The Certified Registered Nurse Anesthetist

Susan Davis, CRNA, DNP, MSN, MS,

The Profession Of Nurse Anesthesia At A Glance

- Nurses first provided anesthesia to wounded soldiers during the Civil War
- Credentialing

The CRNA Versus the MDA

- When anesthesia is administered by a nurse anesthetist it is recognized as the practice of nursing; when administered by an anesthesiologist it is recognized as the practice of medicine

- **REGARDLESS OF THE EDUCATIONAL BACKGROUND ALL ANESTHESIA PROFESSIONALS GIVE ANESTHESIA THE SAME WAY.**

The Profession Of Nurse Anesthesia At A Glance

- CRNAs are advanced practice nurses
- Nurse anesthetists are the first nursing specialty to be accorded direct reimbursement rights under the Medicare program

Nurse Anesthesia Education

- There are 160 nurse anesthesia programs in the United States
- The programs range from 36 to 51 months
- The classroom curriculum (didactic)
- The clinical component
- As of 2025 the entry level will be at the Doctoral level

Education and Experience Required To Become a CRNA

- Bachelor of Science in Nursing (BSN) or other appropriate Baccalaureate degree
- A current license as a Registered Nurse
- At least two years of experience in a critical care setting
- Graduation from an accredited nurse anesthesia program

CRNA CREDENTIALING

- Initial Certification Examination following graduation
- CPC Reassessment Examination every 8 years.
- 100 Continuing Education Credits during 4 year period

  60 Class A- testing

  40 Class B- education, service, mentoring, publishing articles, chapters, books, lecturing
- 4 Core Modules in a 4 year cycle
  - Physiology
  - Pharmacology
  - Anesthesia Technology
  - Airway Management

The Profession Of Nurse Anesthesia At A Glance

CRNAs practice in every setting in which anesthesia is delivered:

- Traditional hospital surgical suites
- “OUT OF OR” SETTINGS: ER, GI Suites, Interventional Radiology, Interventional Cardiology and catherization labs
- Obstetrical delivery rooms
- Critical access hospitals
- Ambulatory surgical centers
- Offices of dentists, podiatrists, ophthalmologists, plastic surgeons, and pain management specialists; and U.S. Military Public Health Services and Veterans Affairs Healthcare Facilities

The Profession of Nurse Anesthesia At A Glance

Nurse anesthetists have been the main providers of anesthesia care to U.S. Military men and women on the front lines since WWI

The Profession Of Nurse Anesthesia At A Glance

- CRNAs provide anesthesia in collaboration with surgeons, anesthesiologists, dentists, podiatrists, and other qualified healthcare professionals

- Nurse anesthetists are the sole anesthesia providers in two thirds of all rural hospitals in the United States

What Is The Role Of An Individual CRNA

A CRNA takes care of a patient's anesthesia needs before, during and after surgery or the delivery of an infant by:

Preparing for anesthetic management
Performing a physical assessment
Participating in preoperative teaching
Administering anesthesia to keep patients pain free
Maintain anesthesia intra-operatively
Overseeing post anesthesia recovery from anesthesia
Following the patient's postoperative course from the post anesthesia care unit to patient discharge from anesthesia

What Exactly is Anesthesia?

Anesthesia is the loss of consciousness or sensation induced by anesthetic

How Is Anesthesia Administered?

- There are several anesthetic techniques that can be utilized to render a patient unconscious and/or without sensation
  - GENERAL ANESTHESIA
  - REGIONAL ANESTHESIA
  - MONITORED ANESTHETIC CARE

Selection Of Anesthetic Technique

- The anesthetic technique is determined by several factors that include:

Co-existing diseases that may or may not be related to the reason for the surgery

Site of surgery

Body position of patient during surgery

Elective or emergency surgery

Preference of patient

Ability to communicate with patient

General Anesthesia

General anesthesia is the anesthetic technique that renders the patient **UNCONSCIOUS (WITHOUT AWARENESS**) for a procedure

General Anesthesia

There are four general anesthesia techniques:

- Mask
- Endotracheal intubation
- Laryngeal mask airway
- TIVA (Total Intravenous Anesthesia)

Regional Anesthesia

- Regional anesthesia is the administration of an anesthetic to render an area of the body without sensation
- Regional anesthesia, unlike general anesthesia, does not render the patient **UNCONSCIOUS AND/OR UNAWARE**.
- Regional anesthesia is desirable when it is important to maintain the upper airway reflexes and/or provide postoperative pain control

Regional Anesthesia

There are multiple techniques to administer regional anesthesia that include:

- Spinal
- Epidural
- Intravenous Regional Anesthesia
- Caudal
- Peripheral Nerve Blocks

  Superficial Cervical, Interscalene, Supraclavicular, Axillary,

  Femoral, Adductor Canal, Popiteal, Ankle

Monitored Anesthetic Care (MAC)

- Monitored anesthetic care is the administration of intravenous medications to provide sedation during a procedure
- Monitored anesthetic care like regional anesthesia does not render the patient **UNCONSCIOUS AND/OR UNAWARE.**

Anesthesia Preparation

- Room Set Up
  - Anesthesia Machine Check
    - Oxygen
    - Circuit
    - Anesthetic Gasses
    - Safety Alarms
    - Ventilator
    - Suction

Anesthesia Preparation

Anesthesia Preparation

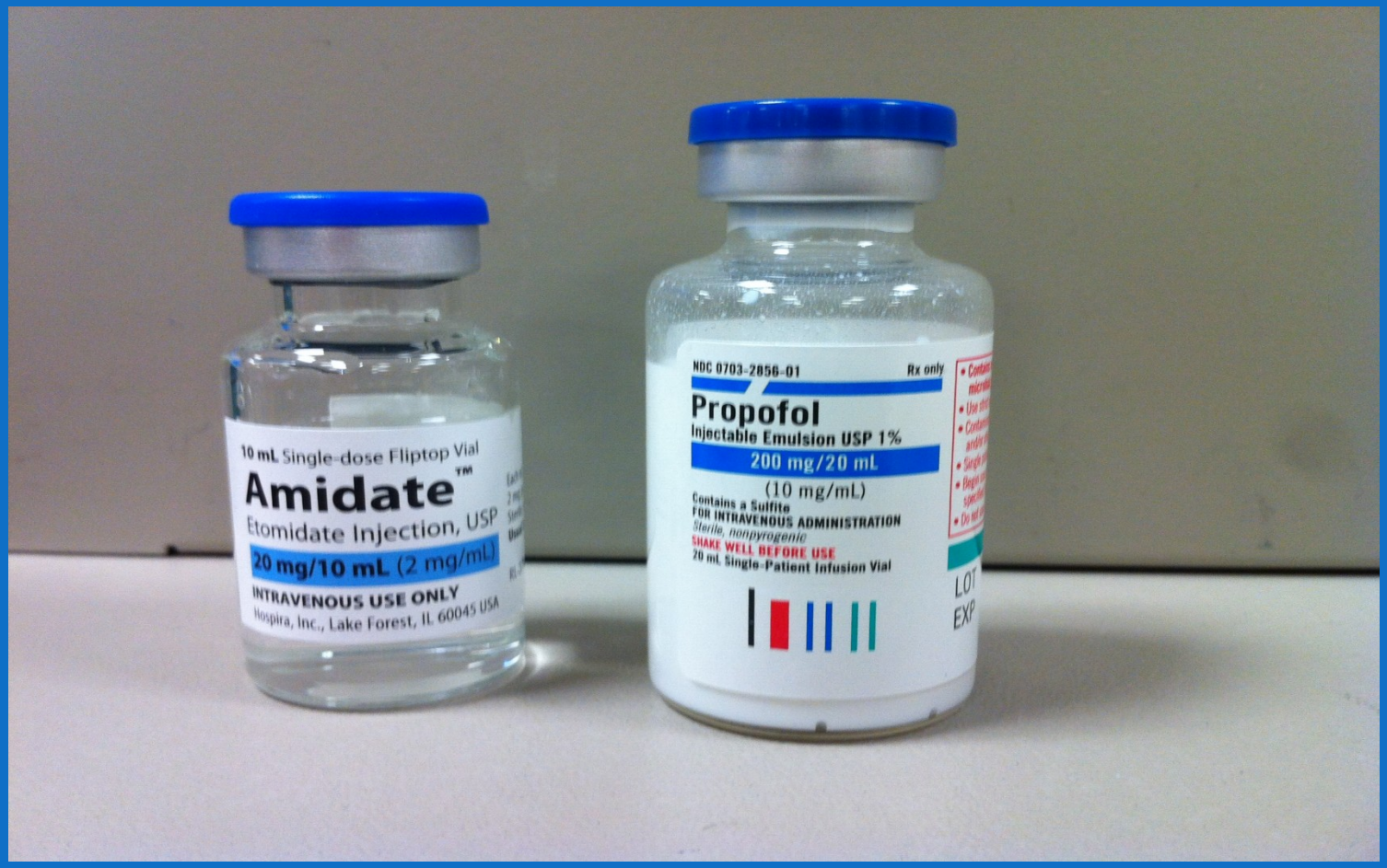
Room Set Up

Drug Preparation

Hypnotic agents-used to produce unconsciousness or sedation

PROPOFOL
ETOMIDATE
DEXMEDETOMIDINE (PRECEDEX)

Anesthesia Preparation



Anesthesia Preparation

Room Set Up

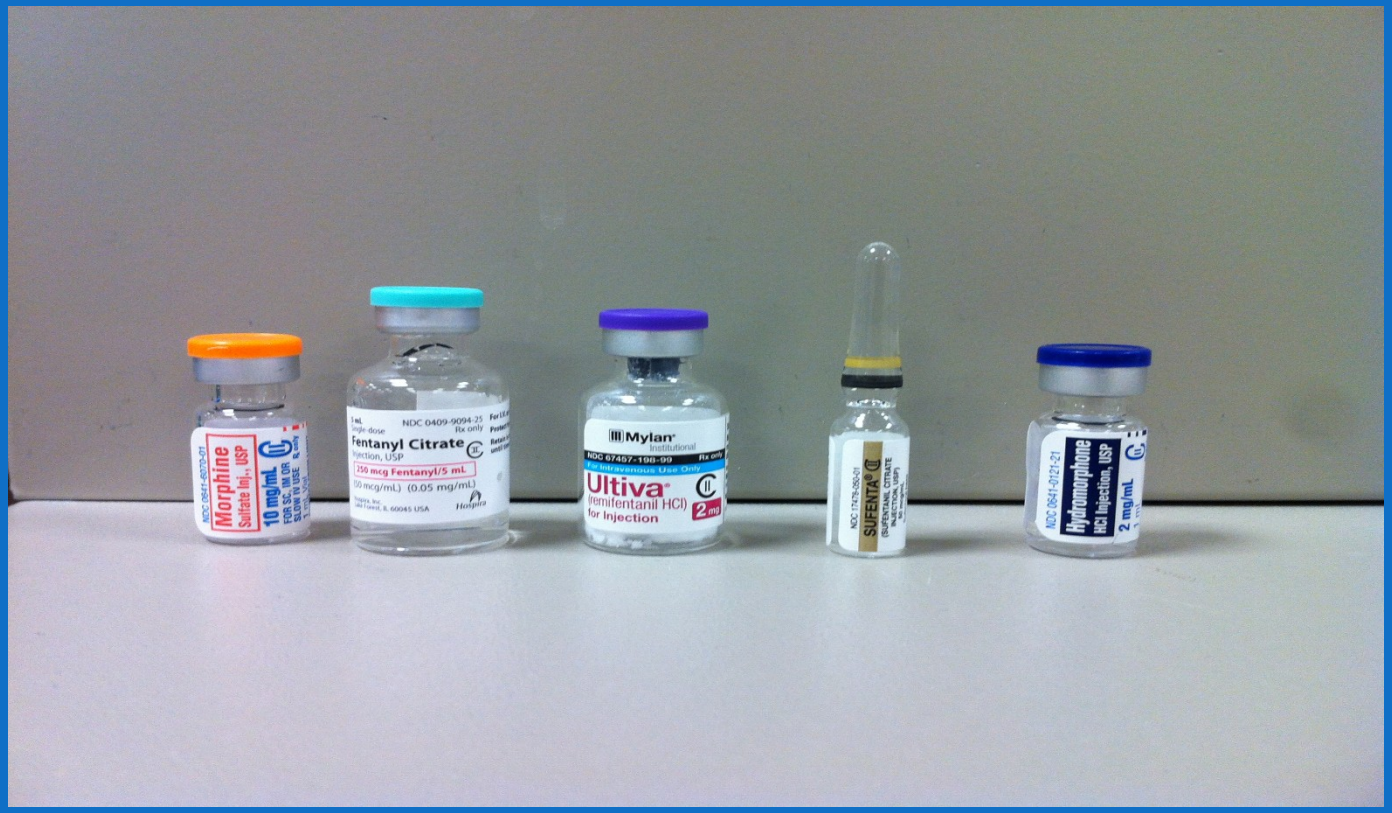
- Drug Preparation
- Muscle Relaxants
  SUCCINYLCHOLINE (EMERGENCY)
  ROCURONIUM (ZEMURON)
  PANCURONIUM
  ATRACURIUM
  VECURONIUM

Anesthesia Preparation

Anesthesia Preparation

- Room Set Up
  - Drug Preparation
    - Narcotics
      - FENTANYL
      - SUFENTANYL
      - REMIFENTANYL
      - HYDROMORPHONE (DILAUDID)
      - MORPHINE (DURAMORPH)

Anesthesia Preparation



Anesthesia Preparation

- Room Set Up
  - Drug Preparation
    - EMERGENCY DRUGS
      - VASOPRESSORS
        - EPHEDRINE
        - NEOSYNEPHRINE
      - GLYCOPYROLATE
      - ATROPINE

Anesthesia Preparation

Anesthesia Preparation

Room Set Up

Drug Preparation

ANCILLARY DRUGS

LIDOCAINE

KETOROLAC

ONDANSETRON

Anesthesia Preparation

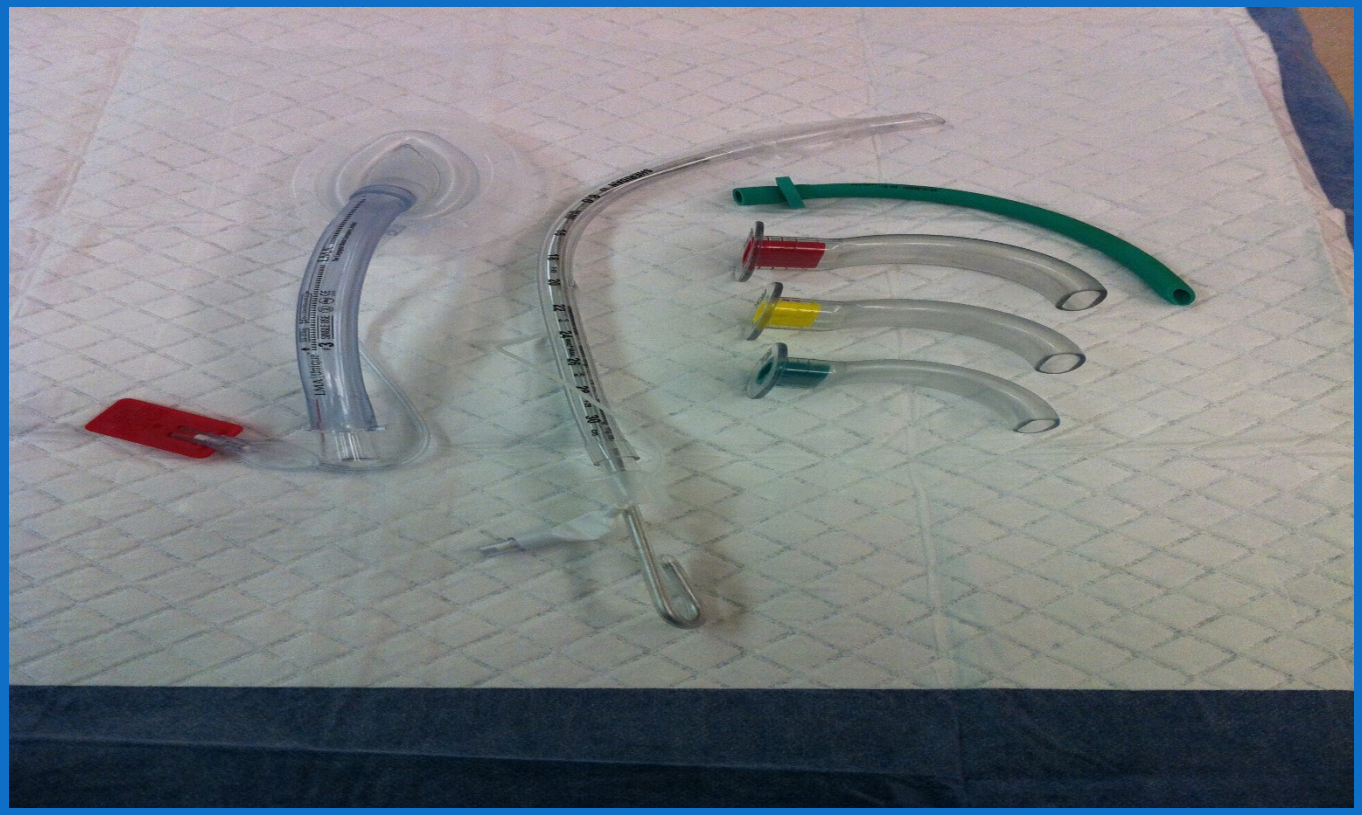
Anesthesia Preparation

Room Set Up

Airway Equipment

Laryngoscope and Blade
Oral Airway
Simple Oxygen Mask
Nasal Cannula

Anesthesia Preparation



Anesthesia Preparation

Room Set Up

Monitors (Standard)

- EKG- 3 OR 5 LEAD
- BP Monitor
- SpO2 Monitor
- BIS
- Temperature
- Agent Monitor

Preoperative Assessment

A preoperative assessment is done on all patients prior to receiving an anesthetic

Following the physical examination, review of medical and surgical history, a physical status classification or ASA risk factor is assigned

Preoperative Assessment

- ASA CLASSIFICATIONS
  - ASA CLASS 1
  - ASA CLASS 2
  - ASA CLASS 3
  - ASA CLASS 4
  - ASA CLASS 5

EMERGENCY OPERATION (E)

Patient Preparation for Anesthesia

After a thorough examination and review of medical records:

An anesthetic technique is determined

The technique is discussed with the patient in detail

The patient must consent to the anesthetic technique

Patient Preparation

The patient is usually sedated only after the following:

Anesthesia provider has discussed the technique and obtained informed consent

Surgeon has marked the site

All paperwork is complete

The circulator in the operating room has seen the patient and verified the paperwork for the procedure

Pre-operative Sedation

Depending on the patient's condition, surgical procedure, and age a sedative may or may not be given

The usual sedative given is Midazolam (Versed)

Induction of Anesthesia

The induction technique will be determined by the anesthetic technique selected

INDUCTION OF GENERAL ANESTHESIA

Application of monitors

Pre-oxygenation by mask

Administration of hypnotic

Administration of muscle relaxant

(Dependent on duration and site of surgery)

Mask, Insertion of laryngeal mask airway (LMA) or endotracheal tube

Administration of anesthetic anesthetic agent (Gasses/Hypnotic)

Securing of airway device

Application of warming devices (if applicable)

Regional Anesthesia

Application of appropriate monitors

Application of oxygen source
(Mask, nasal cannula)

Performance of regional technique

Application of warming devices

Monitored Anesthetic Care

Application of monitors

Application of oxygen source
(Mask, Nasal Cannula)

Administration of sedative medications
Application of warming devices (If applicable)

Intraoperative

ANESTHESIA GOALS:

- Maintain vital signs within 20% of baseline
- Provide optimum surgical conditions for surgeon
- Maintain fluid and electrolyte balance
- Maintain patient temperature
- Prevent patient injury (positioning)
- Pain free
- Maintain urine output
- Amnesia for general anesthesia

Surgical End

General Anesthesia:

Suction (If endotracheal intubation)

Extubation:

Normal Temperature
Fluid and Electrolyte balance
Reversal of Muscle Relaxation
Spontaneous respirations
Obeying Commands
Awake

Post Op

Transport patient to appropriate recovery area:

Post Anesthesia Care Unit (PACU)

Same Day Surgery Unit (SDS)

Give detailed report to receiving nurse

Obtain post op vital signs and ensure patient is stable

What Can Be Expected?

To be dressed, in the lounge and ready to go into the OR by 6:45 AM or 12:45 PM.

An anesthetist will be assigned to student

Depending on the cases and practitioner the experiences will be varied

The student will be asked **BASIC** Questions concerning Anatomy and Physiology, Pharmacology, and Pathophysiology

TO HAVE A GREAT DAY!

Interested?
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