

# Patient Satisfaction and Experience with Anesthesia

## Executive Summary

The assessment of patient satisfaction and the patient experience are key performance measures that are increasingly being used in payment for performance plans. The American Society of Anesthesiologists (ASA) and its Committee on Performance and Outcomes measurement (CPOM) have reviewed the existing literature on the assessment of the patient experience with anesthesia. Based on this review the ASA has produced recommendations for data collection with patient satisfaction surveys utilized by its members. The recommendations are divided into 4 data collection categories: 1) General information about the survey and the surgical procedure (e.g. how survey data collected, how much time has elapsed from the procedure and data collection, etc.). This data can affect survey results and used for case-mix adjustment when producing comparative data. 2) Patient demographic Information – this information is also important for case-mix adjustment when survey results are analyzed against benchmarks (e.g. age, gender, level of education etc.). 3) Questions for a short form version of an anesthesia satisfaction survey intended to be added to another survey of patient satisfaction that does not assess satisfaction with anesthesia services. 4) Questions for a long form version of an anesthesia satisfaction survey intended to be used as a stand-alone survey instrument. Finally, the ASA recommends that anesthesia practices report this data to the Anesthesia Quality Institute. In addition to producing comparative quality information for participating practices, the data can be used to further validate and refine the ASA data collection recommendations.

## Introduction

Although many anesthesiologists question whether assessment of patient satisfaction with anesthesia services is meaningful or can improve quality, the assessment of patient satisfaction is a reality of practice today. In addition to the widespread use of patient satisfaction measures by payers and facilities that provide surgical services, monitoring of patient satisfaction has *already* been incorporated into payment for performance plans. It is highly likely that this trend will continue and that assessment of patient satisfaction will affect payment for anesthesiologists in the near future. Many anesthesia practices are already actively monitoring patient satisfaction. However, local assessments may be supplanted by national initiatives promulgated by payers, particularly CMS. The American Society of Anesthesiologists is taking an active role in the design of patient satisfaction surveys to assess patient experience with anesthesia services. This white paper provides background on what are existing efforts to measure the patient experience with anesthesia and surgical care, and offers recommendations for development and implementation of survey instruments by anesthesia practices.

## Background

The quality assurance movement in healthcare began to gather momentum in the late 1980's and early 1990's.<sup>1</sup> One aspect of quality is the patient's experience with surgical and anesthesia care. As early as 1960 it had been recognized that patients perceive anesthetic care poorly, often describing anesthesiologists as impersonal and not "real" physicians.<sup>2</sup> In a 1996 editorial in *Anesthesia and Analgesia*

discussing a paper on patient satisfaction, the authors cited the need for assessment of patient satisfaction with anesthesia services and implored anesthesiologists to study assessment methodologies.<sup>3</sup>

Even as our own specialty started to recognize the need to assess patient satisfaction, outside forces became far more important in shaping the landscape and driving organizations to assess the patient experience. In the early 1990's capitation emerged as a new model for payment of healthcare providers. The realignment of financial incentives to decrease services delivered by providers in this model had the potential to lead to a reduction in services for health plan members (patients). One way to mitigate this potential was to incorporate member experience as a factor in evaluating health plans. Patient experience was also highlighted in 2001, when the Institute of Medicine published "Crossing the Quality Chasm", a now well-known report on quality in health care.<sup>4</sup> In this report, the Institute highlighted that the delivery of patient-centered healthcare must be responsive to individual patients' preferences, needs and values. Subsequently, multiple organizations have taken the position that measurement of patient satisfaction is a critical component of quality assessment. In addition, patients are informed consumers and often make healthcare choices based on satisfaction and perceptions of quality.

In the future, it is likely that payment for anesthesia services will depend in part on measures of patient satisfaction. The link between provider payments and the assessment of patient satisfaction is illustrated by the history of two related survey instruments: the Consumer Assessment of Healthcare Providers and Systems (CAHPS, pronounced "caps"), and the Hospital Consumer Assessment of Healthcare Providers and Systems (H-CAHPS, pronounced "H-caps"). In 1995, the Agency for Healthcare Research and Quality (AHRQ), part of the Department of Health and Human Services (DHHS), launched an initiative to measure patient satisfaction. The development of the CAHPS, was undertaken in conjunction with the Center for Medicare and Medicaid Services (CMS), and led to the creation of a standardized health plan member satisfaction survey that could be used for benchmarking.<sup>6</sup> The survey was rapidly adopted by a wide variety of organizations, including CMS, the Department of Defense, state Medicaid programs, and the National Committee for Quality Assurance. Survey data began to be used to inform consumers and accredit health plans, thus transforming the assessment of patient satisfaction into a high-stakes environment. In addition, patient satisfaction data had the potential to impact healthcare providers' participation in private payer networks and payment via government pay for performance plans.

Shortly after the development of the initial health plan-focused CAHPS survey, H-CAHPS, an assessment of patient experience during hospital encounters, was created.<sup>7</sup> This survey was also funded and developed by the AHRQ in collaboration with CMS. The intent of the instrument was to provide case mix adjusted reporting of patient satisfaction that could be used to inform consumers, benchmark hospitals, ensure accountability, and to influence new payment methodologies. In 2005, a special issue of *Health Services Research* was devoted to describing the development and testing of the HCAPHS survey.<sup>7</sup> In 2005 the National Quality Foundation (NQF) endorsed HCAPHS.

At the time that H-CAHPS came into use, many hospitals were using internally developed surveys or proprietary vendor products. Nevertheless, H-CAHPS was rapidly adopted by hospitals. Although adoption was driven in part by the scientific rigor in producing the survey, it was largely driven by a decision in 2007 by the DHHS to use H-CAHPS as a component of Value-Based Purchasing. Hospitals began voluntary reporting of H-CAHPS in 2006 with close to 55% of eligible hospitals participating.<sup>7</sup> Beginning in 2008, survey results were linked to inpatient hospital annual payment updates (APU). In order to receive their full APU, general acute care hospitals were required to publically report H-CAHPS survey results ([www.hospital-compare.hhs.gov](http://www.hospital-compare.hhs.gov)). *This summary illustrates how rapidly, in this case three years, the assessment of patient satisfaction has been linked to provider payments and this trend is likely to continue.*<sup>9</sup>

With AHRQ and CMS backing, the multi-year CAHPS initiative has now produced a family of surveys covering clinicians and groups, home health, nursing homes, dental plans, and hemodialysis centers. The goal of the CAHPS surveys is to provide standardized instruments that can be used to compare performance. This information is reported to healthcare practitioners to spur quality improvement, and inform consumers. All of the surveys are in the public domain and many are used in accreditation and/or payment for performance plans. It is important that anesthesiologists not only keep abreast of current developments in this area, but seek to influence the future role of patient satisfaction surveys as they relate to anesthesia services.

In addition to the potential for impact on provider payments, patient satisfaction surveys are playing an increasing role in competency assessment. The American Board of Medical Specialties (ABMS) and the Accreditation Council for Graduate Medical Education (ACGME) have been jointly developing a framework for the assessment of competency for graduate medical education and the continuing certification of postgraduates. Each individual specialty board is required to develop the specific requirements and methods of assessment to satisfy the ABMS requirements. One of the four ABMS Maintenance of Certification (MOC) requirements requires an ongoing assessment of Practice Performance and Improvement (“Part IV”) that must be implemented by 2014. One of the dimensions of competency to be assessed is the interpersonal and communication skills of the provider. Some subspecialty boards are looking at patient satisfaction surveys to satisfy a portion of the Part IV MOC program.<sup>9</sup> In the case of anesthesiology MOC,<sup>10</sup> satisfying Part IV requires collecting outcomes data on a meaningful sample of patients and comparing these to published guidelines. Patient satisfaction is one outcome that could be used for this Part IV requirement in our specialty.

### **Current State of the Assessment of Patient Satisfaction for Anesthesiology**

Despite the implementation of CAHPS and H-CAHPS, there is a persistent gap in the ability to adequately measure patient experience, as identified by the Measure Applications Partnership, which provides input to the DHHS on the selection of performance measures for performance-based payment programs. The current status of the assessment of patient satisfaction for anesthesia services is even more problematic. A few validated assessments have been published in the literature; however, the

extent of their adoption is uncertain.<sup>11-22</sup> Several review articles in anesthesia journals have outlined the shortcomings of the methodology used to develop and validate patient satisfaction surveys for anesthesia services.<sup>23-26</sup> Many practices are currently using proprietary vendor products or are being assessed by surveys implemented by the institutions to which they provide anesthesia services. For example, the majority of free-standing surgical facilities assess patient satisfaction, and many of these assessment instruments include questions that pertain to the patient's perception of anesthetic care. At this time, no standard for anesthesia related questions exist, and this makes comparison of satisfaction results across facilities or practices very difficult. The Anesthesia Quality Institute (AQI) has received multiple inquiries from practices and vendors on what questions to ask. Certainly a need exists to define a standardized and validated set of survey questions for the assessment of patient satisfaction with anesthesia services that can be used for benchmarking.

One potential solution (or threat) is currently being deployed. As previously mentioned the AHRQ has developed the CAHPS surveys. This effort has produced a family of CAHPS surveys, including a survey for surgeons (S-CAHPS). The S-CAHPS survey was developed by the American College of Surgeons (ACS) and the Surgical Quality Alliance in conjunction with the AHRQ. It has since been endorsed by the Surgical Quality Alliance and the National Quality Forum. Unlike other surveys, this survey purports to measure patient experience specific to surgical and anesthetic care. As this survey underwent the same rigorous development and validation process of the other CAHPS surveys and has been endorsed by prominent national quality groups, it is currently being considered for adoption by health plans, insurers, and specialty boards as a method of assessing surgical care. In a response to the Measure Applications Partnership Pre-rulemaking Report, the American College of Surgeons recommends that S-CAHPS be included in Physician Compare and PQRS.<sup>27</sup> Although no plans currently exist for governmental agencies to link S-CAHPS results to provider payments, history suggests that this linkage could occur in the future.

The S-CAHPS survey consists of 45 questions, 8 of which relate to anesthesia services (see Appendix A).<sup>28</sup> The ASA Committee on Performance and Outcome Measurement has significant concerns regarding these questions and believes strongly that they need to be revised. The ACS Website list the ASA as a society that participated in the development of the survey, although the ASA strongly objected to the anesthesia questions. The real concern is that despite the inadequacy of the survey to assess patient experience with anesthesia, the S-CAHPS could potentially be adopted by large numbers of surgeons or facilities, or mandated as a part of value-based purchasing. The ACS website states "The survey results are expected to be useful to everyone with a need for information on the quality of surgeons and surgical care, including patients, practice groups, health plans, insurers, and specialty boards".<sup>29</sup>

Another CAHPS-family survey that could impact anesthesia is under development: In January 2013, CMS called for "information to aid in the design and development of a survey regarding patient experiences with hospital outpatient surgery departments/ambulatory surgery centers and patient-reported outcomes from surgeries and procedures performed in these settings."<sup>30</sup> Information from interested parties is to be submitted by March 26, 2013. Once developed, this survey will become part of the family of CAHPS instruments, which have a track record of widespread endorsement and

adoption. As with other CAHPS surveys, this new instrument has the potential to be utilized by CMS in payment for performance or value based purchasing initiatives.

### **ASA Patient Satisfaction Initiative**

In order to assist our membership with the assessment of the patient experience, the ASA Committee on Performance and Outcomes Measurement (CPOM) has developed recommendations for a set of survey questions for use by anesthesia practices to report to the Anesthesia Quality Institute. ASA CPOM will also use these recommendations to engage both CMS and the AHRQ in the revision of existing survey or development of new surveys that report on patient experience with anesthesia.

A systematic literature search of MEDLINE (from 1950 to February 1, 2013), EMBASE (from 1980 to February 1, 2013), CINAHL (from 1982 to February 1, 2013), HAPI (from 1985 to February 1, 2013), PsychINFO (from 1967 to February 1, 2013), and the Cochrane Library (from 1985 to February 1, 2013) was performed. The following terms were combined for the search: surgery, surgical procedures, patient satisfaction, consumer satisfaction, questionnaires, surveys, and instruments. The search was restricted to English publications only. Abstracts were reviewed by members of CPOM. Articles were excluded if they were letters, abstracts, investigated parturients or pediatric patients, or included only a one dimensional assessment of satisfaction. Studies were included for further analysis if they evaluated multiple items, were validated with at least 100 patients, included the questionnaire with the publication, and followed a rigorous methodology according to accepted psychometric questionnaire construction. Investigators utilized the psychometric questionnaire construction steps described by Fung to evaluate studies for inclusion or exclusion<sup>24,31,32</sup> :

1. **Generating Items:** Formally drawn from patients and healthcare practitioners during interview, focus groups, or other structured group processes.
2. **Generating dimensions.** Conceptual themes that emerge during item generation.
3. **Constructing pilot questionnaire:** Pretest items and dimensions for comprehensibility, skew, and variability; refine or eliminate items that perform poorly in pretesting; expect the number of items in the pilot questionnaire to be reduced after pilot testing
4. **Pilot testing in a large sample of patients:** Description of questionnaire administration method.
5. **Revise pilot questionnaire based on statistical analyses of patient responses:** Eliminate items that perform poorly; maximize reliability or overall score and dimensional scores (Cronbach's alpha, test-retest reliability, or kappa coefficient); optimize construct validity (correlations with alternate measures, multitrait multimethod analysis); evaluate the effects of confounding variables (sampling bias, non-respondent bias, sociodemographic variables and underlying health status).
6. **Retest "final" questionnaire version in new patient samples:** Determine that scores continue to exhibit reliability and construct validity; reevaluate the effects of confounding variables.

The dimensions of care evaluated and the actual survey questions used in the studies formed a core set of potential survey question candidates and dimensions. The initial set of questions was modified to remove duplicates. Questions were also modified as necessary to improve the translation of the meaning of the question to English or to reflect the anesthesia care team model of anesthesia delivery.

Modifications were minimized in order to preserve the initial validation used to generate the question (e.g. cognitive and literacy testing). Response to questions were standardized to a 5 point Likert scale as this has been shown to be optimal for surveys of patient satisfaction.<sup>33</sup> The initial question and dimension set was reviewed by members of ASA CPOM.

The goals of the ASA Patient Satisfaction Initiative were as follows:

- Develop an ASA recommended set of survey questions to be used to evaluate the patient experience with anesthesia care
  - The survey will be generic in nature and is not intended for use in specialty situations including pediatric or obstetric patients, ICU care, preoperative clinics, monitored anesthesia care only, or chronic pain care. Recommendations for assessment questions in specific or situations or specialties are beyond the scope of the initial initiative.
  - The survey questions should be able to be used by anesthesia practitioners in physician-only or care-team models of practice.
  - Some of the survey questions may reflect care provided by non-anesthesia personnel. This is consistent with the general trend that patient outcomes reflect the contributions to care from teams.
  - The survey instrument will include a “complete” set that is intended for use as an independent survey instrument.
  - The survey instrument will also include a “short” set that is intended for use in conjunction with other survey instruments e.g. S-CAHPS, a local facility survey, etc. Many facilities already have a survey instrument in place. The use of a “short” set that can be used as an addendum to a facility survey instrument will reduce implementation costs for the anesthesia department. In addition, a consolidated survey will improve response rates, as patients will not have to separately respond to individual surveys from different providers including the surgeon, the facility, or the anesthesia practitioner. Questions in the “short” set should be highly specific to anesthesia. It is assumed that the questions used in the primary survey instrument to which the “short” set will be appended will already include questions about the facility, facility staff, and surgeon.
  - The survey instrument will include a separate list of demographic questions that have been validated in the literature for use in case-mix adjustment for patient satisfaction surveys including age, gender, subjective health status, level of education, type of anesthesia, and type of surgery.<sup>16,18,21,34-40</sup> In addition, the type of survey mode should also be recorded as the mode can affect survey results.<sup>27</sup>
  - The recommended questions will not include an evaluation of *surgeon* satisfaction with anesthesia services. Surgeons represent an important customer of anesthesia services; however, evaluation of surgeon satisfaction with anesthesia services is beyond the scope of this initiative.

Questions were grouped according to the source survey from which the questions or dimensions were generated. Using a modified Delphi technique to reach consensus, the initial set was

reviewed by members of CPOM, which included both academic and community anesthesiologists. Panel members were given the goal of producing a “long form” with fewer than 25 questions and a “short form” with fewer than 10 questions. The question totals did not include demographic questions for use in case-mix adjustment. Panel members were asked to include or exclude each candidate question on a long form and a short form of the survey. Panel members were given additional instructions to favor questions that were grouped together from a single source to improve the validity of the questions. After the first round of review, questions with fewer than 20% of members including the question on the survey were eliminated from the revised survey. The revised survey was resubmitted to the panel for a second round of review. Questions with fewer than 40% of panel members voting to include the question were removed from revised survey.

## **Recommendations**

Based on this review the ASA has produced recommendations for data collection with patient satisfaction surveys utilized by its members. The recommendations are divided into 4 data collection categories: 1) General information about the survey and the surgical procedure (e.g. how survey data collected, how much time has elapsed from the procedure and data collection, etc.). This data can affect survey results and used for case-mix adjustment when producing comparative data. 2) Patient demographic Information – this information is also important for case-mix adjustment when survey results are analyzed against benchmarks (e.g. age, gender, level of education etc.). 3) Questions for a short form version of an anesthesia satisfaction survey intended to be added to another survey of patient satisfaction that does not assess satisfaction with anesthesia services. 4) Questions for a long form version of an anesthesia satisfaction survey intended to be used as a stand-alone survey instrument.

## **General Information**

This information should be included with the survey results

- 1 Survey type (self administered questionnaire or interview)
- 2 Survey mode (paper mail in/drop off, email/web-survey, electronic device collection (e.g. iPad or other tablet), voice-response)
- 3 Surgery Date and Response date. \*The survey should be delivered within 0-3 days of discharge and returned within 2 weeks of discharge.
4. Primary Anesthesia Type (general, regional, sedation only)
5. Procedure Type (CPT codes for the procedure)

## **Demographic Questions**

- Q1 In general, how would you rate your overall health? (excellent, very good, good, fair, poor)
- Q2 What is your age?

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75 years or older

Q3 Are you male or female (male, female)

Q4 What is the highest grade or level of school that you have completed?

- 8<sup>th</sup> grade or less
- Some high school, but did not graduate
- High school graduate or GED
- Some college or 2-year degree
- 4-year college graduate
- More than 4-year college graduate

Q5 What is your race? (please mark one or more)

- White
- Hispanic or Latino
- Black or African-American
- Asian
- Native Hawaiian or Other Pacific Islander
- American Indian or Alaska Native
- Other

Q6 Did someone help you complete this survey? (yes, no)

The 6 questions for assessment of patient satisfaction with anesthesia services that are intended to be added to a larger patient experience assessment are included in **Appendix B**. The short form survey includes 4 questions from the following dimensions: Information, Involvement in Decision Making, Pain Management, and Anesthesia Related Sequelae. Two questions reflect global satisfaction with anesthesia.

The 15 questions for assessment of patient satisfaction with anesthesia services that are intended to be used as an independent survey are included in **Appendix D**. The survey includes 11 questions from the following dimensions: Information, Involvement in Decision Making, Pain Management, Attention, Provider-Patient Relationship, and Anesthesia Related Sequelae. Three questions reflect global satisfaction with anesthesia. One question reflects global satisfaction with the facility.

## Limitations

### Team Outcomes

Many assessments, including assessments of satisfaction with anesthesia services, contain outcomes which may not be easily attributable to a single individual. Some anesthesiologists have been reluctant to accept outcome measures for which they are only partially responsible. Under future models of care, however, it is likely that anesthesiologists, as part of the entire perioperative team, will need to accept broader responsibility for patient outcomes.

### Validation

Despite the large numbers of studies on patient satisfaction with anesthesia services, many of the studies lack the psychometric testing and design to determine their validity as measures of patient satisfaction.<sup>23-26</sup> The studies utilized as source material by the ASA CPOM were evaluated on the strength of their validity; however, only 11 studies met inclusion criteria and only three of the studies were performed using subjects in the U.S. Furthermore, the statistical validation of the studies evaluates the survey instruments as a whole. Selecting questions from various valid survey instruments does not *a priori* produce a new valid instrument. Nor is there a guarantee that combining the short list of questions with a larger survey instrument will yield a valid study. However, selecting the questions from the previously validated instruments does lend some evidence of face and construct validity – the concept that the survey is measuring the right things. With sufficient data collection through AQI, the recommended survey questions can be further studied for validity (e.g. internal question consistency) and reliability.

AQI, in partnership with ASA, has received funding from the Patient Centered Outcomes Research Institute (PCORI, a public-private partnership created by the Affordable Care Act) to collect data on patient satisfaction and study methods for improvement. Anesthesia practices that report patient satisfaction data to the AQI will have the opportunity to receive free educational materials from ASA, including both CME for anesthesiologists and multi-media information for patients.

### Timing of the Survey

Standardization of the timing for delivery and return of surveys will help in evaluating comparisons. Increasing length of time between anesthesia care and the administration/return of the survey can affect results.<sup>42,43</sup> This can be due to several factors including recall bias. It has also been shown that as more time progresses satisfaction scores correlate with the outcome of the procedure.<sup>44</sup> For example, as time progresses and it is apparent to the patient that their knee surgery was a failure, they are more likely to be dissatisfied. Unfortunately, the optimal timing of survey administration after surgery has not been determined, for either surgeons or anesthesiologists. Based on expert opinion, CPOM determined that the survey should be administered within two weeks of discharge.

### **Case Mix Adjustment and Patient Related Determinants of Satisfaction**

We have described the importance of including patient factors in the survey instrument because they can influence patient satisfaction independent of care. Much in the same way that predicted morbidity and mortality after cardiac surgery must be “adjusted” for patient factors like prior cardiac function, patient satisfaction can be significantly influenced by patient factors. We have identified several patient factors that can influence satisfaction scores including age, gender, race, education, and perceived health status. Increasing age has been shown to be associated with more favorable satisfaction scores. Conversely, poor health status is associated with dissatisfaction. Several problems exist with regard to these observations. It is not known how or why these factors play a role. For example, it is possible that providers may interact with older or female patients differently.<sup>41</sup> In addition, insufficient research has identified the statistical case-mix adjustment models that can be appropriately used to adjust patient satisfaction scores.<sup>39</sup> Finally, as yet unidentified patient factors may play a significant role e.g. alcohol or substance abuse, preoperative pain score, etc. Further research will be necessary to further define patient determinants of satisfaction and to develop the necessary statistical models to adjust patient satisfaction scores. This work is necessary to increase provider confidence in survey scores, particularly in a high-stakes environment. Practices reporting patient satisfaction data to the AQR will do so as part of more global reporting of clinical and demographic information. This will permit multi-variable assessment of the relative influence on satisfaction scores of various confounders.

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## APPENDIX A

### Surgery-CAHPS Questions relevant to anesthesia

- Q17. Were you given something so you would not feel pain during surgery (y/n)?
- Q18. Who gave you something so you would not feel pain during your surgery? An anesthesiologist did this? This Surgeon did this? Don't Know?
- Q19. Did this anesthesiologist encourage you to ask questions? Yes, definitely? Yes, somewhat? No?
- Q20. Did you ask this anesthesiologist any questions (y/n)?
- Q21. Did this anesthesiologist answer your questions clearly? Yes, definitely? Yes, somewhat? No?
- Q22. After you arrived at the hospital or surgical facility, did this anesthesiologist visit you before your surgery (y/n)?
- Q23. Did talking with this anesthesiologist during this visit make you feel more calm and relaxed? Yes, definitely? Yes, somewhat? No?
- Q24. Using any number from 0 to 10, where 0 is the worst anesthesiologist possible and 10 is the best anesthesiologist possible, what number would you use to rate this anesthesiologist?

## Appendix B (Supplementary Satisfaction with Anesthesia Services Questions)

- Q1. During the visit with the anesthesia practitioner before the surgery, I was able to ask the questions I wanted  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q2. The information given to me by the anesthesia practitioners was understandable  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q3. How satisfied were you with treatment of nausea and vomiting after the operation?  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q4. How satisfied were you with pain therapy after surgery?  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q5. I was satisfied with my anesthetic care  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q6. I would recommend the anesthesia team to others in my family  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)

**Appendix C (4 additional Satisfaction with Anesthesia Services Questions)**

- Q7. To what degree did you have confidence in your anesthesia practitioners?  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q8. To what degree was the anesthesia team willing to listen to your questions?  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q9. Based on this experience, I have a good understanding of the role the anesthesiologist played in my surgery?  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q10. How would you rate the quality of care by the anesthesia practitioners?  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)

#### **Appendix D (Supplementary Satisfaction with Anesthesia Services Questions)**

- Q1. During the visit with the anesthesia team before the surgery I was able to ask the questions I wanted  
  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q2. To what degree were you satisfied with the amount of information given from the anesthesia practitioners?  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q3. The information given to me by the anesthesia practitioners was understandable  
  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q4. The Anesthesia practitioners explained to me how I would feel after anesthesia  
  
(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)
- Q5. How satisfied were you with pain therapy after surgery  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q6. How satisfied were you with treatment of nausea and vomiting after the operation  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q7. To what degree did the staff of the surgery center or operating room and recovery area take into account your privacy?  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q8. To what degree did you find the staff of the surgery center or operating room and recovery area professional?  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q9. To what degree did you find your anesthesia practitioners professional?  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)
- Q10. To what degree did your anesthesia practitioners pay attention to your complaints like pain and nausea?  
  
(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)

Q11. I would want to have the same anesthetic again

(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)

Q12. How satisfied were you with the care provided by the department of anesthesia

(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)

Q13. Based on this experience, I have a good understanding of the role the anesthesiologist played in my surgery

(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)

Q14. I would recommend the anesthesia team to others in my family

(disagree very much, disagree moderately, disagree slightly, agree slightly, agree moderately, agree very much)

Q15. How would you rate the quality of your overall care at the facility?

(Very dissatisfied, dissatisfied, slightly dissatisfied, slightly satisfied, satisfied, very satisfied)