time period on patient knowledge of their upcoming surgery. The pre-admission instruction and pamphlet and post admission teaching study excluded a number of patients and individual analysis could not be performed. Another study assessing a pre-admission training pamphlet versus pre-admission training pamphlet plus a post-admission instruction were able to significantly follow instructions but there was no difference in knowledge of symptoms and surgical complications. A third study assessed a pre-admission training pamphlet plus a post-admission instruction pamphlet versus post-admission training pamphlet plus instruction. The outcome indicated that providing preadmission teaching pamphlets were useful in improving the correct use of exercise techniques after admission. Patients who received the pre-admission pamphlet were found to score significantly higher on the exercise behavior checklist and required significantly less time to learn correct exercise

behaviors. The fourth study evaluated a post-admission information exercise pamphlet versus a post-admission information pamphlet combined with instructions; this was inconclusive secondary to outcome data that was presented in graphical format and independent assessment could not be performed. The author reported that there was no significant difference in the ability to recall or perform exercises by either group. The last pamphlet study consisted of the effectiveness of combining preoperative patient-controlled analgesia (PCA) use instructions provided by the physician with an instructional teaching session provided just before surgery. This study compared a post admission information pamphlet plus preoperative instruction versus preoperative instruction only. The outcome was that preoperative structured teaching along with a special designed pamphlet of PCA management did not improve questionnaire scores on PCA use.

In summary, the use of pamphlets appears to be beneficial in terms of knowledge of condition, surgical procedure, exercise or skill performance and time taken to learn skills. Preadmission pamphlets are more effective than providing no information and as effective as providing post admission pamphlets with instructions that explain the content of the pamphlet. For skills, pre-admission pamphlets are more effective than post admission pamphlets with post operative instructions. For time taken to learn skills, patients with preoperative pamphlets required less time to master skills. However, when combined with preoperative and postoperative instruction, time to master skills was significantly decreased. Use of pamphlets in preoperative education warrants studying.

Stern and Lockwood (2005) also address the use of videos for educating patients. There were four studies examining pre-operative instructions with a video to improve patient knowledge of anesthesia, PCA, the use of a spirometer, colonoscopy and nasal or sinus surgery.

The first study assessed preoperative video instructions plus anesthetic consult versus anesthetic consult only. The author concluded that overall either the video made no difference to the patient or that the assessment tool they designed was not sensitive enough to detect a difference. The second study assessed a pre-operative PCA instruction video versus no video. Patients with prior PCA knowledge were excluded. The outcome identified that the pre-operative video has a significant effect with increasing patient knowledge of PCA use and pain management. The third study assessed a colonoscopy pre-admission video plus an information leaflet versus a pre-admission information leaflet. The control group received a standard surgical and anesthesia written information leaflet about colonoscopy and the experimental group was given the same leaflet plus a ten minute video. The experimental group scored significantly higher regarding the purpose, procedure and potential complications. The last study evaluated a pre-admission video instruction plus standard instructions versus pre-admission standard instructions. The control group was given standard nasal surgery preoperative verbal and written instructions delivered by a nurse and the experimental group was provided a standard pre-operative instruction plan plus a ten minute nursing-based video of postoperative care measures after surgery. The outcome identified a significant increase in knowledge and symptom management for pre-operative and postoperative assessment in both groups.

In summary, the studies suggest that pre-admission videos were more effective than providing no information in terms of patients' knowledge or for improving skills. Also, preadmission video combined with an informational leaflet was more effective than providing an informational leaflet alone on improving patients' knowledge. No studies were conducted that measures the time taken to teach skills.

Learning packages were also studied. Three studies examined the use of learning packages on orthopedic and general surgical patients, patients awaiting CABG, and women scheduled for gynecologic surgery and the use of PCA. The first study assessed Total Hip Replacement pre-admission learning packages versus standard care. A control group was given the standard care and the experimental group was given a learning package. No data were provided and no independent evaluation of the data could be performed. The author claimed that patients in the experimental group were significantly more compliant. The second study evaluated CABG patients whose surgeries were scheduled for a minimum of ten weeks from the time of study to recruitment. The control group was given standardized information about cardiac risk in both videotaped and written formats as well as at least one telephone call from a nurse. The experimental group was given an eight week multidimensional package comprised of individual exercise training twice per week, education and reinforcement and monthly nurse initiated telephone calls to answer questions and provide reassurance. The outcome identified that exercise performance during the waiting period did not differ between groups.

The last study assessed post-admission structured learning packages plus standard information versus post-admission standard information. The control group was given standard information and the experimental group was given standard information plus a structured package on the use of PCA, which consisted of a fifteen minute session of verbal instruction, visual demonstration of the PCA device with a handset and a pamphlet to reinforce the information. The outcome identified that morphine consumption and pain scores were shown to decrease over time but no significant differences between the two groups were found. In summary, role and effectiveness of learning packages has not been adequately evaluated and so no recommendations were made. Clearly further study is needed.

Two studies were conducted to evaluate the effectiveness of different times of delivery or the formats of structured instruction. The first study assessed pre-admission instruction versus general post-admission instruction. Patients were randomized into two groups: a pre-admission and post-admission teaching group and a post-admission teaching group. The study found that patients who receive the pre-admission teaching had significantly higher Knowledge Questionnaire scores than did the patients who received only the general pre-operative instruction. Pre-admission instruction scored 18.7 +/- 1.3 and Post-admission instruction score was 16.8 +/- 1.7. The second study assessed group teaching versus post-admission instruction. The outcome was that group teaching was as effective as individual teaching. Patients in the group teaching were found to require a significantly shorter time to perform exercises correctly.

In summary, teaching is another method used to provide preoperative education. The two studies suggest that pre-admission teaching is more effective than post-admission teaching in terms of patient knowledge. Group teaching is as effective as individual teaching for improving skills performance. Group teaching may reduce the time needed to acquire exercise skills.

This research article identified that providing pamphlets before admission is equally effective or more effective than providing the same information after admission. However, there was no information relating to the issue of what should be provided in the pamphlet and their effectiveness suggesting the need for further research.

Research Related to Methods of Teaching and Content

Several factors influence teaching methods, content of teaching, and patient satisfaction. In the New England Journal of Medicine, a research article (Lehmann, Brancati, Chen, Roter and Dobs 1997) was written on effects of bedside case presentation and patients' perceptions of their medical care. A randomized controlled trial of the effects of two approaches on patients'

perceptions of care was conducted consisting of bedside case presentation and conference room case presentation with a sample population of ninety five patients admitted to a general medical service of a teaching hospital. The results of the three week study identified that patients who received bedside presentation (and therefore patient education took place) were more likely to report favorable perception of their inpatient care. The patients with higher number of years of education were less likely to report that physicians used confusing terminology and explained tests and medication adequately than were patients who had not completed high school. This study supports that the number of years of education does play a role in patient satisfaction.

In the *Journal of Post Anesthesia Nursing* (Kratz 1993) a classic patient education article reported problems in preoperative education. The patient population of the 1990's progressed through the health care system more quickly as a result of cost containment measures and decreased reimbursement. In this article a hospital piloted a pre-operative registration education program. The program identified several types of inconsistencies in preoperative and postoperative nursing care including non-compliance regarding taking nothing by mouth from midnight before the day of surgery. This article, though older, identifies factors and education methods that improved patient satisfaction.

As a result the hospital developed a new program which consisted of visits with the patient during the week before surgery. Patients were contacted by telephone on the day before surgery by the nurse and anesthesia provider. Nurses phoned abnormal lab results to physicians several days before surgery so that appropriate corrective therapy could be instituted.

The study indicated a decrease in cost and length of hospital stay and an increase in patient satisfaction. Patient length of stay decreased an average of 1.6 days, advanced reporting of abnormal laboratory values and instituting appropriate therapies earlier resulted in fewer

delays, fewer last minute procedure cancellations and decreased time spent by nurses contacting physicians with results immediately before surgery. The patient questionnaires identified an increase in patient satisfaction with 96% of patients agreeing that teaching provided by the nurse helped to better prepare them for surgery. Ninety percent felt their questions and concerns were answered before surgery. Patient satisfaction questionnaires completed before the pilot program was instituted were compared with those completed after the program. The patients felt their anxiety levels were decreased and rated their overall experience at a higher level after the program, indicating a positive experience (Krantz 1993).

The program nurse coordinates the patient's hospital admission, contacting hospital departments such as physical therapy, laboratory, radiology, dietary, surgery, ambulatory surgery and the business office. The nurse communicated important information to nursing units, social services and physicians. The program began with the patient and family coming to the hospital for an individual interview lasting from thirty minutes to two hours with a program nurse. The patients were provided information through videos, anatomic teaching models, written materials, photography of the Ambulatory Surgery Unit, Operating Room and Post Anesthesia Care Unit and direct interaction with the nurse. An optional tour was offered. The program nurse visits patients postoperatively for two to three days for reinforced teaching and allowing patients to verbalize concerns and feelings. For patients with busy lifestyles, a procedure specific video is offered if they are unable to attend. Patients reported that receiving the information decreased their anxiety.

The program was considered to be beneficial for patients, families, physicians, nurses and the community. Patients report decreased anxiety, fewer complications such as nausea and

vomiting and uncontrolled pain. The preoperative education provided increased patient cooperation and smoothed the patient's journey through the hospital system (Krantz 1993).

In American Association of Operating Room Nurses, (Brumfield 1996) a study was published that explored the parameters of preoperative teaching in nontraditional settings to identify successful methods of achieving positive patient outcomes. The purpose of the study was to identify teaching content areas that ambulatory surgery patients and their nurses deemed important to the patients' postoperative outcomes and to discover any differences in the patients' and the nurses perceptions. Three research objectives were:

1. Identify the teaching content that patients perceive as important to receive preoperatively from nurses in ambulatory surgery settings.
2. Determine the teaching content that nurses perceive as important to teach preoperatively in these settings, and
3. Detect differences and commonalities between patients' and nurses' perceptions of what is important to teach preoperatively in ambulatory surgery settings.

Dimensions of teaching included psychosocial support (reassurance geared toward reducing anxiety), skills training (teaching skills such as deep breathing), situational information (events and experiences patients would undergo), sensation-discomfort information (descriptions of what the patient would feel), and patient role information (expected patient behaviors). Types of teaching were also ranked in importance by patients and nurses, and these dimensions included:

1. The preoperative nursing care
2. The what, when and why of peri-operative events
3. When these events would occur
4. What these events would feel like

5. What patients were expected to do
6. Expressing concerns or worries; and
7. New skills to prevent complications

Patients and nurses did not rank these items in the same order of importance, suggesting that it is important for nurses to recognize what patients consider to be priorities for preoperative education. Both groups agreed that situational information, patient role information and psychosocial support were the most important, and both groups agreed that preoperatively is the best timing for the teaching. Another important finding was that patients tend to judge information to be more important if that information was emphasized and taught by the nurses. Educational alternatives suggested were to improve communication between staff members in surgeons' offices and hospital preadmission nurses, and to develop structured teaching materials (videotape, pamphlets, on sight visits by hospital staff members) in order to supplement verbal teaching.

An article in AAORN (Bernier, 2003) acknowledges that current restructured surgical care (ambulatory surgery) has presented a challenge for providing preoperative teaching in a reduced time frame and for knowing what kind of information will be most useful to patients and family members responsible for postoperative care at home. The researchers examined the following questions:

1. What is the nature of the preoperative teaching patients actually received at a large university based academic medical center before same day surgery?
2. What preoperative teaching is valued most by patients undergoing same day surgery?
3. What is the relationship between preoperative teaching received and postoperative teaching valued most by same day surgery patients?

Similar to the Broomfield (1996) article, the highest ratings given for preoperative teaching received was situational/procedural information (92%), patient role information (87%) and psychosocial support (87%). The lowest ratings were given for sensation/discomfort (55%) and skills training (42%). This author suggests that patients' perceptions of the value of any information received are influenced by whether the information was provided or omitted in the teaching plan. In other words, patients may assume information is not important if it is not provided.

The lower value rating for items in the sensation/discomfort information category was not consistent with the findings in the author's literature review, and only 55% of the patients recalled receiving information regarding sensation/discomfort from health professionals as part of preoperative teaching. The author suggested that the absence of teaching in this area may have influenced patients' perceptions about the importance of the information. The issue of timing of the teaching was not raised, and it also may be that patients needed reinforcing prior to the surgical experience.

This study resulted in a newly designed educational program for preoperative patients that involved collaboration between peri-operative nurses and nursing faculty members from the academic setting. Some tools used in the new education program include fact sheets and on-line situational/procedural information for patients. The author stated that the most important result of her study was that it stimulated enthusiasm and active participation by peri-operative nurses in addressing clinical issues via outcome studies.

Use of video modeling (Krouse, Fisher and Uarandi 2001) was explored in an article published in the Southern Online Journal of Nursing Research, and the study investigated the effectiveness of nursing-based videotaped instruction in increasing knowledge, improving self-

care practices and facilitating post-operative recovery among patients undergoing nasal surgery. Symptom management, quality of life, knowledge level and importance of specific treatments were assessed preoperatively and at one and four weeks postoperatively. These authors consider standard patient education that involves use of verbal instructions by physicians and nurses during a brief session prior to surgery to be inadequate, due to anxiety and feelings of uncertainty. Patients often require reinforcement of information, and videotapes can be viewed on multiple occasions in order to provide needed reinforcement. Patient instruction sheets are frequently used, but are written at a reading level that many patients cannot comprehend, and older patients may have impairment of vision, resulting in difficulty reading the small print in pamphlets.

This study utilized Bandura's Social Cognitive Theory as a framework for the study; this theory provides that behavioral competencies, social competencies and cognitive skills are acquired through observational learning. By watching nurse-prepared videos, individuals can observe the modeled event, which shapes future behavior.

This experimental study was conducted by assigning participants randomly to two groups; one group received standard preoperative education and the other group received standard preoperative education plus videotaped instructions. Although several significant findings were noted over time, no significant differences were found between the two groups. The conclusion was that nursing-designed patient videotaped instruction in place of individualized nurse-patient teaching could be a cost effective method of preoperative education.

In AAORN an article reported on the assessment of the effects of a preadmission videotape on patient satisfaction. Patient satisfaction is a valid indicator of quality care (Yellen, 2005). Individual attitudes, expectations and demographics influence patient satisfaction. One

of the purposes of the study was to assess the effect of viewing a preadmission video and patient satisfaction. Research has identified that patients who view a preadmission video are generally more satisfied with their surgical and hospital experience.

Socioeconomic and cultural values influence patient satisfaction. Reading levels and confusing evaluation questions affect results. Problems with Likert-type scale cross culturally have been documented. One premise of the study was that nurses do not realize how uninformed patients are before surgery.

The video tape used in the study addressed pain control, patient belongings, visiting hours, hospital discharge criteria and communication with nurses. One research hypothesis was that patients admitted to ambulatory surgery centers who view a preadmission patient information tape will be more satisfied as measured by the Ambulatory Surgery Survey than patients who do not view the video tape. Another hypothesis suggests a relationship exists between culture and extreme responding on the Ambulatory Surgery Survey.

The study was quasi-experimental and took place in an outpatient surgery unit of a 400-bed urban hospital in south Texas. Data was collected from two groups. The Usual-Care (control) Group received standard care and the Intervention Group viewed a 10- minute videotape specifically focusing on the variables influencing patient satisfaction. The sample size consisted of 141 oriented patients, 18 years and older or parents of minors admitted to the outpatient surgery unit who agreed to participate. The Usual-Care Group and the Interventional Group consisted of 65 and 76 patients respectively. There were two three month study periods.

The Usual Care Group was asked to participate in the study after surgery or before discharge. The Intervention Group was asked to participate on arrival at the outpatient surgery unit. The tool used was the Press-Ganey Ambulatory Surgery Survey, which measures patient

satisfaction. A Mann-Whitney Rank Sum Test was performed to test whether the two group's scores differed in satisfaction. Results indicated that patients who viewed the preadmission videos did not differ significantly in patient satisfaction and the research hypothesis was rejected. Another hypothesis suggested there is a relationship between culture and extreme responses on the Ambulatory Surgery Survey. When tested, this hypothesis was also rejected.

In summary, there was a positive relationship between videotape viewing and patient satisfaction. Patients who rated the videotape highly also had high satisfaction rating. However, some people are happier, more positive and more likely to give high ratings on any type of scale. Satisfaction questionnaires should include items to capture positivism.

A search in CINAHL database reveals that much of the recent research has been conducted by authors in the United Kingdom and Australia. The American health care system is unique in terms of services, payment and patient needs. The overall objective for collecting patient satisfaction data is to monitor and improve the quality of patient care. Questionnaires should include items important to quality patient outcomes that are sensitive to nursing care.

Research Related to the Role of Nurse Practitioner in Peri-operative Education

In American Association of Operating Room Nurses (AAORN Barnett 2005) an article explores the potential for an emerging Nurse Practitioner role to exist in preoperative assessment models. Nurse Practitioners (NPs) are well prepared to identify and address complex needs of preoperative patients and are able to utilize nursing and medical models to provide holistic care by creating collaborative relationships with peri-operative team members. The article is a review of health-related literature consisting of six articles describing the role and highlighting the benefits of NPs in preoperative assessment.

The Hospital of the University of Pennsylvania (HUP) restructured its preoperative assessment department using a collaborative practice model between NPs and anesthesiologists. The Admission Evaluation Center (AEC) was redesigned by NPs to allow patients to complete all preoperative assessment procedures in one clinic. As a result of using a NPs advanced skills and collaborative abilities, HUP patient satisfaction levels increased from 86.9% to 98.2%.

The Medical Center of Central Massachusetts preoperative assessment was consolidated from three sites to one, and the medical center rather than physician's offices took responsibility for ordering preoperative laboratory tests. NPs worked at preparing patients for surgery at the consolidated site. NP responsibilities included history and physicals, ordering and interpreting diagnostic tests, managing therapeutic regimens, prescribing medications, creating care plans with the patient and providing preoperative education in collaboration with physicians. These changes resulted in significant savings related to preoperative testing, efficient use of operating room time, and decrease in surgery cancellations or delays. Incorporating NPs into the preoperative setting was viewed as advantageous.

Stanford University Medical Center restructured its preoperative evaluation clinic with the intent of completely preparing patients for surgery well ahead of the procedure date. The restructuring included centralized admission and insurance authorization, taking responsibility for ordering preoperative testing and coordinating patient education. The article does not mention the impact of the NP role in the clinic; however an experienced NP who worked in the clinic stated that she appreciated the restructuring because it allowed her to spend more time discussing surgical care with patients.

Brigham and Women's Hospital in Boston is an anesthesiologist run, preoperative clinic in which anesthesiologists and NPs conduct preoperative assessments. NPs perform history and

physicals for attending surgeons and perform the nursing interview and assessment and patient teaching. NPs were found invaluable in providing a more efficient preoperative process.

The Alfred I. Dupont Hospital for Children (AIDHC) has pediatric NPs performing preoperative evaluation and patient education. Ninety five percent of patients and family members reported overall satisfaction with the preoperative process.

Evanston Hospital has an NP in its ambulatory surgery unit providing complete preoperative evaluation for patients. Patients seen preoperatively by the NP had a complete medical record, potential problems were addressed and patients were well informed. Patient satisfaction improved.

A review of the literature shows a fairly well-defined role of the NP in the preoperative setting. NPs reduce the amount of time patients spend completing preoperative assessment, providing a cost savings to the patients, improve patient satisfaction scores, significantly increase operating room efficiency and significantly decrease start time delays and cancellations. Five of the six articles openly supported the concept that the preoperative NP role is advantageous. In summary, the literature supports the utilization of NPs in the preoperative setting. This supports the current study at a southern Michigan Hospital where NP students will examine in detail the peri-operative education process and may assist in identifying problems related to less than desirable patient satisfaction by an experimental study of three types of peri-operative education delivery. Traditional written patient education, computer disc video, and available websites on peri-operative patient education will be examined.

Chapter III

Theoretical Framework

The degree of participation in the educational process directly influences the amount of learning. A first question should be “What does the patient want to learn?” Patients might place importance on different aspects of their care than nurses or physicians find to be most important. Patients need to be asked how this surgery will affect the family, the job, the patient and how the provider can help to smooth the path.

Carl Rogers (Allender) stated his observations on participation; “Learning is facilitated when the student participates responsibly in the learning process. When he chooses his own directions, helps to discover his own learning resources, formulates his own problems, decides his own course of action, lives with consequences of each of these choices, then significant learning is maximized.”

The periods of time directly prior to the surgical procedure and the time period directly following the procedure are the least likely effective time periods for absorbing information given to patients. Participation is minimized due to the extreme stress that is felt prior to going into surgery, and patients have been given medications that prevent active participation following their procedures. Therefore, learning can be considered most effective when offered well in advance of the procedure date, and when the patient is able and willing to learn. Patients need to be asked what they need to know in order to maximize their surgical experience.

According to Knowles Adult Learning Theory (1984), there are four characteristics of adult learners that have implications for adult learning. The implications of those characteristics are included.

1. Adults are self-directed in their learning; Openness and respect between teacher and learner are essential, the learner plans and carries out his own learning activities and the learner evaluates his own progress toward self-chosen goals.
2. Adults have a lifetime of experience to draw on when learning; teaching methods focus on experiential activities, discovery of how to learn from experience is the key to self-actualization, and mistakes are opportunities for learning.
3. Readiness to learn is focused on requirements for their personal and occupational roles; Experiential learning opportunities focus on requirements for occupational and social roles, learning peaks when there is a need to know, and adults can best assess their own readiness to learn and their teachable moments.
4. Adults have a problem-centered time perspective in that the learners have a need to learn so that it can be applied and tried out quickly; Teaching needs to be problem-centered rather than theoretically oriented. The teacher needs to teach what the learners need to learn, and learners need to apply and try out learning quickly.

In this study participants may have received information before they had a perceived need to receive it. Thus the need to know the information may not have been established in participants. Adult learning theory can be used to explain the variations in patient learning, satisfaction with types of learning materials and ability to retain information.

Study Question

Since we believe that surgical patients are very busy and do not take the time to learn about what will happen to them on the day of surgery, our hypothesis is that supplemental educational materials will enhance their understanding of their surgical procedures, leaving them better prepared for their surgical procedure and result in better patient satisfaction as a result than other teaching methods.

Chapter IV

Methods

Design

This study of preoperative patient education is a prospective, experimental design that compares four types of educational material in outpatients. This cross sectional study seeks to discover whether supplemental educational materials will help to increase the knowledge of outpatient surgery patients, what kind of supplemental material will be most effective, and whether the level of patient satisfaction will increase as a result.

Methodology

In this study there were four groups consisting of the following: Control group, DVD group, Internet group and Printed Material group. Each group received the designated educational materials specific to their group and a satisfaction survey (see Appendix C) which was mailed after their surgery.

Data Collection/Coding Patterns and Themes

Data collection for Peri-operative Patient Education began in October, 2007 following Institutional Review Board (IRB) approval from Wayne State University and University of Michigan-Flint (see Appendix A). RNs in Pre-admission Testing were given a cue card to read following history taking, to let potential participants know that two University of Michigan-Flint Graduate Nursing Students were conducting a research study at the hospital in order to increase understanding of what is taking place during their surgical experience and to better prepare them for their procedures. Patients were asked to participate in this important study, and those who agreed to participate were listed by name and date of surgery on a sheet of paper.

Prepared in advance of participant sign-up was a plastic container with a total of 120 colored paper clips; 30 green, 30 red, 30 blue and 30 yellow paper clips. For each boarding slip, a paper clip was randomly selected from the plastic container which was placed high on a cupboard and out of vision, and a corresponding colored circle was drawn on the boarding slip with a magic marker. This random assignment resulted in participants being placed in study groups as follows:

Blue: Written Materials, Yellow: DVD, Green: Web Sites and Red: Control group.

Each participant was mailed the appropriate study materials the following morning, and the boarding slip was placed in a 3-ring binder arranged according to the date of surgery.

As participants were being enrolled in the study, participants who were having their surgeries were also being addressed. Because the participants were entered into the 3-ring binder according to surgery date, we could check for today's surgeries at the same time the study materials were being prepared for new participants. When today's date had surgery patients who were participants, a survey was mailed the following morning along with a \$2 coffee coupon, a personally written thank you note and a self-addressed, stamped envelope. The boarding slip had a designated study group according to circles corresponding to the randomly drawn paper clip color, so the survey was also marked with the color corresponding to their study group. When surveys were returned, they were truly anonymous; however we knew which study group they were representing.

As surveys were returned, the information was entered into SPSS with the following coding used for Types of Surgery: one=Ophthalmology, two=Eyes Ears Nose and Throat, three=Orthopedics, four=Gynecology, five=Gastro-intestinal, six=Urology, seven=Cardiac, eight=Cosmetic, nine=General and ten = Other. The code for sex was as follows: one=Female

and two=Male. The coding for age included: one=18-34 years old, two=35-55 years old, three=56-99 years old. A five point Likert scale was used to assess: Registration: Information you received prior to surgery i.e., time of surgery, how to prepare, Before your Surgery or Procedure: Information nurse gave your family after your surgery or procedure Instructions nurses gave you about caring for yourself at home and Overall Assessment: Instructions you were given by our staff about how to prepare for your surgery or procedure. The Likert scale coding was as follows: one=very poor, two=poor, three=fair, four=good, and five=very good. Comments were encouraged but not expected, and space was provided to add any comments that participants wished to add.

Sampling

Outpatient surgery patients who are most affected by inadequate preparation and teaching are from the hospital's Anesthesiology Category II list; these are patients who will not require additional pre-operative consultation with a specialist and who do not consult with an anesthesiologist prior to the procedure date. Selected patients from this population were between the ages of eighteen to ninety nine and they were able to sign their own consent for surgery and would be discharged home after recovery in the Post Anesthesia Care Unit. The only preparation these patients received was the initial consultation in the surgeon's office and a telephone assessment with Pre- Admission Testing for assessment and screening. Some examples of the procedures that Category II patients received were tonsillectomy, laparoscopic procedures (cholecystectomy, hernia repair and diagnostic laparoscopy), breast augmentation, arthroscopy and dilation and curettage. Excluded patients included pediatrics, liposuction (these patients usually are admitted over night), emergent procedures and late add-ons; defined as anyone who

was boarded for surgery less than seven days prior to the procedure date, as our population needed at least a few days to review additional educational materials.

Convenience sampling was used to select those patients who were willing to participate. All willing participants were accepted until a total of one hundred twenty participants were enrolled on a rolling enrollment basis. Participants were divided into the four groups by random sampling, which was done by drawing one of four colored paper clips from a container representing the four study groups. This ensured that all participants had an equal chance of being selected for each of the study groups.

Procedure

When a Preadmission Testing nurse contacted the pre-operative patients for their assessment, the nurse utilized a scripted cue card in order to standardize the information that was given to prospective participants. Patients were told that “two University of Michigan students were conducting research related to peri-operative teaching. They are hoping to discover the best method of teaching that will provide you with the information that you need and to increase your satisfaction. If you agree to participate, the education will only take 10-15 minutes and the survey will only take 5 minutes or less. Your participation in the study is entirely voluntary, and all of your information will remain confidential. Whether or not you decide to participate, you will receive the highest standard of care. I am calling to introduce you to the study and ask if you are willing to participate in the study.” If they chose to participate in the research, they needed to review any additional information that they received and complete a survey approximately two weeks post procedure. The survey was returned in an enclosed postage paid envelope to the University of Michigan-Flint, care of Jacqueline Dye or Roberta Kennedy. The returned survey ensured implied consent (see Appendix B).

Patients who agreed to participate had their boarding slip tagged and the boarding slips were collected at the end of the day. Colored paper clips were randomly drawn from an opaque container for each boarding slip in order to assign the participant to a study group. Selection was continuous (since surgery dates vary) until one hundred twenty participants were selected. The computer program Excel was used, utilizing a number system for patient tracking and tabulation. Selected patients were cross-referenced to the surgery schedule post-operatively to be certain that they were not unexpectedly admitted to the hospital following their surgical procedures.

Instruments

The types of teaching methods included (1) nurse prepared written materials, (2) a page of three different medical web sites to explore for answers to surgical questions, (3) a nurse prepared DVD and (4) a control group that received previously offered information from the hospital and physician's office (see Appendix D). The Press Ganey instrument measured the patients' satisfaction with different time periods surrounding their surgical experience, such as registration, before surgery or procedure, after surgery or procedure and overall assessment. Patients also listed the type of surgery they had, whether they were male or female and their age. The SPSS program measured differences within and between groups.

Internal and External Validity

Internal validity could have been influenced by history if the patients chose to expand their knowledge via other means. This seemed rather unlikely; lack of knowledge was the rationale for this study. Selection bias was not expected because we planned to include only those patients who volunteered to participate. However, it is possible that those who agreed to participate may have differed from those who did not. Some selection bias could result due to

very late add-on cases that we were unable to offer the opportunity to participate due to lack of time.

Maturation could be a concern. The timetable in which the educational materials were received was intended to be one to three weeks; however some patients had surgeries re-scheduled for a later date. This could result in longer periods of time that they had exposure to the educational materials, or it could contribute to their lack of recall.

Instrumentation will not be a concern; standardized instruments were used for all patients from the Press Ganey Survey questions. Mortality could result because any of the patients may elect to not follow through with the survey.

External validity is unlikely to be affected by expectancy effects, because all participants were aware that they were part of a study. Novelty effects are also not likely because none of the interventions were outside of the realm of everyday life for participants.

Our results are not designed to be generalized to other surgical sites or to a broader population. No other adverse effects to the study are anticipated.

Statistical analysis

As the surveys were returned, results of patient's perceptions on preparedness for surgery and their levels of satisfaction were tabulated and statistical analysis took place. We utilized a Likert scale for measurement and Analysis of Variance (ANOVA) to prepare statistical analysis using Statistical Package for the Social Science (SPSS).

Chapter V

Results

Question one (Registration: Information you received prior to surgery i.e., time of surgery, how to prepare) found that participants were very satisfied with teaching from Pre-admission Testing. Methods of teaching related to this area did not show any significant difference among the participant groups, with a significance of 0.732.

Question two (Before your Surgery or Procedure: Information nurses gave you on the day of your procedure) found that participants were not satisfied with information given to them on the day of surgery. Methods of teaching related to this area did not show any significant difference among the participant groups, with a significance of 0.077.

Question three (After your Surgery or Procedure: Information nurse gave your family after your surgery or procedure). Found that participants were not satisfied with after-surgery instructions. Methods of teaching related to this area did not show any significant difference among the participant groups, with a significance of 0.243.

Question four (Instructions nurses gave you about caring for yourself at home) found that participants were not satisfied with after-surgery instructions. Methods of teaching related to this area did not show any significant difference among the participant groups, with a significance of 0.387.

Question five (Overall Assessment: Instructions you were given by our staff about how to prepare for your surgery or procedure) found that overall, participants were happy with preparation for surgery. Methods of teaching related to this area did not show any significant difference among the participant groups, with a significance of 0.310.

Most of the participants were from the surgery group “Other” followed by Gynecology as the next highest number of surgery types. Survey percentages were computed for each surgical group. The percentages included: Ophthalmic 1.3%, Eyes, Nose and Throat 2.6%, Orthopedics 11.8%, Gynecology 18.4%, Gastrointestinal 3.9%, Urological 7.9%, Cardiac 1.3%, Cosmetic 2.6%, General 15.8% and other 34.2%. The age of participating patients showed that the majority of respondents were in the 35-55 year old group and the 56-99 year old age group with 51.3% and 36.8% respectively, and with 11.8% in the 18-34 year old age group. Twenty one point one percent of participants were in the DVD Group, 25.0% were in the Web Sites Group, 25.0% were in the Written Instructions Group and the Control Group had 28.9% of the respondents. Individual participant narrative comments were also collected and presented in Appendix E. The percentage of female respondents was 73.7% and the percentage of male respondents was 26.3%. Although 120 research participants signed up for the study, 76 of the participants actually responded to the survey, a 63.6% response rate.

Analysis

The ANOVA of question one rejected the null hypothesis with statistical findings of $F=.430$, $p=.732$ and $\alpha=.05$. The ANOVA of question two rejected the null hypothesis with statistical findings of $F=2.372$, $p=.077$ and $\alpha=.05$. The ANOVA of question three rejected the null hypothesis with statistical findings of $F=1.422$, $p=.243$ and $\alpha=.05$. The ANOVA of question four rejected the null hypothesis with statistical findings of $F=1.025$, $p=.387$ and $\alpha=.05$. The ANOVA of question five rejected the null hypothesis with statistical findings of $F=1.216$, $p=.310$ and $\alpha=.05$. There was no statistical significance between male and female respondents and teaching methods with statistical findings of $F=.284$, $p=.837$ and $\alpha=.05$. There was no statistical significance between age groups and teaching methods with a statistical

findings of $F= .982$, $p= .406$ and $\alpha= .05$. There was no statistical significance between surgery types and teaching methods with statistical findings of $F= .021$, $p= .996$ and $\alpha= .05$ (see Table one).

Table One ANOVA Results

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig</i>
Question one					
Between groups	0.201	3	.067	0.430	0.732
Within groups	11.220	73	0.156		
Total	11.421	76			
Question two					
Between groups	1.547	3	0.516	2.372	0.077
Within groups	15.650	73	0.217		
Total	17.197	76			
Question three					
Between groups	1.186	3	0.395	1.422	0.243
Within groups	20.012	73	0.278		
Total	21.197	76			
Question four					
Between groups	1.134	3	0.378	1.025	0.387
Within groups	26.550	73	0.369		
Total	27.684	76			
Question five					
Between groups	0.663	3	0.221	1.216	0.310
Within groups	13.074	73	0.182		
Total	13.737	76			
Sex					
Between groups	0.173	3	0.058	0.284	0.837
Within groups	14.564	73	0.202		
Total	14.737	76			
Age					
Between groups	1.268	3	0.423	0.982	0.406
Within groups	30.982	73	0.430		
Total	32.250	76			
Surgeries					
Between groups	0.780	3	0.260	0.021	0.996
Within groups	873.575	73	12.133		
Total	874.355	76			

Table Two

Teaching Methods Percentages

	Frequencies	Percentage	Valid percentage	Cumulative percentage
DVD	16	21.1	21.1	21.1
Written	19	25.0	25.0	46.1
Web sites	19	25.0	25.0	71.1
Control	22	28.9	28.9	100.0
Total	76	100.0	100.0	

Table Three

Age Group Percentages

	Frequencies	Percentage	Valid percentage	Cumulative percentage
Age 18-34	9	11.8	11.8	11.8
Age 35-55	39	51.3	51.3	63.1
Age 56-99	28	36.9	36.9	100.0
Total	76	100.0	100.0	

Table Four

Male and Female Percentages

	Frequencies	Percentage	Valid Percentage	Cumulative Percentage
Female	56	73.7	73.7	73.7
Male	20	26.3	26.3	26.3
Total	76	100.0	100.0	100.0

Table Five

Surgery Percentages

	Frequencies	Percentage	Valid percentage	Cumulative percentage
Ophthalmology	1	1.3	1.3	1.3
EENT	2	2.6	2.6	3.9
Ortho	9	11.8	11.8	15.8
GYN	14	18.4	18.4	34.2
GI	3	3.9	3.9	38.2
URO	6	7.9	7.9	46.1
Cardiac	1	1.3	1.3	47.4
Cosmetic	2	2.6	2.6	50.0
General	12	15.8	15.8	65.8
Other	26	34.2	34.2	100.0
Total	76	100.0	100.0	

Chapter VI

Discussion

Limitations

Some of our participants may not have had a computer to access web sites, or the skills to navigate on-line. It is also possible that some participants did not have a DVD player in order to watch the nurse prepared video. The written materials had a Flesch Reading Ease of 52.5% and Flesch-Kincaid Grade Level of 10.4, which is considered to be a more advanced reading level than is recommended for public educational materials. This may have affected the results of the study by decreasing participation and satisfaction rates.

The sample size of 76 may have been too small to obtain the optimal results. The results may have been influenced by selection as those who returned the survey may be less satisfied thus more likely to be motivated to return the survey than those who were satisfied.

Random assignment of learning materials does not address the participants' preferred methods of learning. A participant in his eighties might have preferred written materials and found himself or herself attempting to navigate around on the web.

Implications for Practice

No difference in type of instruction provided to patients was found. The control group had the greatest level of satisfaction, even though they received traditional instructions from Pre-admission Testing RNs on the telephone only with no additional educational materials. Patient satisfaction was only adequate with question two; information your nurses gave you on the day of your procedure. The purpose of the study was to assess the effects of a preadmission video and patient satisfaction. Results indicated that patients who viewed the preadmission video did not differ significantly in patient satisfaction, and the research hypothesis was rejected.

Question two related to the time before the surgery and the information nurses gave on the day of the procedure approached a significant difference among the participant groups at $p \geq 0.077$. In this case, the control group who received standard patient education differed from the other three groups in higher patient satisfaction ratings but did not achieve a level of significance.

In the AAORN article, *the effect of a preadmission videotape on patient satisfaction* (Yellen), patients were provided a video that addressed pain control, patient belongings, visiting hours, hospital discharge criteria and communication with nurses. The purpose of the study was to assess the effects of a preadmission video and patient satisfaction. Results indicated that patients who viewed the preadmission video did not differ significantly in patient satisfaction, and the research hypothesis was rejected.

This makes two studies that show that patient satisfaction is not increased with additional educational materials provided prior to the patient's procedure. Clearly further research is needed to identify what surgical patients want to know prior to their procedures, and how it can best be provided to them.

According to Knowles Theory, adults' readiness to learn is focused on requirements for their personal and occupational roles and learning peaks when there is a need to know (Allender). What nurses considered to be important information to pre-operative patients may not have been perceived as important to the patients; or at least they may not have thought they needed to know the information at the time that it was provided. Knowles Theory also states that adults have a problem-centered time perspective in that the learners have a need to learn so that it can be applied and tried out quickly. Surgical patients may be more focused on other

issues in their lives when they are being taught, and what they might prefer is getting the information closer to the time that it is needed.

There is no substitute for personalized, face to face instruction when it comes to issues of health care. Patients need the opportunity to ask questions, receive feedback and to receive reinforcement. Repetition can be very important to the learning process. Non-verbal communication can also be readily acknowledged when learning takes place in person.

According to Knowles Learning Theory, the patients may have had concerns that were not addressed within the learning materials. They may not have considered the learning materials to contain information that they needed or wanted to know. Adults with a problem-centered time perspective may need immediate application in order to learn effectively.

Readiness to learn cannot take place without the focus and interest needed to absorb the learning material. Many distractions preclude the learning process, and patients may have concentrated on present issues rather than issues that were to take place several days away.

Conclusion

The review of literature clearly identifies differences in educational presentation methods such as pamphlets, videos and individual teaching. The time frame of presentation has been also identified as an affective variable. The emerging role of the NP was identified as advantageous. Our study of patient education methods at a southern MI hospital within the ambulatory surgery population did not identify differences in the methods of teaching which may affect patient satisfaction results on the Press Ganey Ambulatory Surgery Survey.

Future Recommendations

More research should be done that can help to identify what information surgical patients consider to be important prior to their procedures. Surgical patients need plenty of time and

attention for their own concerns, which will vary according to individual need. Providers must ask for those concerns, and not assume what is the most important information for that patient. When patients consult with a provider, the appointment is most likely driven by that provider, as he is very familiar with the procedure, the expected outcome and the expected course of events. Patients may be more likely to consider the effect of that procedure on body image, effect on the family, time off needed from their job, financial concerns, child care concerns and many other concerns. If the patient is thinking about these concerns, he is not hearing what the provider has deemed most important for the patient to know regarding his upcoming surgical procedure.

According to six articles in the Literature Review (Research Related to the Role of the Nurse Practitioner in Peri-operative Education), the NP is the ideal professional to utilize a holistic approach and to discover with the patient the individualized needs of that patient. In these articles, six hospitals have utilized NPs for pre-operative assessment and teaching and this has resulted in increased patient satisfaction and preparation. Efficiency improved, cancellation rates declined and operating room start times greatly improved with NP managed pre-operative assessment and teaching in some of the hospitals reviewed. A return to hospital based Pre-admission Testing, driven by the NP and in collaboration with other professionals such as Anesthesia, would go far in better preparing patients for their surgical procedures.

Further research might include a qualitative study to identify what the patients need from their health care professionals prior to undergoing surgery. A modification of this study that uses the Press Ganey in a NP PAT unit is needed.

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Appendix A: Institutional review board approvals

To: Dr. Constance Creech

From:

MarianneMcGrath

Cc:

Jacqueline Dye
Roberta Kennedy

Subject: Initial Study Approval for [HUM00006435]

SUBMISSION INFORMATION:

Study Title: Perioperative Patient Education

Full Study Title (if applicable):

Study eResearch ID: [HUM00006435](#)

Date of this Notification from IRB: 4/3/2007

Initial IRB Approval Date: 3/14/2007

Current IRB Approval Period: 3/14/2007 – 3/13/2008

Expiration Date: 3/13/2008

UM Federalwide Assurance (FWA): FWA00004969 expiring on 5/10/2009

OHRP IRB Registration Number(s): IRB00000248

NOTICE OF IRB APPROVAL AND CONDITIONS:

The IRB Flint has reviewed and approved the study referenced above. The IRB determined that the proposed research conforms with applicable guidelines, State and federal regulations, and the University of Michigan's Federalwide Assurance (FWA) with the Department of Health and Human Services (HHS). You must conduct this study in accordance with the description and information provided in the approved application and associated documents.

APPROVAL PERIOD AND EXPIRATION:

The approval period for this study is listed above. Please note the expiration date. If the approval lapses, you may not conduct work on this study until appropriate approval has been re-established, except as necessary to eliminate apparent immediate hazards to research subjects. Should the latter occur, you must notify the IRB Office as soon as possible.

IMPORTANT REMINDERS AND ADDITIONAL INFORMATION FOR INVESTIGATORS

APPROVED STUDY DOCUMENTS:

You must use any date-stamped versions of recruitment materials and informed consent documents available in the eResearch workspace (referenced above). Date-stamped materials are available in the "Currently Approved Documents" section on the "Documents" tab.

RENEWAL/TERMINATION:

At least two months prior to the expiration date, you should submit a continuing review application either to renew or terminate the study. Failure to allow sufficient time for IRB review may result in a lapse of approval that may also affect any funding associated with the study.

AMENDMENTS:

All proposed changes to the study (e.g., personnel, procedures, or documents), must be approved in advance by the IRB through the amendment process, except as necessary to eliminate apparent immediate hazards to research subjects. Should the latter occur, you must notify the IRB Office as soon as possible.

Aes/ORIOs:

You must inform the IRB of all unanticipated events, adverse events (Aes), and other reportable information and occurrences (ORIOs). These include but are not limited to events and/or information that may have physical, psychological, social, legal, or economic impact on the research subjects or others.

SUBMITTING VIA eRESEARCH:

You can access the online forms for continuing review, amendments, and Aes/ORIOs in the eResearch workspace for this approved study (referenced above).

MORE INFORMATION:

You can find additional information about UM's Human Research Protection Program (HRPP) in the Operations Manual and other documents available at: www.research.umich.edu/hrppp.

**Marianne
McGrath**
Chair, IRB
Flint

NOTICE OF EXPEDITED APPROVAL

To: Jacqueline Dye

Surgical Research Services

From: Ellen Barton, Ph.D.

Chairperson, Behavioral Institutional Review Board (B3)

Date: September 18, 2007

RE: HIC #: 088707B3E

Protocol Title: Perioperative Patient Education

Sponsor: THE FRANCINE ZICK STUDENT RESEARCH FUND

Coeus #: 0708005165

Expiration Date: September 17, 2008

Risk

Level/Category:

No greater than minimal risk.

The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited*

Review (Category 7*) by the Chairperson/designee for the Wayne State University Behavioral Institutional Review

Board (B3) for the period of 09/18/2007 through 09/17/2008. This approval does not replace any departmental or

other approvals that may be required.

- Recruitment Letter
- Information Sheet

- Federal regulations require that all research be reviewed at least annually. You *may* receive a

"Continuation Renewal

Reminder" approximately two months prior to the expiration date; however, it is the Principal Investigator's responsibility to obtain review and continued approval **before** the expiration date. Data collected during a period of lapsed approval is

unapproved research and can **never** be reported or published as research data.

- All changes or amendments to the above-referenced protocol require review and approval by the HIC

BEFORE

Implementation

- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the HIC Policy (<http://www.hic.wayne.edu/hicpol.html>).

NOTE:

1. Upon notification of an impending regulatory site visit, hold notification, and/or external audit the HIC office must be contacted immediately.

2. Forms should be downloaded from the HIC website at each use.

*Based on the Expedited Review List, revised November 1998

Appendix B

Research Informed Consent

Title of Study: Perioperative Patient Education

Principal Investigator (PI): Jacqueline A. Dye
Surgical Services
248-937-4875

Funding Source: Frances Zick

Purpose

You are being asked to be in a research study of Perioperative Patient Education because you are scheduled for an outpatient surgery procedure at Huron Valley-Sinai Hospital. This study is being conducted at Wayne State University and Huron Valley-Sinai Hospital. The estimated number of study participants to be enrolled at Wayne State University and Huron Valley-Sinai Hospital is about 120. **Please read this form and ask any questions you may have before agreeing to be in the study.**

In this research study, participants will be assigned to one of four study groups; a written materials group, a website group, a DVD group and a control group. I hope to discover which type of educational material will provide the best assistance in preparing patients for the surgical experience.

Study Procedures

If you agree to take part in this research study, you will be asked to review any study materials that are sent to you prior to your surgery. All participants will not receive additional educational materials; however all participants will be mailed a survey containing five questions that ask about how well prepared you felt for your procedure before, during and after your surgery. After your procedure has been completed, the short survey will be mailed to you. I am asking you to complete the survey, which will take about 5 minutes. After you have completed the survey, your part in the study will be completed.

1. If you agree to participate, you will be randomly assigned to one of four study groups. Group A will receive additional written materials in the mail. Group B will receive websites that contain additional information about outpatient surgery. Group C will receive a DVD that describes what to expect before, during and after the surgery. Group D will receive no additional educational materials, but will receive currently offered patient information.

2. Patient education will take about 15-20 minutes to review. The follow-up survey will take less than 5 minutes to complete. Total time involved is less than 30 minutes.
3. The survey will ask you if you felt prepared for your surgery and if all questions that you had were answered.
4. No personal information about you will be shared at any time. Whether or not you decide to participate, you will receive excellent care during your surgical experience.

Benefits

As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

The possible benefits to you for taking part in this research study are better understanding of what is taking place during your surgical experience and better preparation for your procedure. Information from this study may benefit other people in the future.

Risks

- There are no known risks at this time to participation in this study.

There may also be risks involved from taking part in this study that are not known to researchers at this time.

Study Costs

- Participation in this study will be of no cost to you.

Compensation

You will not be paid for taking part in this study.

Confidentiality

All information collected about you during the course of this study will be kept confidential to the extent permitted by law. You will be identified in the research records by a code name or number. Information that identifies you personally will not be released without your written permission. However, the study sponsor, the Human Investigation Committee (HIC) at Wayne State University, or federal agencies with appropriate regulatory oversight [e.g., Food and Drug Administration (FDA), Office for Human Research Protections (OHRP), Office of Civil Rights (OCR), etc.] may review your records.

When the results of this research are published or discussed in conferences, no information will be included that would reveal your identity.

Voluntary Participation/Withdrawal

Taking part in this study is voluntary. You have the right to choose not to take part in this study. If you decide to take part in the study you can later change your mind and withdraw from the study. You are free to only answer questions that you want to answer. You are free to withdraw from participation in this study at any time. Your decisions will not change any present or future relationship with Wayne State University or its affiliates, or other services you are entitled to receive.

The PI may stop your participation in this study without your consent. The PI will make the decision and let you know if it is not possible for you to continue. The decision that is made is to protect your health and safety, or because you did not follow the instructions to take part in the study

Questions

If you have any questions about this study now or in the future, you may contact Jacqueline A. Dye at the following phone number #248-937-4875. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints.

Date

Dear Study Participant:

As University of Michigan-Flint Master Degree of Nursing Family Nurse Practitioner students, we are conducting a research study of the current practices of Perioperative Patient Education at Huron Valley Sinai Hospital with the support of the hospital. The title of the study is *Perioperative Patient Education*. Please review the educational information and then complete the self addressed stamped survey letter. The five-item survey will take only 10-15 minutes to complete. We have enclosed a coffee coupon to thank you for your participation.

The research study will compare different types of pre and post surgical learning methods. We are attempting to identify the best learning methods for patients at Huron Valley Sinai Hospital. Findings will be given to Huron Valley Sinai Hospital for the purpose of improving patient care and results will be reported in our master thesis. We will utilize Press Ganey for our survey tool.

Information collected about you will be kept confidential, and all data will be kept in a locked cupboard at the hospital for 24 hours. All completed surveys, notes and analyzed data will be destroyed once the research study has been written for publication. Personal information will not be kept and stored, nor will it be revealed in the reporting of the findings. There are no risks or benefits to participants and all participants may review the findings upon request via mail to the investigators.

The research study will begin spring 2007 and will continue until 120 participants have been identified. If you complete any or all of the survey questions and return the survey, this will indicate your willingness to participate. If you choose to not take part in the study simply discard the materials. You may skip any questions, or stop answering questions at any time without penalty. The research study is being conducted with the support of Huron Valley Sinai Hospital. Your decision to participate will not change your present or future excellence of care.

Should you have questions regarding your rights as a research participant, please contact the Institutional Review Board, Sally Conley, 530 French Hall, 303 E. Kearsley Street, Flint, MI 48502-1950, (810) 762-3383, sjconley@umflint.edu. Any problems or concerns about the survey, participation in the research study, or the need for further information should be reported to Jacqueline Dye RN or Roberta Kennedy RN at: University of Michigan-Flint, Department of Nursing, 303 E. Kearsley, Flint, Michigan 48502. You may also e-mail them at jdye@umflint.edu or robertak@umflint.edu.

If you agree to participate, please return the survey letter in the self addressed and stamped envelope within 10 days of receipt.

Thank you for your consideration,

Jacqueline Dye RN, Family Nurse Practitioner Student

Roberta Kennedy RN, Family Nurse Practitioner Student

Appendix C: University of Michigan –Flint Graduate Nursing Department

**Research Study
Jacqueline Dye RN and Roberta Kennedy RN**

Ambulatory Surgery Survey

We thank you in advance for completing this questionnaire. When you have finished, please mail it in the enclosed envelope.

The Service You Received (fill in one circle only)		
Please select the last outpatient surgery or procedure you received. Rate that service and visit.		
<input type="radio"/> Ophthalmology (eye)	<input type="radio"/> Gastrointestinal	<input type="radio"/> Cosmetic
<input type="radio"/> Ear, Nose, Throat	<input type="radio"/> Dermatology	<input type="radio"/> General Surgery
<input type="radio"/> Orthopedics	<input type="radio"/> Urology	<input type="radio"/> Other:
<input type="radio"/> Gynecology	<input type="radio"/> Cardiology	_____
		(specify)
Patient's Sex <input type="radio"/> Male <input type="radio"/> Female		Patient's Age <table border="1" style="display: inline-table; border-collapse: collapse; width: 40px; height: 20px; vertical-align: middle;"></table>

Instructions:

Please rate the outpatient surgery you received from our facility. Circle the correct number that best describes your experience. Please use the following guidelines to rate the outpatient surgery you received: Very poor = 1, poor = 2, fair = 3, good = 4 and very good = 5. If a question does not apply to you, skip to the next question.

	very poor 1	poor 2	fair 3	good 4	very good 5
Registration Information you received prior to surgery (i.e., time of surgery, how to prepare).....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Before Your Surgery or Procedure Information nurses gave you on the day of your procedure.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After Your Surgery or Procedure Information nurse gave your family after your surgery or procedure.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Instructions nurses gave you about caring for yourself at home.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall Assessment Instructions you were given by our staff about how to prepare for your surgery or procedure.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments – _____

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AMBULATORY SURGERY SURVEY

PSYCHOMETRICS

One of the hallmarks of Press Ganey's surveys is their scientific basis: Our products incorporate the best characteristics of survey design. As discussed in our *Client Reference Manual*, our surveys are developed by conducting focus groups of providers and administrators reviewing surveys from health care facilities across the country, reviewing current professional and scientific publications on health care delivery, and utilizing the latest research on survey statistics and design. Press Ganey's original Ambulatory Surgery Survey was developed in 1994. Over the past decade, the structure of health care has changed dramatically and patient expectations have changed along with it. It was time to review the Ambulatory Surgery Survey and make sure it was still meeting the needs of our clients in capturing patient perceptions of care. For the revision of the Ambulatory Surgery Survey, we conducted focus groups with clients across the country. We contacted every single client via fax, phone, or e-mail and asked them to send us their suggestions for improving the survey to better meet their quality improvement needs. Approximately 35 percent of our clients responded with insightful feedback. We scoured current research – both internal and external to Press Ganey. In addition, a Client Advisory Committee (CAC), representing providers and administrators, was formed to discuss changes, to review early drafts of prototype questionnaires, and to provide feedback throughout the testing period. This document outlines the changes that were made to the original questionnaire and discusses the psychometric properties of the new Ambulatory Surgery Survey.

Testing the Questionnaire

Effective questionnaires have three important attributes: focus, brevity, and clarity. Each question should focus directly on a specific issue or topic, be as brief as possible while still conveying the intended meaning, and be expressed as simply and as clearly as possible.

The original Ambulatory Surgery Survey was printed with the following sections: Registration, Lab/X-ray/EKG, Before Your Surgery or Procedure, After Your Surgery or Procedure, and Final Ratings. However, the questions located in the *Ambulatory Surgery Revision* [2002 Press Ganey Associates, Inc. Page 2 of 10

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Before and After sections were actually a mixture of nursing care and physician care questions. In the reporting out of data, a Nursing subscale and a Physician subscale were created rather than using the Before/After groupings. The Nursing and Physician subscales were reflective of the original factor analysis that grouped the questions according to type of care provider rather than temporal experience. In developing the new survey to be tested, the Facility questions were printed together under the heading Facility and the Final Rating questions were split into two new sections entitled Personal Issues and Overall Assessment. Additionally, two different versions of the survey were created. One version mirrored the original survey and distributed the Nursing and Physician questions into the temporally based Before and After sections. The second version regrouped the nursing questions under a Nursing Care heading and the physician questions under

a Physician Care heading.

After the testing of the prototypes, it was determined that the printed version using the Nursing Care and Physician Care headings had significantly higher results for many of the subscale questions. This indicates that the format of the survey, rather than differences in delivery of care was at the root of the patterns in the results. Thus, the decision was made to continue to use only the Before/After groupings. The use of the single version of the tool will ensure that differences in client scores can be attributed to differences in performance rather than the choice of the survey version.

With the assistance of the CAC, we reworded some of the original standard questions. Minor changes in language resulted in clearer questions. For example, “Information given to your family about the procedure” was reworded to “Information nurses gave your family after your surgery or procedure” to make it clear to the patient which group of staff was being rated. Table 1 shows which standard questions were reworded.

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Table 1. Reworded standard questions. 1

Original Wording

Revised Wording

Ease of getting an appointment for when you wanted

Ease of getting an appointment for surgery when you wanted

Comfort of the registration waiting room Comfort of the registration waiting area

Comfort of the waiting room for your family Comfort of the waiting area for your family

Décor and cheerfulness of Surgery Center Attractiveness of the Surgery Center

Friendliness of the nurses Friendliness/courtesy of the nurses

Information nurses gave you before your procedure

Information nurses gave you on the day of your procedure

Nurses’ courtesy toward family who accompanied you

Nurses’ courtesy toward family who accompanied you (if applicable)

Information given to your family about your surgery or procedure

Information nurses gave your family after your surgery or procedure

Instructions you were given about caring for yourself at home

Instructions nurses gave you about caring for yourself at home

Friendliness of the physician Friendliness/courtesy of the physician

Explanation the physician gave you about what

was done during your surgery or procedure
 Information the physician provided about what
 was done during your surgery or procedure
 Staff concern for your privacy Our concern for your privacy

1 For the most part, rewording these questions did not result in changes in scores when comparing the original survey to the Before/After version of the test survey, which suggests that patients are indeed rating the same issues regardless of minor changes in language. However, there were two examples in which differences in scores were apparent. The question 'Information given to your family about your surgery or procedure' was modified to read 'Information nurses gave your family after your surgery or procedure.' The addition of the word 'nurses' seems to have resulted in slightly higher scores.

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Some questions were deleted from the standard survey. Table 2 shows which standard questions are no longer required for a facility to be included in the comparative database.

Table 2. Deleted standard questions.

Question

Section

How well billing and insurance questions were handled¹
 Registration
 Waiting time in registration² Registration
 Waiting time in the lab area³ Lab, X-Ray, EKG
 Courtesy of the person who took your blood³ Lab, X-Ray, EKG
 How well your blood was taken (quickly, little pain, etc.)³
 Lab, X-Ray, EKG
 Waiting time in the X-ray department³ Lab, X-Ray, EKG
 Courtesy of the X-ray technician³ Lab, X-Ray, EKG
 Waiting time in the EKG area³ Lab, X-Ray, EKG
 Courtesy of the EKG technician³ Lab, X-Ray, EKG
 Instructions you were given by our staff about how to prepare for your surgery or procedure⁴
 Nursing
 Staff concern not to send you home too soon⁵ Nursing
 Anesthesiologist's explanation⁶ Physician
 Convenience of parking⁷ Facility

1 This question was removed because patients typically receive their surveys prior to actually receiving their bills.

2 This question was removed because patients do not wait only in the Registration area. A parallel question about

wait time was added to the Personal Issues section.

3 All questions in the LAB/X-RAY/EKG section were made custom. This section was designed to index presurgical testing, which may or may not have happened at the Surgery Center itself.

4 This question was removed because it may or may not be the nursing staff that speaks to the patient prior to coming in for the surgery or procedure. Instead, a question that gets at a similar construct was added to the Registration section.

5 This question was removed because it is not solely the responsibility of the nursing staff to decide when to send a patient home. In addition, the wording implies that being sent home is a completely subjective decision rather than based on clinical criteria. Finally, a reworded version of this question was found not to load on any subscale factor.

6 This question was removed because it did not load well onto the Physician factor and was thus thought to be more appropriate in a separate section specifically geared to Anesthesia issues.

7 This question was removed because it did not contribute to the overall reliability of the survey.

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Some questions were rearranged on the survey. Table 3 shows which standard questions were moved to different sections.

Table 3. Relocated standard questions.

Some new questions were added. Table 4 shows which new questions were added and are now required for a facility to be included in the comparative database.

Table 4. New standard questions.

Question

Section

Skill of the nurse starting IV Nursing * Printed in Before Your Surgery or Procedure section

Your confidence in the skill of the nurses Nursing * Printed in After Your Surgery or Procedure section

Your confidence in the skill of the physician Physician * Printed in After your Surgery or Procedure section

Waiting time before your surgery or procedure began

Personal Issues * Printed in Before Your Surgery or Procedure section

Information provided about delays (if you experienced delays)

Personal Issues * Printed in Before Your Surgery or Procedure section

Degree to which your pain was controlled Personal Issues * Printed in Before Your Surgery or Procedure section

Response to concerns/complaints made during your visit

Personal Issues * Printed in Before Your Surgery or Procedure section

Overall rating of care received during your visit

Overall Assessment

Degree to which staff worked together to care for you

Overall Assessment

When we were confident that the revised set of questions met the criteria of focus, brevity, and clarity and that their *face*, *content*, and *consensus validities* had been established by the ambulatory surgery clients reviewing the survey, we tested the questionnaire with the assistance of seven test sites.

Question

Original Location

Revised Location

Comfort of the registration waiting area Registration Section Facility Section

Our concern for your privacy Finals Section Personal Issues Section

Likelihood of your recommending our

Ambulatory Surgery Center to others

Finals Section Overall Assessment

Section

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Of the seven test sites, all were already using the current version of the Ambulatory Surgery Survey. Patients at each of these sites were selected randomly to receive either the current questionnaire or the revised questionnaire. This design allowed us to compare results without having to worry about time being a confounding variable. Patient questionnaires were mailed to each sampled patient within 3-5 days of their visit. A mail-out methodology was chosen over hand distribution to eliminate selection and acquiescence biases. The test concluded with the receipt of 1,406 revised questionnaires. Response rates for the revised questionnaire ranged from 30% to 51%, averaging 37%.

The prototype survey that was tested had 31 questions that were divided into six subsections, designed to measure specific aspects of the patient's ambulatory surgery experience:

Registration

Facility

Nursing

Physician

Personal Issues

Overall Assessment

As with other Press Ganey questionnaires, a Likert-type response scale was used with the following categories: very poor, poor, fair, good, and very good. Because this scale is balanced and parallel □ unlike a "poor" to "excellent" scale □

responses can be quantified and used statistically without violating methodological assumptions. Also, variability in patients' responses with this scale allows for the identification of opportunities to improve, unlike "yes/no" response scales.

Questionnaire Psychometrics

The accuracy of a questionnaire is assessed by measuring its validity and reliability. Validity is the degree to which a questionnaire measures what it was designed to measure. Reliability is the degree to which survey data are consistent and reproducible across respondents or across surveys. The ambulatory surgery instrument was found to be psychometrically sound across a wide variety of tests of reliability and validity as described below.

Response Patterns and Variance. Measures of central tendency (i.e., mean, median, and mode) and variability (standard deviation, standard error) were examined for all questions. Response frequencies and patient comments were evaluated for patterns of missing data and question-wording or ambiguity problems. These steps are important for ensuring the clarity of questions and the absence of instrument bias and error.

Measure Redundancy. As discussed above, it is important for a survey instrument to be concise. A correlation matrix of all test questions was examined to find questions that were too highly associated with one another. If two questions are highly correlated, it suggests that they may be measuring the same issue or concept and, therefore, be redundant. Removing one of the two questions removes this redundancy and leaves a more parsimonious scale. None of the questions on the prototype survey showed problems with redundancy.

Construct Validity. A factor analysis was completed on test data for the 31 questions. Factor analysis is a technique used to identify factors that statistically explain the variation among responses to a questionnaire. In other words, factor analysis helps to identify which questions belong together, confirming a questionnaire's *construct validity* or structure. Ideally, the factor analysis should place questions in groupings similar to the sections of the questionnaire. Questions that are highly correlated with one another typically represent a common dimension or concept. For example, "Skill of the nurse starting IV" and "Your confidence in the skill of the nurses" are more likely to define a "Nursing" dimension than "Helpfulness of the person at the registration desk" or "Cleanliness of the Surgery Center."

A factor analysis identified five factors that accounted for 63% of the total variance (see Table 5).² These factors paralleled the structure of sub-scales of the questionnaire. Two questions were removed from the survey:

1. "Anesthesiologist's explanation (if you spoke with an anesthesiologist)" was removed

from the survey because it loaded only weakly with the factor comprised of items from the physician section, and did not contribute to the reliability of the survey.

2. "Extent to which you felt ready to go home" was removed from the survey because it did not load closely with any factor.
-

2 A principle component extraction was performed with oblimin rotation. Overall evaluation questions were omitted from the factor analysis due to their predicted high intercorrelations with other items.

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Table 5. Item Content and Factor Loadings

Factors and Loadings

Registration

Facility

Nursing

Physician

Personal

Issues

Questionnaire Item 1 2 3 4 5

Helpfulness of phone staff 0.768

Ease of scheduling an appointment 0.754

Info you received prior to surgery 0.774

Helpfulness of registration person 0.624

Comfort of waiting area 0.833

Comfort of your room/resting area 0.797

Comfort of family waiting area 0.823

Attractiveness of Surgery Center 0.839

Cleanliness of Surgery Center 0.739

Friendliness/courtesy of nurses 0.658

Skill of nurse starting IV 0.607

Info nurses gave prior to surgery 0.671

Nurses' concern for comfort 0.822

Nurses' courtesy toward family 0.814

Info nurses gave family re surgery 0.650

Nurses' instructions re home care 0.685

Confidence in skill of nurses 0.787

Friendliness/courtesy of physician 0.833

Physician's explan. Before surgery 0.893

Info physician gave re what's done 0.837

Confidence in skill of physician 0.766

Waiting time before surgery 0.776

Info provided about delays 0.870

Concern for your privacy 0.397

How well pain was controlled 0.336

Response to concerns/complaints 0.399

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Convergent and Discriminant Validities. Although factor analysis is a popular method of establishing the construct validity of a questionnaire, other methods are available. For example, one of the assumptions of questionnaire and scale

construction is that an individual item from a scale should be well correlated with the other items in that scale. Researchers suggest a minimum “item-to-scale” correlation of .30.

Table 6 shows the average and range of correlations between each question and its parent section. These correlations are “corrected” in the sense that the item of interest is omitted from its section score when correlations between the two are calculated. Corrections are performed to avoid inflated or spuriously positive correlations. The average item-to-scale correlations exceed the recommended criteria.

An item should be correlated with its own scale (*convergent validity*) as well as correlated more with its own scale than with other scales (*discriminant validity*). That is, item-to-scale correlations should be higher than item-to-non-scale correlations. For example, a “Nurses” question should be more highly correlated to its section than to the “Physicians” section (or any other section for that matter). As Table 6 confirms, the ambulatory surgery questionnaire demonstrates both convergent validity and discriminant validity. Because these are subclasses of construct validity, the revised questionnaire’s effectiveness at measuring perceptions of ambulatory surgery care is confirmed across multiple tests.

Table 6. Item Analysis and Reliability Estimates

Scale Alpha

Average

Corrected

Item-Scale

Correlations

Range of

Corrected

Item-Scale

Correlations

Average

Item-Non-

Scale

Correlations

Range of

Item-Non-

Scale

Correlations

Registration .84 .67 .63-.72 .37 .26-.44

Facility .91 .77 .72-.79 .44 .28-.53

Nursing .91 .72 .67-.81 .49 .23-.71

Physician .87 .75 .67-.80 .44 .39-.49

Personal Issues .84 .67 .57-.78 .54 .45-.66

Overall Assessment .91 .83 .81-.84 .54 .37-.71

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Criterion or Predictive Validity. *Predictive validity* is defined as the ability of an instrument to predict outcomes that theoretically should be tied to the construct

measured by the instrument. In consumer satisfaction, the perception of a satisfying experience is expected to be linked to positive word of mouth (recommending a product to family and friends).

An estimate of the relationship between satisfaction and positive word of mouth can be obtained by asking patients about their intent to recommend a provider or service. The predictive validity of a satisfaction instrument then can be estimated by the degree to which items on the instrument predict the patient's intentions to recommend.

In this regard, the scale exceeds the criteria recommended for this type of satisfaction survey.⁷ A multiple regression analysis revealed that the questions on the survey predict the likelihood of patients' recommending the ambulatory surgery, $F(28, 1377)=90.6$, $p<.001$, $R^2 =.65$ (Adjusted $R^2 =.64$). In other words, the instrument explains approximately 64% of the variation in the likelihood of patients' recommending the ambulatory surgery they visited to others.

Reliability. Reliability testing is a method of evaluating the internal consistency of a questionnaire. The traditional statistic used to illustrate the degree of consistency among the items of a scale or questionnaire is Cronbach's alpha. A set of questions with no internal consistency—no reliability—has an alpha of 0.0 indicating that the questions within the scale may not be measuring the same issues. A set of questions with perfect internal consistency has an alpha value of 1.0.

All five subscales exceeded the stringent .70 standard for reliable measures: Reliability estimates range from .84 to .91 (see Table 6). The Cronbach's alpha for the entire questionnaire is .96, confirming the instrument's high internal consistency and reliability.

Readability. According to the Flesch-Kincaid Index, which is based on the average number of syllables per word and words per question, the final questionnaire tests at an eighth-grade reading level.

⁷ Carey, R. G. (1999). How to choose a patient survey system. *The Joint Commission Journal of Quality Improvement*, 25, 20-25.

Appendix D

Preparing for Surgery

Your surgeon has evaluated you for surgery and has set the date, and now it is time for the extremely important visit with **Preadmission Testing**; they will evaluate you for your anesthesia. If you have not already done so, please contact Preadmission Testing at **248-937-3394** as soon as possible. The office is open Monday through Friday from 8AM until 5PM. If you reach voice mail, please leave your name, date of surgery, a phone number

where you can be reached, and the best times to call. Preadmission Testing will obtain your health history and order the necessary pre-surgical testing that you need based on your unique health care needs. They have many questions for you, and many important details to tell you, so please have a paper and pencil handy!

It is best to complete any testing before the surgery date. If you elect to get your testing done the morning of surgery, there won't be time to correct any problems that may be discovered during your testing. There is some risk that your surgery could be cancelled if the tests are abnormal. You will also be asked to come for surgery earlier so that all tests can be completed and the results sent to the department prior to your surgical procedure.

If you had recent laboratory testing, stress testing, EKG, chest x-ray or any other testing that is less than 30 days old, please mention this to the Preadmission Testing RN at the time of your assessment. With your permission, **the Preadmission Testing RN can often obtain the results of those tests and save you from having them repeated.** There are a few tests that have a strict time limit, such as type and cross-match when it is possible that you may need a blood transfusion; however whenever possible, previous testing results will be used for your surgical procedure.

The following issues are extremely important in order to safeguard your health:

- You will need a responsible adult to accompany you to the hospital, be available for post-operative instructions and stay with you for the first 24 hours. **You cannot drive yourself home!**

- Preadmission Testing will let you know which medications must be stopped and which medications must be continued, and when this must happen. **Herbal medications, marijuana and street drugs can cause serious harm if they are not discontinued prior to the surgery; such substances can interact with anesthesia and endanger your health. If you are diabetic, your surgeon will have special instructions for you on the day of surgery.**
- Alcohol and smoking can interfere with healing and with the anesthesia. You will be asked to discontinue their use the day before surgery.
- Nothing to eat or drink after midnight, including breath mints, gum, hard candy and water.

****Please remember to bring your list of medications to the hospital, including the name of the medication, the dose and times that you take them.**

- Please **DO** bring your insurance cards, Advanced Directives, Durable Power of Attorney for health care and Guardianship papers, if applicable
- Please **DO NOT** bring money, jewelry or other valuables with you to the hospital. The hospital cannot be responsible for valuables.

If your condition changes prior to the surgery (such as colds, fever, rash, cough) please notify your surgeon.

On the day prior to your surgery (Friday, if your surgery is on Monday) please call (248) 937-3482 between the hours of 2PM and 5PM for confirmation of your arrival time. This will be the official arrival time for your surgery: if you were previously given an arrival time by the surgeon's office, this time can change.

The Day of Surgery

Surgical patients often wonder why they are asked many of the same questions by so many people! The answer is; your safety is at stake! While collaboration between team members does take place, each team member asks the same questions for different reasons. Many an error has been prevented by using this technique!

The day of surgery is very busy for several people who are charged with ensuring your safety during surgery. An RN will perform your admission assessment, review the testing results, consult with other team members as needed and give you the appropriate equipment, IV, laboratory tests, medications and teaching according to the physicians' orders and your surgical procedure. Anesthesia will visit and ask more questions, and they will answer any questions that you may have regarding your anesthesia. A surgical technician will visit to perform a History and Physical, a Certified Nurse Anesthetist will evaluate your readiness for surgery, your surgeon may see you before the procedure begins and a Patient Care Technician could offer some additional instruction if it is ordered by your surgeon. Your RN is the coordinator of all of these services, and will be able to answer most questions that you may have. Anesthesia is responsible for answering your questions regarding anesthesia.



It is very important that you arrive at the Garden Entrance and come to the Surgery Center reception desk on the first floor at the time that you are asked to arrive. Much occurs behind the scenes in order to get you safely prepared for your surgery! Only when your safety has been assured can your surgery take place!

Please dress comfortably in clothing that will fit over any bandages that you may have. Exercise-type clothing is ideal for this purpose! Your glasses, dentures, jewelry and other valuables will be given to the person who accompanies you to the hospital for safe-keeping.

After Surgery

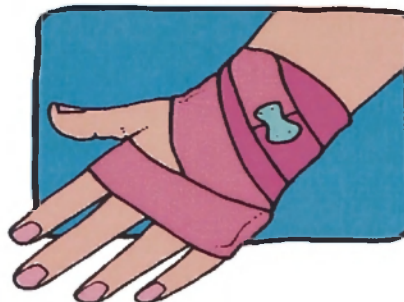


Recovery from anesthesia takes place in Phase I, a critical care unit. This is a very busy, intense department. Visitors are generally not allowed in Phase I Recovery, however your RN may be able to allow limited visiting in some selected cases. Volunteers are available in the surgical waiting room to answer your questions and to coordinate communication from Phase I

Recovery. The RN caring for you makes every effort to keep your family informed.

In Phase II Recovery, you are at the last stop before going home! We need to be sure that your pain is controlled, you are able to drink liquids and your blood pressure is very close to the pre-operative reading. Visitors are welcome in Phase II, and are necessary during post-operative instructions.

Most of our surgeons have provided us with specific instructions for your care at home, which we will give to you and the person who accompanies you to the hospital. Instructions are always given to both of you because, due to the medications that you have received, you may not remember what is said to you post-operatively. You may not even remember your surgeon's post-operative visit! Please do not be alarmed by this: this is an expected occurrence following some medications.



For the first 24 hours following surgery, do not drive, use power tools or drink alcohol. Unless instructed otherwise, please resume your normal diet. If you experience excessive pain, bleeding, have a fever greater than 101 degrees, or develop a large bruise that is continually growing larger, please call your surgeon immediately!

If you have agreed, an RN will call you the following day to see how you are doing. At this time, please feel free to ask any remaining questions that you may have. Some questions may be referred to your surgeon, some to anesthesia.

**Thank you for choosing Huron Valley-Sinai Hospital for your surgery!
We are happy to serve you, and we welcome any comments that you may have regarding your visit with us.**

Perioperative Patient Education Web Sites

1. Huron Valley Sinai Hospital

www.hvsh.org/hvsh/surgical/prep.html

Review page, Preparing for Surgery

Bottom of page left side, left click Day of Surgery

Bottom of page, left side, left click After Surgery

2. National Institute of Health Medline Plus

www.medlineplus.gov

Right upper corner, left click Interactive Tutorials

Surgery and Treatment column, left click Preparing for Surgery

Left click – Start Tutorial and read Day of surgery, During Surgery, After Surgery, and Instructions

3. Webmd

www.webmd.com

In search box, type preparing for surgery

Left click on your specific surgery

Appendix E

Patient Comments

1. Wasn't told that I couldn't move about easily. I had trouble moving my operated leg. I didn't know this is apparently normal!
2. I wish I had gotten something telling me about how to care for my incision. Like, will the steri-strips come off on their own or do they have to be removed? Also, something on what to expect of the incision site that's normal.
3. I had an absolute terrific experience; I was well informed and prepared. The staff after the surgery took very good care of me and all information was relayed to me in a timely manner for checkups and/or medications.
4. They all were great!
5. The nurses and staff were all wonderful to me
6. Very happy with experience.
7. Great experience. Second outpatient surgery. Very impressed.
8. Very nice staff!
9. Very courteous staff, felt comfortable, overall good experience.
10. Overall I felt very good about my procedure. Everyone involved answered any questions I had or my family had. I appreciated the individual attention I was given in pre and post op. The nurses were very attentive and compassionate.
11. Everyone was great!
12. I am very pleased with all services I received.
13. Good doctor—good hospital.
14. Excellent service!
15. Nice experience!
16. Huron Valley Hospital is excellent!
17. All personnel were very thorough and efficient.
18. Very pleased with all nurses who took care of me. Thank you for my Tim Hortons!
19. I would have liked to be informed of the post surgery pain associated with this type of surgery. I.e.CO2 gas absorption in to the body 24-48 hours after surgery.
20. Post surgery effects and duration should be explained in greater detail.
21. Everything was excellent! The DVD was very good, especially for someone who's never had surgery before.
22. Well organized and very timely.
23. I had this surgery at Huron Valley DMC. My right hand will be done at Farmbrook in Southfield.
24. I have no complaints.
25. I appreciate the positive, friendly, informative attitude of everyone involved. It eliminated tons of stress!
26. Wonderful experience and hospital.
27. Very satisfied with all aspects of care. Thanks!
28. Pre-admission testing set the tone for an excellent experience.

29. My surgery was at Huron Valley Hospital.
30. Everyone was very caring.
31. Did appreciate each staff member introducing themselves, explaining their role and patiently answering questions.
32. I was very pleased with the overall experience. Everyone was very efficient, informative and friendly.
33. Very noisy at surgery recovery area. Staff joking and laughing with each other (good old time). Not very professional, certainly not a hospital attitude. Loud!
34. I was very happy with the care I got at Huron Valley.
35. Great staff!
36. Biopsy done at Huron Valley. Botsford Hospital I had an EGD. Same answers apply for both hospital experiences.
37. My family was given direction for my care but they didn't receive specific information regarding the duration of time I was to wear the post-op brace. I was told I could walk on the leg after surgery and it has been 5 days and I can barely put weight on it. Unrealistic recovery time!
38. I was very happy with the entire process.