



## Get to Know a CRNA: *Certified Registered Nurse Anesthetists Deliver Quality Anesthesia Care*

Texas has more than 4,500 Certified Registered Nurse Anesthetists (CRNAs), whose education, certification and clinical experience has positively impacted our state through the practice of cost-effective, high-quality anesthesia care to Texans.

### **CRNAs have provided quality, cost effective anesthesia care for more than 150 years.**

- The first anesthesia specialists were nurses who began providing anesthesia during the American Civil War; physicians did not begin specializing in anesthesia until decades later.
- CRNAs are qualified to practice independently of an anesthesiologist, provide the full range of anesthesia care, and administer all types of anesthesia.
- Studies show standard of care and patient outcomes are the same whether anesthesia is provided by a CRNA working alone, a CRNA working with an anesthesiologist, or an anesthesiologist working alone.

### **CRNAs provide access to essential health care services.**

- CRNAs administer more than 45 million anesthetics to patients in the United States each year.
- Nurse anesthetists are the sole anesthesia providers in the majority of rural Texas counties.
- The majority of rural Texas hospitals rely solely on anesthesia delivered by CRNAs to ensure the provision of obstetrical, surgical, and trauma stabilization services.

### **CRNAs are highly educated, well-trained Advanced Practice Registered Nurses (APRNs).**

- Specialty anesthesia education for CRNAs is provided at 121 accredited programs throughout the United States, and each program offers a master's or doctoral degree.
- Texas is home to five nurse anesthesia educational programs<sup>1</sup>.
- A minimum of seven years of higher education and training is involved in the preparation of a CRNA.
- Military CRNAs continue to be the primary anesthesia providers in all theaters of operation.
- All nurse anesthetists must pass the National Certification Exam, and CRNAs are the **only** licensed anesthesia providers who **must** be board certified in anesthesia to practice.

The Texas Association of Nurse Anesthetists (TxANA) membership includes nearly 4,000 CRNAs in Texas. As the statewide professional association for CRNAs, TxANA remains focused on advancing the CRNA profession, ensuring patient access to high-quality anesthesia care and educating the public about the importance of CRNAs in our health care system. Learn more at [www.txana.org](http://www.txana.org).

*Texas Association of Nurse Anesthetists: Advancing patient safety and the profession of nurse anesthesia.*

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## References

Michael Pine, MD, analyzed 404,194 cases in 22 states involving 8 types of common surgical procedures, and compared anesthesia mortality rates when the anesthesia was provided by a CRNA working alone, by a CRNA working with an anesthesiologist, or by an anesthesiologist working alone. When adjusted for risk, the authors concluded there was no difference among the three groups. [Source: Pine M, Holt, KD Lou, Y (2003). Surgical mortality and type of anesthesia provider. American Association of Nurse Anesthetists Journal, 71, 109 – 116.]

The practice of anesthesia has become safer in recent years due to improvements in pharmacological agents and the introduction of sophisticated technology. Recent studies have shown a dramatic reduction in anesthesia mortality rate to approximately 1 per 250,000 anesthetics. In 1990, the Centers for Disease Control (CDC) intended to conduct a research study on morbidity and mortality in anesthesia. Following a review of the anesthesia data, the CDC concluded that morbidity and mortality in anesthesia was too low to warrant the study.

In administering more than 45 million of the anesthetics given annually in the United States, CRNAs have compiled an enviable safety record. Research for the past 28 years supports the competence of nurse anesthetists.

1. A study concerning the ability of anesthesia provider model and hospital resources to explain maternal outcome variation, *“Hospitals that use only CRNAs, or a combination of CRNAs and anesthesiologists, do not have systematically poorer maternal outcomes compared with hospitals using anesthesiologist-only models.”* See *“Anesthesia Provider Model, Hospital Resources, and Maternal Outcomes”*, Jack Needleman and Ann F. Minnick.
2. A study conducted in 2016, titled *“Scope of Practice Laws and Anesthesia Complications: No Measurable Impact of Certified Registered Nurse Anesthetist Expanded Scope of Practice on Anesthesia-related Complications”*, concluded that there is *“virtually no evidence that the odds of complications differ by SOP or delivery model.”*
3. A recent study in 2010, titled *“Is There a Shortage of Anesthesia Providers in the United States”*, found that the United States is experiencing a shortage of anesthesia professionals and that this shortage will persist through 2020 and perhaps beyond.
4. According to a study in 2010, titled *“Cost Effectiveness Analysis of Anesthesia Providers”* conducted by The Lewin Group and published in the journal *Nursing Economic\$*, *“Quality of care by anesthesia providers is excellent. The incidence of adverse anesthesia-related complications and anesthesia related mortality rates is very low. Our review of the literature revealed no studies that demonstrated a significant difference between CRNAs and anesthesiologists or differences between anesthesia delivery models in rates of anesthesia complications or mortality after controlling for hospital and patient factors.”*
5. According to a study, in 2010, titled *“No Harm Found When Nurse Anesthetists Work Without Supervision By Physicians”*, *“We recommend that CMS (Centers for Medicare and Medicaid Services) return to its original intention of allowing nurse anesthetists to work independently of surgeon or anesthesiologist supervision without requiring state governments to formally petition for an exemption. This would free surgeons from the legal responsibility for anesthesia services provided by other professionals. It would also lead to more-cost-effective care as the solo practice of certified registered nurse anesthetists increases.”*

## Additional References

Smith et al., conducted a systematic search for, and critical appraisal of, primary research comparing safety and effectiveness of different anesthetic providers. Here is a notable quote from the article, which compares the literature (including the Silber and Pine studies) on relative safety of the two providers: *“We have found no recent, high-level evidence that there are significant differences in safety between different anesthesia providers.”* [Source: A.F. Smith, M. Kane, and R. Milne (2004). Comparative effectiveness and safety of physician and nurse anesthetists: a narrative systematic review. British Journal of Anesthesia, 93, 4, 540-545.]

Estimates of potential annual cost savings are based on estimates on cost of education for anesthesia providers and statistics on average salaries.

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<sup>i</sup> Locations: Army Center Program for Anesthesia Nursing; Baylor College of Medicine - Graduate Program in Nurse Anesthesia; Texas Christian University School of Nurse Anesthesia; Texas Wesleyan University, Graduate School of Nurse Anesthesia; and University of Texas - Houston Health Sciences Center, School of Nurse Anesthesia.