

CRNAs: We Are the Answer

As advanced practice nurses, Certified Registered Nurse Anesthetists (also recognized by the titles CRNA, nurse anesthetist, Certified Registered Nurse Anesthesiologist, and nurse anesthesiologist) are proud to be part of America's most trusted profession. Patients who require anesthesia for surgery, labor and delivery, emergency care, or pain management know they can count on a CRNA to stay with them throughout their procedure, advocate on their behalf, and provide high-quality, patient-centered care. Likewise, healthcare facilities depend on CRNAs to serve the most patients for the least cost; deliver quality care to rural and other medically underserved areas; and positively impact the nation's growing healthcare cost crisis. CRNAs are the answer to achieving a safer healthcare environment and more cost-efficient healthcare economy. This document was prepared by the American Association of Nurse Anesthetists (AANA) on behalf of its over 57,000 members and the patients they serve to define the increasing role and value of CRNAs and provide an accurate description of anesthesia practice in today's U.S. healthcare system.

Looking Back

Nurse anesthetists have been the backbone of anesthesia delivery in the United States since the American Civil War. The first U.S. healthcare providers to specialize in anesthesiology, these pioneering nurses introduced a grateful public to a world of previously unimagined healthcare possibilities. Since the late 1800s, anesthesiology has been recognized as the practice of nursing; it wasn't until nearly 50 years later that physicians entered the field and anesthesiology also gained recognition as the practice of medicine. Over the years, despite numerous legal challenges by organized medicine, the courts have consistently upheld the doctrine of anesthesiology as nursing practice. For a timeline of nurse anesthesia history, see <https://www.aana.com/history>.

Provider Types

CRNAs and physician anesthesiologists are the predominant anesthesia professionals in the United States. Another anesthesia provider type is anesthesiologist assistants (AAs). Anesthesiologist Assistants serve as assistants to physician anesthesiologists, and by law can only practice under the direct supervision of a physician anesthesiologist.

Anesthesia services are provided the same way by nurses and physicians; in other words, when anesthesia is provided by a CRNA or by a physician anesthesiologist, it is impossible to tell the difference between them. Both CRNAs and physician anesthesiologists provide anesthesia for the same types of surgical and other procedures, in the same types of facilities, for patients young to old; one provider type is not required over the other in any given situation. In fact, most of the hands-on anesthesia patient care in the United States is delivered by CRNAs. Yet, while CRNAs are not required by federal or state law to work with physician anesthesiologists (except in New Jersey, which requires CRNAs to enter into a joint protocol with a physician anesthesiologist), in many healthcare settings CRNAs and physician anesthesiologists work together to provide quality patient care. Landmark research, however, has confirmed that anesthesia is equally safe regardless of whether it is provided by a CRNA working solo, a physician anesthesiologist working solo, or a CRNA and physician anesthesiologist working together (see <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2008.0966>).

The practice of anesthesiology for CRNAs and physician anesthesiologists includes, but is not limited to, the following:

- Patient care before, during and after surgery
- Patient care before, during and after labor and delivery

- Diagnostic and therapeutic procedures
- Trauma stabilization and critical care interventions
- Acute and chronic pain management

These skills and responsibilities fall within the scope of practice of both CRNAs and physician anesthesiologists, regardless of credentials (see <https://www.aana.com/crnaqualifications>).

Education

The preparation of CRNAs for practice enables them to provide every type of anesthesia-related service and anesthetic drug, practice in every type of setting and participate in every type of procedure where anesthesia is required, and handle emergency situations. Because of their extensive knowledge base and robust clinical experience prior to becoming a CRNA, these anesthesia experts are well-equipped to have an immediate impact as healthcare professionals upon graduation.

The nursing- and anesthesiology-focused education and training required to become a CRNA is extensive and in many ways similar to the education and training of a physician anesthesiologist. It takes 7-8 ^{1/2} years of coursework and clinical hours for a student registered nurse anesthetist (also known as SRNA, nurse anesthesia resident, nurse anesthesiology resident) to attain a master's or doctoral degree in nurse anesthesia; during that time the SRNA will, on average, amass nearly 9,400 hours of clinical experience.

To be accepted into a nurse anesthesia educational program, an applicant must attain a minimum of one year of experience as a registered nurse in a critical care setting within the United States, its territories, or a U.S. military hospital outside of the United States. However, the average experience of RNs entering nurse anesthesia educational programs is 2.9 years. CRNAs are the only anesthesia professionals required to attain clinical experience prior to entering an educational program.

All CRNAs are board certified, while only 75 percent of physician anesthesiologists are board certified, according to the Anesthesia Quality Institute (AQI) report titled **Anesthesia in the United States 2013**.

The medical- and anesthesiology-focused education and training required to become a physician anesthesiologist is also extensive and not unlike the education and training of a CRNA. It takes approximately 8 years of medical- and anesthesiology-focused education and training to attain a degree as a physician specializing in anesthesiology prior to sitting for the medical board examination—roughly the same amount of time it takes to become a CRNA. Anesthesiology residents graduate with approximately 12,120 hours of clinical experience, not significantly more than the number attained by CRNAs during their education and training.

However, the American Society of Anesthesiologists (ASA) inflates years of schooling to 12-14 by including a four-year bachelor's degree attained prior to entering medical school, and a post-residency fellowship in an anesthesiology subspecialty such as chronic pain management, which many physician anesthesiologists do not pursue. The bachelor's degree is typically not healthcare-focused. The ASA also inflates the number of clinical hours attained by residents to approximately 14,000-16,000, which is 2,000-4,000 hours more than the actual number of 12,120. An important difference between clinical education hours attributed to nurse anesthesia students and anesthesiology residents is that the hours claimed by SRNAs are those actually spent providing patient care, while the hours claimed by anesthesiology residents are all hours spent in the facility, including those hours not involved in patient care. (See <https://www.aana.com/journalonline> for a comparison of CRNA and physician anesthesiologist education and training.)

The education and training of an AA lags far behind that of CRNAs and physician anesthesiologists, hence the “assistant” title. It only takes two years of anesthesiology-focused education and approximately 2,500 hours of clinical training to attain a master’s degree as an AA prior to sitting for the certification examination. Unlike CRNAs, but exactly like physician anesthesiologists, AAs are not required to have any patient care experience before applying to an AA program. (For more information, see (<https://www.aana.com/aatoolkit>.)

Barrier to SRNA Education

An increasingly common barrier to CRNA practice created by physician anesthesiologists is intended to impede SRNA preparation by limiting their access to clinical training sites and procedures. Other restrictive measures that have specifically resulted from the ASA’s 2018 publication of its amended Anesthesia Care Team (ACT) Statement include facilities requiring restrictive 1:1 CRNA-to-student-nurse anesthetist supervision ratios that prevent CRNAs from leaving the operating room to allow students the ability to develop independently. The ASA’s stated rationale is to protect employment opportunities for physician anesthesiologists. In the AANA’s view, this sort of blatant protectionism is, at a minimum, unethical. All anesthesia students should be afforded the required clinical training opportunities necessary to become fully prepared for entry into practice. Patients depend on this.

Licensure

CRNAs are licensed by the states and authorized by law and regulation to practice nurse anesthesia in all 50 states and the District of Columbia; they are the only independently licensed practitioners required to be board certified to practice. Physician anesthesiologists are licensed by the states and authorized by law and regulation to practice anesthesiology in all 50 states and the District of Columbia; however, they are not required to be board certified. Unlike CRNAs or physician anesthesiologists, AAs are not licensed to practice independently in any state. Due to this limitation, AAs do not help improve patient access to surgical, labor and delivery, and emergency care; however, they do increase costs for anesthesia services paid by facilities and patients due to two anesthesia providers needing to be involved in the care of a single patient.

Anesthesia Delivery Models

There are four CRNA/physician anesthesiologist anesthesia delivery models commonly used by healthcare facilities in the United States: CRNA-only; physician anesthesiologist supervision of CRNAs; physician anesthesiologist direction of CRNAs; and physician anesthesiologist-only (see <https://www.aana.com/PracticeModels>). Despite the variety of anesthesia delivery models, CRNAs are not required by federal or state laws (except in New Jersey as noted earlier) to be supervised or directed by, or even work with, a physician anesthesiologist.

For AAs, there is only one anesthesia delivery model: medical direction by a physician anesthesiologist.

While a healthcare facility cannot employ an AA without also employing a costly physician anesthesiologist who earns nearly three times as much as an AA or CRNA, a facility can employ a CRNA in place of both, thereby ensuring quality patient care is delivered and the facility’s bottom line is favorably impacted.

CRNA-only Model

In this model, the CRNA is the sole anesthesia provider. The CRNA-only model may vary by state. In some states, CRNAs work without physician supervision; in other states, they are required to be supervised by a physician. The physician could be, but is not required to be, a physician anesthesiologist. Often the supervising physician is a surgeon or other proceduralist.

Currently, there are 17 states that have no physician supervision requirement for CRNAs whatsoever, meaning these states have opted out of the federal Medicare physician supervision requirement for CRNAs. Without any burdensome supervision requirement for CRNAs, healthcare facilities in these states can structure and staff their anesthesia departments to function as efficiently, cost-effectively, and safely as possible. Physician supervision of CRNAs is not and never has been a matter of patient safety. Its requirement has always been tied to the ability of a facility to receive reimbursement from the Centers for Medicare & Medicaid Services (CMS) for anesthesia care provided to Medicare patients.

Physician Supervision of CRNAs

Medical supervision is a billing term under Medicare which pertains to when one physician anesthesiologist oversees more than four CRNAs (or AAs) concurrently administering anesthesia to patients undergoing surgical or other procedures. In this model, the physician anesthesiologist doesn't provide hands-on care, but is available in case he/she is needed to assist in any of the concurrent cases. Research has confirmed that patient safety is not enhanced by this anesthesia delivery model, and that the cost of having a physician anesthesiologist available "just in case" is often greater than the cost of adding two additional CRNAs to the anesthesia department (see <http://www.lewin.com/content/dam/Lewin/Resources/AANA-CEA-May2016.pdf>).

Physician Anesthesiologist Direction of CRNAs

Medical direction is a billing term under Medicare which pertains to when a physician anesthesiologist directs the anesthesia care of up to four CRNAs (or AAs) providing anesthesia for four different cases concurrently; however, for medical direction to be achieved legally and the physician anesthesiologist to be compensated, the physician anesthesiologist must meet seven requirements of the Tax Equity and Fiscal Responsibility Act of 1982, Pub. L. 97-248 (TEFRA) for each case. For obvious reasons, medical direction, with its TEFRA requirements, is the model in which physician anesthesiologist billing fraud occurs most frequently. It is virtually impossible for a physician anesthesiologist to meet the seven TEFRA requirements in concurrent cases (regardless of whether there are two, three or four concurrent cases) without significant delays occurring in each of the cases as the physician anesthesiologist moves from room to room. In 2012, research by Epstein et al and published in the journal *Anesthesiology* examined this problem relative to delayed case starts (see <https://www.ncbi.nlm.nih.gov/pubmed/22297567>).

Aside from the potential for fraudulent billing practices, in most scenarios medical direction comes at an increased cost to the facility of at least one physician anesthesiologist for every four CRNAs. This translates to more than \$1 million per year for an average-sized U.S. hospital with four operating rooms. The increased cost of the medical direction model is generally not sustainable, and typically the hospital subsidizes the anesthesia department to cover the cost which is then passed on to consumers of the hospital's services. (Massie, M. [2017]. *Determinants of Hospital Administrators' Choice of Anesthesia Practice Model* [Doctoral dissertation]. Retrieved from ProQuest Dissertation and Theses. [Accession Order No. 11669]. MB)

Physician Anesthesiologist-only Model

In this model, the physician anesthesiologist is the sole anesthesia provider. The physician anesthesiologist provides hands-on patient care and stays with the patient throughout the procedure—exactly the way a CRNA functions all the time whether working solo or with a physician anesthesiologist. The physician anesthesiologist-only model is the least commonly used delivery model in the United States. While it is more economical than the medical-direction and medical-supervision models, research has confirmed that it is far less cost-effective and no safer than the CRNA-only model (see <http://www.lewin.com/content/dam/Lewin/Resources/AANA-CEA-May2016.pdf>).

Military

Nurses first gave anesthesia to wounded soldiers on the battlefields of the American Civil War; now, more than 150 years later, service members in all branches of the U.S Armed Forces rely on independently practicing CRNAs for anesthesia care, especially on the front lines of American military actions around the world. In these austere settings where physician anesthesiologists are rarely deployed, CRNAs typically are the sole anesthesia professionals caring for U.S. service men and women.

Research

Since 2000, numerous published research studies have confirmed the safety and quality of care provided by CRNAs and that CRNAs are the most cost-effective anesthesia providers by a wide margin. One such study, conducted by the Research Triangle Institute (RTI) and published in the August 2010 issue of Health Affairs, determined that anesthesia care is equally safe when delivered by a CRNA working solo, a CRNA supervised by a physician anesthesiologist, or a physician anesthesiologist working solo. In fact, the RTI study showed that a CRNA working solo is actually the safest scenario, although the data supporting that conclusion was not statistically significant. Another study published in the May/June 2010 issue of Nursing Economic\$ and updated in May 2016 showed that a CRNA working solo is 25 percent more cost effective than the next most cost-effective anesthesia delivery model (see <http://www.future-of-anesthesia-care-today.com/research.php>).

Liability and Compliance

For a multitude of reasons, facility administrators are wise to build their anesthesia departments around CRNAs. Peer-reviewed research has confirmed numerous times the safety record of these highly qualified anesthesia experts; other studies have demonstrated that a CRNA working solo is by far the most cost-effective anesthesia delivery model. Another CRNA value proposition is what they don't bring to the table, such as increased surgeon liability and Medicare fraud.

Surgeon Liability

The misconception that surgeons and other proceduralists assume increased liability when working with CRNAs persists to this day despite nearly four decades of court precedent to the contrary. In reality, surgeon liability is directly related to how much, if any, control they exert on the anesthesia process that may result in an adverse outcome, regardless of the degree or title held by the anesthesia providers they work with (see <https://www.aana.com/surgeonliability>.)

Physician Anesthesiologists, TEFRA Compliance, and Fraud

As noted earlier, for a physician anesthesiologist to be reimbursed for cases in which he/she does not personally perform the anesthesia but instead medically directs up to four CRNAs providing anesthesia in separate cases concurrently, the physician anesthesiologist must personally meet the seven requirements of the TEFRA Act for each case. As demonstrated by the research of Epstein et al (2012), TEFRA compliance is exceedingly difficult for two or more concurrent cases. This study strongly suggests that physician anesthesiologists often commit Medicare billing fraud when medically directing multiple CRNAs providing patient care concurrently (see <https://www.ncbi.nlm.nih.gov/pubmed/22297567>). Facility administrators are wise to evaluate the risk/reward of running an anesthesia department based on the unrealistic, costly medical direction model, as it presents an easy target for regulators.

Cost Containment

Overcompensation of Physician Anesthesiologists

The current trend toward transparency in healthcare delivery costs has created significant opportunity for facility administrators, anesthesia companies, billers, and other stakeholders to take a closer look at various anesthesia delivery options to identify cost savings. According to the 2016 Medical Group Management Association (MGMA) provider compensation report, physician anesthesiologists' median total compensation package nationally was \$453,687 per year as opposed to CRNAs at \$172,000. MGMA further determined that a cost savings of 62 percent can prevent facility closure and maintain community access to care. By carefully examining overcompensation of physician anesthesiologists for services that can be provided as safely and more cost-effectively by CRNAs, a substantial portion of this percentage can be realized.

Tearing Down Barriers to CRNA Practice

To assist in improving access to healthcare across the United States, the National Academy of Medicine (formerly known as the Institute of Medicine) stated in its 2010 landmark report *The Future of Nursing* that "advanced practice registered nurses (APRNs) should be able to practice to the full extent of their education and training" (see <http://www.academicprogression.org/about/future-of-nursing.shtml>). However, regulatory barriers continue to exist, preventing CRNAs from attaining full scope of practice and increased reimbursement. In 2018, a report published by the U.S. Department of Health and Human Services (HHS) identified barriers to market competition at the federal and state levels that stifle innovation in healthcare cost containment delivery solutions. These barriers create higher prices and disincentivize administrators and providers who might otherwise seek to enhance healthcare quality. One of the report's main recommendations is to encourage policies that allow healthcare professionals to practice to their full scope to ensure workforce mobility and increase access to care while solving economic challenges without impacting value or safety (see <https://www.hhs.gov/about/news/2018/12/03/reforming-americas-healthcare-system-through-choice-and-competition.html>).

The Federal Trade Commission (FTC) weighs in on cases where APRN scope of practice has been restricted and patients' ability to receive care from the providers of their choice has been limited. Anticompetitive legislation and regulation proposed by the medical community, and especially physician anesthesiologists, to protect their turf and compensation at the expense of their patients' best interests is becoming commonplace.

Conclusion

For more than 150 years, CRNAs have fulfilled a highly valued role in the U.S. healthcare system. Today, CRNAs help ensure patient access to proven safe, high-quality, cost-effective anesthesia and related services, meeting the needs of countless healthcare facilities and the communities they serve across the country. Going forward, CRNAs will continue to be the answer to achieving a safer healthcare environment and more cost-efficient healthcare economy.