



Anesthesiologist Assistant Program

SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

Clinical Preceptor Handbook

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Mission

The mission of the Master of Medical Science in Anesthesiology Program at the University of Colorado is to create a positive learning environment for the personal and professional growth of skilled and compassionate anesthetists. We do this by challenging students to engage in critical and innovative thinking, promoting individual interaction with faculty and clinical instructors, and providing abundant teaching resources. We are committed to furthering the Anesthesiologist Assistant profession.

Responsibilities and Expectations of the Clinical Instructor

Institution Orientation

Students should be assigned a contact person to orient them to the rotation site's policies and procedures regarding such matters as lockers, scrubs, parking, etc. This contact should be an objective resource if the student should also require assistance with a conflict.

Supervision

The clinical students shall work under the supervision of the Director of the Department of Anesthesiology and the facility. All students must be under the medical direction of a licensed physician who has completed a residency in Anesthesiology. The facility agrees to provide one-on-one supervision by a qualified anesthesia provider, and medical direction from an anesthesiologist. The facility will provide adequate orientation for the University faculty and students at the beginning of the students' assignments.

Our expectation is that there will be one student and one clinical instructor in the operating room at all times. Clinical instructors are defined as a licensed physician who has completed a residency in anesthesiology, a senior anesthesiology resident, an anesthesiologist assistant, or a certified registered nurse anesthetist. A student may be assigned to a single or to several clinical instructor(s) over the course of the rotation. It is at the discretion of the clinical instructor to allow or not allow a student to draw up medications unsupervised, and the decision to allow is usually directly related to the student's level of training. This practice is consistent with accepted practices within the realm of clinical education.

Instructor Expectations

The following are characteristics of an ideal clinical instructor:

- Summarizes and presents case information clearly
- Sets clear goals, responsibilities and expectations for the student
- Emphasizes important points of the case
- Encourages participation, and establishes rapport with the student
- Demonstrates respect for students and quizzes in an appropriate manner
- Listens attentively and encourages and answers student questions
- Remains accessible and takes a personal interest in student's progress
- Demonstrates teaching ability and patience
- Directs students to useful resources and supports statements with data
- Supervises student adequately while providing practice opportunities
- Provides positive reinforcement, and criticizes without belittling student
- Has reasonable expectations for student
- Maintains a constant 1:1 supervisory position with the student
- Works effectively with members of the health care team
- Confident, but not arrogant
- Shows respect for colleagues, patients and students
- Outstanding overall teaching effectiveness

Student Evaluations

Each day a student is in the OR, the clinical instructor is expected to fill out an evaluation based on clinical performance and knowledge. The evaluation will be provided by the student, with an envelope. Please sign the evaluation, and **sign the back of the sealed envelope**. Once sealed and signed, return the evaluation to the student or clinical coordinator within 3 days. Evaluations are summarized and anonymously presented to students at the end of each month, but immediate feedback from the clinical instructor is most effective for identifying areas needing improvement.

Student Expectations

OR Arrival Time

Expectations are that the student arrive early enough that their room is completely set up and their patient is seen before the scheduled start time of the first case of the day, Monday through Friday. The expected time for student arrival in the OR is at 0600. The student should finish all scheduled cases for the day, unless they have a lecture or exam to attend. However, the student is expected to adhere to the work schedule of the rotation site and attend any lectures expected of its staff (i.e., morning lectures or Grand Rounds).

Sick and Vacation Days

Students are allotted two days per semester for sick and/or vacation. Prior approval for vacation days must be obtained from the program, and sufficient notice must be given to the clinical coordinator by the student.

If a student should need to take a sick day, they are to notify the institution's clinical coordinator by 6:30 am. The clinical coordinator should then notify the clinical instructor that was scheduled to that student for the day, of the absence. If excessive absences are noted, please contact the Program's Clinical Coordinator and/or Program Director.

STUDENT CLINICAL STANDARDS

Minimal clinical requirements to be eligible for graduation from the Master of Medical Science in Anesthesiology Program at the University of Colorado

	Minimum Requirements
Total Anesthesia Cases	650
Total Hours Clinical Anesthesia	2,500
Patient ASA Class III & IV	150
Emergent/Trauma Cases	25
Ambulatory	100
Patient Population	
Geriatric (65 + years)	125
Pediatric (0 - 18)	100
Patient Position	
Prone Position	25
Lithotomy	35
Lateral	15
Sitting	10
Trendelenburg	5
Anatomical Location Surgery	
Intra-abdominal	50
Intracranial	10
Intrathoracic	
Heart	15
Lung	5
Obstetrical Cases	50
Vascular	15
Methods of Anesthesia	
General	400
Induction, Maintenance & Emergence	
Mask Induction	50
Mask Management	
Adults	10
Pediatrics	30
Laryngeal Mask Airways	

Adults	20
Pediatrics	15
Tracheal Intubation	
Oral	
Adults	200
Pediatrics	40
Nasal	10
Emergence from Anesthesia	250
Regional Techniques	
Management	50
Administration	
Spinal	10
Epidural	35
Peripheral Nerve Block	5
Pediatric Caudal	10
Monitored Anesthesia Care	30
Arterial Technique	
Arterial Puncture/Catheter Insertion	40
Intra-arterial BP monitoring	40
Central Venous Pressure Catheter	
Placement	10
Monitoring	15
Pulmonary Artery Catheter	
Placement	3
Monitoring	15
Other	
Intravenous Catheter Placement	
Adults	200
Pediatrics	40
Nasogastric Tube Placement	5
Endobronchial Tube Placement	5

CLINICAL PERFORMANCE GOALS

Each Master of Medical Science in Anesthesiology student is expected to aspire to clinical excellence by attaining performance goals and standards set forth by the Progress and Promotions Committee. Successful completion of clinical goals should be measurable, thereby giving the student meaningful feedback concerning clinical performance.

Systematic acquisition of these clinical skills is monitored by a checklist of student achievement, which is supervised by clinical coordinators. Completing the checklist is the responsibility of the student. A finished checklist is required to go on to the next level of clinical competence (i.e. the next semester).

The following goals are minimum standards for clinical performance at distinct intervals of training. A novice level of training should **not** limit participation in procedures/tasks that are considered more appropriate for advanced students. Demonstrated clinical excellence allows for participation in more complicated cases (pediatric, ASA III & IV). Subsequently, the student may “work ahead” toward completing the checklist providing the applicable requirements are fulfilled by semester’s end.

FALL (SEMESTER 1) - FIRST YEAR

By the end of the fall semester, the first year Master of Medical Science in Anesthesiology student should strive to be **70%** successful when performing the following tasks **with frequent assistance** (defined as “**supervision 100%** of the time and **technical support 75%** of the time given by a clinical instructor”):

- Venous cannulation and fluid therapy on healthy **adult** patients.
- Airway management on anesthetized, healthy **adult** patients.
- Laryngoscopy and endotracheal intubation on anesthetized, healthy **adult** patients with Mallampati Class I or II airways.
- Timely and accurate completion of the intraoperative record with no blank spaces.
- Anesthesia machine checkout and appropriate room setup for healthy (ASA I & II) **adult** general anesthesia management.
- Placement of laryngeal mask airways (LMAs) in healthy **adult** patients.

The performance checklist for the fall semester - first year contains the following items:

- Successful placement of intravenous cannulas in adult patients given the following criteria:
 - An appropriate vein and catheter size should be chosen.
 - The catheter must be inserted successfully by the **second** needle stick.
 - The field should be relatively blood-free during and after insertion.
 - Tubing connections should be tight with no blood or fluid leakage.
 - The fluid infusion should be run at an appropriate rate.
 - The work area should be cleaned as needed.
 - The patient’s fluid deficit and a fluid replacement plan are calculated and presented.

- The maximum allowable blood loss for the case is calculated and presented.
- Successful completion of general anesthetics on healthy adult patients managed with mask assisted spontaneous respiration given the following criteria:
 - An appropriate patient is chosen for mask maintenance.
 - An appropriate mask size is chosen.
 - Assisted spontaneous ventilation is achieved and managed.
 - Airway obstruction is recognized and appropriate maneuvers to correct are taken.
 - The student responds appropriately and promptly to changes in the patient's status (Δ BP, Δ HR, \downarrow Sat, etc.).
- Successful endotracheal intubation on healthy adult patients with Mallampati Class I or II airways given the following criteria:
 - An appropriately sized OETT is chosen.
 - An appropriate style and size of blade is chosen.
 - The tube is atraumatically inserted by the **second** tube pass.
 - Tube placement and position is verified using at least two acceptable methods (breath sounds, capnography, etc.).
 - The tube is adequately secured to the patient in a timely fashion.
 - The transition to adequate mechanical ventilation is achieved.
- Adequate completion of intra-operative records for uncomplicated cases given the following criteria:
 - The record is neat and legible.
 - All drug therapy, patient intervention, vital signs, etc. are recorded accurately and completely.
 - The student keeps current with charting and does not lag behind.
 - No "blank spaces" inappropriately exist on the finished product.
 - The records are filed in the appropriate area postoperatively.
 - The student continues monitoring while charting.
- Appropriate setup of the anesthesia machine and tabletop for healthy (ASA I & II) adult general anesthetics given the following criteria:
 - Check for adequate suction.
 - Check O₂ cylinder supply.
 - Check O₂ pipeline supply.
 - Check vaporizer fill level.
 - Calibrate O₂ monitor sensor to room air.
 - Check flow meters.
 - Install and check the patency of an appropriate breathing circuit.
 - Verify that CO₂ absorber is adequate.
 - Verify the integrity of the APL valve and the scavenging system.
 - Test the integrity of the ventilator.
 - Check the integrity of the monitors (capnograph, ECG, pulse oximeter, temperature probe, etc.)

- Have appropriate emergency drugs available.
- Have appropriate anesthetics and narcotics available.
- Have appropriate airway equipment available.
- Have appropriate intravenous therapy available.
- Successful placement of laryngeal mask airways (LMAs) in healthy (ASA I & II) adult patients given the following criteria:
 - The LMA is placed without trauma to the teeth or pharynx.
 - No leak is present after the cuff is inflated.
 - The LMA is securely taped.
 - Assisted spontaneous ventilation is achieved and appropriately managed.
 -

SPRING (SEMESTER 2) - FIRST YEAR

By the end of the spring semester, the first year AA student should strive to be **80%** successful when performing the following tasks **with moderate assistance** (defined as “**supervision 100%** of the time with **technical support 50%** of the time given by a clinical instructor”):

- Venous cannulation and fluid therapy on healthy **adult** patients.
- Airway management on anesthetized, healthy **adult** patients.
- Laryngoscopy and endotracheal intubation on anesthetized, healthy **adult** patients with Mallampati Class I or II airways.
- Accurate completion of the intraoperative record with no blank spaces.
- Anesthesia machine checkout and appropriate room setup for healthy (ASA I & II) **adult** general anesthesia management.
- Placement of laryngeal mask airways in healthy **adult** patients.

The performance checklist for the spring semester - first year, contains the following items:

- Successful placement of intravenous cannulas with calculation of fluid deficit/replacement and maximum allowable blood loss for healthy adult patients given the previously mentioned criteria.
- Successful completion of general anesthetics on healthy adult patients managed with mask assisted spontaneous respirations, given the previously mentioned criteria.
- Successful endotracheal intubations on healthy adult patients (Mallampati Class I or II) given the previously mentioned criteria.
- Adequate completion of intraoperative records for uncomplicated cases given the previously mentioned criteria.
- Appropriate setup of the anesthesia machine and tabletop for uncomplicated (ASA I & II) adult general anesthetics given the previously mentioned criteria.
- Successful placement of laryngeal mask airways in healthy adult patients given the previously mentioned criteria.

SUMMER/FALL (SEMESTERS 3 &4) - FIRST YEAR

By the end of the summer semester, the first year AA student should strive to be **90%** successful when performing the following tasks **with moderate assistance** (defined as “**supervision 100%** of the time with **technical support 25%** of the time given by a clinical instructor”):

- Venous cannulation and fluid therapy on **all adult** patients.
- Airway management on **all** awake and anesthetized, **adult** patients.
- Laryngoscopy and endotracheal intubation on **all** anesthetized **adult** patients.
- Anesthesia machine checkout and appropriate room setup for **all adult** general anesthesia management.
- Preoperative interview/physical examination and subsequent development of the anesthetic plan in conjunction with the attending anesthesiologist and anesthetist/resident for **uncomplicated** (ASA I & II) **adult** patients.

The performance checklist for semesters 3 & 4 - first year, contains the following items:

- Successful placement of intravenous cannulas with calculation of fluid deficit/replacement and maximum allowable blood loss for healthy adult patients given the previously mentioned criteria.
- Successful completion of general anesthetics on healthy adult patients managed with mask assisted spontaneous respirations, given the previously mentioned criteria.
- Successful endotracheal intubations on healthy adult patients (Mallampati Class I or II) given the previously mentioned criteria.
- Adequate completion of intraoperative records for uncomplicated cases given the previously mentioned criteria.
- Appropriate setup of the anesthesia machine and tabletop for uncomplicated (ASA I & II) adult general anesthetics given the previously mentioned criteria.
- Successful placement of laryngeal mask airways in healthy adult patients given the previously mentioned criteria.

CLINICAL (SENIOR) YEAR (SEMESTERS 5-7)

By the end of semester 7 of the senior year, and having completed the entire didactic and clinical programs of study, the Master of Medical Science in Anesthesiology graduate candidate should strive to be at least **95%** successful when performing all of the previously mentioned tasks, in addition to the following tasks ***with rare assistance*** (defined as “**supervision 100%** of the time with **technical support 5%** of the time given by a clinical instructor”):

- Arterial vessel cannulation.
- Central venous cannulation.
- Lumbar epidural catheter placement and management.
- Placement and management of pediatric caudal blocks.
- Placement and management of IV perfusion (Bier) blocks.
- Nasotracheal intubation.
- Endobronchial tube placement.
- Nasogastric tube placement.
- Management of monitored anesthesia care (MAC).
- Management of anesthesia for outpatient surgery.
- Management of anesthesia for cardiac surgery.
- Management of anesthesia for thoracic surgery.
- Management of anesthesia for obstetrics.
- Management of anesthesia for pediatric surgery.
- Management of anesthesia for neurosurgery.
- Management of anesthesia for trauma surgery.
- Management of anesthesia for vascular surgery.
- Management of anesthesia for geriatric patients.

The performance checklist for the entire clinical (senior) year contains the following items:

- Successful placement of intravenous cannulas on healthy pediatric patients given the previously mentioned criteria for adult IV placement.
- Successful completion of general anesthetics on healthy pediatric patients managed with mask assisted spontaneous respirations given the previously mentioned criteria for adult airway management.
- Successful endotracheal intubations on healthy pediatric patients given the previously mentioned criteria for adult endotracheal intubation.
- Appropriate setup of the anesthesia machine and tabletop for healthy pediatric patients given the previously mentioned criteria for adult room setup.
- Completed preoperative interviews/physical examinations on uncomplicated (ASA I & II) adult and/or pediatric patients given the following criteria:
 - o Complete review of all physiologic systems by patient interview and review of old/current chart including previous medical history, history of present illness, current vital statistics, blood chemistries, diagnostic tests and pertinent medical consultations.
 - o Physical examination of the patient focusing on the lungs, heart and airway.

- o Patient interview focusing on NPO status, drug allergies, previous surgeries noting anesthetic complications, family history of anesthetic complications and current pharmaceutical therapies.
- o Thorough discussion of the anesthetic options including risks/benefits for each option.
- o Development of the anesthetic plan in conjunction with the attending anesthesiologist, anesthesiologist, and/or resident.
- Successful placement of laryngeal mask airways (LMAs) in healthy pediatric patients given the previously mentioned criteria for adult.
- Successful placement of **arterial catheters** by the **second** needle stick given the following criteria:
 - o An appropriate vessel is chosen for insertion.
 - o An appropriate catheter is chosen.
 - o Aseptic technique is used.
 - o The transducer tubing is connected with minimal blood loss.
 - o The catheter and tubing are secured adequately.
 - o The transducer is zeroed properly.
- Successful placement of subclavian or internal jugular **central venous catheters** by the **second** needle stick given the following criteria:
 - o An appropriate vessel is chosen.
 - o An appropriate catheter is chosen.
 - o Aseptic technique is used.
 - o Tubing is connected with minimal blood loss.
 - o The catheter and tubing are secured properly.
 - o The transducer is zeroed properly (when appropriate).
 - o The Swan-Ganz catheter is inserted properly (when appropriate).
- Successful placement of **lumbar epidural catheters** by the **second** Touhy needle stick given the following criteria:
 - o Aseptic technique is used.
 - o The appropriate level for insertion is chosen.
 - o The dura is **not** punctured.
 - o No persistent paresthesia is elicited.
 - o An appropriate local anesthetic/dosage is chosen.
 - o No intravascular injection is evident.
 - o The level of analgesia is deemed adequate.
 - o Follow up management of the block is appropriate.
- Successful placement of **pediatric caudal blocks** by the **second** needle stick given the following criteria:
 - o Aseptic technique is used.
 - o No CSF, heme or stool is aspirated.
 - o An appropriate local anesthetic/dosage & volume is chosen.
 - o An adequate level of analgesia is obtained.
- Successful placement of intravenous perfusion (**Bier**) **blocks** given the following criteria:
 - o Standard practice is followed.

- Adequate surgical analgesia is achieved without the need for follow up general anesthesia.
- Successful placement of adult or pediatric **nasotracheal tubes** by the **second** tube pass given the following criteria:
 - An appropriately sized endotracheal tube is chosen.
 - Magill forceps are used effectively when needed.
 - Tube insertion is atraumatic.
 - No epistaxis is noted.
 - The tube is secured adequately.
- Successful placement of **endobronchial tubes** by the **second** tube pass given the following criteria:
 - An appropriately sized tube is chosen.
 - Proper tube placement is verified by fiberoptic endoscopy.
 - The tube is secured adequately.
 - The student shows a working knowledge of endobronchial tube ventilation principles.
- Successful placement of **nasogastric tubes** by the **second** tube pass given the following criteria:
 - The appropriate size tube is chosen.
 - The appropriate nares is chosen.
 - No epistaxis is noted.
 - The tube is secured adequately at the appropriate depth.
- Anesthetic management of patients for **monitored anesthesia care** as a member of an anesthesia care team.
- Anesthesia management of **adult** patients for **outpatient** surgery as a member of an anesthesia care team.
- Anesthetic management of patients for **cardiac** surgery as a member of an anesthesia care team.
- Anesthetic management of patients for **thoracic** surgery as a member of an anesthesia care team.
- Anesthetic management of patients for **obstetrical** procedures as a member of an anesthesia care team given the following criteria:
 - **Vaginal deliveries** including:
 - placement of epidural
 - management of labor
 - present for delivery
 - **Cesarean sections** including:
 - placement of epidural and/or induction of general anesthesia
 - management of the case
- Anesthetic management of **pediatric** patients for all types of surgery as a member of an anesthesia care team (patients included in this category can also be counted toward requirements in other categories).

- Anesthetic management of patients for **neurosurgery** as a member of an anesthesia care team.
- Anesthetic management of patients for **trauma** surgery as a member of an anesthesia care team.
- Anesthetic management of patients for **vascular** surgery as a member of an anesthesia care team.
- Anesthetic management of **geriatric** patients for all types of surgery as a member of an anesthesia care team (patients included in this category can also be counted toward requirements in other categories).
- Anesthetic management of patients for **cardiovascular** surgery as a member of an anesthesia care team.

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