



College of Nursing

**Doctor of Nursing Practice Program
Nurse Anesthesiology Handbook Supplement
2025 - 2026**

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DNP Nurse Anesthesiology Practice

The University of Arizona College of Nursing BSN-DNP Nurse Anesthesiology specialty is committed to fostering excellence in nurse anesthesiology education. We are committed to advancing the profession by preparing graduates to engage in evidence-based practice, envision processes that will enhance the nurse anesthesiology profession and to scientifically develop, disseminate and evaluate innovative solutions to practical problems that will lead to improved patient outcomes and optimal care for each patient. **The policies and procedures in the Nurse Anesthesiology Clinical Supplement are specific to Nurse Anesthesiology residents (NAR).** All information is subject to change without notice.

Professional Role

Certified Registered Nurse Anesthetists/Anesthesiologists (CRNAs) are advanced practice registered nurses (APRNs), licensed as independent practitioners. CRNAs practice both autonomously and in collaboration with a variety of health providers on the interprofessional team to deliver high quality, holistic, evidence-based anesthesia and pain care services. CRNAs care for patients at all acuity levels across the lifespan in a variety of settings for procedures including, but not limited to, surgical, obstetrical, diagnostic, therapeutic, and pain management. CRNAs serve as clinicians, researchers, educators, mentors, advocates, and administrators.

Education, Accountability and Leadership

CRNAs enter the profession following successful completion of graduate or post-graduate education from an accredited nurse anesthesiology program and after passing the National Certification Examination. CRNAs embrace lifelong learning and practice professional excellence through ongoing recertification and continuous engagement in quality improvement and professional development. Education, experience, state and federal law, and facility policy determine the scope of nurse anesthesiology practice. CRNAs are accountable and responsible for their services and actions, and for maintaining their individual clinical competence. CRNAs are innovative leaders in anesthesia care delivery, integrating progressive critical thinking and ethical judgment.

Anesthesiology Practice

The practice of anesthesiology is a recognized nursing and medical specialty unified by the same standard of care. Nurse anesthesiology practice may include, but is not limited to, these elements: performing a comprehensive history and physical; conducting a preanesthetic evaluation; obtaining informed consent for anesthesia; developing and initiating a patient-specific plan of care; selecting, ordering, prescribing and administering drugs and controlled substances; and selecting and inserting invasive and noninvasive monitoring modalities. CRNAs provide acute, chronic and interventional pain management services, as well as critical care and resuscitation services; order and evaluate diagnostic tests; request consultations; and perform point-of-care testing. CRNAs plan and initiate anesthetic techniques, including general, regional, local, and sedation. Anesthetic techniques may include the use of ultrasound, fluoroscopy and other technologies for diagnosis and care delivery. CRNAs respond to emergency situations using airway management and other techniques; facilitate emergence and recovery from anesthesia; and provide post-anesthesia care, including medication management, conducting a post-anesthesia evaluation, and discharge from the post-anesthesia care area or facility.

The Value and Future of Nurse Anesthesiology Practice

CRNAs practice in all care settings and are the primary anesthesiology professionals providing care to the U.S. military, rural, and medically underserved populations. The CRNA scope of practice evolves to meet the healthcare needs of patients, and their families as new research and technologies emerge. As APRNs, CRNAs advocate for the removal of scope of practice barriers to increase patient access to high quality, comprehensive care. Initially published in 1980, The Scope of Nurse Anesthesia Practice has had multiple revisions. The AANA Board of Directors approved revisions in 1983, 1989, 1992, 1996, January 2013, February 2013, June 2013, February 2020 and March 2021.

CRNA Scope of Practice

The Arizona Nurse Practice Act states that CRNAs must hold an individual certificate or license to practice in each state where they practice (unless in a federal facility such as VA or IHB). The Arizona Nurse Practice Act allows CRNAs to practice under the direction and in the presence of a physician/surgeon. As of March 2021, Arizona is an opt out state.

[32-1634.04. Certified registered nurse anesthetist; scope of practice](#)

- A. A certified registered nurse anesthetist/anesthesiologist may administer anesthetics under the direction of and in the presence of a physician or surgeon in connection with the preoperative, intraoperative or postoperative care of a patient or as part of a procedure performed by a physician or surgeon in the following settings:
 1. A health care institution.
 2. An office of a health care professional who is licensed pursuant to chapter 7, 11, 13 or 17 of this title.
 3. An ambulance.
- B. In connection with the preoperative, intraoperative or postoperative care of a patient or as part of the procedure in the settings prescribed in subsection A of this section, a certified registered nurse anesthetist as part of the care or procedure may:
 1. Issue a medication order for drugs or medications to be administered by a licensed, certified or registered health care provider.
 2. Assess the health status of an individual as that status relates to the relative risks associated with anesthetic management of an individual.
 3. Obtain informed consent.
 4. Order and evaluate laboratory and diagnostic test results and perform point of care testing that the certified registered nurse anesthetist is qualified to perform.
 5. Order and evaluate radiographic imaging studies that the certified registered nurse anesthetist is qualified to order and interpret.
 6. Identify, develop, implement and evaluate an anesthetic plan of care for a patient to promote, maintain and restore health.
 7. Take action necessary in response to an emergency situation.
 8. Perform therapeutic procedures that the certified registered nurse anesthetist is qualified to perform.
- C. A certified registered nurse anesthesiology's authority to administer anesthetics or to issue a medication order as prescribed by this section does not constitute prescribing authority.
- D. A physician or surgeon is not liable for any act or omission of a certified registered nurse anesthetist who orders or administers anesthetics under this section.

We have clinical sites in multiple states, therefore clinical preceptors, faculty and nurse anesthesiology resident (NAR) should become familiar with APRN scope of practice in the state for which the NAR is in clinical rotations, as well as with that state's Nurse Practice Act and pertinent Administrative Code and Regulations. NARs are responsible for determining if there are state boards of nursing requirements regarding NAR clinical placement in their state and conveying these requirements to the Nurse Anesthesiology Program Administrator.

Nurse Anesthesiology Resident Competencies

The Council on Accreditation of Nurse Anesthesia Educational Programs (COA) has identified 6 domains of core competencies for resident nurse anesthesiologist¹:

- Patient safety
- Perianesthesia
- Critical thinking (clinical judgement)
- Communication
- Leadership
- Professional role

AACN DNP Essentials and COA Competencies Evaluation

The ability of the DNP – NA specialty graduate to assure patient safety through vigilant patient care will be demonstrated by the following quality indicators: formal testing; return demonstration; evidence-based care plan development; simulation; and patient outcomes in the perioperative period. If a NAR competency deficit is detected, the remediation plan may include high fidelity simulation retraining. The NAR must take a Comprehensive Examination (SEE) as a graduation requirement. Successful first-time test takers of the NCE will also demonstrate mastery of the DNP Essentials and the COA Competencies. Graduate surveys, employer surveys, and alumni surveys provide additional means of evaluating this concept.

Nurse Anesthesiology Specialty Track Outcome Criteria

The program demonstrates that graduates have acquired knowledge, skills and competencies in patient safety, perianesthetic management, critical thinking, communication, and the competencies needed to fulfill their professional responsibility.

¹ (Accessed July 5, 2022: <https://coanet.org/>)

Patient Safety:

The graduate must demonstrate the ability to:

1. Be vigilant in the delivery of patient care.
2. Refrain from engaging in extraneous activities that abandon or minimize vigilance while providing direct patient care (e.g., texting, reading, e-mailing, etc.).
3. Conduct a comprehensive equipment check.
4. Protect patients from iatrogenic complications.

Perianesthesia:

The graduate must demonstrate the ability to:

5. Provide individualized care throughout the perianesthesia continuum.
6. Deliver culturally competent perianesthesia care
7. Provide anesthesia services to all patients across the lifespan
8. Perform a comprehensive history and physical assessment
9. Administer general anesthesia to patients with a variety of physical conditions.
10. Administer general anesthesia for a variety of surgical and medically related procedures.
11. Administer and manage a variety of regional anesthetics.
12. Maintain current certification in BLS, ACLS and PALS.

Situational Awareness/Critical Thinking:

The graduate must demonstrate the ability to:

13. Apply knowledge to practice in decision-making and problem solving.
14. Provide nurse anesthesia services based on evidence-based principles.
15. Perform a preanesthetic assessment prior to providing anesthesia services.
16. Assume responsibility and accountability for diagnosis.
17. Formulate an anesthesia plan of care prior to providing anesthesia services.
18. Identify and take appropriate action when confronted with anesthetic equipment-related malfunctions.
19. Interpret and utilize data obtained from noninvasive and invasive monitoring modalities.
20. Calculate, initiate, and manage fluid and blood component therapy.
21. Recognize, evaluate, and manage physiological responses coincident with the provision of anesthesia services.
22. Recognize and appropriately manage complications that occur during the provision of anesthesia services.
23. Use science-based theories and concepts to analyze new practice approaches.
24. Pass the national certification examination (NCE) administered by NBCRNA.

Communication:

The graduate must demonstrate the ability to:

25. Utilize interpersonal and communication skills that result in an effective exchange of information and collaboration with patients and their families.
26. Utilize interpersonal and communication skills that result in the effective interprofessional exchange of information and collaboration with other healthcare professionals.
27. Respect the dignity and privacy of patients while maintaining confidentiality in the delivery of interprofessional care.
28. Maintain comprehensive, timely, accurate, and legible healthcare records.
29. Transfer the responsibility for care of the patient to other qualified providers in a manner that assures continuity of care and patient safety.
30. Teach others.

Leadership:

The graduate must demonstrate the ability to:

31. Integrate critical and reflective thinking in his or her leadership approach.
32. Provide leadership that facilitates intraprofessional and interprofessional collaboration.

Professional Role:

The graduate must demonstrate the ability to:

33. Adhere to the Code of Ethics for the Certified Registered Nurse Anesthetist.
34. Interact on a professional level with integrity.
35. Apply ethically sound decision-making processes.

36. Function within legal and regulatory requirements.
37. Accept responsibility and accountability for his or her practice.
38. Provide anesthesia services to patients in a cost-effective manner.
39. Demonstrate knowledge of wellness and chemical dependency in the anesthesia profession through completion of content in wellness and chemical dependency
40. Inform the public of the role and practice of the CRNA.
41. Evaluate how public policy making strategies impact the financing and delivery of healthcare.
42. Advocate for health policy change to improve patient care.
43. Advocate health policy changes to advance the specialty of nurse anesthesiology.
44. Analyze strategies to improve patient outcomes and quality of care.
45. Analyze health outcomes in a variety of populations.
46. Analyze health outcomes in a variety of clinical settings.
47. Analyze health outcomes in a variety of systems.
48. Disseminate research evidence.
49. Use information systems/technology to support and improve patient care.
50. Use information systems/technology to support and improve healthcare systems.
51. Analyze business practices encountered in nurse anesthesiology delivery settings.

Course Policies

Course Grading Policy

Final Course Grade Policy for the Nurse Anesthesiology Specialty courses **ONLY**

A = $\geq 90 - 100$

B = ≥ 80 and < 90

C = ≥ 70 and < 80

D = ≥ 60 and < 70

E = < 60

For example - If the final course grade is 89.9, the course grade equals a "B".

Letter grades are assigned at the course grade level. Individual item scores that are not whole integers shall be entered to the second place past the decimal point (hundredth) before calculating clinical, theory, and/or course grades.

Examination Policies

Electronic proctored examinations administered through ExamSoft require access to a laptop computer and not an iPad. NAR's laptops must have the capacity to access the Internet to access D2L (online academic software). NARs are also required to have webcam, microphone capability and/or headset. NARs have the responsibility to ensure that they bring a power cord and a fully charged battery to the examination. NARs must mute computer speakers during the examination period. NARs are asked to visit with the LHTI department located at the College of Nursing at the beginning of the academic year to ensure their laptop computer meets the requirement to take electronic examinations and to have a lock out browser installed.

If an NAR encounters any irregularity or extenuating circumstance during an examination that interferes with the examination process, the NAR must **immediately** report the circumstances to LHTI. Such circumstances include, without limitation, internet disruption or failure, an illness or a disruptive incident in the examination room. The circumstances will be dealt with on a case-by-case basis. If the circumstance is related to power failure or technical difficulties related to the computer, the NAR will be provided with a paper version of the exam if the proctor cannot remedy the situation in a timely manner. If a NAR fails to bring such circumstances **immediately** to the attention of LHTI, the NAR cannot later appeal the examination result based on unreported circumstances. In-course examinations are considered secure documents and as such all exam items and related materials are considered confidential and are not to be shared in any forum outside of the testing/review setting and follow the academic integrity policy.

Exam Integrity

DNP-NA Program utilizes ExamSoft for online testing. Exam content is the property of the University of Arizona. Exam integrity is monitored throughout each exam. Testing material should not be posted anywhere outside of the University of Arizona. Expect strict monitoring of testing material. There is zero tolerance for material shared outside or within the program. Online platforms such as Quizlet and others have been banned for this purpose. NARs should anticipate screen sharing and webcam access throughout the exam process. If upon review a NAR is flagged for potential of academic

violations, the recording will be reviewed by faculty, and if a question persists the NAR will meet with faculty to discuss. If found in violation, after this meeting, we will follow the UArizona Code of Academic Integrity. <https://deanofResidents.arizona.edu/policies/code-academic-integrity> This could result in immediate dismissal from the program, if found in violation.

Examination Item (Test Question) Reliability and Validity Testing

Examination security is an essential component of our nurse anesthesiology educational program and is intended to ensure the fair and accurate evaluation of all NARs learning. On-line testing formats do not allow for examination item (test question) challenges by NARs without the potential for compromise of the examination's content. Acknowledging this inherent difficulty associated with on-line testing formats, the nurse anesthesiology specialty has instituted this **Examination Item Reliability and Validity Testing Policy** to ensure the specialty's NARs knowledge evaluation process is scientifically based and systematic.

Policy

- For nurse anesthesiology residents (NAR) scoring 80% or lower per COA guidelines an exam review is mandatory. For NARs scoring greater than 80% an individual exam review cannot be guaranteed.
- NAR's' challenges to examination items (test questions) will not be permitted.
- Prior to the administration of each examination, all examination items will be reviewed and evaluated for item quality by a minimum of two (2) nurse anesthesia faculty.
- When possible, following the administration of each examination, the examination items will be analyzed for reliability (internal consistency) and individual item quality. The statistical index used to measure the examination items' internal consistency will be Cronbach's alpha. The point-biserial correlation coefficient will be used to analyze each examination item's quality.
- Each examination item scoring a point-biserial correlation below 0.0 will be re-evaluated by a minimum of two (2) nurse anesthesia faculty members. If deemed appropriate following faculty review, NAR may be given correct answer credit for such items, on an item-by-item basis.

The Nurse Anesthesiology faculty will continuously monitor NAR's examination performance to ensure the fair and accurate evaluation of all NAR's learning.

Self-Evaluation Examination (SEE) and Comprehensive Examination Policy

Rationale or background to policy: Beginning September 1, 2016, the Self-Evaluation Exam (SEE), administered by the National Board of Certification and Recertification, will be predictive and reflective of the National Certification Exam (NCE). SEE scores will provide an opportunity for the NAR to analyze their strengths and weaknesses to help them prepare for the NCE.

Comprehensive exams encompass subject matter taught throughout the nurse anesthesiology program as well as subject matter included on the National Certification Exam (NCE). An outline of NCE content can be found at:

<http://www.nbcna.com/Exams/Pages/Exams.aspx> . The SEE will be the Nursing (Nurse Anesthesiology) DNP Program comprehensive exam.

Policy:

NARs are required to pass the SEE to pass NURS 674b. Anyone without a passing SEE score will receive an incomplete grade for the course with graduation being contingent upon a passing SEE score. A NAR must score equal to or greater than the overall national average for the previous year's score of the NCE first-time pass rate as published in February of the prior year. This score changes annually.

Procedure:

- Nurse Anesthesiology residents (NAR) in their third year of the program will pay for and schedule the SEE. They should take the exam in the fall of their NURS 672c clinical course. If they do not achieve a passing score, they will be required to take it again, until they pass, to pass 674b and graduate. NARs are encouraged to schedule their SEE as soon as possible; testing space and times are limited. Information regarding the SEE, including current cost can be found at: <http://www.nbcna.com/Exams/Pages/Exams.aspx> .
- After the SEE, Nurse Anesthesiology residents (NAR) will be required to provide a SWOT (Strengths,

Weaknesses, Opportunities, Threats) analysis of their SEE scores if they did not pass. They will also be required to provide an action plan to pass the SEE. This will include printing the NCE outline and marking each section with where it can be found in textbooks/APEX. This must be turned into your advisor 2 months after the exam. If they fail a third time, after completing this, they will need to attend a review course – APEX, Valley, Core, and/or Prodigy.

- If an NAR does not score the overall national average of the NCE first-time pass rate, he/she will be required to pay for and schedule additional SEE(s) until he/she scores the national average of the NCE first-time pass rate.
- NARs failing to score the national average of the SEE in NURS 674b will need to repeat the exam until they pass to graduate. They will receive an incomplete “I” in this course and will not be eligible to graduate. An earned grade will be given to a NAR once he/she scores the overall national average of the NCE first-time pass rate.
- The NAR will be eligible for graduation once the earned grade in NURS 674b is recorded. This will delay your graduation until August.

Faculty Responsibilities:

Meet with NARs individually to discuss their performances of each SEE if they do not pass. Periodically review Nurse Anesthesiology residents’ SEE score SWOT analysis and action plan to pass the NCE. Notify Program Administrator of NARs who fail to complete their SWOT analysis, action plan and NCE outline.

Program Administrator Responsibilities:

Address problems related to NARs failure to complete SWOT analysis and action plan.

Successful SEE completion, successful DNP Project completion and completion of DNP Portfolio requirements must be completed prior to submission for graduation (College of Nursing DNP policy, and successful didactic and clinical completion fulfill University degree requirements; as long as the NAR is in good standing with the DNP-NA specialty program and College of Nursing (for example: maintaining certifications and unencumbered license, negative drug testing, and no other disciplinary actions/issues are pending).

Employment

It is highly recommended that no NAR work during the program. NARs are strongly encouraged to enter school with adequate financial resources due to rigorous time commitments (this may be up to sixty hours per week averaged over 4 weeks for didactic, didactic preparation, clinical residency, and clinical preparation). Work commitments, which impinge on academic or clinical requirements, will not be tolerated. If NARs choose to work during clinical residency, there must be an eight (8) hour lapse between work time, reporting for class, and clinical. No NAR will receive compensation for anesthesia services or be permitted to render anesthesia services outside the Anesthesiology Program. A NAR is FORBIDDEN to use the title of CRNA or doctor while a NAR in the program. Violations will be cause for immediate dismissal.

Leave of Absence

NARs may request a leave of absence consistent with the College of Nursing (CON) and Graduate College Policy outlined in the DNP Program Handbook, page 7. A reentry success plan to the Nurse Anesthesiology Program, following a leave of absence, will be established with Nurse Anesthesiology faculty, OSAA, DNP Program Director, and necessary resources, on a case by case basis.

Time Commitment

Successful completion of the program requires a substantial time commitment. This commitment averages 48-58 hours per week, year-round, assuming that two to four hours of study are required for each class hour (credit). This figure includes time spent in the classroom, online, on campus, in clinical, and in study. NARs will be limited to 60 - 64 hours of work per week, averaged over a 4-week period.

Communication

The Nurse Anesthesiology program is committed to the creation of an environment which promotes the NAR learning experience. Open and respectful dialogue between NARs and faculty is critical to the enrichment of the learning experience. Being respectful of time is necessary for NARs and faculty. Please do not text if an email will suffice. Please review the academic course guidelines for contacting a professor and follow the instructions provided. NARs and faculty are asked to adhere to the Arizona time zone when contacting each other. **All communication to faculty must be via UArizona email or faculty office phone. Cell phone communication (voice or text) with faculty is only for emergencies.** The CON has outlined a line of communication to resolve academic issues that may arise in the

classroom and/or at the clinical site to facilitate the open communication between NARs and faculty. NAR issues or concerns need to be addressed promptly and according to the established line of communication outlined below. Dialog with the next person in the line of communication is necessary only after the prior contact does not lead to resolution.

1. Course or Clinical Instructor
2. Course Chair (if applicable)
3. Program Administrator
4. DNP Program Director
5. Dean of the College of Nursing

The Office of Student Academic Affairs (OSAA) is available to assist the NAR in this process. OSAA contact information: 520-626- 3808, conosaa@arizona.edu.

Mission Trips

Mission trips are viewed as an enhancement to didactic and clinical courses. Any NAR applying to attend must be in good academic and clinical standing to be considered.

Committees

Nurse Anesthesiology Specialty Advisory Committee

The Nurse Anesthesiology Specialty Advisory Committee is established to provide a forum for stakeholders in the Specialty to discuss issues and ideas relevant to the Nurse Anesthesiology Specialty and its partnership with the community. The Nurse Anesthesiology Specialty Advisory Committee will be chaired by the Nurse Anesthesiology Specialty Program Administrator. The Committee membership will be comprised of up to nine (9) additional stakeholder representatives and will include (1) the Director of the College of Nursing (CON) Doctor of Nursing Practice (DNP) Program, (2) one additional member of the Nurse Anesthesiology Specialty faculty, (3) a CON faculty member from outside of the Nurse Anesthesiology Specialty, (4) a Nurse Anesthesiology Specialty Clinical Coordinator from the Northern Arizona Region, (5) a Nurse Anesthesiology Specialty Clinical Coordinator from the Southern Arizona Region, (6) a first-year nurse anesthesiology resident, (7) a second-year nurse anesthesiology resident, (8) a third-year nurse anesthesiology resident, and (9) a public member from within the community. The Nurse Anesthesiology Specialty Advisory Committee meets annually.

Simulation Lab Expectations and Policies

Simulation experiences form an important part of both the didactic and clinical phases of the program. Simulation promotes not only the development of technical competence but likewise encourages self-awareness, interpersonal communication skills and enhanced clinical judgement. Attendance is required for all scheduled sessions, which will average 16 hours or more per semester until enrollment in Clinical Skills Intensive. Simulation events may be scheduled for the weekend to accomplish learning. In addition, nurse anesthesiology residents (NAR) are occasionally required to engage in remediation sessions with faculty in the simulation lab.

Simulation Lab Guidelines

The Simulation lab contains highly sophisticated mannequins and equipment. It is important for all users to understand and follow the guidelines, designed to encourage professionalism and to ensure the usability and care of the space and equipment.

- Wash hands prior to touching mannequins.
- No food or drink in the simulation lab.
- Gloves should be always worn if gloves would normally be worn when caring for a patient.
- Mannequins are susceptible to staining; use care when using pens and pencils.
- Do not blow in mannequin mouth or manipulate excessively.
- Handle mannequins with care; treat them with respect, as real patients.
- The simulation lab is considered a clinical setting - professional and safe behavior is always expected.
- Wear scrubs or lab coat, scrub hat and mask as appropriate in the simulation lab.
- Adhere to all ASTEC guidelines

Evaluations & Sign-Ins

Users will be asked to complete evaluation forms at the end of each semester and after the simulation lab experience. It is important to track simulation lab traffic and to be able to identify lab participants. Users will be required to sign in to the lab

prior to the beginning of each session. A sign in sheet will be recorded by faculty for each lab. If you miss a simulation lab you are required to reschedule with faculty as soon as possible.

Confidentiality

To maintain the integrity of the Clinical Simulation Program, users must maintain strict confidentiality about any observations of individual performance in the simulation lab or of the content of any simulated training exercises.

Technology

Provision of safe anesthesia care requires vigilance; therefore, cellular phones are to be turned off and placed on vibrate mode while in clinical and classroom settings. NARs should follow the cellular phone policy of the clinical institution in which they are rotating. NARs are required to familiarize themselves with the AANA Mobile Information Technology Position Statement found at: [https://www.aana.com/docs/default-source/practice-aana-com-web-documents-\(all\)/professional-practice-manual/mobile-information-technology.pdf?sfvrsn=610049b1_28](https://www.aana.com/docs/default-source/practice-aana-com-web-documents-(all)/professional-practice-manual/mobile-information-technology.pdf?sfvrsn=610049b1_28)

Clinical Residency Performance Expectations:

Clinical Coordinators and faculty assess progress toward meeting clinical residency objectives via daily, midterm and final clinical preceptor and NAR evaluations. NARs must meet the terminal objectives of each clinical residency before advancement to the next level. Included below are the developmental levels for each clinical residency course. The evaluations are associated with clinical objectives appropriate for that level. If program faculty have determined NARs have successfully met the clinical objectives, they will pass the clinical residency course.

College of Nursing Clinical Policies

Health-Related, Fingerprint Clearance and Background Check Policies:

NARs are required to have proof of health insurance coverage, current immunizations and titers, BLS/ACLS and PALS completion, as well as a fingerprint clearance card (FCC) to be recommended for admission to the Graduate College for admission to the DNP program. These requirements are essential to participate in clinical site experiences to complete the degree. The NAR will upload health information and FCC into designated compliance websites throughout the program.

Health Related Policies

The requirements listed below are to ensure that nurse anesthesiology residents (NAR) enter the clinical nursing courses in good health. NARs must maintain in compliance with the required immunizations. The College of Nursing Office of Student Academic Affairs (OSAA) manages all immunization and screening results, as necessary for clinical work, through a records clearinghouse website, CastleBranch.com. Life support certifications must be current during the entire clinical phase. NARs will submit all requirements to CastleBranch. Please review the Immunization & Health Screening Requirements webpage at: <https://www.nursing.arizona.edu/policies/immunization-health-screening-requirements> for specific information. Required immunizations can be obtained at Campus Health for a nominal fee. For information and pricing call the Billing and Claims office at 520-621-6487 or visit <http://www.health.arizona.edu>.

Other Requirements

Some sites require NARs to complete additional applications, online training, or orientation prior to the start of the clinical rotation. Your clinical placement coordinator will advise you of this requirement. Failure to complete clinical site required applications, documents, or orientations will result in delay in the start of the clinical rotation and may jeopardize NARs progression in the program.

1. Weekly updates of upcoming noncompliance are sent from the Database Management and Reporting Specialist to the specialty coordinators, clinical placement coordinators and program administrator (Email communication)
2. 2 weeks prior to expiration warning/notice (Specialty Coordinators will send it out to the NAR (Cc: Nurse Anesthesiology Resident's CSF, Clinical Placement Coordinators) (Email communication)
3. 1 week prior to expiration warning/notice (DNP Director will send it out to the NAR and cc the specialty coordinator and clinical placement coordinator) (Email Communication)
4. Prior to the date of expiration, if the NAR is still out of compliance and scheduled for clinical practice hours. The specialty coordinator and the clinical placement coordinator will meet with the NAR to communicate that they will not be allowed to return to the clinical site until the NAR is compliant. The specialty coordinator and clinical placement coordinator will contact the Clinical Supervision Faculty and the site Clinical Preceptor to make them aware that the NAR will not be returning until the NAR is compliant. The NAR has to return to compliance and

submit all paperwork to the system which is verified by the Database Management and Reporting specialist before the specialty coordinator allows the NAR to return to the clinical site.

5. *What is the procedure/outcomes when Nurse Anesthesiology residents (NAR) continue to fail to submit required credentialing information or enter the clinical setting without full compliance?* If the NAR is unable to complete the clinical hours for the course due to noncompliance, they will be receiving a failing grade in the course. If they receive two failing grades due to this or any issues, they are recommended for dismissal from the program (through email and registered mail).

CLINICAL EXPECTATIONS per Clinical Residency Course

NAR First Clinical Residency Courses (NURS 672 a and b)

Progression through clinical residency will be dependent on performance, skill attainment, evaluations, and transference of didactic knowledge to clinical practice. Inability to meet established standards will be evaluated by clinical and program faculty and may affect your progression. A remediation plan or dismissal from the program will be considered.

Nurse Anesthesiology Residents (NAR) will:

- Combine didactic and psychomotor knowledge and transfer to clinical practice. Performance is at the novice level, but development is observable.
- Develop some independence in thought and function with simple anesthetic cases
- Obtain and document a health history and conduct a comprehensive and systematic assessment in patients requiring anesthesia care across the lifespan.
- Development and implement an anesthetic management plan utilizing individual and culturally competent care.
- Deliver anesthesia, under the close supervision of a clinical preceptor. This element includes proper selection of equipment and medications, performance of basic skills, and the exhibition of thoughtful decision-making and clinical judgement.
- Apply interventions appropriate to the physiological and psychological status of the patient, considering the environment, available resources, and surgical events, under close supervision by a clinical preceptor.
- Provide effective postoperative management, including any problems or potential problems after surgery, under supervision by a clinical preceptor.
- Compare and contrast the role of the nurse anesthesiologist with other healthcare professionals and develop effective inter-professional collaboration with other healthcare professionals to achieve optimal patient outcomes.

Skills:

- Perform IV insertions
- Perform machine checks, cart set-up with appropriate tools and drugs assembled
- Perform complete preoperative assessment: H&P, airway evaluation, evaluation of ADLs, and home medication concerns
- Perform basic airway management with mask, LMA and Intubation
- Perform regional anesthetic techniques with help
- Perform some COA acceptable techniques in the simulation lab

NA Subsequent Clinical Residency (NURS 672c):

Nurse Anesthesiology Residents (NAR) will:

- Combine didactic and psychomotor knowledge and transfer to clinical practice. Performance will be at an advanced beginner level and evidenced via clinical preceptor evaluations
- Obtain and document a health history and conduct a comprehensive and systematic assessment in patients requiring anesthesia care across the lifespan
- Development and implement an anesthetic management plan utilizing individual and culturally competent care.
- Plan and implement an anesthesia plan of care for the patient undergoing anesthesia, under the close supervision of a clinical preceptor. This element includes proper selection of equipment and medications, performance of basic and some advanced skills, and the beginning of thoughtful independent decision-making and critical thinking in simple and complex cases.
- Apply interventions appropriate to the physiological and psychological status of the patient, considering the environment, available resources, and surgical events, under the supervision of a clinical preceptor.
- Provide effective postoperative management of the patient including any problems or potential problems after surgery, under the supervision of a clinical preceptor.
- Develop effective inter-professional collaboration with other healthcare professionals to achieve optimal patient outcomes.

Skills:

- Perform IV insertions
- Perform machine check, cart set-up with appropriate tools and drugs assembled
- Perform complete preoperative assessment: H&P, airway evaluation, evaluation of ADLs, and home medication concerns.
- Perform basic & advanced airway management
- Perform regional anesthetic techniques with assistance
- Perform central line placement and advanced monitoring techniques with assistance

NA Final Clinical Residency Course (NURS 672d):**Nurse Anesthesiology Residents (NAR) will:**

- Combine didactic and psychomotor knowledge and transfer to clinical practice. Performance will be at competency for entry into practice level.
- Obtain and document a health history and conduct a comprehensive and systematic assessment in patients requiring anesthesia care across the lifespan.
- Development and implement an anesthetic management plan utilizing individual and culturally competent care.
- Plan and implement an anesthesia plan of care for both healthy and ill patients undergoing basic & complex anesthetic procedures, under the supervision of a clinical preceptor.
- Manage the anesthesia care of complex surgical cases and populations, proper selection of equipment and medications, performance of basic & advanced skills, and the exhibition of thoughtful independent decision-making and critical thinking.
- Apply interventions appropriate to the physiological and psychological status of the patient, considering the environment, available resources, and surgical events, in consultation with a clinical preceptor.
- Provide effective postoperative management for patients addressing problems or potential problems after surgery in consultation with a clinical preceptor.

Skills:

- Performs machine check, cart set-up with appropriate tools and drugs assembled
- Performs complete preoperative assessment: H&P, airway evaluation, evaluation of ADLs, and home medication concerns.
- Plans and implements appropriate plan of care in accordance with AANA Standards of Care.
- Performs all airway management skills
- Performs all regional anesthetic techniques
- Performs all advanced monitoring techniques
- Demonstrates independent thought and function

Spring Semester - Clinical Residency I: **Level I Novice**

Summer Semester - Clinical Residency II: **Level I Novice – Advanced Beginner**

Fall Semester - Clinical Residency III: **Level II Advanced Beginner**

Spring Semester - Clinical Residency IV: **Level III Competency for Entry into Practice**

Table of Expected Competencies: Novice to Advanced Beginner

COA Competencies	NURS 672a Clinical Residency 1 Spring	NURS 672b Clinical Residency II Summer
	Under direct supervision and with assistance from clinical preceptors, the beginning nurse anesthesiology residents (NARs) will gain experience and/or develop beginning level skills in the following areas:	Under direct supervision and/or with assistance from clinical preceptors if needed, the beginning nurse anesthesiology residents (NARs) will gain experience and/or develop beginning level skills in the following areas:
Technical skill overall	<ul style="list-style-type: none"> -Observe and assist with Induction sequencing for General anesthesia. -Acquire a beginner level familiarization with the maintenance phase of anesthesia under guidance of the clinical preceptor. -Observe and assist the clinical preceptor during emergence from general anesthesia 	<ul style="list-style-type: none"> -Assist with Induction sequencing for General anesthesia. -Acquire a beginner level familiarization with the maintenance phase of anesthesia under guidance of the clinical preceptor. -Assist the clinical preceptor during emergence from general anesthesia -Acquire beginning level familiarization and proficiency managing the emergence phase of anesthesia under the guidance of the clinical preceptor.
Invasive & Regional Skills	-Acquire practice at beginner to intermediate level proficiency in neuraxial anesthesia techniques (e.g., subarachnoid block, epidural block).	-Acquire practice and beginning level proficiency in neuraxial anesthesia techniques (e.g., subarachnoid block, epidural block).
Airway management	-Observe/Practice basic techniques: bag-mask ventilation, oral & nasal airway insertion, LMA insertion, and endotracheal intubation.	-Practice basic techniques: bag-mask ventilation, oral & nasal airway insertion, LMA insertion, and endotracheal intubation.
Record-keeping	- For beginning NARs, it is recommended charting remains the primary responsibility of the clinical preceptor to allow the NAR to focus completely on patient care. It may be shifted to the NAR as deemed appropriate by the clinical preceptor.	-NARs will assume responsibility for documenting the anesthesia care that they provide.
Pre/Post Op assessment	-Observe and assist clinical preceptors with the preoperative evaluation process as well as pre-operative patient preparation and post op assessment.	-Assist clinical preceptors with the preoperative evaluation process as well as pre-operative patient preparation and post-op assessment.
Basic knowledge	<ul style="list-style-type: none"> -Provide rationale based on didactic knowledge when participating in the development of an anesthesia care plan -Verbalizes rationale for drug selection, appropriate dosage and use of pharmacologic agents, drug interactions, side effects, and adverse effects/contraindications -When indicated, verbalizes principles regarding the 	<ul style="list-style-type: none"> -NARs should arrive at their assigned clinical site prepared to discuss with their clinical preceptor's pertinent pre-operative data, and the anesthesia management plan of their assigned cases. -Verbalizes rationale for drug selection, appropriate dosage and use of pharmacologic agents, drug interactions, side effects, and adverse effects/contraindications -Provide rationale based on didactic knowledge when participating in

	fundamentals of the reversal of neuromuscular blockade as well as assessing readiness for extubation.	the development of an anesthesia care plan.
Judgment & Reasoning	-NAR will develop an anesthetic management plan for the first or most interesting case each day and review this with their clinical preceptor in a cogent, well organized manner.	-NAR will develop an abridged anesthetic management plan for each case they are assigned each day and review this with their clinical preceptor in a cogent, well organized manner.
Reaction to Stress	Reasonably maintains composure under stress.	Maintains composure under stress.
Response to Direction	Demonstrate willingness to receive and utilize feedback from instructors, surgeons and other OR team members.	Demonstrate willingness to receive and utilize feedback from instructors, surgeons and other OR team members.
Industry & Reliability	Discuss with clinical preceptor potential learning experiences for the novice NAR to observe or assist with, thus seeking opportunities to learn and help (Examples may be IV starts, preop/postop assessments).	Discuss with clinical preceptor potential learning experiences for the novice NAR to observe or assist with, thus seeking opportunities to learn and help (Examples may be IV starts, preop/postop assessments, specialty and interesting cases).
Attendance & Punctuality	Report on scheduled days and always at least one hour before scheduled case. Stay until released—which may entail additional clinical hours. Inform clinical site and program of absence prior to 7am on the day of the absence.	Report on scheduled days and always at least one hour before scheduled case. Stay until released—which may entail additional clinical hours. Inform clinical site and program of absence prior to 7am on the day of the absence.
Professional Demeanor	-Interact with patients and their families as well as members of the peri-operative care team in a professional and considerate manner. -Acquire an understanding of the diversity of roles and responsibilities of other OR team members as well as expected behaviors and protocols required to ensure superior perioperative care.	-Interact with patients and their families as well as members of the peri-operative care team in a professional and considerate manner. -Acquire an understanding of the diversity of roles and responsibilities of other OR team members as well as expected behaviors and protocols required to ensure superior perioperative care.

Table of Expected Competencies - Advanced Beginner to Competency for Entry into Practice

COA Competencies	NURS 672c Clinical Residency III Fall	NURS 672d Clinical Residency IV Spring II
	With moderate to minimal guidance the advanced beginner NAR will demonstrate advanced beginner level of knowledge and skills in the care of ASA Classification Types I, II, II, IV and V patients in the following areas:	With little prompt, the NAR will demonstrate competence in the care of ASA Classification Types I, II, II, IV and V patients in the following areas:
Technical Skill Overall	Meeting expectations of advanced beginner – gaining ability with difficult or unusual events, almost independent in thought and function, needs minimal help with planning,	Meeting expectations of competent senior NAR – independent in thought and function, asks for assistance when needed demonstrating self-awareness and readiness for entry into practice.

	management and skills.	
MAC, Invasive & Regional Skills	<ul style="list-style-type: none"> -Performs an accurate assessment of the feasibility for MAC and/or regional anesthesia and develops an anesthesia management plan which takes into consideration both the patient and the planned surgical procedure. -Demonstrates correct technique for placement of noninvasive and invasive monitors as indicated for the patient's needs, planned procedure, and required position. -Performs regional skills with a high degree of proficiency. -NAR develops an appropriate alternative plan to convert to another anesthetic technique if MAC and/or regional anesthesia proves inadequate. 	<ul style="list-style-type: none"> -Performs an accurate assessment of the feasibility for MAC and/or regional anesthesia and develops an anesthesia management plan which takes into consideration both the patient and the planned surgical procedure. -Demonstrates correct technique for placement of noninvasive and invasive monitors as indicated for the patient's needs, planned procedure, and required position. -Performs regional skills with a high degree of proficiency. -NAR develops an appropriate alternative plan to convert to another anesthetic technique if MAC and/or regional anesthesia proves inadequate.
Airway management	<ul style="list-style-type: none"> - Shows increasing expertise in airway management using a broad variety of techniques deemed appropriate for the patient and/or surgery. -Performs a thorough airway assessment (Mallampati class, TMD, inter-incisor distance, upper lip bite test, neck ROM, etc.). 	<ul style="list-style-type: none"> - Demonstrates expertise in airway management using a broad variety of techniques deemed appropriate for the patient and/or surgery. -Performs a thorough airway assessment (Mallampati class, TMD, inter-incisor distance, upper lip bite test, neck ROM, etc.).
Record- keeping	<ul style="list-style-type: none"> - Ensures thorough documentation of anesthesia care including preoperative, intraoperative, and postoperative elements. -Proficient with EHR and understanding of utilization of data to improve care. 	<ul style="list-style-type: none"> - Ensures thorough documentation of anesthesia care including preoperative, intraoperative, and postoperative elements. -Proficient with EHR and understanding of utilization of data to improve care.
Pre/Post Op assessment	<ul style="list-style-type: none"> - Performs a thorough pre-anesthetic assessment, including H&P, development of an active problem list which is pertinent to the development of the anesthetic management plan. -Correctly identify when intraoperative lab work is needed and obtain specimens in a timely and correct manner. - Determines the appropriate intervention(s) indicated by lab results -Accurately assesses the post-operative needs of patients, including but not limited to oxygen therapy, pharmacotherapy, diagnostic and laboratory tests, treatments, and consults -Provides a complete and thorough report to nursing staff 	<ul style="list-style-type: none"> - Performs a thorough pre-anesthetic assessment, including H&P, development of an active problem list which is pertinent to the development of the anesthetic management plan. -Correctly identify when intraoperative lab work is needed and obtain specimens in a timely and correct manner. - Determines the appropriate intervention(s) indicated by lab results -Accurately assesses the post-operative needs of patients, including but not limited to oxygen therapy, pharmacotherapy, diagnostic and laboratory tests, treatments, and consults -Provides a complete and thorough report to nursing staff including problem list, allergies, procedure, intraoperative course, complications, antibiotics, fluid balance, labs, and plans for postoperative care, to include pain management -Writes PACU orders and post –operative notes. -Performs timely patient follow-up with appropriate documentation

	<p>including problem list, allergies, procedure, intraoperative course, complications, antibiotics, fluid balance, labs, and plans for postoperative care, to include pain management</p> <ul style="list-style-type: none"> -Writes PACU orders and post – operative notes. -Performs timely patient follow-up with appropriate documentation -Self-evaluates outcome of anesthetic care and performance. 	<ul style="list-style-type: none"> -Self-evaluates outcome of anesthetic care and performance. - Makes evidence-based practice suggestions to improve safety, and quality of anesthetic care.
<p>Basic knowledge</p>	<ul style="list-style-type: none"> -NAR develops an anesthetic management plan for each assigned case (either written or verbal) and reviews this with their clinical preceptor in a cogent, well-organized manner. -Verbalizes rationale for drug selection, appropriate dosage and use of pharmacologic agents, drug interactions, side effects, and adverse effects/contraindication. -Demonstrates correct sequencing during different phases of the anesthetic. -Selects and implements appropriate fluid management for patients during the pre-operative, perioperative, and postoperative periods. -Determines when blood component therapy is needed and selects, administers, and monitors therapy consistent with current 'state of the science.' -Identifies patient positioning requirements for surgical cases and when appropriate, directs members of the OR team during positioning to ensure optimal protection of the patient and any attached monitoring equipment or invasive lines. 	<ul style="list-style-type: none"> -NAR develops an anesthetic management plan for each assigned case (either written or verbal) and reviews this with their clinical preceptor in a cogent, well-organized manner. -Verbalizes rationale for drug selection, appropriate dosage and use of pharmacologic agents, drug interactions, side effects, and adverse effects/contraindication. -Demonstrates correct sequencing during different phases of the anesthetic. -Selects and implements appropriate fluid management for patients during the pre-operative, perioperative, and postoperative periods. -Determines when blood component therapy is needed and selects, administers, and monitors therapy consistent with current 'state of the science.' -Identifies patient positioning requirements for surgical cases and when appropriate, directs members of the OR team during positioning to ensure optimal protection of the patient and any attached monitoring equipment or invasive lines.
<p>Planning & Organization</p>	<ul style="list-style-type: none"> -NAR completes without minimal to no assistance, an anesthesia machine check-out and ensures that all needed monitoring and anesthesia equipment is functioning properly. -Independently sets up the anesthesia cart for general, regional, and MAC cases. -Anticipates and prepares for subsequent cases to maximize efficiency and facilitate timely turnover of OR. 	<ul style="list-style-type: none"> -NAR completes without assistance, an anesthesia machine check-out and ensures that all needed monitoring and anesthesia equipment is functioning properly. -Independently sets up the anesthesia cart for general, regional, and MAC cases. -Anticipates and prepares for subsequent cases to maximize efficiency and facilitate timely turnover of OR.

Judgment & Reasoning	<ul style="list-style-type: none"> -Maintains vigilance and responds to changes in the patient's condition. -Implements needed interventions to help facilitate or optimize conditions for the surgical procedure. -Performs basic troubleshooting of monitors and/or seeks appropriate assistance when problems are faced. 	<ul style="list-style-type: none"> -Maintains vigilance and responds to changes in the patient's condition. -Implements needed interventions to help facilitate or optimize conditions for the surgical procedure. -Performs basic troubleshooting of monitors and/or seeks appropriate assistance when problems are faced.
Response to Direction	<ul style="list-style-type: none"> - Respectfully offers suggestions based on current practice evidence. 	<ul style="list-style-type: none"> - Respectfully offers suggestions based on current practice evidence.
Industry & Reliability	<ul style="list-style-type: none"> -Actively seeks out additional experiences to improve performance. -Finishes the cases assigned. -Complete all the work assigned on time. -Implement Inquiry project 	<ul style="list-style-type: none"> -Actively seeks out additional experiences to improve performance. -Finishes the cases assigned. -Complete all the work assigned on time. -Implement Inquiry project
Attendance & Punctuality	<ul style="list-style-type: none"> -Report on scheduled days and always at least one hour before scheduled case. -Stays until released— which may entail additional clinical hours. -Inform clinical site and program of absence prior to 7am the day of the absence. 	<ul style="list-style-type: none"> -Report on scheduled days and always at least one hour before scheduled case. -Stays until released— which may entail additional clinical hours. -Inform clinical site and program of absence prior to 7am the day of the absence.
Professional Demeanor	<ul style="list-style-type: none"> -Interacts with patients and the families as well as members of the perioperative care team in a professional and considerate manner. -NAR educates patients, their families and surgical team on pertinent health and anesthetic care matters. - Exhibits characteristics consistent with a leader in nurse anesthesiology and health care. 	<ul style="list-style-type: none"> -Interacts with patients and the families as well as members of the perioperative care team in a professional and considerate manner. -NAR educates patients, their families and surgical team on pertinent health and anesthetic care matters. - Exhibits characteristics consistent with a leader in nurse anesthesiology and health care.
Reaction to Stress	<ul style="list-style-type: none"> -Maintains composure, asks for help if needed, demonstrating situational awareness and self-reflection. -Provides feedback concerning the clinical rotation to Clinical Coordinators, CRNA clinical preceptors, and to Nurse Anesthesiology program faculty as appropriate. 	<ul style="list-style-type: none"> -Maintains composure, asks for help if needed, demonstrating situational awareness and self-reflection. -Provides feedback concerning the clinical rotation to Clinical Coordinators, CRNA clinical preceptors, and to Nurse Anesthesiology program faculty as appropriate.
Response to Direction	<ul style="list-style-type: none"> -Demonstrates willingness to receive and utilize feedback from instructors, surgeons and other team members. 	<ul style="list-style-type: none"> -Demonstrates willingness to receive and utilize feedback from instructors, surgeons and other team members.

CLINICAL TIME

All clinical shifts are **10 hours** or as determined by the clinical facility. Clinical will begin the Spring session of the second year. The attendance for clinical is as follows:

*Year II – 672a – Spring Semester – 16 weeks – 3 days per week (Spring clinical rotations extend until Summer clinical rotation begins, not following the academic calendar unless you meet the below criteria).

*Year III – 672b – Summer Semester – 13 weeks – 4 days per week (Summer clinical rotations extend until Fall clinical rotation begins, not following the academic calendar unless you meet the below criteria).

Year III – 672c – Fall Semester – 16 weeks – 4 days per week

Year III – 672d– Spring Semester - 16 weeks – 4 days per week

Hours are subject to change. These hours are SCHEDULED with your clinical site. NARs will be required to arrive earlier than their scheduled start time to prepare and to stay after their scheduled departure when learning experiences are available. If possible, you should finish each case you start.

*Year II 672b 480 hours are available during this clinical rotation. If you have logged 450 hours by the end of Spring, you will be allowed to take the University of Arizona Academic Calendar break.

*Year III 672c 520 hours are available during this clinical rotation. If you have logged 480 hours by the end of Summer, you will be allowed to take the University of Arizona Academic Calendar break.

HOLIDAYS, Off-Shifts, & Call

Throughout the clinical phase of the program, the NAR may be scheduled on duty for each of three shift rotations, (Days, Evening and Nights) including weekend experiences as well as holidays. NARs may be scheduled during Holidays depending on their clinical site. If they are not scheduled, they will be granted a Holiday and not required to take clinical release time. Vacation requests during holiday weeks will be granted according to NA program and the clinical site.

CALL

A planned clinical experience outside the normal operating hours of the clinical facility, for example, after 5 p.m. and before 7 a.m., Monday through Friday, and on weekends. Assigned duty on shifts falling within these hours is considered the equivalent of an anesthesia call, during which a NAR is afforded the opportunity to gain experience with emergencies and unscheduled cases. DNP2 and DNP3 NARs will be scheduled for on-call time when appropriate by the clinical sites.

Clinical Correlation Conferences

NARs should attend clinical correlation and interprofessional conferences. Clinical correlation and interprofessional conferences include departmental meetings at clinical affiliate sites, journal club/reviews, case reports, QA reviews, M & M discussions, conferences, and/or in-services related to anesthesiology. NARs will document these experiences and the number of clinical correlation hours they have engaged in on their daily Exxat timesheet. Program Administrator prior approval is required.

Clinical Site Rotations – Travel time

Travel between out of state clinical sites is dependent on the site location and must be verified with the course chair. If driving, expect 8 hours per day or 500 miles per day of travel time without use of clinical release time. Anything beyond this will require use of clinical release time.

Clinical Release Time Requests

Clinical release time of seven (7) days will be granted during the 18 months of the clinical residency phase of the program. Clinical release time is for sick days, vacation, mission trips, personal time off or conference attendance. Requests for days off must be in writing, submitted first to the clinical site coordinator for their signature, and then to Dr. Hoch, Mary and clinical course before the 30-day deadline. It must be approved in advance. NARs will be scheduled for didactic and clinical experiences by program administration. Requests are due for the upcoming month on the first day of the preceding month. For example, September requests are due no later than August 1. Request forms are in this handbook, the clinical course and in Exxat. Finals week is not subject to requests (i.e. for sequencing of exams). NARs will be scheduled in the clinical area during finals week. **No clinical release time will be guaranteed to be approved**

during the final four weeks of the program, or on the first day of any clinical rotation. This is to ensure a minimal gap in clinical practice.

Use of Time

During clinical residency rotations, NARs will be scheduled in class based on instructor/clinical preceptor and University schedules. Program business such as NAR meetings, certification exam review, and evaluation conferences will be held on these days. Any other days off must be scheduled as vacation.

Personal illness or family emergencies necessitating extended absences will be counted as clinical release time. NARs will notify and/or request such absences from the assistant administrator or the program administrator. NARs are not permitted to request time on class days, while on probation, or during clinical research data collection. Vacations while rotating to enrichment sites are also discouraged. Special circumstances that require class time off must have prior approval of the Administrator/Assistant Administrator and the classroom instructor. Any day missed will be counted against the 10-day clinical release allotment, unless hours can be made up.

Scheduling Clinical Hours

Depending on the clinical site, the NAR or clinical coordinator will schedule clinical hours. If the NAR is responsible for their schedule, they should schedule clinical residency hours that are in keeping with the clinical preceptor's schedule and availability - not the NARs schedule or convenience. Prior to beginning the clinical residency, NARs and clinical preceptors need to agree on the days and times that the NAR will be in the clinical agency. The NAR is expected to accommodate participation in the required number of clinical hours specified by the clinical course. All required supervised practice hours must be complete by the end of the semester, or the NAR will be required to make up days at the end of the final rotation and will be in jeopardy of not progressing in the program or failing. NARs are limited to 60 hours per week, averaged over a 4-week period.

Professional Activities:

Attendance at professional meetings is strongly encouraged. However, the clinical site, course instructor, and the Nurse Anesthesiology Faculty must grant prior approval for any missed clinical time.

Unscheduled Absences:

NARs are allowed not more than three of their 10 total days as unscheduled absences during the program. NARs must **call** the clinical site at least **one** hour before their scheduled arrival time when they are ill. **While on rotation, NARs must call the clinical site and notify the clinical course coordinator and program coordinator via email by the end of the day.**

Unscheduled absences must be made up and will be re-scheduled at the discretion of the program administrator and the clinical site. The maximum amount of time to be made-up is 5 days. Uses of time (scheduled and unscheduled absences together) more than 7 days or patterned absences are grounds for dismissal. Documentation of all unscheduled absences will appear in letters of recommendation required by future employers.

Two days will be deducted from NAR's vacation bank for:

1. No call/no shows
2. Calling-in ill at an affiliate clinical site but failing to notify the clinical course chair and program coordinator via email.
3. Unexcused class absences, but failing to notify the program officials of this call-in.

A NAR who calls in as unavailable for clinical on the last day preceding, or the first day following, a scheduled block of days off must bring in a note from a healthcare provider documenting their illness, or documentation of an emergency. In the absence of documentation of absence necessary for health or other reasons, this will be considered an unscheduled absence. NARs are expected to attend certain required events that occur outside of class or clinical time (e.g. graduation, service projects and conferences). Non-attendance will be treated as an unscheduled absence.

If a NAR is to be absent for a scheduled clinical day (due to illness or emergency), the NAR should notify the clinical preceptor prior to the beginning of the clinical day and the Program Coordinator and Program Administrator via email. On the first clinical day, NARs should identify the procedure for contacting the clinical preceptor in case of absence. It is the NAR's responsibility to notify also the clinical supervising faculty of the absence and to negotiate with the clinical preceptor regarding making up time, when possible. If the NAR is not attending clinical as scheduled, the clinical preceptor should notify the Program Faculty coordinator promptly. **NARs are expected to schedule make-up clinical time with the clinical preceptor, consistent with the clinical preceptor's availability/schedule** or the NAR will incur extra clinical time at the end of their final rotation.

A NAR must report critical incidents at an affiliate clinical site to the program administration and faculty clinical coordinator at the time of the occurrence (within 24 hours). Critical incidents include but are not limited to any patient injury, complications, morbidity, or mortality. Furthermore, any non-critical incident concerns about a NAR, clinical preceptor, or clinical matter need to be conveyed to the assigned Faculty clinical coordinator with 48 hours. It is highly recommended that all concerns be documented and communicated to all parties involved at the site as well as to the faculty course chair and the Program Administrator.

OVERVIEW OF CURRENT AFFILIATION SITES

The University of Arizona College of Nursing has contractual agreements with numerous healthcare institutions and facilities throughout Arizona and beyond. These facilities provide the necessary clinical experiences in anesthesia. Any NAR entering the program or after January 2022, the NAR must obtain at least 650 anesthesia cases and 2250 clinical hours to meet COA approval/NBCRNA approval to sit for the national certification exam. Clinical training sites may be added to sites already in use and may serve as complete training sites or may offer specialty training as part of the overall clinical program. These sites represent primary and enrichment clinical sites. NARs will be afforded appropriate input in assignment of sites; however, sites are assigned by the program administrator and are not optional, as they may provide the NAR with required experiences to qualify for certification. A complete updated list of clinical affiliation sites with updated contact information is maintained on the Exxat web site along with web addresses and contact information. NARs are required to access this information at least a month prior to clinical rotation and contact the clinical coordinator for information regarding the rotation to the site.

FACULTY APPOINTMENT

Each anesthesiologist/CRNA serving on the staff or employed by an affiliating hospital is considered an adjunct clinical instructor and may apply for designated campus colleague status.

CRNA clinical faculty must be licensed as a professional nurse in at least one jurisdiction of the United States and must also be certified/re-certified by the Council on Certification/Re-Certification of Nurse Anesthetists. Physician clinical instructors must be licensed in at least one jurisdiction of the United States to practice medicine.

SUPERVISION OF NURSE ANESTHESIOLOGY RESIDENTS (NAR)

Purpose

To establish guidelines for instruction of resident registered nurse anesthesiology residents (RRNA).

Policy

1. NARs will be supervised at a faculty: NAR ratio of 1:1 or 1:2, except where patient safety considerations dictate that this be modified.
 - a. Appropriate faculty includes CRNAs and physician anesthesiologists.
 - b. Graduate Registered Nurse Anesthesiologists or physicians in residency training cannot instruct NARs if they are the sole instructor responsible for the NAR.
2. The instructor will be present in the operating room continuously when NAR is anesthetizing:
 - a. children (less than 12 years of age),
 - b. the most demanding cases: this would include, for example, intracranial, major vascular, cardiovascular, cardiac valve replacement, major intrathoracic cases, unstable patients or those with a complicated intraoperative course, and ASA Physical Status V patients.
 - c. and whenever NAR is performing regional anesthesia procedures.
3. The NAR may be left alone in the operating room while providing an anesthetic at the discretion of the CRNA or physician anesthesiologist. While the NAR is alone the CRNA or Anesthesiologist must be immediately available (within the OR suites, and able to respond immediately if called to the room).
4. NAR – Level I and II
 - a. In Phases I (months 0-3), NARs will be supervised 1:1 (assigned to an OR with a CRNA or physician anesthesiologist who has no other assignment).
 - b. In Phase II, (months 3 and greater) Instructors may leave the operating room for brief periods (breaks, lunches) when assigned with a junior NAR (beginning month 5) provided the patient's medical history and the operative course are uncomplicated.
5. NAR – Level III
 - a. In the last 6 months of their educational program, NARs may be supervised 1:1 or 1:2 by a CRNA or physician anesthesiologist.

- b. The instructor may leave the room for periods dependent on the patient's medical condition, the operative course, and their assessment of the senior's demonstrated knowledge and ability.
6. Supervision outside anesthetizing areas
 - a. NARs may participate in educational activities involving non-anesthetizing duties of a Nurse Anesthetist. These activities may include, but are not limited to, resuscitative services, postoperative rounds, assisting in obtaining intravenous access and respiratory and pain services rotations.
 - b. NARs responding to code or respiratory distress calls are required to do so under the direct supervision of a licensed anesthesia provider who is physically present.

During the other activities listed, CRNAs, physician anesthesiologists, other physicians, or registered nurses may supervise NARs, if those accepting responsibility for supervision of nurse anesthesiology residents are entitled by license, hospital credentialing, or job description to perform these duties.

The decision as to when NARs are experienced enough to be alone during an anesthetic will be made based on the following:

- Complexity of the surgical procedure.
- Medical stability of the individual patient.
- Level of experience (number and types of cases completed). *
- Individual clinical skills. *
- Completion of didactic courses appropriate to the surgical case. *

* This information is available through the NAR's case records, through the clinical coordinator at each site, or by calling the program administrative faculty directly.

CLINICAL EVALUATION TOOLS

Evaluation forms have been created and are utilized by both clinical faculty and NARs. A copy of the evaluation forms can be found in Exxat. Evaluation is not negative; rather, it is an essential assessment of progress toward the achievement of an objective. The NAR will actively seek evaluation from the clinical instructors. These are emailed through Exxat to the clinical preceptor on record for the clinical day to maintain integrity of the evaluation process.

Daily evaluation forms are available in Exxat or from the program. These forms are used by the clinical instructor and shared with the NAR. The completed forms are uploaded to Exxat. Daily, Midterm & final semester evaluation forms are stored in Exxat and available to all clinical instructors. Each clinical site coordinator is asked to complete the Midterm and Final evaluations with input from clinical preceptors. Each NAR is required to make an appointment with their faculty and advised to do the same for clinical site coordinator to discuss their Midterm and Final evaluations, for purposes of evaluation and counseling. Appointments may be made more frequently if necessary.

Clinical Evaluation Steps

1. **Exxat:** Each NAR is required to complete daily case logs. Case logs contain mandatory and optional pre-determined data fields. NARs may view any of their cases or may view their own aggregated case data in a variety of ways, such as by specific class, encounter type or demographic type. Faculty may view specific encounters or aggregate encounter data for any (or all) NARs within their purview. Exxat displays an on-going comparison of aggregate data to the required clinical hours of each specific course; aggregate data can be displayed in spreadsheet or chart format. Faculty use specific and aggregate encounter data to assure that NARs are attaining the clinical practice portion of course objectives. Exxat records help faculty monitor the types of anesthetics, case complexity, ages, and surgeries of clients cared for by the NAR. If the NAR does not see cases appropriate for learning needs (i.e. across the lifespan, complexity not appropriate for the level of the NAR, or the types of diagnoses are too narrow or inappropriate) clinical placements can be adjusted if needed to ensure NARs receive optimal clinical experiences to meet learning needs. These records are to include case logs, hours, conference time and evaluations.
2. **Clinical Competency Daily Formative Evaluation:** The NARs clinical performance is evaluated daily. Either the supervising CRNA or anesthesiologist performs this evaluation. NARs may not be evaluated or supervised by non-certified nurse anesthetists, anesthesia assistants (AAs) or by other medical residents. It is the responsibility of the RRNA to ensure the completion of the evaluation form by the instructor daily. **NARs are required to submit a minimum of 80% of the clinical preceptor and NAR daily self-evaluations by the end of the clinical course. Less than 80% may result in failure for the clinical course.** Clinical preceptors are asked to provide comments on the daily evaluations that are partially satisfactory or unsatisfactory to guide faculty in assessing the need for

remediation. In their senior year, NARs may be able to submit weekly clinical preceptor evaluations/self-evaluations if appropriate and approved by the clinical coordinator and program administrator.

3. **Clinical Residency Summative Evaluation:** NARs will be evaluated by a summative format completed by the faculty clinical coordinator or the program administrator at Midterm and Final evaluations. Performance regarding the clinical objectives will be addressed in these evaluations. This will be utilized as each NAR completes either a required site or an enrichment rotation. Overall score, Clinical Preceptor comments and rotation status will be provided to the NAR during these evaluation meetings.
4. **NAR Evaluation of Clinical Site & Instructors:** At the end of each semester or rotation, NARs will complete evaluations on their clinical rotations and on the clinical instructors at each clinical rotation site. These forms will be stored in Exxat. Comments will be compiled and shared formally with the site at least annually.
5. **NAR Self-Evaluation:** NARs will evaluate themselves per the daily Clinical Competency Daily Evaluation tool.

The evaluation forms are retained in Exxat.

Table for Evaluation Schedule

Evaluation	Daily	Mid-Rotation	End-Rotation
Formative & Summative	FORMATIVE	SUMMATIVE	SUMMATIVE
Clinical Site			X
Preceptor/Site Coordinator	X	X	X
NAR Self Evaluation	X		
End of Semester Self Evaluation			X

Clinical Probation/Dismissal for Nurse Anesthesiology Residents (NAR):

A NAR can be placed on clinical probation or dismissed for:

1. Unacceptable conduct which is incongruent with the rules of conduct while on affiliation at Clinical Sites.
2. Receiving an unfavorable evaluation documenting poor performance that leads to failure to progress, and/or inability to meet the clinical residency objectives as assessed by the clinical and program faculty.
3. Behavior, performance or judgment that jeopardizes patient safety.
4. Inability to display continual mastery of previously mastered clinical skills.
5. Failure to comply with submission of all required documents in accordance with the required deadlines for submission. (i.e. clinical evaluations, postoperative survey forms, professional licensure documentation).
6. Failed criminal background check.
7. Unsuccessful completion of the clinical probationary status; unsatisfactory performance of clinical objectives or poor performance necessitating changes in clinical assignments (including rotations).
8. Falsification of documents including, but not limited to, the patient medical record, narcotic administration records, and clinical evaluation forms (including failure to turn in all daily clinical evaluations, including unfavorable ones).
9. Repeated instances of tardiness, lateness or absenteeism necessitating change in clinical assignments, or patterned absence (i.e. before exams, weekends, holidays, before or after a scheduled use of clinical release time, etc.).
10. Clinical release time is used more than 7 days.
11. Unexplained absence from the clinical area.
12. Leaving the clinical area without notification of supervising staff.
13. Violation of policies, rules and regulations of the hospital or anesthesiology department to which the NAR is assigned for clinical practice.
14. Unethical or unprofessional conduct associated with clinical assignments including, but not limited to:
 1. dishonesty
 2. inappropriate behavior or language in the clinical setting
 3. any violation of the substance abuse policy
 4. reporting for duty while under the influence of any substance which impairs the NAR's ability to perform his/her clinical tasks.
15. Insubordination or threats directed at faculty or clinical instructors.
16. Failure to turn in completed written clinical evaluation forms for at least 80% of assigned clinical days.
17. NAR employed as a CRNA by title or function while in the educational program.
18. Violation of patient confidentiality, such as posting details of care or images of patients publicly, e.g. on social media web sites.

19. Medication errors - if you do not self-disclose within 24 hours; or if the error was deemed very negligent by faculty (not meeting the standard we expect of an RN even prior to anesthesia education).
20. Cheating. Intentionally using or attempting to use, or intentionally providing or attempting to provide, unauthorized materials, information or assistance in any academic exercise.
Examples of cheating are as follows (not inclusive):
 - a. Using the work of another individual on an examination or assignment and submitting it as your own work.
 - b. Using another NAR's electronic devices, to answer questions or provide feedback.
 - c. Permitting another NAR to use your work on an examination or assignment without explicit approval of the instructor.
 - d. Possessing or accessing unauthorized notes, crib sheets, additional sources of information or other material during an examination.
 - e. Providing or receiving unauthorized aid during an examination or prior to a make-up examination.
 - f. Taking an examination for another NAR or having an examination taken by a second party.
 - g. Altering or falsifying examination results after they have been evaluated by the instructor and returned to the NAR.
 - h. Unauthorized possession or use of examinations except examinations returned by professors from previous semesters.
 - i. Collaborating on any assignment or examination without the explicit permission of the instructor.
 - j. Failing to comply with instructions given by the person administering the test.
 - k. Falsifying data, laboratory reports, and/or other academic work offered for credit.
21. Fabrication, fraud and falsification common in the academic and/or clinical environments are as follows (not inclusive):
 - a. Fabrication or falsification of examinations, reports, assignments, case studies and other assigned work.
 - b. Falsification or invention of sources or page references in assignments.
 - c. Falsification or alteration of original source documents, such as misquoting or misrepresenting the document, to support a specific point of view or hypothesis.
 - d. Falsification or fabrication of laboratory results or patient data.
 - e. Falsification of any school or university document including grade reports, transcripts or personnel files.
 - f. Forging signatures of school or university officials on any official document including patient records.
 - g. Providing a false excuse or reason for missing an examination, assignment, a required attendance class or clinical rotation.
 - h. Providing the name or signature of another NAR on an attendance form; signing an attendance form when you are present for only a brief period, e.g., signing in and leaving or signing when you arrive near the end of the class or session.
 - i. Providing false information to an instructor to increase one's grade or to attain special consideration.
 - j. Providing false information regarding contributions to group assignments or projects.
 - k. Misrepresenting facts about oneself or another concerning health, personal, financial or academic considerations to gain an unfair academic or financial benefit.

Nurse Anesthesiology Grievance and Appeals Process

The UA DNP-NA program follows the policies and procedures for discipline and dismissal of the graduate college as stated in this passage on page 7 of the College of Nursing DNP handbook; *"The College of Nursing enforces the University and Graduate College policies on Graduate Academic Standing, Progress and Probation."* The College of Nursing also follows the Graduate College grievance policy. In addition, beyond the graduate college policy and procedures for discipline and dismissal, the College of Nursing DNP handbook also states, *"A resident may be recommended for dismissal from the College of Nursing for unsafe practice and/or unethical conduct in the program without having been previously warned."* Complaints against the University of Arizona DNP-NA Program may be initiated through the Council on Accreditation of Nurse Anesthesia Educational Programs website: <https://coanet.org/>

Clinical Residency Probation Process

To be successful, NARs are expected to meet clinical residency objectives. If NAR performance indicates, "needs improvement" in the first two months of a residency course, this will be monitored by the program faculty and communicated with the NAR and clinical faculty. It will be expected that the NAR obtains "acceptable" performance throughout the last month of the course. If the NAR fails to do so, program faculty may place them on probation. In addition, a clinical probation may be instituted at any time during a clinical course if a NAR exhibits unsafe or "unacceptable" clinical practice or fails to submit the required evaluations or program required documentation of professional licensure.

Clinical residency probation entails a 30-day period. During this time the program faculty will re-evaluate the NAR's

status. NARs will communicate with program faculty and clinical faculty to develop a remediation plan based on their clinical evaluations, clinical faculty feedback and/or program faculty findings. The plan will include strategies for improvement of clinical performance. After the 30-day probation period, the NAR will be re-evaluated by the program faculty to determine if clinical objectives have been met. If they are successful, they will resume their clinical residency at the same level as their peers. Failure to meet clinical objectives at that level will result in dismissal. NARs who have successfully met objectives of a clinical probation period and encounter subsequent performance issues may either be placed on a second 30-day probation period or dismissed from the program, in accordance with College of Nursing policies. If placed on probation, the process described would apply. The limit for all NARs is (2) probationary periods. If performance issues continue to occur after a NAR has successfully completed (2) probationary periods, the NAR would be immediately dismissed.

The clinical site for the probation period will be delineated by program faculty. NARs will not be allowed to take time off (except for sick time) during this period. All sick time off will be made up by adding it to the end of the probationary period.

CLINICAL CASE REQUIREMENTS

For most current requirements, please see COA document Standards for Accreditation of Nurse Anesthesia Education Programs. Current requirements for case numbers and types of cases are available online at: <https://coanet.org/>

Objectives for Specialty Rotations:

Cardiothoracic / Vascular Anesthesia

- Demonstrate knowledge related to cardiovascular and vascular pathophysiology and disease.
- Perform a thorough preanesthetic evaluation of patients undergoing cardiothoracic and vascular procedures.
- Formulate a cogent anesthesia plan of care of patients undergoing cardiothoracic or vascular procedures.
- Performs insertion of invasive monitoring devices utilizing appropriate techniques.
- Demonstrate appropriate preparation and use of anesthetic equipment pertinent to cardiothoracic and vascular procedures.
- Demonstrate knowledge of the pharmacokinetics and pharmacodynamics of the medications used during cardiothoracic and vascular procedures.
- Demonstrate understanding of perioperative care related to the following:
 - Coronary Artery Bypass Grafting (CABG)
 - Cardiopulmonary bypass / extracorporeal circulation
 - One lung ventilation
 - Vascular disease
 - Hemodynamic waveforms
 - Hemostasis
 - Circulatory Arrest
 - IABP / VAD
- Display knowledge related to care of a patient requiring Transesophageal Echocardiogram:
 - Probe insertion
 - Manipulation and views
 - Interpretation
- Demonstrate appropriate pacemakers' parameters including modes of cardiac pacing implanted and cardioverter defibrillator.
- Verbalize understanding of physiology, pathophysiology, and anesthetic considerations for patients undergoing profound hypothermia and circulatory arrest.
- Demonstrate understanding of the anesthetic considerations for organ transplantation procedures including:
 - Cardiac Transplantation (heterotopic and orthotopic)
 - Pulmonary Transplantation (single, double, en bloc endotracheal tubes)
 - Heart-lung Transplantation
- Demonstrate knowledge of indicated postoperative care of the patient undergoing cardiothoracic /vascular procedures.

Pediatric Anesthesia

- Demonstrate knowledge of pediatric physiology and pathophysiology related to perioperative care of the pediatric and neonatal patient.
- Discuss age-specific issues related to growth and development of the pediatric and neonatal population.
- Display fund of knowledge related to pharmacodynamic and pharmacokinetic principles in the pediatric and/or neonatal patient.
- Demonstrate knowledge of anesthesia and monitoring equipment related to the pediatric and neonatal population.
- Perform an age-specific, accurate and thorough preanesthetic evaluation, including chart review and patient history/physical examination.
- Display knowledge of pediatric and neonatal NPO guidelines.
- Compare and contrast differences between adult, pediatric, and neonatal airways.
- Demonstrate technical competency related to airway management of the pediatric and neonatal patient.
- Demonstrate appropriate management of pediatric and neonatal patients with difficult airways.
- Formulate and execute an appropriate, cogent, patient-specific anesthesia plan including:
 - Preoperative preparation
 - Induction, maintenance, emergence and postoperative care
 - Perioperative fluid requirements (e.g. EBV, MABL, transfusion requirements, etc.)
 - Management of mechanical ventilation
 - Perioperative pain management
- Apply and utilize both invasive and noninvasive monitoring modalities according to patient needs and type of surgery.
- Utilize regional anesthesia techniques according to patient needs and type of surgery.
- Describe anesthetic considerations related to perioperative thermal regulation in the pediatric and neonatal patient.
- Effectively manage pediatric/neonatal patients undergoing procedures outside of the operating room.
- Explain guidelines for pediatric outpatient anesthesia.
- Demonstrate fundamental knowledge regarding pathophysiology and perioperative care of the pediatric and/or neonate related to:
 - Prematurity/Ex-prematurity
 - Trisomy 21
 - Congenital heart disease
 - Diaphragmatic hernia
 - Necrotizing enterocolitis
 - Gastroschisis/omphalocele
 - Respiratory Distress Syndrome
 - Myelomeningocele
 - Pyloric stenosis
 - Transesophageal (TE) fistula
 - Neonatal lobar emphysema Cleft palate/lip
 - Croup
 - Epiglottitis
 - Tonsillar and adenoidal hypertrophy/tonsillitis
 - Asthma
 - Upper respiratory infection (URI)
 - Otitis media
 - Obesity/obstructive sleep apnea
 - Brain tumor/pathology
 - Trauma

Neurosurgical Anesthesia

- Demonstrate knowledge of neuroanatomy, neurophysiology, neuropathophysiology, and neuropharmacology.
- Verbalizing understanding of physiology and anesthesia effects on the following:
 - Cerebral blood flow (CBF).
 - Cerebral metabolism.
 - Intracranial pressure (ICP).
 - Cerebral spinal fluid production.
 - Blood-brain barrier.
 - Cerebral autoregulation.

- Describe the utilization of, and anesthetic effect on, evoked potential monitoring modalities.
- Perform an appropriate preanesthetic evaluation of a neurosurgical patient
- Discuss the impact of co-existing disease on cerebral physiology.
- Describe perioperative anesthetic management of the following related to the neurosurgical patient:
 - Induction
 - Positioning
 - Fluid management
 - Emergence
 - Post-op pain management
 - Intracranial hypertension
- Demonstrate comprehension of special neuroanesthesia concerns:
 - Detection and management of venous air embolism
 - Management of perioperative cerebral edema
 - Modifications for MRI suites
 - Lumbar drains
 - SjO₂ monitoring
 - Develop anesthesia plans for the following neurosurgical procedures:
 - Aneurysm clipping
 - Arteriovenous malformation excision.
 - Mass / tumor resection.
 - Shunts (ventriculo-peritoneal, ventriculoarterial, ventriculopleural, etc.).
 - Subdural, epidural, and intracerebral hemorrhage.
 - Transsphenoidal hypophysectomy.
 - Acute / traumatic brain and spinal cord injury.
 - Spinal
 - Neuroradiologic / stereotactic
 - CNS stimulation devices (e.g. deep brain, vagal nerve, dorsal column).

Obstetrical / Gynecological Anesthesia

- Demonstrate knowledge of physiological adaptations during pregnancy and its effect on the administration of anesthesia.
- Perform an accurate preanesthetic evaluation of the parturient.
- Discuss various stages of labor, including pain fiber pathways.
- Diagram fetal-placental circulation.
- Describe the blood-placental barrier and its effects on placental transfer of drugs and other substances.
- Outline the effects of anesthetic agents and adjuvant drugs on the fetus.
- Perform an accurate Apgar score assessment of the neonate.
- Demonstrate competence in the preanesthetic evaluation of the fetus by recognizing normal and abnormal fetal monitoring patterns and identify meaningful changes.
- Describe etiology of fetal distress including:
 - Uteroplacental insufficiency
 - Cord compression
 - Prematurity
 - Rh incompatibility
- Demonstrate competence in interventions for treatment of fetal bradycardia.
- Discuss the pharmacodynamics and pharmacokinetics for various drugs used in the treatment of the parturient including:
 - local anesthetic agents
 - tocolytic agents
 - steroids
 - magnesium sulfate
 - antihypertensives
 - oxytocin
 - prostaglandins
- Recognize and manage aortocaval compression
- Identify the Friedman curve and compare the effects of various methods of labor analgesia.

- Demonstrate the ability to plan for and implement pain management techniques for active labor and delivery.
- Demonstrate the ability to evaluate and manage the anesthetic care of the obstetric patient undergoing non-obstetric surgical procedures.
- Demonstrate ability to plan for and implement as necessary, regional and/or general anesthesia for both elective and emergent Cesarean deliveries, while identifying possible complications of the various techniques and their treatment.
- Discuss the effects of various analgesia/anesthesia techniques, including pharmacologic agents, on the progress of labor and method of delivery.
- Inhalation analgesia
- General anesthesia
- Regional techniques:
 - Paracervical block
 - Caudal
 - Epidural
 - Combined spinal-epidural technique
 - Subarachnoid block
 - Parenteral medications
- Explain changes from fetal to neonatal circulation and describe normal respiratory parameters.
- Demonstrate ability to plan and implement resuscitative measures for newborn emergencies including:
 - meconium aspiration
 - respiratory distress
 - cardiac insufficiency
 - metabolic disturbance
- Interpret the results of fetal scalp and/or umbilical blood sampling.
- Discuss anesthetic management and complications for the following:
 - fetal malpresentation
 - shoulder dystocia
 - multiple gestation births
 - advanced maternal age
 - antepartum and postpartum hemorrhage
 - placenta previa
 - placental abruption
 - uterine rupture (including VBAC)
 - vasa previa
 - uterine atony
 - genital trauma
 - retained placenta
 - placenta accreta, increta, and percreta uterine division
 - fetal distress
 - pregnancy-induced hypertension
 - pre-eclampsia
 - eclampsia
 - HELLP syndrome
 - gestational diabetes mellitus
 - Maternal infections (e.g. HIV, herpes, group _ Streptococci, hepatitis, STDs)
 - neuromuscular disorders
 - cardiac disease / congenital heart defects
 - obesity / pulmonary hypertension
 - amniotic fluid embolus pregnancy-induced hypertension
 - pre-eclampsia
 - eclampsia
 - HELLP syndrome
 - gestational diabetes mellitus
 - Maternal infections (e.g. HIV, herpes, group Streptococci, hepatitis, STDs)
 - neuromuscular disorders
 - cardiac disease / congenital heart defects
 - obesity / pulmonary hypertension
 - amniotic fluid embolus
 - hemostatic disorders