



# Documenting Anesthesia Care

## *Practice and Policy Considerations*

### **Introduction**

Anesthesia documentation represents a detailed account of the patient's anesthesia care during various phases of anesthesia, including preanesthesia assessment and evaluation, informed consent, anesthesia services, and postanesthesia care.<sup>1</sup> The primary purpose of anesthesia documentation is to capture accurate and comprehensive information to communicate a patient's anesthetic experience.<sup>2</sup> The patient's chart is a legal document.<sup>1</sup> The formal record of anesthesia care is also referenced for reimbursement, quality improvement, and review by external organizations.

Documentation of anesthesia care is transitioning from the handwritten record to an automated, electronic medical record (EMR) to provide a legible record, limit variability in the documentation of information, and provide greater access to information to optimize patient outcomes.<sup>2-4</sup> Offices and facilities are at various stages of EMR implementation. Some are continuing anesthesia documentation on the paper record, others may be implementing portions of the EMR anesthesia information management system (AIMS) and using a hybrid record that is a combination of paper and electronic records, and others have fully implemented an electronic AIMS and EMR.<sup>5</sup>

This document provides considerations for Certified Registered Nurse Anesthetists (CRNA) and facilities in the development of policy to promote accurate documentation of care for clear communication, quality improvement activities and reimbursement. These considerations are intended to provide a resource for documentation of care policy to promote quality anesthesia care, address potential medical legal concerns, and comply with federal, state, and local statutes and regulations, as well as accreditation and other requirements.

### **Documentation of Anesthesia Services**

The AANA *Standards for Nurse Anesthesia Practice* require documentation of pertinent anesthesia-related information in the patient's medical record in an accurate, complete, and legible manner.<sup>6</sup> Unique anesthetizing locations may have an anesthesia record specific for the practice requirements for that area of practice or facility. These anesthetizing areas include the operating room, labor and delivery, remote locations, pain management, clinical services (e.g., resuscitation, intubation, IV insertion), and clinic or office settings. Documentation of anesthesia services may extend to documents not included in these considerations. Elements of care are shared with other clinical professionals. Policy and standard operating procedures developed by the interprofessional team are helpful to standardize information fields, taxonomy and responsibility for documentation specific elements of care. Documentation considerations in this document are not intended to be all inclusive as the requirements for documentation change with practice improvement, reimbursement and other requirements.

### ***Preanesthesia Assessment and Evaluation Record***

The preanesthesia assessment and evaluation of the patient provides an overview of the patient's general health, allergies, medication history, preexisting conditions, and anesthesia history and may identify additional health issues.<sup>7</sup> Additional information may be requested to optimize the patient's health and to develop the plan of anesthesia care.<sup>7</sup> The patient may provide their health and anesthesia history via a secure online patient portal, a paper questionnaire, and/or a phone or in-person interview.

Although other members of the periprocedure team, who have the necessary licensure, competencies, and privileges may contribute to the preanesthesia preparation of the patient, the preanesthesia evaluation is reviewed and updated by the anesthesia professional prior to the delivery of anesthesia care. The preanesthesia assessment and evaluation record documents patient demographics, height and weight, vital signs, allergies and medication history, health history and review of systems, physical examination, relevant diagnostic test results, physical status designation, and anesthesia plan of care.<sup>7-9</sup>

**Table 1. Preanesthesia assessment and evaluation documentation considerations**

Required	Other as indicated
<b>Patient Demographics<sup>9</sup></b>	
<ul style="list-style-type: none"> <li>• Name</li> <li>• Unique patient identification number</li> <li>• Date of birth</li> <li>• Gender</li> <li>• Admission date</li> <li>• Height &amp; weight</li> <li>• Date, time, and name of surgery/procedure</li> </ul>	
<b>Allergies and Medications History<sup>7,8</sup></b>	
<ul style="list-style-type: none"> <li>• Allergies (medication, food, and the environment)</li> <li>• Name, dose, frequency, and last dose of current medications prior to anesthesia<sup>7,8</sup> (Facility policy may reference medication reconciliation.)</li> </ul>	
<b>Health History and Review of Systems<sup>7-9</sup></b>	
<ul style="list-style-type: none"> <li>• Surgical/anesthesia history</li> <li>• Personal/family issues related to anesthesia<sup>7,8</sup></li> <li>• Pulmonary</li> <li>• Cardiovascular</li> <li>• Gastrointestinal/Hepatic</li> <li>• Neurologic</li> <li>• Musculoskeletal</li> <li>• Renal/Endocrine</li> <li>• Oncologic/Hematologic</li> <li>• Reproductive</li> <li>• Gestational</li> <li>• Psychological</li> <li>• Sensory</li> <li>• Smoking</li> <li>• Drug use</li> </ul>	<ul style="list-style-type: none"> <li>• Transplant history</li> <li>• Breastfeeding</li> <li>• Advance directive(s)</li> </ul>
<b>Physical Examination<sup>7,8</sup></b>	
<ul style="list-style-type: none"> <li>• Current diagnosis</li> <li>• Height and weight</li> <li>• Current vital signs: <ul style="list-style-type: none"> <li>○ Temperature</li> <li>○ Pulse</li> <li>○ Respirations</li> <li>○ Blood pressure</li> </ul> </li> <li>• Airway assessment:</li> </ul>	<ul style="list-style-type: none"> <li>• Transfusion history</li> <li>• Disabilities</li> <li>• Visual, auditory, and vocal impairment</li> <li>• Prosthetics, etc.</li> </ul>

Required	Other as indicated
<ul style="list-style-type: none"> <li>○ Anatomy</li> <li>○ Dentures/partials/veneers/condition of teeth</li> <li>○ Mallampati classification</li> <li>○ Previous airway issues</li> <li>● Skin, head, eyes, ears, nose, and throat</li> <li>● Cardiac examination</li> <li>● Pulmonary examination</li> </ul>	
<b>Pertinent Diagnostic Test Results</b> <sup>10,11</sup>	
<ul style="list-style-type: none"> <li>● Interpretation of diagnostic tests based on information obtained from patient health history and assessment, medical records, physical examination, and the type and invasiveness of the planned procedure.</li> </ul>	<ul style="list-style-type: none"> <li>● Serum electrolytes</li> <li>● Coagulation studies</li> <li>● 12 lead EKGs</li> <li>● Echocardiograms</li> <li>● Pulmonary function tests</li> </ul>
<b>Plan of Anesthesia Care and Informed Consent</b> <sup>7,8,12</sup>	
<ul style="list-style-type: none"> <li>● Physical status</li> <li>● Type of anesthesia</li> <li>● Plan for recovery</li> <li>● Informed consent</li> </ul>	<ul style="list-style-type: none"> <li>● Potential anesthesia problems <ul style="list-style-type: none"> <li>○ Difficult airway</li> <li>○ Ongoing infection</li> <li>○ Limited vascular access</li> <li>○ Other</li> </ul> </li> </ul>
<b>Signature</b>	
<ul style="list-style-type: none"> <li>● Signature, date and time of each healthcare professional who contributed to the preanesthesia assessment and evaluation</li> </ul>	

### ***Plan for Anesthesia Care and Informed Consent***

In preparation for patient informed consent and anesthesia, the patient or patient's legal decision maker meets with an anesthesia professional to develop the anesthesia plan of care. The anesthesia professional is most qualified to engage in the anesthesia informed consent process and discuss the considerations, risks and benefits for each type of anesthesia and pain management modality suited to the procedure, patient comorbid conditions, and patient preference.<sup>13</sup> The patient is encouraged to ask questions and address any concerns prior to witnessed informed consent and as questions arise.<sup>14,15</sup>

Following the interactive development of the anesthesia plan and informed consent discussion, the patient or legal decision maker consents to the anesthesia and signs the informed consent document in accordance with requirements specified in applicable federal, state, and local law, accreditation or other requirements, and facility policy. The AANA recommends that the anesthesia informed consent be a separate document from consent for the surgery or procedure.

The topic of informed consent is discussed more extensively in the AANA document *Informed Consent in Anesthesia*.<sup>16</sup>

### ***Anesthesia Care Documentation***

The documentation of anesthesia care includes the following:<sup>10</sup>

1. Name and facility identification number of the patient
2. Name of all anesthesia professionals involved in the patient's care
3. Immediate preanesthesia assessment and evaluation (e.g., change in health status, reevaluation of NPO status)
4. Anesthesia safety checks (e.g., check of equipment, drugs supply, gas supply)

5. Monitoring of the patient (e.g., oxygenation, ventilation, circulation, body temperature, skeletal muscle relaxation)
6. Airway management techniques
7. Name, dosage, route, and time of administration of drugs and anesthetics
8. Technique(s) used and patient positioning (e.g., document who positioned the patient, type of position used)
9. Name and amounts of IV fluids (e.g., when applicable blood and blood products)
10. Intravenous/intravascular lines inserted (e.g., techniques for insertion, location)
11. Any complications, adverse reactions, or problems during anesthesia
12. Status of the patient at the conclusion of anesthesia
13. Documentation in a timely and legible manner

**Table 2. Anesthesia Care Documentation Considerations**

Required	Other as indicated
<b>Patient Identification</b>	
<ul style="list-style-type: none"> <li>• Name</li> <li>• Unique patient identification number</li> <li>• Date of birth</li> <li>• Gender</li> <li>• Admission date</li> <li>• Height &amp; weight</li> <li>• Date of surgery/procedure</li> </ul>	
<b>Immediate Preanesthesia Assessment and Evaluation</b>	
<ul style="list-style-type: none"> <li>• Change in overall health since preanesthesia assessment and evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Antibiotic dose, time</li> </ul>
<b>Anesthesia Equipment – Safety Check</b>	
<ul style="list-style-type: none"> <li>• Equipment functioning</li> <li>• Check performed prior to each case</li> <li>• Alarms on and audible</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment identification numbers (if facility policy)</li> </ul>
<b>Monitors</b>	
<ul style="list-style-type: none"> <li>• Electrocardiogram (EKG)</li> <li>• Blood pressure</li> <li>• Temperature</li> <li>• Pulse oximeter</li> <li>• End-tidal carbon dioxide</li> </ul>	<ul style="list-style-type: none"> <li>• Oxygen/agent</li> <li>• EKG leads monitored, computerized ST segment analysis, EKG rhythm rate, diagnostic criteria used to assess ST segment deviation<sup>18,19</sup></li> <li>• Spirometer</li> <li>• Neuromuscular blockade monitor<sup>20</sup></li> <li>• Depth of anesthesia monitor</li> <li>• Precordial, esophageal stethoscope</li> <li>• Intracranial pressure</li> <li>• Central venous pressure, pulmonary artery pressure, SvO<sub>2</sub></li> <li>• Doppler</li> <li>• Other</li> </ul>

Required	Other as indicated
<b>Anesthesia Technique</b>	
<ul style="list-style-type: none"> <li>• General</li> <li>• Regional</li> <li>• Monitored anesthesia care</li> <li>• Other</li> <li>• Mode of drug administration</li> </ul>	<ul style="list-style-type: none"> <li>• When real-time image guidance is used, an image of needle placement is placed in the patient record</li> </ul>
<b>Airway Management</b>	
<ul style="list-style-type: none"> <li>• Natural <ul style="list-style-type: none"> <li>○ Oral airway size</li> <li>○ Nasal airway size and nare</li> </ul> </li> <li>• Mask</li> <li>• Supraglottic airway <ul style="list-style-type: none"> <li>○ Size</li> <li>○ Condition of teeth, lips</li> <li>○ Minimum leak cuff</li> </ul> </li> <li>• Endotracheal tube <ul style="list-style-type: none"> <li>○ Oral, nasal, double lumen</li> <li>○ Endotracheal tube size and type</li> <li>○ Cuffed, uncuffed</li> <li>○ Laryngoscope – blade type and size</li> <li>○ Technique: direct vision, blind, fiberoptic</li> <li>○ Glottic visualization <ul style="list-style-type: none"> <li>▪ Verification of placement: <ul style="list-style-type: none"> <li>• Breath sounds</li> <li>• EtCO<sub>2</sub></li> <li>• cm at lip/teeth</li> <li>• Cuff inflated with: air, saline, other</li> <li>• Condition of teeth, lips</li> </ul> </li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Awake, asleep</li> <li>• Topicalization</li> <li>• Difficult airway management techniques/equipment</li> </ul>
<b>Ventilation Mode and Rate<sup>20</sup></b>	
<ul style="list-style-type: none"> <li>• Spontaneous rate</li> <li>• Assisted rate</li> <li>• Pressure support ventilation (PSV) <ul style="list-style-type: none"> <li>○ Rate</li> <li>○ Pressure support level</li> </ul> </li> <li>• Mechanical ventilation mode [volume (VCV) or pressure controlled ventilation (PCV)] <ul style="list-style-type: none"> <li>○ Rate</li> <li>○ Parameters are specific for ventilation mode<sup>21</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Positive end expiratory pressure (PEEP)</li> <li>• Continuous positive airway pressure (CPAP)</li> </ul>

Required	Other as indicated
<b>Medications</b>	
<ul style="list-style-type: none"> <li>• Name</li> <li>• Unit administered (e.g., mL, puff, mg, mcg)</li> <li>• Route</li> <li>• Amount/concentration</li> <li>• Bolus/infusion rate</li> <li>• Time</li> <li>• Total, when indicated</li> </ul>	<ul style="list-style-type: none"> <li>• Unusual patient response (e.g., rash or erythema after antibiotic, change in heart rate, blood pressure, and/or increased temperature)</li> </ul>
<b>Induction</b>	
<ul style="list-style-type: none"> <li>• Inhalation</li> <li>• Intravenous</li> </ul>	<ul style="list-style-type: none"> <li>• Rectal</li> <li>• Intramuscular</li> </ul>
<b>Vascular Access</b>	
<ul style="list-style-type: none"> <li>• Peripheral IV <ul style="list-style-type: none"> <li>○ Insertion site(s)</li> <li>○ Catheter size</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Arterial <ul style="list-style-type: none"> <li>○ Insertion site</li> <li>○ Catheter size</li> <li>○ Document distal perfusion after insertion and handoff of care</li> </ul> </li> <li>• Central Venous Catheter <ul style="list-style-type: none"> <li>○ Skin prep and drape</li> <li>○ Insertion site</li> <li>○ Catheter type and size [e.g., triple lumen, pulmonary artery catheter, initial waveform assessment (e.g., large v waves, cannon a waves)]<sup>17</sup></li> </ul> </li> </ul>
<b>Regional</b>	
<ul style="list-style-type: none"> <li>• Local anesthetic(s) skin infiltration/block</li> <li>• Skin prep, drape, volume loading</li> <li>• Specific technique, equipment, problems, levels achieved, results</li> </ul>	<ul style="list-style-type: none"> <li>• Tray lot number, expiration, interventions used to support the respiratory and circulatory systems</li> </ul>
<b>Infused Volume (document in mL or L)</b>	
<ul style="list-style-type: none"> <li>• Crystalloid</li> </ul>	<ul style="list-style-type: none"> <li>• Blood</li> <li>• Colloid</li> <li>• Volume expanders</li> </ul>
<b>Output (document in mL or L)</b>	
<ul style="list-style-type: none"> <li>• Blood loss</li> </ul>	<ul style="list-style-type: none"> <li>• Urine</li> <li>• Gastric</li> <li>• Thoracic or abdominal fluid</li> <li>• Other</li> </ul>
<b>Procedural Data</b>	
<ul style="list-style-type: none"> <li>• Procedure performed (matches the procedure record)</li> <li>• Date</li> <li>• Anesthesia start and end time(s) using 24-hour clock</li> <li>• Procedure start and stop times</li> </ul>	<ul style="list-style-type: none"> <li>• Tourniquet extremity, inflation pressure and times</li> </ul>

Required	Other as indicated
<b>Patient Protection</b>	
<ul style="list-style-type: none"> <li>• Position of patient and bed</li> <li>• Pressure points, plexus protection, alignment of extremities, head, and neck</li> <li>• Who positioned the patient, type of position used</li> <li>• Placement and type of eye protection (e.g., eyelids taped closed prior to laryngoscopy, protective goggles, laser eye glasses)</li> <li>• Dressing and securing of monitoring lines</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Position changes</li> <li>• Use of bed extensions, positioning belts</li> </ul>
<b>Comments/Notes</b>	
<ul style="list-style-type: none"> <li>• Difficult airway</li> <li>• Airway removal, extubation</li> </ul>	<ul style="list-style-type: none"> <li>• Other</li> </ul>
<b>Signature(s)</b>	
<ul style="list-style-type: none"> <li>• CRNA</li> <li>• SRNA (student registered nurse anesthetist)</li> <li>• Anesthesiologist (if staffing case)</li> </ul>	<ul style="list-style-type: none"> <li>• Relief anesthesia professional name, credential and time of relief</li> </ul>
<b>Transport to PACU/ICU</b>	
	<ul style="list-style-type: none"> <li>• Level of consciousness</li> <li>• Monitor (e.g., EKG, arterial line, SpO<sub>2</sub>)</li> <li>• Type of oxygen delivery device</li> <li>• Position</li> </ul>

***EMR Downtime and Remote Location Documentation***

When all patient care is documented electronically, paper anesthesia records that reflect the information captured by the EMR should be available to document anesthesia care when facilities experience EMR downtime or the computer cannot be used in the remote location. Once the EMR system is restored or internet access is available, data from the paper anesthesia records may be entered into the EMR.

***Postanesthesia Care***

The goal of postanesthesia care is to ensure patient safety by preventing complications and restoring the patient's physiologic and psychological health. The postanesthesia care unit (PACU) or recovery room provides an environment for patients to transition safely from anesthesia and the procedure or surgery.<sup>12</sup> Upon admission to the PACU, the patient is assessed by the PACU nurse and anesthesia professional. After completing the initial assessment and confirming the patient is stable, the anesthesia professional and PACU nurse, should conduct a handoff report.<sup>22</sup> Please see the AANA documents titled *Postanesthesia Care Standards for the Certified Registered Nurse Anesthetist*<sup>23</sup> and *Patient-Centered Perianesthesia Communication*.<sup>24</sup>

**Table 3. Postanesthesia Handoff of Care<sup>25</sup>**

Handoff of Care	Documentation
<b>Patient Information</b>	
<ul style="list-style-type: none"> <li>• Patient identification using name band</li> <li>• Time in PACU</li> <li>• Age</li> <li>• Allergies</li> <li>• Safety concerns</li> </ul>	
<b>Procedure</b>	
<ul style="list-style-type: none"> <li>• Procedure</li> <li>• Anesthesia professional(s)</li> <li>• Surgeon/Proceduralist</li> <li>• Position, if other than supine</li> </ul>	
<b>Health History</b>	
<ul style="list-style-type: none"> <li>• Preoperative vital signs</li> <li>• Pertinent health and medication history</li> <li>• Physical status score</li> <li>• Preoperative cognitive function</li> <li>• Extremity restrictions, preoperative level of activity</li> </ul>	
<b>Anesthesia</b>	
<ul style="list-style-type: none"> <li>• Type of anesthesia                             <ul style="list-style-type: none"> <li>○ Airway management concerns</li> <li>○ Analgesia management plan</li> <li>○ Antiemetics</li> <li>○ Time of last and next dose of antibiotic</li> <li>○ Other medications (e.g., steroids, antihypertensives)</li> <li>○ Intake/output</li> <li>○ Relevant lab values</li> <li>○ Vital signs and monitoring trends (CV, respiratory, neuromuscular function)</li> <li>○ Patient-specific procedure and hemodynamic considerations</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Time of report</li> <li>• Patient status</li> <li>• Oxygen/mode</li> <li>• Airway</li> <li>• Intake/output</li> <li>• EKG data (e.g., EKG leads used, ST segment deviations, dysrhythmias)<sup>17,18</sup></li> <li>• Additional comments</li> </ul>
<ul style="list-style-type: none"> <li>• Confirm with the PACU nurse all questions or concerns have been addressed</li> </ul>	

***Postanesthesia Evaluation***

Centers for Medicare & Medicaid Services (CMS) Conditions of Participation for Hospitals, Section 482.52(b)(3), requires completion of the postanesthesia evaluation by the anesthesia professional or other qualified anesthesia practitioner no later than 48 hours after surgery or a procedure requiring anesthesia services in accordance with State law and with facility policy.<sup>26</sup> The evaluation is performed and documented by a practitioner qualified to administer anesthesia only after the patient is sufficiently recovered from the effects of anesthesia (e.g., able to answer questions) in the PACU/ICU or in another designated recovery location.<sup>26</sup>



**Table 4. Postanesthesia Evaluation Criteria**<sup>26</sup>

<b>Respiratory Function</b>	
Respiratory rate	Oxygen saturation
Airway patency	
<b>Cardiovascular Function</b>	
Pulse rate	Blood pressure
<b>Mental status</b>	<b>Nausea and vomiting</b>
<b>Temperature</b>	<b>Postoperative hydration</b>
<b>Pain</b>	

**Facility Discharge**

Upon discharge from the facility, the patient receives detailed instructions related to anesthesia care and pain management, including how to address concerns related to anesthesia and pain management (e.g., excessive pain or swelling, loss of sensation, continued nausea or vomiting, temperature above 101°F).<sup>22</sup>

**References**

1. Raymer K. The anesthetic record: how content and design influence function in anesthetic practice and beyond. *J Anesth Clin Res.* 2011;4:1-7.
2. Kadry B, Feaster WW, Macario A, Ehrenfeld JM. Anesthesia information management systems: past, present, and future of anesthesia records. *Mt Sinai J Med.* Jan-Feb 2012;79(1):154-165.
3. Bloomfield EL, Feinglass NG. The anesthesia information management system for electronic documentation: what are we waiting for? *J Anesth.* 2008;22(4):404-411.
4. Epstein RH, Vigoda MM, Feinstein DM. Anesthesia information management systems: a survey of current implementation policies and practices. *Anesth Analg.* Aug 2007;105(2):405-411.
5. Springman SR. Integration of the enterprise electronic health record and anesthesia information management systems. *Anesthesiol Clin.* Sep 2011;29(3):455-483.
6. Standards for Nurse Anesthesia Practice Park Ridge, IL: American Association of Nurse Anesthetists; 2013.
7. Fischer SP, Bader AM, Sweitzer B. Preoperative evaluation In: Miller RD, Eriksson LI, Fleisher LA, Wiener-Kronish JP, Young WL, eds. *Miller's Anesthesia* Philadelphia: Churchill Livingstone; 2009.
8. Marley RA, Calabrese T, Thompson KJ. Preoperative evaluation and preparation of the patient In: Nagelhout JJ, Plaus KL, eds. *Nurse Anesthesia* 5ed. St. Louis, MO: Saunders Elsevier; 2014:335-381.
9. Tinkham MR. The importance of the preoperative history and physical. *OR Nurse.* 2012;6(3):40-46.
10. American Society of Anesthesiologists. Statement on Documentation of Anesthesia Care. <http://www.asahq.org/~media/Sites/ASAHQ/Files/Public/Resources/standards-guidelines/statement-on-documentation-of-anesthesia-care.pdf>. Accessed February 1, 2016.
11. Lab tests before surgery: When you need them - and when you don't. <http://www.choosingwisely.org/doctor-patient-lists/lab-tests-before-surgery/>. Accessed August 28, 2014.
12. Brent R. Patient assessment in recovery. *J Perioper Pract.* Mar 2010;20(3):103-107.
13. Marco AP. Informed consent for surgical anesthesia care: has the time come for separate consent? *Anesth Analg.* Feb 1 2010;110(2):280-282.
14. Bernat JL, Peterson LM. Patient-centered informed consent in surgical practice. *Arch Surg.* Jan 2006;141(1):86-92.
15. Douglas CD, McPhee JR. Informed consent: a review of the ethical and legal basis for medical decision-making for the competent patient. *ANZ J Surg.* Jul 2007;77(7):521-522.

16. Informed Consent in Anesthesia. Park Ridge, IL: American Association of Nurse Anesthetists; 2004.
17. Kossick M. Clinical monitoring I: cardiovascular system. In: Nagelhout JJ, Plaus KL, eds. *Nurse Anesthesia*. 5th ed. St. Louis: Saunders Elsevier; 2014:292-312.
18. Landesberg G, Mosseri M, Wolf Y, Vesselov Y, Weissman C. Perioperative myocardial ischemia and infarction: identification by continuous 12-lead electrocardiogram with online ST-segment monitoring. *Anesthesiology*. Feb 2002;96(2):264-270.
19. Stoelting R. Monitoring of neuromuscular blockade: What would you expect if you were the patient? *The Official Journal of the Anesthesia Patient Safety Foundation*. 2016;30(3):47.
20. Dosch M. The anesthesia gas machine. 2012; <http://www.udmercy.edu/crna/agm/08.htm>. Accessed February 9, 2016.
21. Bristle TJ, Collins S, Hewer I, Hollifield K. Anesthesia and critical care ventilator modes: past, present, and future. *AANA J*. Oct 2014;82(5):387-400.
22. Lewis SM, Dirksen SR, Heitkemper MM, Bucher L. *Medical-surgical nursing: assessment and management of clinical problems*. 9th ed. St. Louis: Mosby; 2014.
23. Postanesthesia Care Standards for the Certified Registered Nurse Anesthetist Park Ridge, IL: American Association of Nurse Anesthetists; 2013.
24. Patient-Centered Perianesthesia Communication. Park Ridge, IL: American Association of Nurse Anesthetists; 2014.
25. Potestio C, Mottla J, Kelley E, DeGroot K. Improving post anesthesia care unit (PACU) handoff by implementing a succinct checklist. *The Official Journal of the Anesthesia Patient Safety Foundation*. 2015; [http://apsf.org/newsletters/html/2015/June/04\\_PACU.htm](http://apsf.org/newsletters/html/2015/June/04_PACU.htm). Accessed February 10, 2016.
26. Centers for Medicare & Medicaid Services (CMS). State Operations Manual Revised Appendix A, Regulations and Interpretive Guidelines for Hospitals.Rev. 2015; TAG A-1005; <https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/Downloads/R74SOMA.pdf>

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