Standards for Office Based Anesthesia Practice

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Certified Registered Nurse Anesthetists (CRNAs) have long been the predominant anesthesia professional and leaders in providing anesthesia services in physicians' offices. As the professional organization representing nurse anesthetists, the American Association of Nurse Anesthetists (AANA) advocates high quality, appropriate standards of care for all patients in all settings, including the office based practice setting. As in other settings, CRNAs provide anesthesia working with physicians such as surgeons, anesthesiologists and, where authorized, podiatrists, dentists and other healthcare professionals.

The AANA has been at the forefront in establishing clinical practice standards, including patient monitoring standards. The standards for care in the office based setting are congruent with the AANA Scope and Standards of Nurse Anesthesia Practice and are intended to:

1. Provide assistance to CRNAs and other practitioners by promoting a common base for the delivery of quality patient care in the office based setting.
2. Assist the public in understanding what to expect from the practitioner.
3. Support the basic rights of patients.

Although the standards are intended to promote high quality patient care, they cannot assure specific outcomes.

Anesthesia in the Office Setting

There are some unique and specific responsibilities that should be considered prior to administration of anesthesia in the office setting. When considering an office based practice, anesthesia professionals should determine if there are appropriate resources to manage the various levels of anesthesia for the planned surgical procedures and the condition of the patient. Most office based practice settings are not regulated, therefore the CRNA should consider the benefit of uniform professional standards regarding practitioner qualifications and training, equipment, facilities and policies that ensure the safety of the patient during operative and anesthesia procedures in the office setting.

At a minimum the CRNA shall determine that there are policies to address:

a. Patient selection criteria
b. Monitoring equipment with a back up electrical source
c. Adequate numbers of well trained personnel to support the planned surgery and anesthesia
d. The treatment of foreseeable complications
e. Patient transfer to other healthcare facilities
f. Infection control practices, including OSHA requirements

g. Minimal preoperative testing, including required consultations
h. Ancillary services (e.g., laboratory, pharmacy, consultation with outside specialists)
i. Equipment maintenance
j. Response to fire and other catastrophic events
k. Recovery and discharge of patients
l. Procedures for follow-up care

The CRNA shall comply with all applicable state and federal rules and regulations relating to licensure, certification, and accreditation of an office practice.

SECTION I

Standard I

Perform a thorough and complete preanesthesia assessment.

Interpretation
The responsibility for the care of the patient begins with the preanesthetic assessment. Except in emergency situations, the CRNA has an obligation to complete a thorough evaluation and determine that relevant tests have been obtained and reviewed.

Application to Office Practice
Preanesthesia assessment of the patient undergoing office based surgery should include documentation of at least:

a. assigned physical status
b. airway assessment
c. previous anesthetic history
d. allergies
e. fasting status
f. history and physical

Standard II

Obtain informed consent for the planned anesthetic intervention from the patient or legal guardian.

Interpretation
The CRNA shall obtain or verify that an informed consent has been obtained by a qualified provider. Discuss anesthetic options and risks with the patient and/or legal guardian in language the patient and/or legal guardian can understand. Document in the patient's medical record that informed consent was obtained.

Application to Office Practice
The CRNA shall confirm that consent has been given for the planned surgical or diagnostic procedure and that the patient understands and accepts the plans and inherent risks for anesthesia in the office setting.

Standard III

Formulate a patient-specific plan for anesthesia care.

Interpretation
The plan of care developed by the CRNA is based upon comprehensive patient assessment, problem analysis, anticipated surgical or therapeutic procedure, patient and surgeon preferences, and current anesthesia principles.

Application to Office Practice
A patient specific plan of care is based on patient assessment and the anticipation of potential problems in the unique setting. The operating practitioner concurs that the patient is cleared for the planned anesthetic.

Standard IV

Implement and adjust the anesthesia care plan based on the patient's physiological response.

Interpretation
The CRNA shall induce and maintain anesthesia at required levels. The CRNA shall continuously assess the patient's response to the anesthetic and/or surgical intervention and intervene as required to maintain the patient in a satisfactory physiologic condition.

Application to Office Practice
The CRNA shall continuously assess and monitor the patient's response to the anesthetic. Prior to administration of anesthesia the CRNA shall verify a means to deliver positive pressure ventilation and treat emergency situations including availability of necessary emergency equipment and drugs. If "triggering agents" associated with malignant hyperthermia are used, adequate dosages of dantrolene should be immediately accessible. (See accompanying AANA Position Statement Number 2.5 titled, "Malignant Hyperthermia Crisis Preparedness and Treatment.")

Standard V

Monitor the patient's physiologic condition as appropriate for the type of anesthesia and specific patient needs.

a. **Monitor ventilation continuously**. Verify intubation of the trachea by auscultation, chest excursion, and confirmation of carbon dioxide in the expired gas. Continuously monitor end-tidal carbon dioxide during controlled or assisted ventilation, including any anesthesia or sedation technique requiring artificial airway support. Use spirometry and ventilatory pressure monitors as indicated.

b. **Monitor oxygenation continuously** by clinical observation, pulse oximetry, and if indicated, arterial blood gas analysis.
c. **Monitor cardiovascular status continuously** via electrocardiogram and heart sounds. Record blood pressure and heart rate at least every five minutes.
d. **Monitor body temperature continuously** on all pediatric patients receiving general anesthesia and, when indicated, on all other patients.
e. **Monitor neuromuscular function and status** when neuromuscular blocking agents are administered.
f. **Monitor and assess patient positioning** and protective measures, except for those aspects that are performed exclusively by one or more other providers.

Interpretation
Continuous clinical observation and vigilance are the basis of safe anesthesia care. The standard applies to all patients receiving anesthesia care and may be exceeded at any time at the discretion of the CRNA. Unless otherwise stipulated in the standards, a means to monitor and evaluate the patient's status shall be immediately available for all patients. When any physiological monitoring device is utilized, variable pitch and low threshold alarms should be turned on and audible in most circumstances. The omission of any monitoring standards shall be documented and the reason stated on the patient's anesthesia record. As new patient safety technologies evolve, integration into the current anesthesia practice shall be considered. The CRNA shall be in constant attendance of the patient until the responsibility for care has been accepted by another qualified healthcare provider.

Application to Office Practice
Minimum monitors in the office based setting include: pulse oximetry, ecg, blood pressure, O_2 analyzer and end-tidal CO_2 when administering general anesthesia, body temperature for the pediatric patient, an esophageal or precordial stethoscope and peripheral nerve stimulator as indicated.

Standard VI

There shall be complete, accurate, and timely documentation of pertinent information on the patient's medical record.

Interpretation
Document all anesthetic interventions and patient responses. Accurate documentation facilitates comprehensive patient care, provides information for retrospective review and research data, and establishes a medical-legal record.

Application to Office Practice
The CRNA confirms there is a plan for accurate record keeping and documentation of the following:

a. informed consent
b. preanesthesia and postanesthesia evaluations
c. course of the anesthesia, including monitoring modalities and drug administration, dosages and wastages
d. discharge follow-up

The CRNA shall confirm that there is a systematic mechanism for documentation of compliance with U.S. Drug Enforcement Agency rules, Board of Pharmacy regulations, Food and Drug Administration requirements, and U.S. Department of Transportation regulations for accountability and appropriate storage.

Documentation of provider licensure and credentials, facility licensure, and continued competence is recommended.

Standard VII

Transfer the responsibility for care of the patient to other qualified providers in a manner that assures continuity of care and patient safety.

Interpretation
The CRNA shall assess the patient's status and determine when it is safe to transfer the responsibility of care to other qualified providers. The CRNA shall accurately report the patient's condition and all essential information to the provider who is assuming responsibility for the patient.

Application to Office Practice
Postanesthesia care is consistent with other practice settings in that there is a designated area staffed with appropriately trained personnel. At least one qualified provider—a surgeon, anesthesia professional, or ACLS-certified registered nurse—should remain in the facility until all patients are discharged. An accurate postanesthesia record is documented.

Standard VIII

Adhere to appropriate safety precautions as established within the institution to minimize the risks of fire, explosion, electrical shock and equipment malfunction. Document on the patient's medical record that the anesthesia machine and equipment were checked.

Interpretation
Prior to use, the CRNA shall inspect the anesthesia machine and monitors according to established guidelines. The CRNA shall check the readiness, availability, cleanliness, and working condition of all equipment to be used in the administration of the anesthesia care. When the patient is ventilated by an automatic mechanical ventilator, monitor the integrity of the breathing system with a device capable of detecting a disconnection by emitting an audible alarm. Monitor oxygen concentration continuously with an oxygen analyzer with a low concentration audible alarm turned on and in use.

Application to Office Practice
The CRNA confirms equipment is routinely maintained by appropriately trained professionals. Prior to use, equipment is inspected for risk of malfunction and electrical/fire hazards.

Standard IX

Precautions shall be taken to minimize the risk of infection to the patient, the CRNA, and other healthcare providers.

Interpretation
Written policies and procedures in infection control shall be developed for personnel and equipment.

Application to Office Practice
The CRNA shall confirm that policies are in place and a process exists to document compliance with Occupational Safety and Healthcare Administration (OSHA) standards relating to blood borne pathogens; medical waste and hazardous materials; personal protection devices; and disposal of needles, syringes and contaminated supplies.

Standard X

Anesthesia care shall be assessed to assure its quality and contribution to positive patient outcomes.

Interpretation
The CRNA shall participate in the ongoing review and evaluation of the quality and appropriateness of anesthesia care. Evaluation shall be performed based upon appropriate outcome criteria and reviewed on an ongoing basis. The CRNA shall participate in a continual process of self evaluation and strive to incorporate new techniques and knowledge into practice.

Application to Office Practice
Prior to administration of any anesthetic in an office facility, the CRNA shall review the AANA minimal elements (Section II) and evaluate for compliance and applicability to the setting. The CRNA shall participate in assessment and review of appropriateness of anesthesia care provided in the office setting. There should be a process to document patient satisfaction and outcomes.

Standard XI

The CRNA shall respect and maintain the basic rights of patients.

Interpretation
The CRNA shall support and preserve the patient's rights to personal dignity and ethical norms of practice.

Application to Office Practice
The CRNA shall act as the patient's advocate. The patient has the right to dignity, respect and consideration of legitimate concerns in the office setting. Patients should be involved with all aspects of their care.

Section II

Supplemental Resources

Minimum Elements for Providing Anesthesia Services in the Office Based Practice Setting

Assessment Checklist

Practitioners

CRNA

- Will the Board of Nursing and state laws allow the CRNA to work with this physician type?
- Will your liability insurance cover office anesthesia?
- Does the state have rules/regulations specific to office-based anesthesia?
  - What classes of patients, types of surgical procedures, and anesthesia will be performed?
  - Are there established policy and procedure processes in place?

Operating Physician

- Does the physician have liability coverage and a current licensure/Drug Enforcement Agency (DEA) number?
- Does the physician have hospital privileges for procedures?
- Does the physician have admitting privileges at the nearest hospital?

Facility

- Is the facility licensed?
  - By whom? Indicate name:_____
- Is the facility accredited?
  - By whom? Indicate name:_____
- Size of operating room (OR), recovery room, and preoperative area adequate for anesthesia and surgical procedures?
- Is there a transfer agreement?
- Does the facility have an emergency service agreement?
- Available communication resources: Are telephone numbers accessible and posted for Emergency Medical Services (EMS), Malignant Hyperthermia (MH) hotline, nearby hospital, etc.?

Equipment

Local, Intravenous Sedation, Regional and General Anesthesia

- Monitors include pulse oximeter, electrocardiogram, blood pressure monitor and end-tidal CO_2 appropriate to patient, procedure and type of anesthesia
- Oxygen supplies: Minimum of two oxygen sources must be available with regulators attached

- ❍ Continuous positive-pressure ventilation source tested and in working order (e.g., adjustable bag-mask, nonrebreathing units) appropriate to patient population
- ❍ Defibrillator (charged)
- ❍ Suction machine, tubing, suction catheters, and Yankaur suctions
- ❍ Accessible anesthesia storage unit to provide for organization of supplies including endotracheal equipment, masks, airways, syringes, needles, intravenous catheters, intravenous fluids and tubing, alcohol, stethoscopes, and medications appropriate for patient population
- ❍ Emergency resuscitation medications, including at a minimum ACLS or PALS protocol medications, if appropriate, to include, atropine, epinephrine, ephedrine, lidocaine, diphenhydramine, cortisone, and a bronchial dilator inhaler.

General Anesthesia

- ❍ An authorized factory technician or qualified service personnel has documented that the anesthesia machine(s) and monitoring equipment are operable.
  The following items are available as an integral part of the anesthesia delivery system or equivalent stand-alone equipment:
  - ❍ O_2 fail-safe system
  - ❍ Oxygen analyzer
  - ❍ Waste gas exhaust system
  - ❍ End-tidal CO_2 analyzer
  - ❍ Vaporizers—calibration and exclusion system
  - ❍ Audible alarm system (variable pitch and low threshold capabilities)
- ❍ Pulse oximeter, electrocardiogram, blood pressure monitors
  - ❍ Temperature monitor as appropriate for patient age, physical status, and surgical procedure

Emergencies

- ❍ Emergency equipment
  - ❍ Basic airway equipment (adult and pediatric)
    - ❍ Nasal and oral airway
    - ❍ Face mask (appropriate for patient)
    - ❍ Laryngoscopes, endotracheal tubes (adult and pediatric)
    - ❍ Ambu bag or other positive pressure ventilation device
  - ❍ Difficult airway equipment (laryngeal mask airway, light wand, cricothyrotomy kit)
  - ❍ Defibrillator
  - ❍ Supplemental O_2
  - ❍ Emergency drugs
  - ❍ Compression board
  - ❍ Suction equipment (suction catheter, Yankaur type)
  - ❍ Drugs and equipment to treat MH on site
- ❍ Back-up power

Pharmaceutical Accountability

- ❍ Is there an appropriate mechanism for documenting and tracking use of pharmaceuticals including controlled substances?
  - ❍ Lock box
  - ❍ DEA 222 forms

- Count sheets
- Waste policy
- Expiration checklist or policy

Policies/Procedures and Protocols

- Policies/procedures and protocols are in place regarding:
  - Preoperative lab requirements
  - Patient selection
  - Nothing by mouth (NPO) status
  - Discharge criteria
  - Case cancellations
  - Advanced Cardiac Life Support (ACLS) algorithms
  - MH protocols
  - Latex allergy protocols
  - Pediatric drug dosages
  - Emergencies
    - Cardiopulmonary
    - Chemical spill
    - Fire
    - Building evacuation
    - Bomb threat
  - Reporting adverse reactions
  - Infection control in adherence to OSHA rules for control of medical waste, and CDC recommendations for disposal of sharps and personal protection
- Compliance with HIPAA patient information protection

Record Keeping

- Record-keeping system in place for patients and providers
- Anesthesia record
- Consent forms
- Credentials
- Q/A mechanism
- Patient satisfaction/followup
- Preanesthesia equipment and supplies
- Purchasing agreements

Personnel

- OR
  - RN
  - LPN
  - OR technician
- PACU
  - RN
  - LPN
  - Anesthetist/surgeon
- ACLS certified

- ❍ Surgeon
- ❍ Anesthetist
- ❍ RN

❍ BCLS certified
- ❍ RN
- ❍ LPN
- ❍ Others

Anesthesia Equipment and Supplies Checklist

(To be kept in log book)

Date: _____ Checked-out by: _____ Location: _____

❍ Oxygen pipeline pressure or primary source _____ pounds per square inch
❍ Oxygen tank pressure (second source) _____ pounds per square inch
❍ Back-up power
❍ Defibrillator and crash cart available
❍ Anesthesia cart supplies checked, i.e., intravenous equipment, anesthetics, stethoscope
❍ Suction equipment tested
❍ Ambu bag tested
❍ Electrocardiogram (ECG) operational
❍ Pulse oximeter operational
❍ Blood pressure monitor
❍ Back-up blood pressure cuff
❍ Atropine
❍ Epinephrine
❍ Ephedrine
❍ Lidocaine
❍ Other emergency medications as indicated
❍ Endotracheal equipment, airways

If general anesthesia is planned: Anesthesia machine no._____

❍ Leak test and other tests performed as indicated
❍ Oxygen analyzer is on
❍ Capnometer connected
❍ Temperature monitor available
❍ Emergency airways available, i.e., laryngeal mask airway, combitube, or cricothyrotomy kit
❍ Succinylcholine
❍ Dantrolene
❍ Other anesthesia medications as indicated

Note (if problem): _____
_____
_____
Follow-up (who,
what):_____

Resources

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Position Statement Number 2.5
Malignant Hyperthermia Crisis Preparedness and Treatment

Ensuring a safe anesthetic experience for every patient is a primary objective for every Certified Registered Nurse Anesthetist (CRNA). Safe anesthesia encompasses many things including creating contingency plans to mitigate adverse events. The American Association of Nurse Anesthetists (AANA) has a long-standing history of facilitating the delivery of safe anesthesia care.[1]

In order to improve patient outcomes and enhance patient safety for the known, potential, or unforeseen incidence of malignant hyperthermia (MH), CRNAs must possess the requisite knowledge concerning this syndrome. To prevent an MH crisis, a thorough preoperative screening is necessary to identify patients who are MH positive, or those who may be at high risk or susceptible to an MH episode. Despite the ongoing awareness surrounding MH, this complex and rare syndrome continues to exhibit a high incidence of complications and mortality.[2-5] The manifestations of MH vary at each presentation, and the evidence suggests that measures must be taken for early recognition and timely treatment to increase the likelihood of a positive outcome. It is imperative that CRNAs be prepared to treat an MH crisis.
The AANA strongly recommends that all anesthesia professionals delivering potent volatile inhalation agents or depolarizing muscle relaxants (which are both determined to be triggering agents for MH) have the requisite medication and supplies available as defined by the Malignant Hyperthermia Association of the United States **(**MHAUS).[6] CRNAs are encouraged to contact MHAUS for current available educational materials concerning the appropriate treatment of MH. The AANA recognizes MHAUS as the expert in establishing protocols for the diagnosis and treatment of MH. The AANA advocates that all anesthesia professionals and the entire perioperative team adhere to the protocols published by MHAUS. The AANA also urges individual practitioners to be accountable for maintaining the most current information regarding diagnosis and treatment of MH.

In addition to adhering to MHAUS published protocols, the AANA recognizes other best practices which support positive patient outcomes in this situation. Consideration should be given to ensuring earliest possible detection of MH through the use of appropriate monitoring devices, and CRNA engagement in activities to maintain MH treatment competencies.[3, 7-9]

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3. Berkenstadt H, Yusim Y, Ziv A, Ezri T, Perel A. An assessment of a point-of-care information system for the anesthesia provider in simulated malignant hyperthermia crisis. Anesth Analg 2006;102:530-2.
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