A Quality Improvement Initiative: A Patient Education Video for Enhancing Postoperative Pain Management

by

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Acknowledgement of Prior Doctoral Study

In 2021, Turton executed a DNP scholarly project in the form of a pilot study titled Opioid Sparing Sinus Surgery. The significant components of the pilot study were twofold and included 1) an opioid-sparing anesthesia outline for anesthesia providers to follow for patients having select sinus surgery procedures, and 2) ascertaining patient comfort status and satisfaction with the opioid sparing anesthesia care. This outline was modeled after several Enhanced Recovery After Surgery (ERAS) protocols; the overarching goal was to reduce or eliminate perioperative opioid use for certain sinus surgery procedures, therefore minimizing the adverse effects of opioids while promoting patient comfort with non-opioid anesthesia adjuncts. Patient satisfaction with their perioperative anesthesia care was assessed 24-48 hours after hospital discharge by phone call and patients were asked specific questions to determine their level of satisfaction. Unfortunately, the number of patients enrolled in the study was very small (n=7) due to time constraints of the doctoral program, and the COVID-19 pandemic resulting in cancellation of numerous elective sinus surgery procedures.

Preliminary findings however showed that perioperative opioid sparing anesthesia methods resulted in patients reporting low pain scores and high satisfaction with care. Of the seven patients enrolled in the study, one reported taking the prescribed opioids intended for consumption when non-opioid analgesics did not relieve pain, only because he was encouraged by his support person to take the opioid ‘before’ any pain developed. This highlighted a knowledge deficit about pain management and when to take prescription opioids.

The pilot study, acknowledging low enrollment, was suggestive that an opioid sparing outline for sinus surgery can result in patient self-reported postoperative comfort, and therefore reduce opioid consumption and their associated adverse effects. A debt of gratitude is owed to

Turton (2021) for her doctoral scholarly project and presenting the preliminary findings. It has provided the building blocks for our project and will be referenced frequently.

Abstract

Background/Purpose: The current opioid epidemic remains as one of the most severe public health crises in history. The perioperative setting is often where an initial exposure to opioids occurs, not only as a key component of an anesthetic, but in the form of prescriptions for the management of postoperative pain. A prior DNP project was developed to minimize patient exposure to opioids during select sinus surgery procedures with the use of an opioid sparing anesthesia outline. The results of the initial project identified that key modifications were needed to not only improve the outline itself, but also highlighted a knowledge gap in patient education regarding opioid use and postoperative pain management. With the goal to address this knowledge gap, the purpose of this DNP project was to 1) amend and update the opioid sparing anesthesia outline; 2) evaluate adherence to the outline by anesthesia providers; 3) retrospectively assess the outcomes of patients who received an opioid sparing anesthetic; and 4) develop a preoperative patient education video and evaluate its impact on patient knowledge and understanding of safe opioid use and postoperative pain management.

Methods: A preoperative patient education video was developed by the multidisciplinary team. The video was scripted, formatted, and recorded by the project team in a role-play setting between patient and provider. The comprehensive application to the IRB was submitted in the summer of 2022, but due to newly mandated IRB processes in obtaining consent, it prevented carrying out the project as planned. Therefore, a new methodology was developed and included the physician member of the project team providing the patient education video in her office and via a QR code emailed to applicable patients who were scheduled for surgery. Patients were asked to complete a questionnaire specific to the video during their two-week postoperative visit. The questionnaire is formatted to determine the efficacy of the video in enhancing patient knowledge about safe postoperative pain management techniques. Comparisons of patient knowledge before and after viewing the video will be assessed.

Results: The patient education video was provided to patients in the physician's office when scheduled for specific sinus surgery procedures from March 2023 until July 2023. The anticipated sample size (n=20-25) for patient evaluation of the video will be based upon the surgeon scheduling sinus surgeries during this same time frame.

Discussion/Conclusion: This study aims to investigate the efficacy of a patient education video on the understanding of postoperative pain management, opioid use, and the safe storage and disposal of opioids, with the purpose to allow patients to become stakeholders in their health and make more informed decisions about their postoperative pain management.

Keywords: opioid sparing, patient education, pain management

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Background and Significance

The opioid epidemic was dramatically exposed in the late 1900s when misinformation from several entities, including pharmaceutical companies, led to the increased prescribing of opioids. The greater the misinformation and prescribing, the volume of misuse and abuse became apparent. In 2017, the U.S. Department of Health and Human Services declared the opioid epidemic a public health emergency (U.S. Department of Health and Human Services, 2021). Fast forward several years, it was evident that the opioid crisis has not lessened, but worsened, and misuse and abuse increased. Provisional data released by the U.S. Centers for Disease Control and Prevention (CDC) in November 2021 reported that more than 100,000 people died from a drug overdose between May 2020 and April 2021. This statistic realized a 28.5% increase from the prior 12 months and a record high for the United States (Centers for Disease Control and Prevention, 2021). These numbers indicate a continued need to address and combat the multifaceted nature of the opioid crisis.

The perioperative setting is often where the initial exposure to opioids occurs. Levy et al. (2012) found that the rate of opioid prescribing was highest for specialists in pain medicine (48.6%), followed by surgeons (36.5%). Otolaryngologists are physicians trained in the medical and surgical care of head and neck disorders, including surgery for disorders of the sinuses. They contribute to high prescribing numbers, and even though unintentional, do play a part in the opioid epidemic. Fortunately, they can and often do, have a pivotal role in reducing the prescription of opioids, their consumption, misuse, and abuse. The CDC has issued recommendations on procedure specific opioid prescribing guidelines, but these guidelines are not explicit to otolaryngology (Dang et al., 2020).

To address the significance and understanding of opioid prescribing patterns in otolaryngology, and to initiate an evidence-based change in practice, a pilot study by Turton (2021) was developed and implemented. The preliminary findings of the study were explained in the acknowledgements section of this paper. Based on the findings, and to enroll an acceptable sample size for continuation of the pilot study, this project aimed to amend the original pilot to include a patient education component and complete the study. As aforementioned, the findings of Turton (2021) highlight the presence of a knowledge gap regarding opioid use and postoperative pain management after sinus surgeries. To address the knowledge gap, the need for preoperative patient education became obvious. Thus, in addition to amending and continuing the original pilot study, a component of preoperative patient education was added. The implications of continuing the opioid sparing anesthesia outline, in parallel with a patient education component, may have a significant impact on curtailing overall opioid consumption in this patient population, and ultimately building a foundation that changes how patients view and consume opioids following surgery.

Literature Review

Part One: Updated Review of Literature on Opioid Prescribing Patterns in Otolaryngology

The original literature review completed by Turton (2021) was reviewed, and another comprehensive review was performed to include more current research, as well as patient education modalities. The databases, PubMed (MEDLINE) and CINAHL (Cumulative Index to Nursing and Allied Health Literature), were searched using the specific keywords: "otolaryngology AND opioid AND prescribing". These search terms were the most effective in identifying the greatest number of articles that best addressed the topic of interest. Appropriate limits were placed to further narrow down the search. Relevance to the area of interest was the primary inclusion criteria, thus of the articles found, those that included opioid prescribing practices and patterns, opioid use by patients, and guidelines following otolaryngology procedures were included. The previous literature review covered articles up through 2018; this review added articles published from 2018 through 2021. Duplicate articles, articles that only addressed the pediatric patient population, articles not pertaining to human subjects, as well as articles not written in English, were excluded. Articles that were not peer reviewed, and in which the full text was not available, were also excluded.

Searching two databases using the terms, and including only those within the stated time frame, identified 23 articles. The abstract and introduction of all 23 were reviewed, and initial screening applied both the inclusion and exclusion criteria to the search. Of the 23 articles, two did not provide full text, nine were duplicate studies, one was specific to the pediatric patient population, two did not pertain to opioid prescribing in otolaryngology. Of the remaining 9, three had been reviewed in the previous literature review by Turton (2021), and one was not peer reviewed. Of the five remaining, three were chosen for review based on relevance to this study.

Pruitt et al. (2020) conducted a quantitative observational case control study evaluating opioid prescribing patterns of otolaryngology providers in a healthcare system from 23 hospitals in five states, and opioid use patterns for patients undergoing common otolaryngology procedures. A total of 862 patients were included in the study, 710 were opioid naive, and 152 patients had recent exposure to opioids at the time of surgery. Data was collected from a postoperative electronic survey emailed to participants. The researchers assessed the quantity of opioids used postoperatively, patient-reported pain control (using a Likert scale), and method of opioid disposal. Information on the amount and type of opioid prescribing was obtained from a review of the electronic health record (EHR). The information obtained from the survey was compared to data within the EHR. The authors reported that 29,095 tablets were dispensed (for the 862 participants). The median number of tablets prescribed per patient was 30. Regarding patient consumption and pain control, the median number of tablets taken was 10. A total of 532 patients (62%) reported using less than or equal to 50% of the prescribed opioids, whereas 10% reported using no opioids. Approximately 795 patients (92%) reported adequate pain control (Likert scale 1-3). The primary reason for not consuming all dispensed opioids was related to a very low pain rating. The authors identified wide variability in both the quantity and type of opioids prescribed, and patients consumed significantly less opioids than prescribed (10 vs. 30 tablets, $p < 0.001$). In addition, regardless of the type and strength of opioid, there was little to no difference in the amount consumed by the patient, further suggesting a need for revaluation of prescribing patterns. The importance of opioid disposal was an important concept in the discussion section of the publication. For example, the authors report that there were 16,149 unused individual tablets (56% of the total prescribed), and 72% of the patients kept their excess pills. This allowed 9,279 tablets to be available for potential diversion into the general

community. The strength of this study lies in the large sample size derived from more than 23 hospital systems, supporting external validity. Limitations of this study involve accuracy, or lack thereof, of patient-self reporting, which can lessen reliability if respondents are not truthful. The findings highlight the need for standardized evidence-based guidelines for postoperative prescribing of opioids, which can minimize unnecessary prescriptions and reduce consumption. This data also serves to illuminate the hypothesis that patient education for opioid use and postoperative pain management is needed.

In a single institution multiphase study, Dang et al. (2020) assessed opioid prescribing patterns and tracked postoperative opioid consumption following specific otolaryngology procedures. The authors first developed evidence-based guidelines for postoperative pain management followed by an investigation of prescribing patterns. Postoperative opioid consumption was also assessed. A total of 161 patients were surveyed and asked to explain their postoperative opioid usage, and respective postoperative pain scores via a visual analogue scale. A total of 19,747.5 morphine milligram equivalents (MMEs) were prescribed and only 8,588 MME were reported as consumed. This left 11,159 MME unused, which is equivalent to 1,488 tablets of 5 mg oxycodone. This research highlights a continued pattern of overprescribing opioids following otolaryngology procedures, and equally as important, more than half of the opioids prescribed were unused or unnecessary. The authors also reported that male gender patients who take psychiatric medications and are tobacco users are predictors of postoperative opioid use. The major limitation to this study is inherent recall bias by the patients. Based on these findings, the authors were able to make recommendations for a multimodal analgesic guideline for postoperative pain management, and emphasize a gap in the literature warranting further research. A recommendation was made that further research should focus on preoperative

education, expectations related to postoperative pain, and narcotic and non-narcotic pain management methods. All may be efficacious in reducing opioid consumption.

As previously noted, the CDC has issued recommendations on procedure specific opioid prescribing guidelines, but these guidelines do not include otolaryngology (Dang et al., 2020). The literature review by Turton (2021), alongside findings from Dang et al. and Pruit et al, emphasizes the need for an otolaryngology specific opioid prescribing guideline. In a notable and most recent publication, Anne et al. (2021), developed an otolaryngology specialty-specific guideline to identify opportunities to improve postoperative patient care following common otolaryngologic surgical procedures. This guideline targets patients treated for anticipated or reported pain within the first 30 days following common otolaryngology procedures. It was based on supporting evidence from three different systematic literature reviews.

The authors identified 10 key action statements (KAS) from the 3 systematic reviews. The action statements provide clinicians with evidence-based recommendations for perioperative opioid-based pain management. The goal is to reduce variability in opioid prescribing patterns and advocate for a patient specific multimodal pain management regimen. The objective is to reduce the volume of opioids prescribed and therefore consumed, while adequately managing postoperative pain. This literature review focuses on and summarizes the KAS that are pertinent to the development of the patient education component of this project. These KAS include, but are not limited to, setting realistic expectations of postoperative pain, explaining the concept of shared decision making between surgeon and patient, allowing patients to become stakeholders in their own care, addressing opioid education needs, explaining safe storage and/or disposal of unused opioids, and emphasizing the significance of a post-surgery assessment within 30 days.

In conclusion, the authors identified the need for further research that includes the benefits of preoperative education and counseling.

This updated literature review validates that current postoperative opioid prescribing patterns for patients undergoing common otolaryngology procedures remains problematic. Suggestions for future study include identifying if standardized preoperative patient education will better inform patients on what to expect following common ear, nose, and throat (ENT) procedures and how to manage pain safely without opioids.

This prompted the second part to this literature review with a focus on patient education specific to postoperative pain management. Are the benefits of preoperative education versus postoperative education noted, and what appears to be the optimal way to educate patients on how to manage pain following common ENT procedures?

Part Two: Patient Education on Postoperative Pain Management and Opioid Use

A second literature review was conducted using various medical databases to examine evidence-based practices regarding patient education and opioid use postoperatively. The databases used included PubMed (MEDLINE) and Cochrane. Key search terms included: “patient education AND reducing AND opioid use”. These search terms were used to search titles, abstracts, and bodies of articles through the databases. Inclusion criteria required articles to be written in the English language, contain adult human subjects > 19 years old, and published within the last five years (2017-2021). Exclusion criteria included the following: duplicate articles, articles without full text, and articles with no patient education intervention.

A total of 57 articles related to patient education and opioid use were appropriate for this review. Upon assessment, 52 articles were excluded mainly due to irrelevance to the clinical

question. The remaining five articles were reassessed for inclusion and selected due to relevance to the proposed question appropriate and with a high level of evidence

Syed et al. (2018) conducted a randomized controlled trial to assess the impact of patient education on the rate of opioid use/opioid dependency after arthroscopic rotator cuff repair (ARCR). One hundred and forty participants were enrolled from August 2015 to December 2016. Participants were screened for risk of opioid use by a validated Opioid Risk Tool that considered family history and personal history of substance use, age, history of sexual abuse, and psychological disease. Scores were associated with risk of opioid abuse and were grouped as follows: low risk (0-3), moderate risk (4-7) and high risk (>=8). Participants were randomized into two cohorts: a study cohort, and a control cohort. The study cohort was given formal in-person opioid education: a 2-minute video regarding opioid abuse/discontinuation of narcotic at 2 weeks, and a paper review of the highlights of the video. The control cohort received only standard preoperative education. Patients received postoperative follow-up at 2- weeks, 6-weeks, and 3 months either in the physician's office or by telephone. The primary outcome was the number of narcotics consumed 3 months after surgery. Regarding the primary outcome, researchers found that the study cohort consumed 19%, 33% (P =.02), and 42% (P=.01) less narcotics than the control group at 2-week, 6-week, and 3-month intervals, respectively. The authors also found that pre-operative narcotic use was associated with increasing 3-month narcotic consumption. Patients in the study cohort were 2-times more likely to discontinue their narcotics earlier than the control group.

In a follow-up randomized controlled trial, Cheesman et. al (2020) assessed the impact of patient education on the rate of opioid use/opioid dependency two years after arthroscopic rotator cuff repair (ARCR). Patient specific data was taken from the state database monitoring software

(a requirement for all pharmacies in New Jersey and Pennsylvania). Opioid use was defined using the following criteria: acute (0-2 prescriptions within 6 months of the surgery), moderate (3-5 prescriptions within the time frame of surgery to database search), and dependence (>= 6 prescriptions within the time frame of surgery to database search). A total of 140 participants were enrolled from August 2015 to December 2016. The primary outcome assessed was whether pre-operative education would reduce the risk of opioid dependence at the 2- year postoperative timeframe. The results revealed that patients receiving opioid education had a lower rate of opioid dependence (11.4%) compared to the control group patients (25.7%) (P = 0.05), and those who received preoperative education had a lower average rate of opioid prescriptions filled (2.9) when compared to control patients (6.3) (P = 0.03).

Lewis et. al (2020) assessed the impact and feasibility of an online video to prepare patients how to dispose of unused opioids. A 6-minute educational video was shown to 40 patients enrolled that outlined opioid storage and disposal and safe opioid practice. Although the focus was to identify the impact of the educational video on proper disposal of opioids, researchers also analyzed whether opioid disposal varied by age, sex, and type of surgery. There was no statistical significance between the control group and the group that watched the video; 57% of participants with leftover opioids in the control group disposed of all their leftover pills, while 83% in the intervention group disposed of theirs. Overall, intervention participants did have positive feedback regarding the timing and information provided in the video.

A systematic review by Rucinski and Cook (2020) examined pre-operative education on opioids and the effects on post-operative pain scores and prescription filling; a total of 11 publications met their inclusion criteria. Opioid misuse was operationally defined as the use of opioids for greater than 90 days after surgery. Most of the literature regarding patient education

identified a reduction of postoperative opioid use when patients are provided with some type of educational content (books, in-person, video, etc.). They also found that "studies that discussed how the body creates natural narcotics, risks of taking opioids long term, and/or proper use expectations post-operatively" had the biggest impact on reducing opioid use. Educational content used in the articles included in this systematic review varied from paper handouts, in-person education, or videos shown.

Mokhtari et. al (2021) conducted a randomized controlled trial to assess the efficacy of an educational video on pain management and opioid use after cesarean delivery. In a 6-month span (July 2019 – December 2019), 48 women were enrolled: 24 in the control group (usual discharge instructions) and 24 in the study group (educational video and usual instructions). The educational video provided examples of non-opioid pain adjuncts and safe disposal of opioids. Participants were surveyed and were required to provide photo evidence of opioids leftover at 7 days and 14 days post cesarean delivery. The primary outcome in this study was the total number of oxycodone tablets used since discharge through day 14. Study participants used less oxycodone tablets through day 7 (median 1 tablet) when compared to control participants (median 7 tablets; $P < .001$). Assessing use through day 14, study participants used less oxycodone tablets (median 1.5 vs median 10; $P < .001$). No differences were found in non-opioid adjunct use between the two groups.

While the articles considered in this literature review are favorable in guiding this project, they do carry some limitations that must be addressed. For example, the diversity in race, ethnicity, and educational background of participants was limited (Lewis et al., 2020; Mokhtari et al., 2021). Although studies blinded participants to true purpose, opioid consumption/disposal data was self-reported and could lead to potential bias (Syed et al., 2018; Lewis et al., 2020).

Lastly, all studies described an inconsistency in type of education, content, and education length (Cheesman et al., 2020; Lewis et al., 2020; Mokhtari et al., 2021; Rucinski and Cook, 2020; Syed et al., 2018).

The current literature supports the standardization and innovation of perioperative education. While inconsistencies and limitations exist, a noted and common theme supports perioperative education techniques like videos, handouts, and in-person face-to-face communication. Creating and utilizing these techniques in the preoperative period may prevent unnecessary postoperative opioid use and misuse, improve patient satisfaction and quality of care, safely manage pain, and provide for the safe disposal of opioids.

Problem Statement

An opioid sparing anesthesia outline was created, implemented, and evaluated (for a very small number of cases) for sinus surgery procedures at Corewell Health, Beaumont Hospital, Royal Oak. This outline was part of an IRB approved pilot study titled: Opioid Sparing Sinus Surgery, developed and conducted from 2019-2021. This pilot study enrolled only 7 patients due to COVID 19 and other unrelated constraints, however a very important problem was identified from this small number of participants.

While data from the original pilot study revealed a high patient satisfaction with the opioid sparing outline, a problem was discovered related to patient misunderstanding of how to manage postoperative pain, if it develops. One patient revealed that instead of following the outline of using Tylenol and/or Celebrex first, before self-administering the prescribed opioids, he was prompted by a support person to initially take the opioids (and not take the Tylenol or Celebrex). Their thought process was that this would provide an opportunity to preemptively prevent pain better than the non-opioid medications.

Based on this previously reported patient scenario, a new problem was identified: sinus surgery patients need more formal education specific to pain management following select sinus surgery procedures.

A new PICO question was formulated based upon the noted problem:

P – Do patients who have select elective sinus surgery procedures,

I – who receive formalized education via a video presentation on how to manage postoperative pain,

C – compared to findings from current research which supports the use of non-opioid adjuncts after sinus surgery procedures

O – express an understanding of 1) the discharge instructions specific to postoperative pain management as described in the video 2) how to properly dispose of unused prescription opioids; and, 3) when to seek additional care if pain is severe and not managed when following the instructions in the video.

In addition, did the patients who viewed the education video find it valuable, and express an understanding of the content, and express satisfaction with the prescribed pain management regimen?

Project Objectives

The objectives of this DNP project are to:

(1) develop a preoperative patient education video outlining postoperative pain expectations, pain scales and ratings, the difference between opioids and non-opioid analgesics, how to take the prescribed medication and when, when to communicate with the surgeon if pain is not managed, and, how to properly dispose of opioids and resources for 'drop-off locations for unused pills' after sinus surgery.

(2) evaluate the impact of the patient education video.

(3) use modern technology as a tool to provide information for self-care.

(4) empower patients to become stakeholders in their own care.

(5) reduce the perioperative use of opioids overall.

Theoretical Frameworks

Turton (2021) identified Avedis Donabedian Quality of Healthcare Model as the theoretical framework for this project. This model uses the constructs of structure, process, and outcome to guide the user on implementing or improving health care quality initiatives. The authors of this paper agree with Turton and have added to the description of the constructs, as follows:

1. Structure: Healthcare team, teaching documents, and pre/post operative surveys
2. Process: Evidence-based research, creation and implementation of an opioid sparing outline, creation of a preoperative education video, and providing documentation on opioid use and postoperative pain management
3. Outcome: Assessment of compliance to outline from providers, patient opioid use, patient satisfaction with pain management regimen, and patient post-operative pain

In addition to Avedis Donabedian Quality of Healthcare Model, the authors of this paper believe the Transformative Learning: Theory to Practice (Mezirow, 1997) is the framework that guided the creation and implementation of the revised patient education portion of this project. Transformative learning considers that all adult experiences (feelings, concepts, or responses) create a frame of reference that the adult mind uses. Any ideas or concepts that do not fit this frame of reference are rejected unless the Transformative Learning Theory is adopted. The Transformative Learning Theory allows adult learners to take on a more inclusive view of other viewpoints by using critical reflection and discourse, in which the adult learner can discuss their reasonings for their viewpoints. Mezirow (1997) describes the importance of the adult educator in understanding the Transformative Learning Theory to allow their learners to accept their

teachings. We believe that this plays a direct role in the education portion of this project. It will be necessary to allow open discussion with all patients and providers regarding their thoughts, knowledge, and preconceptions about opioid use and proper disposal. Once these notions are discussed, the primary educator can provide adequate and current information to the learners. Mezirow (1997) discusses the importance of allowing the learner to have full information that is free from coercion and that fits into each learner's frame of reference.

The two theories guided the continuation of Turton's (2021) project and allowed the addition of a meaningful and valid patient education portion to improve patient satisfaction and counter the potential implications of inappropriate opioid use and disposal in select otolaryngology procedures.

Methodology

Project Design

This DNP project is an evidence-based, quality improvement, and change initiative. An Opioid Sparing Outline for Anesthesia (Appendix C) for select sinus surgery procedures was amended for use in the anesthesia department at Corewell Health, Beaumont Hospital, Royal Oak. The outline for opioid sparing sinus surgery, when available to providers, was to be assessed for adherence. Additionally, data was to be extracted from the electronic medical record of patients who received opioid sparing anesthesia that followed the outline, post anesthesia care unit (PACU) pain scores, rescue analgesics in the PACU, and any adverse events related to pain management. Unfortunately, the authors could not perform the retrospective review of the electronic record (together with a scheduled post operative phone call) as planned due to unattainable requirements by the IRB of the hospital system (explained further below).

Additionally, a preoperative patient education information video was filmed and made available to the patients on YouTube that met the aforementioned objectives: outlining postoperative pain expectations, describing pain scales and pain ratings, the difference between opioids and non-opioid analgesics, how take the prescribed medication and when, when to communicate with the surgeon if pain is not managed, how to properly dispose of opioids, and resources for ‘drop-off locations for unused pills’ after sinus surgery.

The preoperative patient education video was provided to the patients who were scheduled for the select sinus surgery procedures, as delineated in opioid sparing anesthesia outline, by the surgeon who is a member of this DNP project team (See Appendix C). The video was made available for viewing via a handheld tablet in the surgeon’s office when applicable, and/or emailed to them (via a link and QR code) to view at home. Patients were asked to view

the YouTube video prior to their scheduled surgery at least once, but as many times as they wanted, and postoperatively as many times as they wanted.

The surgeon member of the project team conducts postoperative office visits with her patients two weeks after their procedure. At the postoperative office visit, patients were asked to complete a brief questionnaire related to the video and specific to the intended objectives of the video (Appendix J).

Project Setting

This project took place at the office of Dr. Melissa McBrien, surgeon, and principal investigator.

Key Stakeholders and Personnel

The key stakeholders in this project are the patients who underwent the select sinus surgery procedures, Dr. Melissa McBrien, surgeon, and the anesthesiology department at Corewell Health, Beaumont Hospital, Royal Oak, who have ongoing access to the anesthesia outline.

Participants and Population

The participants are the patients of Dr. Melissa McBrien who had the following sinus surgery procedures: septoplasty, endoscopic frontal sinusotomy, antrostomy, ethmoidectomy, sphenoid sinusotomy, concha bullosa removal, submucous resection of turbinates, coblation of turbinates, and turbinate reduction.

Recruitment Strategies

Originally, and for the continuation of the pilot study, patients scheduled for the previously listed sinus surgery procedures were to be assessed and evaluated for participation by the Principal Investigator. The authors of this project, together with the surgeon, developed an

Eligibility Checklist (Appendix A) and patients were to be assessed for eligibility during their scheduled office visit. Subjects meeting the eligibility criteria were to be provided with the Study Information Sheet (Appendix B) and consent for participation was to be obtained.

Due to changes in the policies and procedures of the institution IRB, the team could not comply with new requirements. The original plan was to not only retrospectively review the electronic record for patient outcomes in the PACU and provider adherence to the outline, but to also call the patients at home and conduct the evaluation of the patient video by phone. The IRB most recently instituted a policy that requires patients to sign a consent, and in this case view the education video within 24 hours of signing consent, prior to surgery. The surgeon therefore must obtain consent for the procedure, and for participation in the pilot study, in the preoperative holding area before surgery. This would have required patients to view the video upon arriving at the hospital the day of their surgery. This was not feasible, nor was it deemed conducive to patient education and information retention. The IRB application was subsequently withdrawn, and the project was implemented with the following changes.

After IRB approval of the amended project (and a determination that it was not human subjects research), the patient education YouTube video was offered by the PI (in her private office) to patients scheduled for the select sinus surgery procedures as delineated on the original outline. The explanation was either in person in the office as applicable, or by email and/or phone call by the office staff when additional surgery information was provided. Patients were provided with a tablet if they wished to view the video in the office (as applicable), and all patients received an email with a link and QR code (Appendix D) for viewing the video at home as many times as they wished, prior to their scheduled surgery. At each patient's two-week

postoperative visit, they were asked to anonymously complete a short questionnaire to evaluate the video.

Project Intervention Plan and Procedures for Implementation

1. A thorough review of original study documents was completed, and items were revised accordingly by the project team for submission of amendments to the IRB. After submission of amended and new items to the IRB, and a prolonged period elapsing, due to policy changes communicated by the IRB, the project was withdrawn.
2. The patient education video script was written according to the objectives, and the video was filmed (Appendix E).
3. The surgeon and office staff approved the video for patient viewing.
4. The surgeon and the office staff reviewed all processes and approval was obtained.
5. The patient education YouTube video and respective documents were delivered to patients preoperatively, either in person and/or by email.
6. Patients completed the questionnaire (Appendix J) at their two-week post-surgery office visit.
7. IRB approval obtained by Oakland University IRB to collect de-identified questionnaires returned by the patients to the surgeon.
8. Results were analyzed and reviewed with the surgeon, and questionnaires are still being returned by the patients.
9. Dissemination of project scheduled at Oakland University School of Nursing in June 2023.

Data Collection Instruments

Originally, an IRB approved retrospective chart review was planned to assess provider compliance with the amended outline and patient specific care detail (originated by Turton). The Opioid Sparing Sinus Surgery Data Collection Instrument (Appendix G), and the Opioid Sparing Sinus Surgery Data Collection Coding Key (Appendix H) was also amended from the original pilot study. Additionally, patients who had opioid sparing sinus surgery would receive a phone call by the project team 48-72 hours postoperatively and asked to answer questions on the original Postoperative Phone Questionnaire (Appendix I). Due to the previously mentioned modifications in the project, a postoperative questionnaire was developed only relating to the patient education video (Appendix J) and patients were requested to complete the questionnaire during their scheduled two-week postoperative visit.

Questionnaires were administered beginning in March of 2023 and continued through July of 2023. The Oakland University IRB provided exempt approval (Appendix K) for the project authors to collate and transfer de-identified responses on the questionnaire (Appendix L) using the using the In Person Postoperative Questionnaire Data Coding Key (Appendix M) and review the data with the PI.

Potential Barriers to Implementation and Sustainability

A potential barrier to the implementation of this project is the willingness of patients to watch the preoperative patient education YouTube video, either in the office setting or at home. Sustainability relies on the surgeon and office staff to provide patients with information on how to view the video and encourage their willingness to view.

Facilitators to Implementation and Sustainability

Facilitation of this project would not have been possible without a multidisciplinary approach. The project team consisted of nurses, physicians, researchers, nurse anesthetists, and office staff. As the team continued to come together, ideas, opinions, and suggestions were shared from all parties and allowed the project to take on its full potential.

Ethical Considerations and Risks

Ethical considerations arise from the awareness that not all patients may have the ability or means to access the digital patient education YouTube video. With this awareness and the belief that all patients should have equal access to healthcare, and to mitigate this risk, the patient education was made accessible by several routes including viewing the video in the office when applicable, on a handheld device accessed via QR code, and/or on a personal desktop or laptop computer with the provided URL. Noted, the readability of the documents provided to the patients was addressed acknowledging varying levels of healthcare literacy. It is vitally important that patients have an opportunity to learn and understand the information.

Potential Benefits and Outcomes

There are several potential benefits and positive outcomes of this project. A novel patient-education tool that addresses safe opioid and non-opioid use, and safe postoperative pain management techniques, empowers patients to make educated and informed decisions about their care and assume control over their health. Patients therefore become active members of the healthcare team. Providing education on the disposal of opioids thwarts the unintended distribution of opioids to those who have the potential to use, misuse, and abuse opioids.

Timeline Part II

This project was presented as an opportunity to the current project authors in October of 2021. Dr. Melissa McBrien and Dr. Mary Golinski collaborated and agreed that the original pilot study by Turton (2021) remained valid and required continuation by new team members. During the months of November 2021-June 2022, work was done to update relevant documents for the project for resubmission to the IRB.

In June of 2022, the co-investigators scripted and recorded the patient education video. Resubmission to the IRB with all appropriate and updated documentation was completed by July 2022. After initial resubmission, the IRB requested additional information and amendments in September 2022 (Appendix F). After meeting with the project team and amending as requested, a second IRB submission was made in October 2022. The IRB initiated dialogue with the project authors by email and phone conversation and presented the team with new requirements to proceed. Because these requirements could not be met, the application was withdrawn.

In December 2022, the project team set forth to restructure the project (described in the preceding paragraphs). In February 2023, the project team administered the patient education video and documents to patients and return questionnaires will continue to be collected until July 2023.

Anticipated Resources, Budget, and Funding Plan

There were no anticipated costs in the implementation of this project for any of the key stakeholders or personnel involved.

Evaluation Plan

Description of the evaluation plan specific to the patient education video is fully described in the initial paragraphs of the results section.

A thorough evaluation of staff thoughts, suggestions, and compliance of the video will be assessed via an in-person meeting in July of 2023 with the entire team.

Future Evaluation

As the current project concludes, opportunity remains for future evaluation of compliance with the opioid-sparing outline and patient 'recovery' detail following opioid sparing sinus surgery. In 2024, a new application will be submitted to the IRB for a retrospective electronic medical review.

Recommendations and Limitations

Limitations

The greatest limitation to this project was the application and approval process required by the IRB as already described.

Other major limitations of this project are specifically related to the allotted time to complete this project. The project authors, as DNP graduate students, were held to a finite amount of time for project creation and implementation. Although a step-by-step timeline was created and followed, resubmissions to the IRB caused numerous and prolonged delays preventing progression in a timely manner.

Unintended Consequences

An unintended, yet positive, consequence of the project was the restructuring of the project design after IRB resubmission was deemed not feasible. Although initial plans were touted, the new design accomplished several of the primary goals and objectives regarding patient education and safe pain management processes.

Recommendations for Sustaining Intervention

This project is a small-scale quality improvement initiative that provides education on safe postoperative pain management, the difference between opioid and non-opioid analgesics, and the safe disposal of opioids to select sinus surgery patients. The underlying goal is to empower patients to become stakeholders in their health and make more informed decisions about their postoperative pain management. The concept of patient education on postoperative pain management and opioid use is important in healthcare settings in which patients are anticipated to experience pain and/or be prescribed opioids. Although only intended for the patients of Dr. McBrien, if found to be valuable in the sinus surgery patient population, it can be considered an example of a process that may be duplicated in other settings.

To sustain this intervention in the original office setting of Dr. McBrien, intermittent follow-up with Dr. McBrien herself, and the office staff, is necessary. Validation will be required to assure information provided in the video remains current, a functioning tablet remains, the QR code and URL remain accessible, and that patients continue to be satisfied with the process.

Implications for Practice and Career Development

As DNP prepared Certified Registered Nurse Anesthetists, it is prudent to understand the ever-changing climate of anesthesia, surgery, and patient customs. This project allowed the authors to utilize evidence-based processes to develop, implement, and analyze a quality improvement initiative through multidisciplinary collaboration. As the world around us moves towards a more technologically advanced society, it is important that healthcare providers continue to advance their care for patients. Minimizing opioid use has been at the forefront of ENT surgery, but giving patients the information and knowledge to do so in a technologically advanced way was lacking. The efforts of this project were two-fold. First, it is important to

analyze what patients need to hear from an educational standpoint and disseminate it in a way that will be understandable. Second, it was important to consider the use of technology and provide patients with a multitude of ways to access patient information. As we continue our careers, we believe there will be a broader effort to optimize patient education by utilizing technology. We believe the continued effort to improve and optimize patient education could potentially lead to less morbidity, mortality, and promote self-care for all patients.

Contribution of Project in Achieving DNP Essentials

The doctoral project embodies several, if not all, of the DNP Essentials. Commencing with Essential I – Scientific Underpinnings for Practice, and Essential VI – Clinical Prevention and Population Health, the project was based on several supported theories, including but not limited to, transformative learning theory, self-care theory, the theory of pain, and theories directly related to human physiology and pathophysiology of disease. Additionally, the project embraced concepts related to preventing disease (opioid use/misuse/abuse) and promoting population health. By employing analytic methods to critically appraise existing literature that supported the purpose of the project and facilitate the design and evaluation of methods – Essential III was met. Essential IV, the utilization of information technology and utilizing technology to improve and transform care is clearly exemplified. The entire project itself would not have evolved if interprofessional collaboration did not exist; it took the entire healthcare 'team' to transform the vision and establish the final project – Essential VI. All members of the project team, through effective communication and collaboration, played a role in the development and implementation of the project. The goal of this project is directly related to essential VIII, advancing nursing practice and improving the quality and outcomes of patient care.

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Appendix A:

Opioid Sparing Sinus Surgery
Eligibility Checklist V 4.0 06/16/2022
2020 - 336
To be completed for each enrolled participant

1. Name: _____
2. Date of Planned Surgery: _____

Inclusion criteria: 3-6 must be checked or circled YES for enrollment.

3. Patient willingness to participate (information sheet provided) Yes No
4. Elective sinus surgery procedures (Check YES OR circle procedure for planned procedure(s)
   - Septoplasty ___
   - Endoscopic frontal sinusotomy ___
   - Antrostomy ___
   - Ethmoidectomy ___
   - Sphenoid sinusotomy ___
   - Concha bullosa removal ___
   - Submucous resection of turbinates ___
   - Coblation of turbinates ___
   - Turbinate reduction ___

5. Planned general anesthesia Yes No
6. Greater than or equal to 18 years of age; less than 89 years of age Yes No
7. **Allergies or contraindications to the drugs listed on the outline:**
   (CIRCLED NO FOR EACH DRUG LISTED)

   A. Acetaminophen No

   B. Celebrex No

   C. hydrocodone No

   D. Lidocaine No

   E. Ketamine No

8. ASA I, II, III (surgeon to consult anesthesia if necessary) Yes No

Opioid Sparing Sinus Surgery
Eligibility Checklist V 4.0 06/16/2022
2020 - 336
To be completed for each enrolled participant

ASA I: _____

ASA II: _____

ASA III: _____

Exclusion criteria: all must be checked NO for enrollment.

9.	Is this an emergency and/or urgent procedure?	Yes	No
10.	Are there any allergies or contraindications to drugs listed on outline?	Yes	No
11.	Is a septorhinoplasty planned? (septoplasty permissible if patient will also undergo sinus surgery)	Yes	No
12.	Is there an alcohol or opioid use disorder?	Yes	No
13	Is there a history of chronic pain disorder?	Yes	No
14.	Is there regular use of acetaminophen and or NSAIDS (> 4x per week)?	Yes	No
15.	Is there regular use of narcotics or neuromodulating drugs (e.g. gabapentin, Nortriptyline) more than 2x per week?	Yes	No
16.	Is there a history of gastrointestinal ulcers or bleeding?	Yes	No
17.	Is there known chronic kidney disease/known decreased renal function (estimated glomerular filtration rate <60)?	Yes	No
18.	Is there known liver cirrhosis or other hepatic impairment?	Yes	No
19.	Is there a history of prior adverse reactions to any study drugs?	Yes	No

Surgeon/PI Name (printed): _____

Surgeon/PI Name (signature): _____

Date: _____

IRB# 2020-336
Version date: 06/16/2022

Study Title: Opioid Sparing Sinus Surgery
Principal Investigator: Dr. Melissa McBrien
Address: Office - 6900 Orchard Lake Road, Suite 314, West Bloomfield, MI 48322
Hospital: William Beaumont Hospital (Royal Oak)

Purpose:
You are being asked to participate in a research study because your surgeon has scheduled you to have sinus surgery at Beaumont Hospital, Royal Oak in Michigan.

Opioid medications are also known as narcotics. Some common names of opioids are oxycodone (Oxycontin), hydrocodone-acetaminophen (Vicodin), Codeine, and Morphine. They are used as a component of anesthesia and during recovery from surgery when appropriate and necessary. However, opioids are associated with side effects such as nausea,vomiting, respiratory depression, prolonged sedation from anesthesia, and risk of dependency. While often an important component of care during and after surgery for managing pain, their use depends on a variety of factors, such as how painful the recovery is after surgery.

Previous studies evaluated the level of pain following sinus surgery, the same or similar surgery you are scheduled for. Patients have reported low pain scores during recovery from this surgery. Since reported pain scores following sinus surgery appear consistently low, there is opportunity to avoid using opioid medications and manage postoperative discomfort with other types of medications. Medications such as acetaminophen (Tylenol) and non-steroidal anti-inflammatory drugs such as Celebrex, are often used in the postoperative period and are associated with fewer side effects compared to opioids.

This study, being conducted at William Beaumont Hospital, Royal Oak, is to evaluate the use of an opioid-sparing anesthetic technique during surgery, and to assess adequacy of pain management. after surgery. In addition, you will be provided with a preoperative education video that addresses post-operative pain and opioid management. You will be asked to watch this video prior to surgery.

Study Procedures:
If you take part in the study, acetaminophen (Tylenol) will be administered upon arrival to the hospital prior to your surgery, as ordered by your surgeon. You will be given routine medications that are considered standard of care, as part of your general anesthesia in the operating room as well as non-opioid pain medications. All drugs administered are considered standard of care and not experimental. However, opioids will be omitted.

If your anesthesia team deems it necessary to administer opioids during surgery, they will administer them and record as usual, the type and amount you require will be based on their assessment and your vital signs. During your recovery room stay, you will be assessed for discomfort, and if necessary, given opioids. You will be assessed for any side effects of medications administered, and upon discharge from the hospital, your surgeon will provide you with prescriptions and instructions for both non-opioid medications and opioids (should you later require them).

Additionally, you will receive a phone call from the research team approximately 48-72 hours after surgery. During this phone call, you will be asked approximately 19 questions regarding your postoperative pain management, your medication, as well as utilization of the preoperative patient education video. The information provided from this phone call is the actual research portion of this study.

You will be in the research study for 3 days from the time of your surgery up until you receive your post-operative phone call, which should take approximately 15 minutes.

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

Risks:
Beaumont is committed to upholding strict confidentiality in research and all business practices, however there could be a rare risk of loss of confidentiality. We are very concerned about your privacy and will make every effort to maintain the security of your records.

Costs:
There will be no costs to you for participating in this research study.

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

Confidentiality:
All collected data will be stored electronically in a safe and secure manner approved by Beaumont to protect patient identity and information.

Voluntary Participation/Withdrawal:
You do not have to take part in this study. You are free to withdraw from this study at any time you choose without giving a reason. This will not affect any future care you will receive. Your decision will not change any present or future relationships with William Beaumont Hospital or its affiliates.

Questions:
If you have any questions about this study now or in the future, you may contact Mary Golinski PhD, CRNA at the following phone number 248-709-1605. If you have questions or concerns about your rights as a research participant, please contact the Institutional Review Board at 248-551-0662. The Institutional Review Board is charged with the oversight of all human participant research conducted at Beaumont facilities.

Appendix C:

Beaumont

Royal Oak Beaumont (WBH) – Opioid Sparing Sinus Surgery Outline for Anesthesia

Types of Cases Included

- Septoplasty
- Endoscopic frontal sinusotomy
- Antrostomy
- Ethmoidectomy
- Sphenoid sinusotomy
- Concha bullosa removal
- Submucous resection of turbinates
- Coblation of turbinates
- Turbinate reduction

Boarding

- Case will be boarded with “Opioid Free” as prefix to the surgery name indicating enrollment in the study and need for use of the Opioid Sparing Outline
- Case will be boarded with “Opioid Free” or “OFS” in the body of the boarding description

Preoperative Plan

- Acetaminophen 1000 mg PO administered by preoperative RN
- Benzodiazepines administered at anesthesia provider discretion

Postoperative Nausea and Vomiting Plan

- Administer total number of antiemetics depending on patient risk factors (female, non-smoker, opioid use, history of PONV and/or motion sickness)

# of Risk Factors	Antiemetics To Be Given
1	Decadron + Zofran
2	Decadron + Zofran
3	Above + Scopolamine patch prior to surgery (hold if > 70 years) OR Phenergan 12.5mg OR Benadryl 12.5-25mg OR Reglan 10mg OR Pepcid 10-20mg
4	Above + one additional antiemetic to total 4 antiemetics

Intraoperative Plan

Although this is an opioid free outline, if opioid-sparing anesthetic does not satisfy patient needs, opioids may be administered at provider discretion.

Induction (*indicates dosage at discretion of anesthesia team)

- 100 mg Lidocaine IVP prior to propofol administration
- Propofol* IVP if not contraindicated
- Rocuronium* IVP OR Succinylcholine* IVP if using endotracheal tube as airway
- Dexamethasone 8-10 mg IVP
- Ketamine 0.25-0.5 mg/kg IVP during induction or immediately after (e.g. 70kg person would receive 17.5-35mg)
- Sevoflurane as inhalation agent of choice
- ENT surgeon administers local anesthetic with or without epinephrine

Emergence

- Ondansetron 4 mg IVP
- Lidocaine* IVP for prevention of coughing and bucking as needed per provider discretion
- Sugammadex* IVP
- Toradol 30 mg IVP 15-30 minutes prior to end of case (15 mg if patient >70 years). Always ask the surgeon if appropriate prior to administration.

Postoperative Plan

PACU

- For breakthrough pain (Numeric Pain Scale > 4) contact anesthesia provider
- Opioids are given in PACU at provider discretion based on the needs of the patient

Discharge Prescriptions written by surgeon

- Acetaminophen 500 mg PO Q6hr (max dose 4g/24hr)
- Celebrex 100 mg PO Q6hr for 72 hr
- Hydrocodone-Acetaminophen (Norco) 5-325 mg Q6hr for breakthrough pain (total 5 tablets dispensed/patient)

Links to Patient Education Video:

1. Type or click link to play video in your internet browser
   - https://youtu.be/Ou4NTHWBrzY

2. Open camera on your smart phone and scan the QR code below

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Links to Safe Opioid Disposal Website:

1. Type or click the link to open the Safe Opioid Disposal website in your internet browser
   - https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e2s1

2. Open camera on your smart phone and scan the QR code below

Preoperative Patient Education Video Script

Introduction

Both: ***"****Hello, my name is Hassan Abbas and my name is Derya Toksoy. We are current doctoral students in our second year of study in the Oakland University-Beaumont Graduate Program of Nurse Anesthesia. Thank you for taking the time to watch this video regarding opioid education that relates to your upcoming sinus surgery."*

"Together, with your surgeon, we have developed this video to inform you about the different medications you will receive that will enhance your recovery after your surgery. This video is broken down into sections and each section discusses important topics regarding pain management after your sinus surgery. During this video, H/D will be playing the role of the anesthesia provider, a Certified Registered Nurse Anesthetist, and I will be playing the role of the patient. We hope you find it beneficial to your recovery!"

Information Clip: *The following recommendations have been obtained from the most recent research specific to postoperative pain management after select sinus surgery procedures.*

Transition to Scene with Provider and Patient

Provider: "*Good-morning. My name is D/H and I will be your Certified Registered Nurse Anesthetist or CRNA, for your upcoming sinus surgery. How are you doing today?"*
Patient: ***"****I am doing well, thank you!"*
Provider: "*That's wonderful. Thank you for making it in today. I would like to spend this time together discussing topics and answeri ng your questions about postoperative pain management after your sinus surgery."*
Patient: "*That would be very helpful, I have a lot of questions!"*

Information Clip: Pain Expectations

Transition to Scene with Provider and Patient

Patient: "*What will my pain be like after my sinus surgery?"*
Provider: *"I am glad you asked, we are aware that not knowing what to expect can cause you anxiety!*

"After your surgery, you will be taken to the post anesthesia care unit, typically known as the recovery room. You will be continually monitored by your nurse, and asked if you are having any pain. Based on numerous reports, patients typically report minimal pain after this type of procedure, however, because every patient is different, I would like to explain how the nurses will assess your pain (if any) and how it will be managed."

"The nursing staff will ask you to rate any pain you may be having on a scale of 0-10. This is known as a numeric pain scale. 0 means you are not having any pain. 1, 2, or 3 is mild pain, 4,5, and 6 is considered moderate pain, and 7, 8, 9, and 10 means you are experiencing severe pain. Mild pain can be described as hardly noticeable. Occasionally, patients may rate their pain as moderate, which is classified as hard to ignore, noticeable, and can interfere with some activities. Severe pain is described as unbearable, awful, and can make it hard to do anything else but focus on the pain."

(Image of numeric pain scale placed at the bottom of the screen as we are talking)

Patient: *"About how long can pain last after this procedure?"*
Provider: *"As previously mentioned, patients have reported either no pain or mild to moderate pain after these types of sinus surgeries, however, depending on each individual person – differing degrees of pain may last 3-5 days. Everyone experiences pain differently, and the goal after surgery is to make sure your pain, if any, is tolerable for you."*

Information Clip: *Non Opioid Medications*

Transition to Scene with Provider and Patient
Patient: *"What happens if I start feeling uncomfortable at home?"*
Provider: *"The main objective of postoperative pain management is to control your pain while minimizing the adverse events or side effects that can be associated with pain medications. Our job is to provide you with the necessary information so that you are able to make the best informed decision about your pain management. When you are discharged from the hospital, your surgeon will prescribe two different types of medications for you, the first type is called a 'non opioid' medication and the other is an 'opioid'."*

Patient: *"What are non opioid medications and when should I take them?"*
Provider: *"These medications include drugs such as acetaminophen, which you might recognize as Tylenol, and nonsteroidal anti-inflammatory drugs, which include Celebrex, a drug similar to motrin. These medications are used to treat mild to moderate pain, and have little side effects if taken appropriately. They should be the first choice in treatment for your pain."*

Patient: *"How much Tylenol and Celebrex should I take, and when should I take them?"*
Provider: *"Your doctor has asked that you have 325mg Tylenol tablets at thome so that you can take two tablets or a total of 650 mg, every 6 hours as needed. In addition, you will receive a prescription upon discharge from the hospital for 200mg Celebrex tablets, where one tablet of Celebrex can be taken every 12 hours as needed. Every 6 hours you can alternate taking these two medications. The time frame to take these medications was specifically chosen by your doctor to decrease any potential side effects, so it is important to maintain a schedule of when you take them."*

Patient: *"Let me see if I understand this. If I am feeling mild to moderate pain, I take two tylenol tablets, 325 mg each. 6 hours from taking the tylenol, I can take one 200 mg Celebrex tablet, and 6 hours from then I can take tylenol again, and so on? Is that correct?"*
Provider: *"That's correct! You alternate between the Tylenol and Celebrex every 6 hours as needed if you are experiencing mild or moderate pain.*"

Patient: *"And, I am supposed to take Tylenol and Celebrex before using opioids?"*
Provider: *"That's correct too! We prefer and recommend that you start with these medications for mild to moderate pain. Research shows that non-opioid pain medications, like Tylenol and celebrex, are effective in managing pain after your specific surgery, and can lead to an enhanced recovery."*

Information Clip: *Opioid Medications*

Transition to Scene with Provider and Patient
Patient: *"So if I take the Tylenol and Celebrex and am still having a lot of discomfort, what should I do?"*
Provider: *"The second category of medications we need to talk about are opioids. Some names of opioids that may sound familiar are morphine, codeine, and hydrocodone. Your surgeon has written a prescription for 5 total 5-325mg hydrocodone pills. This medication is for severe pain. For example, if the Tylenol and Celebrex you are already taking are not working and you are still having severe pain, then you should take the prescription hydrocodone."*

Patient: *"And how often can I take my prescribed hydrocodone?"*
Provider: *"Your doctor has prescribed this medication every six hours as needed. This does not mean take it every 6 hours until you finish all 5 pills, but take it only if you are having severe pain. It is important for you to know that hydrocodone also contains Tylenol, and it should not be taken at the same time as the plain tylenol you have that is for mild or moderate pain. For example, if you have tried both the plain tylenol and celebrex at the prescribed intervals, and your pain is still severe, you can take the hydrocodone. And when taking the hydrocodone, the time interval between it and the plain tylenol must always be 6 hours."*

Patient: *"I think I am getting the hang of this. Do opioids have a lot of side effects if I do have to take the hydrocodone?"*
Provider: *"Opioid medications do carry the risk of more side effects than non-opioid medications. Some of these side effects include constipation, itching, nausea, vomiting, dry mouth, dizziness, and sedation."*

Patient: *"I have heard that if I take opioids, I will become addicted. Is this true?"*

Provider: *“Opioids do carry the risk of abuse and addiction, but this does not mean that if you need to take opioids, you will automatically become addicted. Opioids should be taken exactly as prescribed by your doctor and only the minimum quantity should be taken in order to relieve severe pain.”*

Patient: *“Thanks for clarifying all of that. Just to make sure we are on the same page - I can take the hydrocodone prescribed to me if I am having pain that is severe and is not being controlled by Tylenol and Celebrex?"*
Provider: *“That is correct. The goal is to limit your exposure to opioids to the shortest duration possible, and by taking the least amount necessary to control severe pain.”*

Patient: *“Even after everything you said, what should I do if my pain is not well controlled and I am experiencing some of the adverse effects or side effects that you mentioned?”*
Provider: *“Every patient is different, and what works for some may not work for others. We recommend that you reach out to your doctor's office and report that you are having continued pain or are experiencing undesirable side effects. Your medication plan will be changed and tailored to your needs.”*

Information Clip: *Putting It All Together*

Transition to Scene with Provider and Patient
Patient: *“Are these two categories of medications the only options I have for pain control?”*
Provider: *“Not at all! We tend to forget that there are non medication options to help with pain control, such as applying ice, and even distraction techniques, such as listening to music. You have several tools in your tool box, and our goal is to provide you with the information you need to be able to use them.”*

Information Clip: *Stopping Pain Medications*

Transition to Scene with Provider and Patient
Patient: *“When should I stop taking pain medications and how should I stop?”*
Provider: *“Stopping medications is just as important as starting them. If you end up having to take the hydrocodone, it is important to stop it as soon as possible after the severity of your pain has diminished, if your pain is controlled by the non opioids medications, or if your pain is completely resolved. Again, you do not need to finish the bottle. Celebrex & Tylenol can be stopped at any time when your pain is controlled and you are comfortable.”*

Information Clip: *Storage and Disposal of Opioids*

Transition to Scene with Provider and Patient

Patient: *"Where should I store my opioid prescription?"*
Provider: *"Storage of opioids is an important aspect of medication management. We recommend you store these in a locked medication box or cabinet, where someone other than yourself cannot get access to them. This can help decrease the diversion of opioids and prevent accidental overdoses."*

Patient: *"What should I do if I have leftover pills? Can I give them to my family members and friends, or even save them for later?*
Provider: *"Opioid disposal is a very important topic. Medications, specifically opioids, should not be shared with family members or friends under any circumstances. These medications were prescribed only for you. There also is no need to save your pills for later after your recovery period has ended. If you have pills that are leftover, there are options for the safe disposal of opioids. We encourage you to drop them off at either your local pharmacy, drug store, or police station. We will give you this sheet here to take home with you. It provides you with a link to a website that gives you all the available medication drop off locations by zip code."*

(hand the sheet of paper to the patient that we will be handing out in real life)
Website on the Sheet of Paper + QR Code:
https://apps.deadiversion.usdoj.gov/pubdispsearch/spring/main;jsessionid=_jRkeu4V774wFmLZ33h4X8p71DzDkhY-b9bRwM_T.web1?execution=e1s1

Fade into Closing Scene with Provider and Patient

Patient: *"Thank you for sharing all of this information with me. It has helped ease my nerves and anxiety about expectations of pain after my procedure, and the steps I need to take to effectively manage it."*
Provider: *"Of course! As professional anesthesia providers it is our goal to educate our patients and create a holistic, well-rounded care environment where we discuss options together. We will be calling you within 2 to 3 days after your surgery. This phone call will be a way for us to check in with you, assess your pain level and medication usage. Thank you for your time and have a wonderful rest of your day."*

Beaumont

Research Institute
Institutional Review Board

October 03, 2022

Mary M McBrien, MD
Anesthesia & Perioperative Medicine, Nursing

IRB#:	2020-336
Protocol Title:	Opioid Sparing Sinus Surgery, Opioid Sparing Sinus Surgery
Sponsor:	Investigator Initiated
Study Expiration Date:	01/04/2023
Renewal Cycle:	12 months

Dear Dr. McBrien,

Your **AMENDMENT REQUEST** received on 09/06/2022 has been reviewed by the Institutional Review Board (IRB) and the following action was taken:

Action: Modifications Required

The following revisions/clarifications are requested:

1. Please provide a revised IRB application modifying each section affected by the changes. The attached version has not been altered since early 2021.
2. Provide a tracked changes version of the information sheet. Make sure you work off the last approved version dated 01/11/2021.
3. Provide a tracked changes version of the eligibility checklist. Make sure you work off the last approved version dated 01/11/2021.
4. Amendment Request Form #5.1: please explain rationale for removing nortriptyline as an exclusion criterion, and for decreasing the number of subjects from 50 to 20.
5. Provide a tracked changes version of the Opioid Sparing Sinus Surgery Outline for Anesthesia.
6. Provide a tracked changes version of the phone script. . Make sure you work off the last approved version dated 12/02/2020.
7. Provide a tracked changes version of the Data Collection Tool - Opioid Sparing Sinus Surgery (Chart Key). Please add a date and IRB # to the header.
8. Please specify whether the video is only for research participants and whether this will be used as standard of care going forward. Is there a budget needed for the production? Are you able to email this reviewer a copy of the video as iMedRIS cannot accommodate a video.
9. Add a key personnel change to the amendment to include Bobbie Lewis, RN as your Clinical Research Manager. This was requested with the initial submission, but never completed. You may need Bobbie's expertise with this submission.

Beaumont

Research Institute
Institutional Review Board

Any amendment or change to the protocol must be reviewed and approved by the IRB prior to initiation.

The following must be reported to the IRB: All Unanticipated Problems, all instances of study article (medication or device) error, enrollment of subjects not meeting enrollment criteria, any change to the protocol, any deviation from the protocol that affects the health or safety of a study subject, and study termination.

A Progress Report/Administrative Review must be submitted to the IRB and undergo review and approval prior to 11:59 PM on 01/04/2023. Failure to do so will result in a lapse of IRB approval. Research activity for this project may not continue after the expiration date.

Under terms of this project approval, you agree to promptly notify the IRB chairperson in writing, of any correspondence from or actions taken by the FDA or any other legal action involving the project.

If you have questions or concerns, please contact Jake Sarzynski, BS at 248.551.6701.

Sincerely,

Graham Krasan, MD
Chairperson
Institutional Review Board
/js

Appendix G:

Patient Number	Age (years)	Gender Female=1 Male=2	ASA Classification (I, II, III)	Weight (kg)	Height (cm)	BMI (kg/m2)	APFEL Risk Score (1-4)	Preoperative Pain Score (Numeric 0-10)	Surgical Procedure (1-9)	Surgery Duration (minutes)	Protocol Compliance 1= full compliance 2=partial compliance (indicate letter)	Intraoperative Opioids Used (yes/no + type/dose)	Intraoperative Antiemetics Given (type and dose)	PACU Pain Score (numeric 0-10)	Opioids Used in PACU (yes/no + type/dose)	PACU Adverse Events (1-5)	PACU Antiemetics Given (yes/no + type/dose)	PACU Discharge Pain Score (numeric 0-10)
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Opioid Sparing Sinus Surgery Data Collection Coding Sheet

Age (years)

Gender
1 Female
2 Male

ASA Classification (I, II, III)

Weight (kg)
Height (cm)
BMI (kg/m2)

APFEL Risk Score (1-4)
1 point for each of the following:

- ☐ Female
- ☐ Non-smoker
- ☐ hx of PONV and/or motion sickness
- ☐ Use of opioids

Preoperative Pain Score
Numeric Pain Scale 0-10
Documented via preoperative RN

Surgical Procedure
1 Septoplasty
2 Endoscopic Frontal Sinusotomy
3 Antrostomy
4 Ethmoidectomy
5 Sphenoid Sinusotomy
6 Concha Bullosa Removal
7 Submucous Resection of Turbinates
8 Coblation of Turbinates
9 Turbinate Reduction

Surgery Duration (min)

Full compliance with protocol as evidenced by:
a. Tylenol 1000 mg PO taken preoperatively
b. Lidocaine* IVP prior to propofol administration
c. Propofol for induction if not contraindicated (dosage a at discretion of anesthesia team)
d. Rocuronium (non depolarizing muscle relaxant) OR Succinylcholine (dosage at discretion of anesthesia team) if using endotracheal tube as airway

e. Dexamethasone 8-10 mg IV at start of case
f. Ketamine 0.25-0.5 mg/kg IVP during induction or just after induction (e.g. 70kg person would receive 17.5-35 mg)
g. Local anesthetic with or without epinephrine per surgeon

- ☐ 1 Yes
- ☐ 2 No

Must indicate what step was omitted or changed (using same letters i.e. a. b. c. etc)

Intraoperative Opioids Used
Document yes/no
Document type and dose (i.e. fentanyl 50 mcg)

Intraoperative Antiemetics Given
Document type and dose

PACU Pain Scores
Numeric Pain Scale 0-10

Opioids used in PACU
Document yes/no
Document type and dose

PACU Adverse Events
1 Nausea requiring rescue pharmacologic treatment
2 Postoperative Vomiting requiring rescue pharmacologic treatment
3 Evidence of respiratory depression
4 Prolonged sedation delaying discharge
5 Other - describe

PACU Antiemetics Given
Document yes/no
Document type and dose

PACU Discharge Pain Score
Numeric Pain Scale 0-10

Opioid Sparing Sinus Surgery
IRB # 2020 – 336 V 2.0
06/16/2022
Phone Script for Assessment of Satisfaction

Patient #: _____

Date of Phone Call: _____
Time of Phone Call: _____
Date of Surgery: _____
Time of Surgery: _____

Hello Mr/Ms. _____ I am a researcher on the team with Dr. McBrien, your surgeon who performed your sinus surgery on _____ at Beaumont Hospital RO. We are calling you for the follow-up portion of our research study that you enrolled in. I would like to ask you questions related to your pain management after surgery and the education video you watched prior to your surgery. It should take less than 15 minutes. Is this a good time for you to go through this with me?

1. Since you've been home from surgery, on a scale of 0-10, with 0 being no pain at all, and 10 being severe pain, how would you rate your pain right now?

0 1 2 3 4 6 7 8 9 10

2. You were given a prescription for celebrex and hydrocodone, and were instructed to have tylenol available at home. Do you have all of these medications at home?

- ☐ Tylenol
- ☐ Celebrex
- ☐ Hydrocodone

3. Since you filled your prescription for Tylenol, how many pills have you taken?

4. Since you filled your prescription for Celebrex, how many pills have you taken?

5. Since you filled your prescription for hydrocodone, how many pills have you taken?

(If hydrocodone was used, skip question 6.)

6. If you used Celebrex and Tylenol for pain management, on a scale of 1-5, how would you rate the overall quality of your pain management? I will read the scale to you.

- ☐ 1 - poor
- ☐ 2 - fair
- ☐ 3 - good
- ☐ 4 - very good

- ☐ 5 - excellent

(If hydrocodone was not used, skip questions 7-9)

7. If you used Hydrocodone for pain management in combination with tylenol and/or celebrex or alone how would you rate the overall quality of your pain management? I will read the scale to you.

- ☐ 1 - poor
- ☐ 2 - fair
- ☐ 3 - good
- ☐ 4 - very good
- ☐ 5 - excellent

8. If you used hydrocodone, did you take it because the Tylenol and/or Celebrex did not manage your pain adequately, yes or no? If that is not the reason you took it, why did you take it?

- ☐ Yes
- ☐ No
- ☐ Explanation:

9. If you took your prescribed hydrocodone, did you experience any of the following side effects of opioids medications? I will read a list of side effects to you.

- ☐ Nausea
- ☐ Vomiting
- ☐ Itching
- ☐ Constipation
- ☐ Drowsiness
- ☐ Dizziness

The next set of questions pertain to the preoperative education video:

10. Did you watch the preoperative education video?

- ☐ Yes
- ☐ No

11. If you watched the preoperative education video, did you watch it in its entirety?

- ☐ Yes
- ☐ No

The next set of questions will pertain to your knowledge prior to viewing the preoperative education video:

12. Before watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids and opioids?

- ☐ 1 - Very poor
- ☐ 2 - Below average
- ☐ 3 - Average
- ☐ 4 - Above average
- ☐ 5 - Excellent

13. Before watching the video, how would you rate your knowledge on when to start taking prescription opioids which include hydrocodone?

- ☐ 1 - Very poor
- ☐ 2 - Below average
- ☐ 3 - Average
- ☐ 4 - Above average
- ☐ 5 - Excellent

14. Before watching the video, how would you rate your knowledge on proper storage and disposal of opioids?

- ☐ 1 - Very poor
- ☐ 2 - Below average
- ☐ 3 - Average
- ☐ 4 - Above average
- ☐ 5 - Excellent

The next set of questions will pertain to your knowledge after viewing the preoperative education video:

15. After watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids and opioids?

- ☐ 1 - Very poor
- ☐ 2 - Below average
- ☐ 3 - Average
- ☐ 4 - Above average
- ☐ 5 - Excellent

16. After watching the video, how would you rate your knowledge on when to start taking prescription opioids which include hydrocodone?

- ☐ 1 - Very poor
- ☐ 2 - Below average
- ☐ 3 - Average
- ☐ 4 - Above average
- ☐ 5 - Excellent

17. After watching the video, how would you rate your knowledge on proper storage and disposal of opioids?

- ☐ 1 - Very poor
- ☐ 2 - Below average
- ☐ 3 - Average
- ☐ 4 - Above average
- ☐ 5 - Excellent

18. On a scale of 1-5, after watching the video, how would you rate your overall confidence in making informed decisions about postoperative pain management?

- ☐ 1 - Very unconfident
- ☐ 2 - Fairly unconfident
- ☐ 3 - Neutral
- ☐ 4 - Fairly confident
- ☐ 5 - Very confident

19. We have reached the end of the phone survey, do you have any comments regarding the patient education video that you would like to share with the research team?

Your contribution in this research has the potential to promote patient safety and comfort following sinus surgeries. Thank you for taking the time to participate in this study and fill out this survey with me.

Thank you for providing us your evaluation of the video you watched prior to your sinus surgery. As you recall, the video provided information relevant to post-operative pain management, postoperative pain expectations, how to use (take) the prescribed medications following your surgical procedure, and disposal/storage of prescribed (narcotic/opioid) medications. Please take a few minutes to answer the questions regarding the video.

1. **How did you view the video? <u>Circle all that apply.</u>**

    a. During my office visit when my surgery was scheduled
    b. Accessing the video at home by using the QR Code directions I received
    c. Both – during my office visit AND at home

2. **How many times did you view the video <u>prior to</u> your sinus surgery (include during your office visit if applicable)?**

    a. 1
    b. 2 or more times

3. **<u>Before</u> watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (non-narcotics) and opioids (narcotics)?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

4. **<u>Before</u> watching the video, how would you rate your knowledge on when to start taking prescription opioids, for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

5. **<u>Before</u> watching the video, how would you rate your knowledge on how to store prescription drugs, for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

6. **<u>Before</u> watching the video, how would you rate your knowledge on how to safely dispose of prescription drugs, for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

These next set of questions pertain to <u>AFTER</u> you watched the video (it does not matter how many times you watched the video).

7. **<u>After</u> watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (Tylenol, Celebrex) and opioids (narcotics), for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

8. **<u>After</u> watching the video, how would you rate your knowledge on when to start taking prescription opioids, for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

9. **<u>After</u> watching the video, how would you rate your knowledge on how to properly store opioids (narcotics), for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

10. **<u>After</u> watching the video, how would you rate your knowledge on how to properly dispose of opioids (narcotics), for example Hydrocodone?**

    1 – Very Poor
    2 – Poor
    3 – Average
    4 – Above Average
    5 – Excellent

Please answer the next set of general questions.

11. **Did you have any unused opioid (narcotic) medications, for example Hydrocodone?**

    1 – YES
    2 – NO

12. **If you had unused opioid (narcotic) medications, for example Hydrocodone, how did you dispose of them when they were no longer needed?**

    1 – I dropped them off at a drop off location (as described in the video)
    2 – I did not dispose of my unused opioid (narcotic) medications, I still have them
    3 – Not applicable, I used them all
    4 – Other, please explain

_____

_____

_____

13. **On a scale of 1-5, <u>after</u> watching the video, how would you rate your overall confidence in making informed decisions about your own postoperative pain management?**

    1 – Very unconfident
    2 – Fairly confident
    3 – Neutral
    4 – Fairly confident
    5 – Very confident

14. **Please provide comments and suggestions regarding the education video – we value your input. Thank you!**

_____

_____

_____

Appendix K:

OAKLAND UNIVERSITY

Institutional Review Board

Date: March 13, 2023

Study #: IRB-FY2023-208

Study Tile: A Quality Improvement Initiative: A Patient Education Video for Enhancing Postoperative Pain Management

Submission Type: Initial

IRB Decision: Not Research

Research Team:
Derya Toksoy
Mary Golinski

The above referenced study has been has been determined to be Not Research according to federal regulations.

The IRB decision is based on the following:

- Program Evaluation/Quality Assurance/Quality Improvement Projects. The project is limited to activities designed specifically to assess or improve performance within a departmental, university, or classroom setting; or quality of care or efficiency of an institutional practice. The intention of the project is not to generate conclusions that can be applied universally, or outside the immediate environment where the project occurred.
- More specifically, a patient educational video was created and tailored to fit the patient population of Dr. Melissa McBrien, ENT surgeon in Troy, Michigan, to use as a part of her practice.

Please retain a copy of this correspondence for your records.

If you have any questions, please contact the IRB staff.

Thank you.

The Oakland University IRB

Appendix L:

Patient Number	**Q 1. How did you view the video?** (A-C)	**Q 2. How many times did you view the video prior to your sinus surgery?** (A-B)	**Q 3. Before watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (non-narcotics) and opioids (narcotics)?** (1-5)	**Q 4. Before watching the video, how would you rate your knowledge on when to start taking prescription opioids, for example Hydrocodone ?** (1-5)	**Q 5. Before watching the video, how would you rate your knowledge on how to store prescription drugs, for example Hydrocodone ?** (1-5)	**Q 6. Before watching the video, how would you rate your knowledge on how to safely dispose of prescription drugs, for example Hydrocodone?** (1-5)	**Q 7. After watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (Tylenol, Celebrex) and opioids (narcotics), for example Hydrocodone?** (1-5)	**Q 8. After watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (Tylenol, Celebrex) and opioids (narcotics), for example Hydrocodone?** (1-5)	**Q 9. After watching the video, how would you rate your knowledge on how to properly store opioids (narcotics), for example Hydrocodone?** (1-5)	**Q 10. After watching the video, how would you rate your knowledge on how to properly dispose of opioids (narcotics), for example Hydrocodone?**(1-5)	**Q 11. Did you have any unused opioid (narcotic) medications, for example Hydrocodone?** (1 (Yes) or 2 (No))	**Q 12. If you had unused opioid (narcotic) medications, for example Hydrocodone, how did you dispose of them when they were no longer needed?** (1-4)	**Q 13. On a scale of 1-5, after watching the video, how would you rate your overall confidence in making informed decisions about your own postoperative pain management?** (1-5)	**Q 14. Please provide comments and suggestions regarding the education video.** (Open Ended)
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2														
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4														
5														
6														
7														
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11														
12														
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In-Person Postoperative Questionnaire Data Collection Key

Q 1. How did you view the video? (A-C)
A = During my office Visit when my surgery was scheduled
B = Accessing the video at home by using the QR code directions I received
C = Both - during my office visit and at home

Q 2. How many times did you view the video prior to your sinus surgery? (A-B)
A = 1
B = 2 or more times

Q 3. Before watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (non-narcotics) and opioids (narcotics)? (1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 4. Before watching the video, how would you rate your knowledge on when to start taking prescription opioids, for example Hydrocodone? (1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 5. Before watching the video, how would you rate your knowledge on how to store prescription drugs, for example Hydrocodone? (1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 6. Before watching the video, how would you rate your knowledge on how to safely dispose of prescription drugs, for example Hydrocodone? (1-5)
1 – Very Poor
2 – Poor

3 – Average
4 – Above Average
5 – Excellent

Q 7. After watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (Tylenol, Celebrex) and opioids (narcotics), for example Hydrocodone? (1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 8. After watching the video, how would you rate your knowledge on the differences between the 2 categories of pain medications: non-opioids (Tylenol, Celebrex) and opioids (narcotics), for example Hydrocodone? (1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 9. After watching the video, how would you rate your knowledge on how to properly store opioids (narcotics), for example Hydrocodone? (1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 10. After watching the video, how would you rate your knowledge on how to properly dispose of opioids (narcotics), for example Hydrocodone?(1-5)
1 – Very Poor
2 – Poor
3 – Average
4 – Above Average
5 – Excellent

Q 11. Did you have any unused opioid (narcotic) medications, for example Hydrocodone?
1 - yes
2 - no

Q 12. If you had unused opioid (narcotic) medications, for example Hydrocodone, how did you dispose of them when they were no longer needed? (1-4)

1 – I dropped them off at a drop off location (as described in the video)
2 – I did not dispose of my unused opioid (narcotic) medications, I still have them
3 – Not applicable, I used them all
4 – Other, please explain

Q 13. On a scale of 1-5, after watching the video, how would you rate your overall confidence in making informed decisions about your own postoperative pain management? (1-5)

1 – Very unconfident
2 – Fairly confident
3 – Neutral
4 – Fairly confident
5 – Very confident

Q 14. Please provide comments and suggestions regarding the education video. (Open Ended)