

# Anesthesia & the Nurse Anesthetist : The Silent Force Behind the Drape

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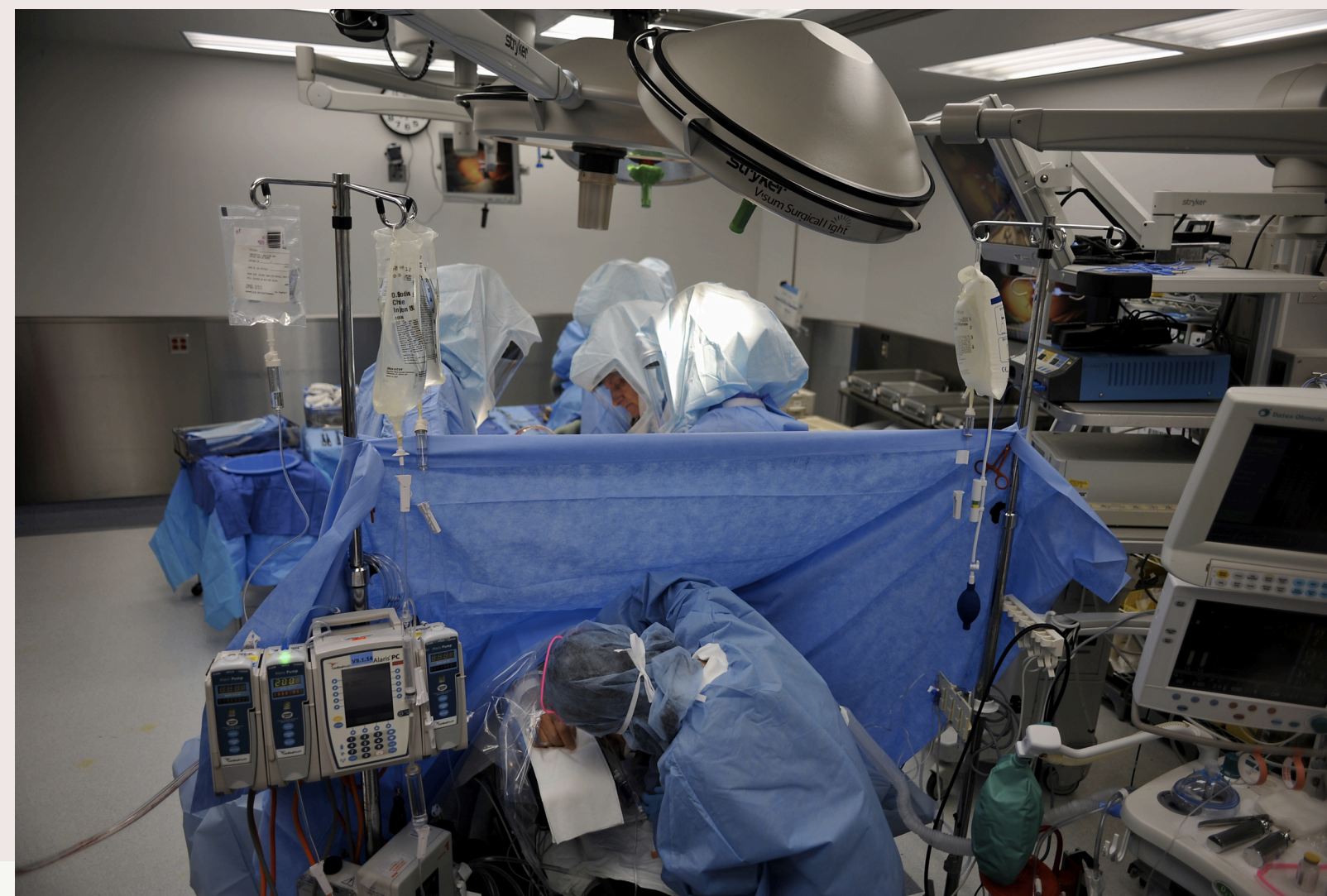
Certified Registered Nurse Anesthetist





# Silent Force Behind the Drape

- Society lacks awareness
- Patients typically do not remember their anesthesia provider
  - Patients do not choose their provider
- Anesthesia providers administer continuous medical care prior, during, and after surgery
  - Allows surgeons to perform surgery
- Many responsibilities
  - Lessen the patient's anxiety
  - The anesthesia
  - Medical management during surgery
  - Uphold patient safety
  - Keep the surgeon calm



# Anesthesiology

- Discipline that specializes in the
  - Medical management of patients who become unconscious and/or insensible to painful stimuli and stress of surgery
  - Protection of life functions and vital organs
  - Management of pain
  - Management of heart and lung functions
  - Management of critically ill patients



# Anesthesia

- Temporary loss of sensation and/or awareness so patients do not feel pain during medical procedures
- Analgesia (pain control)
- Reduce movement in response to painful stimuli
- Minimize the body's responses to surgical stimuli

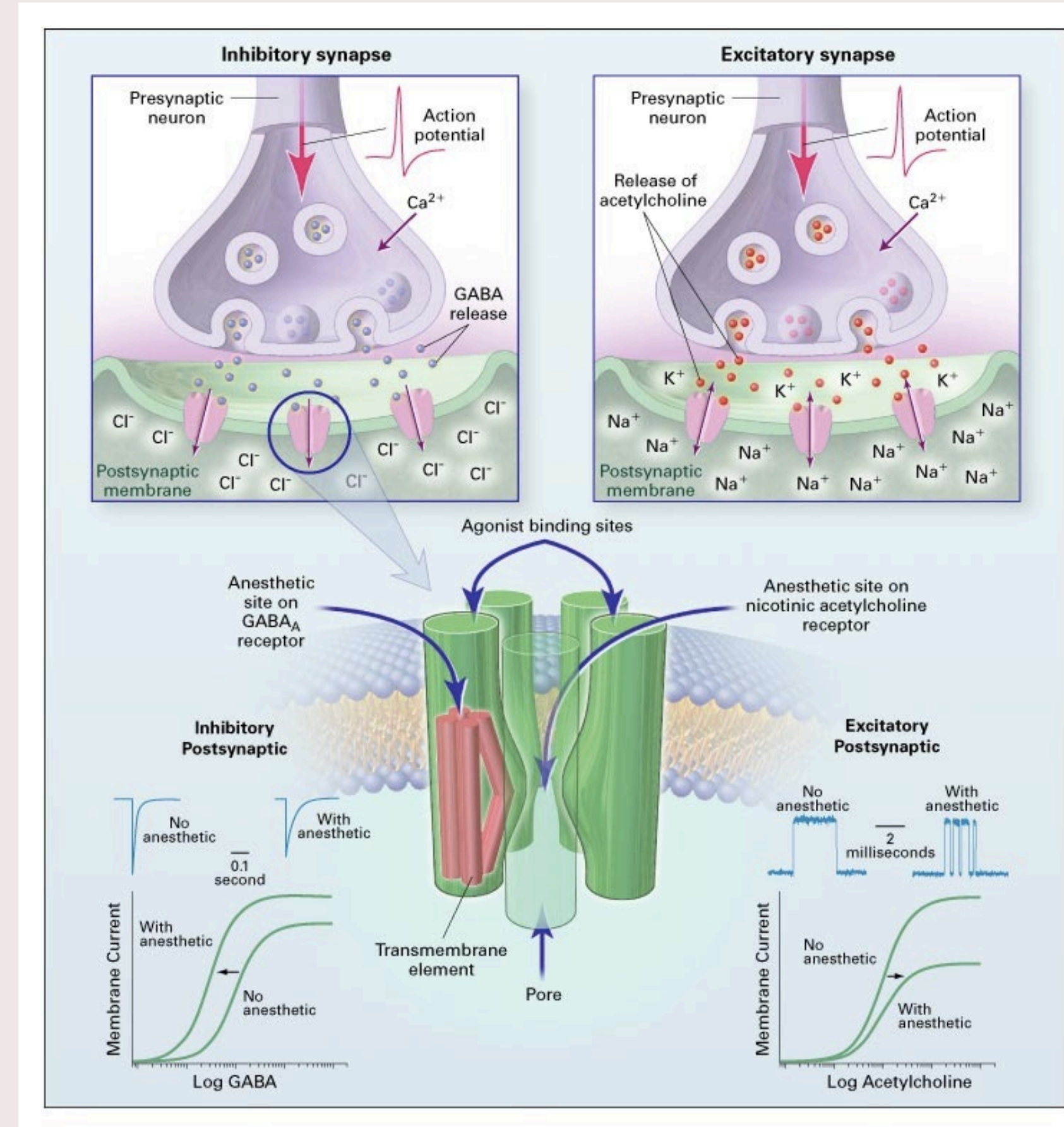
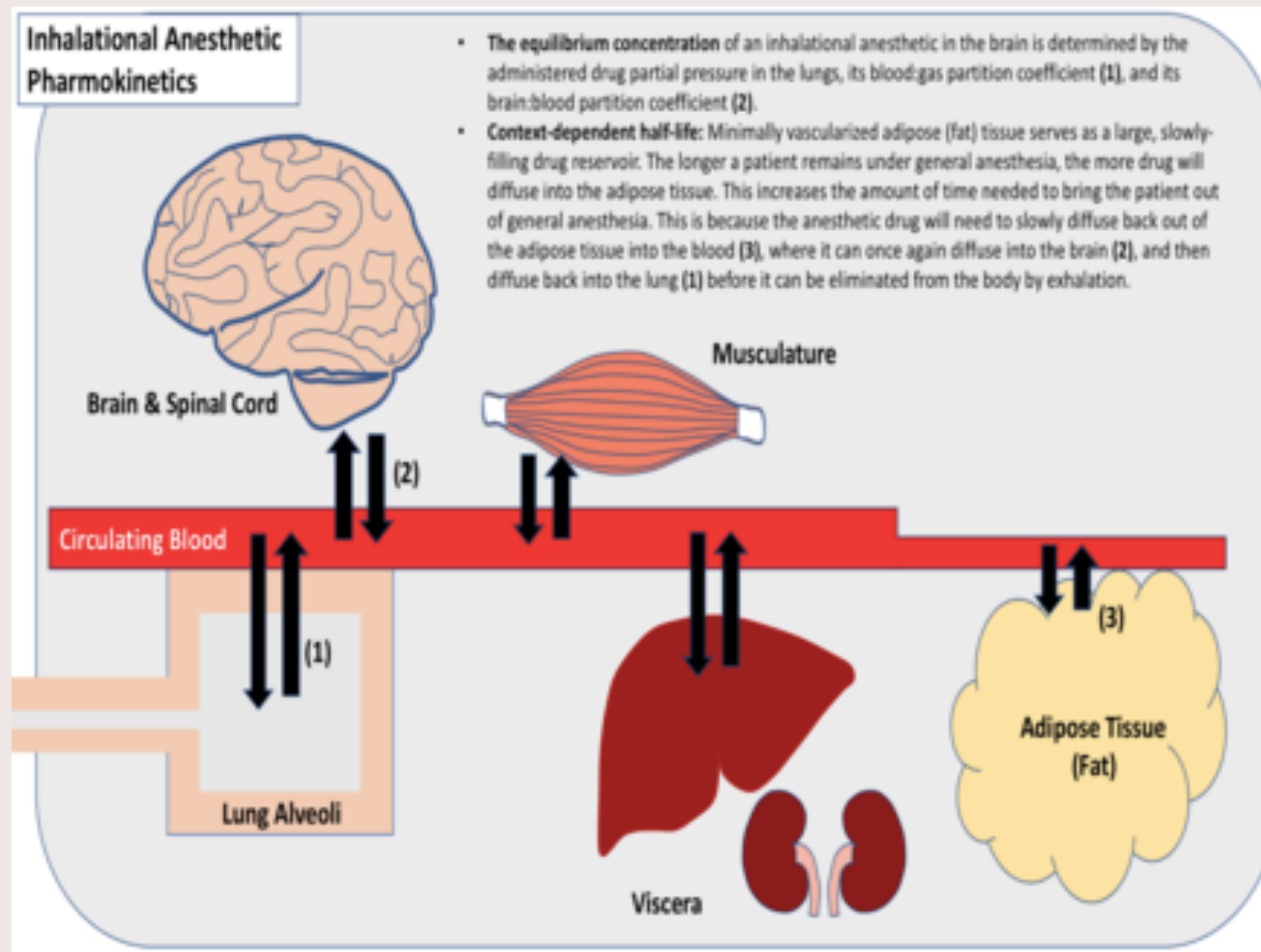


# Anesthesia Providers

- Practice clinical pharmacology, medical physics, and physiology
- Advanced airway experts
- Problem solvers
- Multitaskers in a highly complex, technical environment
- Critical thinkers
- Team players
- Patient centered providers!



# Anesthesia Medications



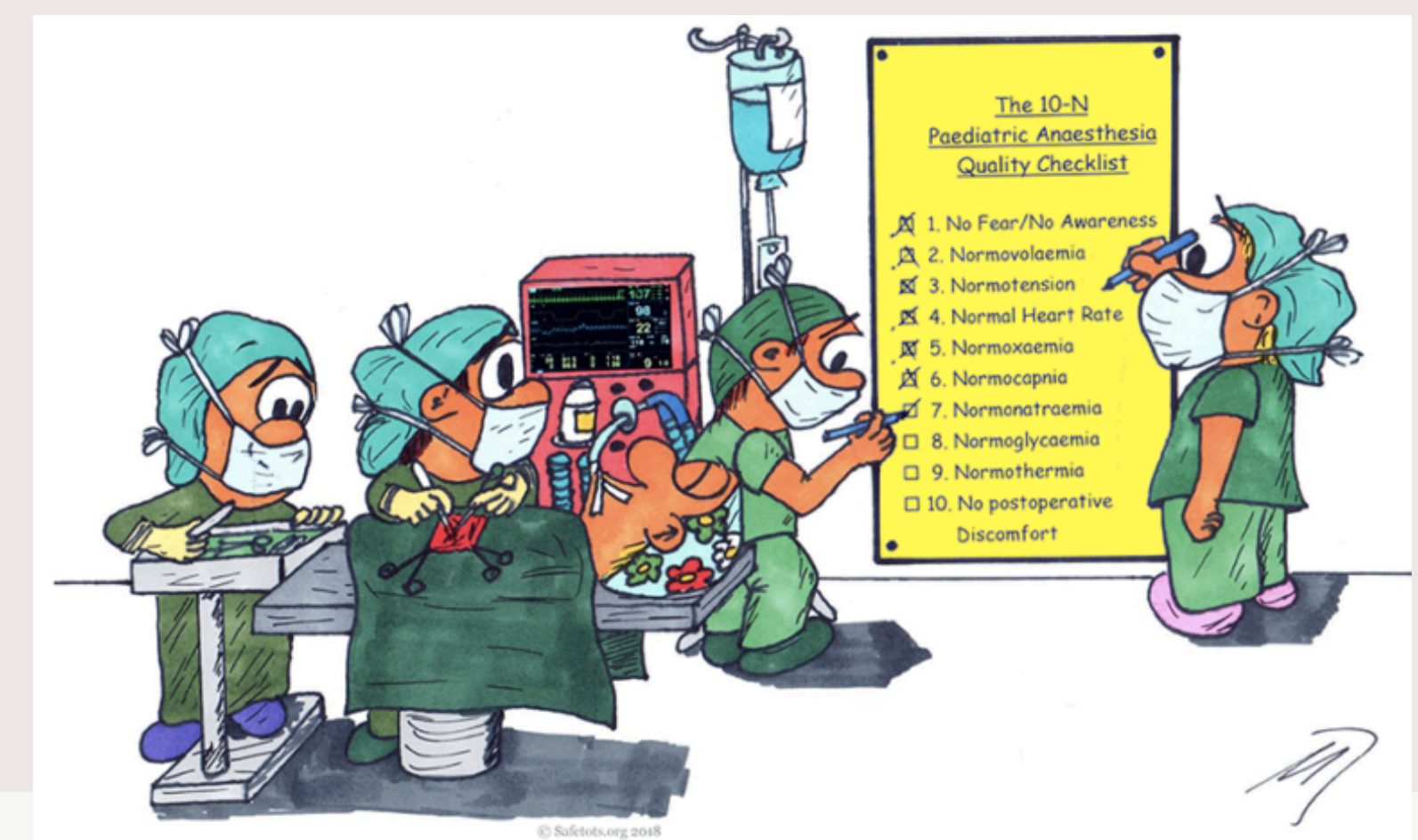
# History

- Dating back to primitive times—herb mixtures were used to sedate and attempt pain prevention during surgical procedures
- In 1525 inhaled ether anesthetic on animals
- In 1659, intravenous injections was pioneered through goose quill into a dog's vein
- Around 1771, emergence of nitrous oxide (still used today)
- **1846 William Morton demonstrated the use of ether anesthetic for surgery at Massachusetts General Hospital— The news of pain free surgery spread throughout the world**
- 1850s, hollow hypodermic needles were invented, chloroform used in obstetrics
- 1880s, local/numbing anesthetics introduced
- 1898- the first spinal anesthetic
- 1914, the first comprehensive textbook of Anesthesia was published
- From 1900 on, new anesthesia medications discovered and safety protocols adopted



# Anesthesia Safety

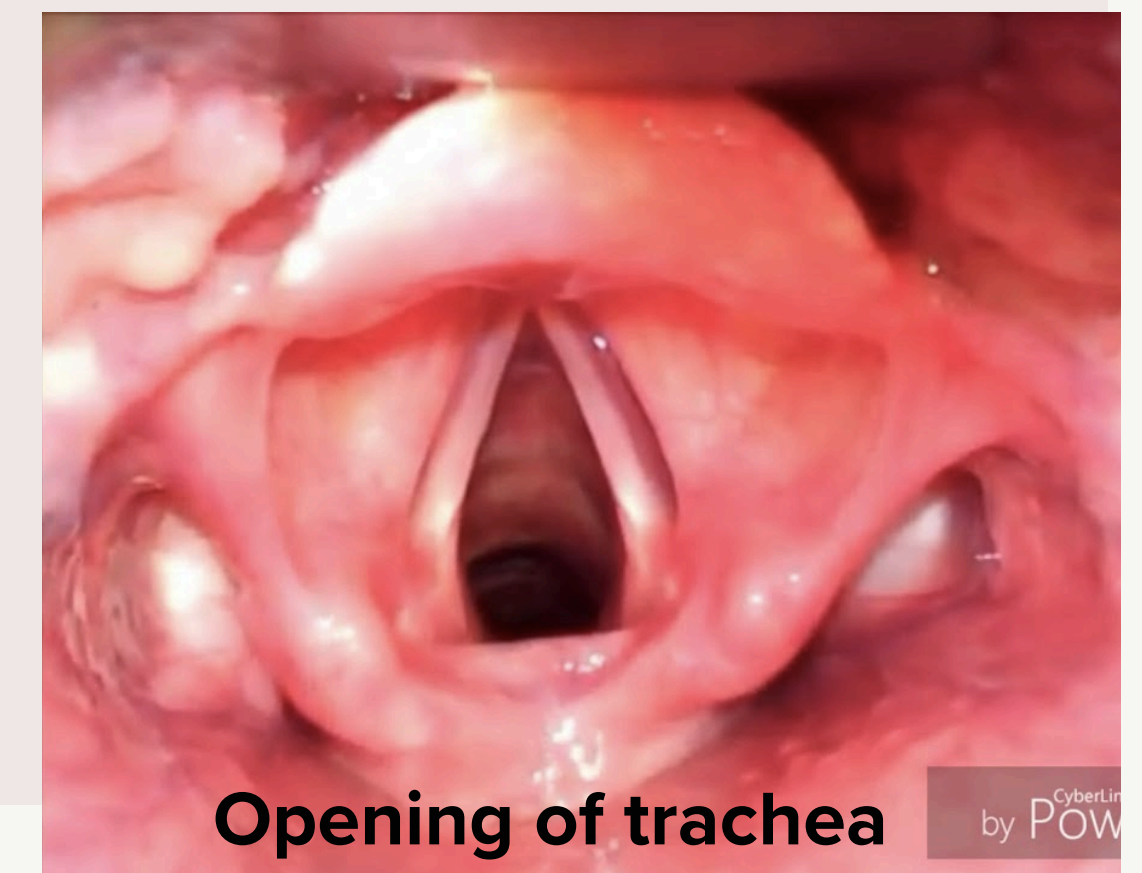
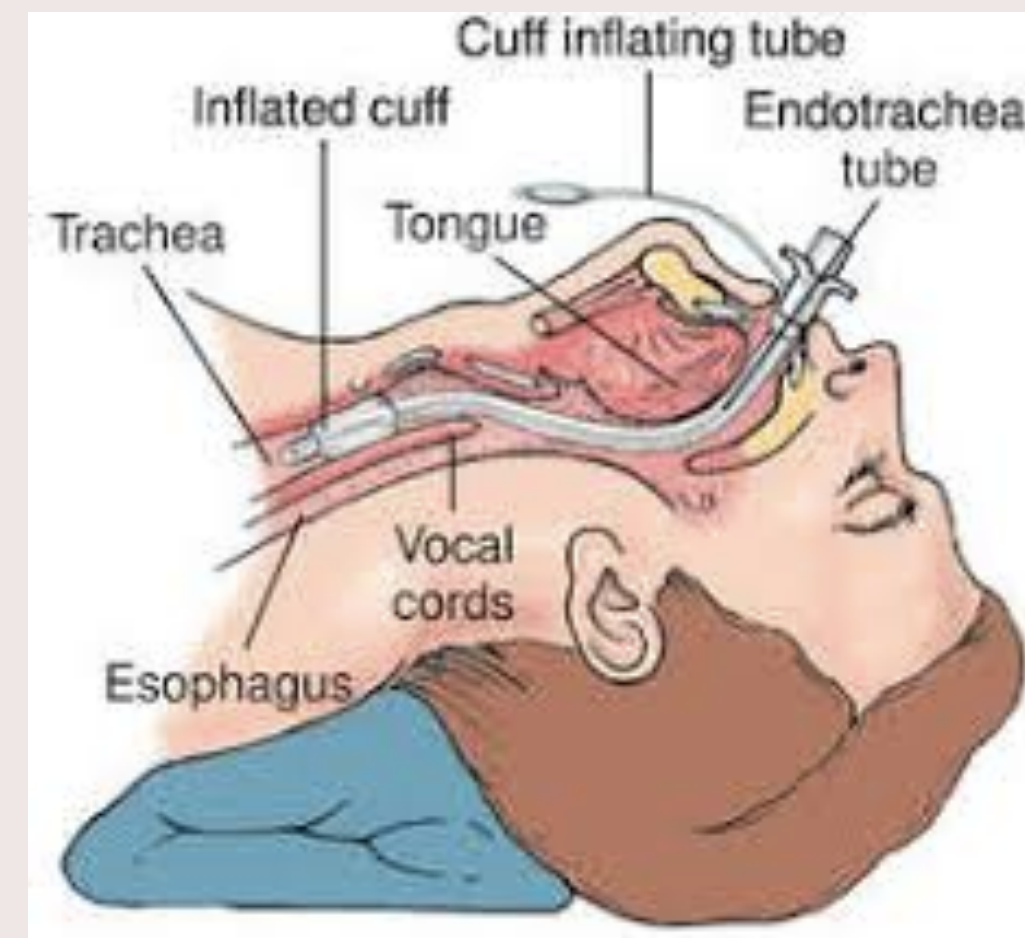
- Anesthesia has greatly improved in safety
  - Blood Pressure 1905
  - Cuffed Endotracheal tube 1913
  - 1930-1950s more anesthetic drugs emerge
  - Pulse oximetry 1983
  - ETCarbon Dioxide 1986
  - Shorter acting inhalation and induction agents
    - Propofol was discovered in **1977** and approved for use in the United States in 1989
  - Transesophageal Echocardiography
  - Fiberoptic intubation
  - Pulmonary artery catheters
  - Ultrasound
  - Enhanced recovery after anesthesia protocols



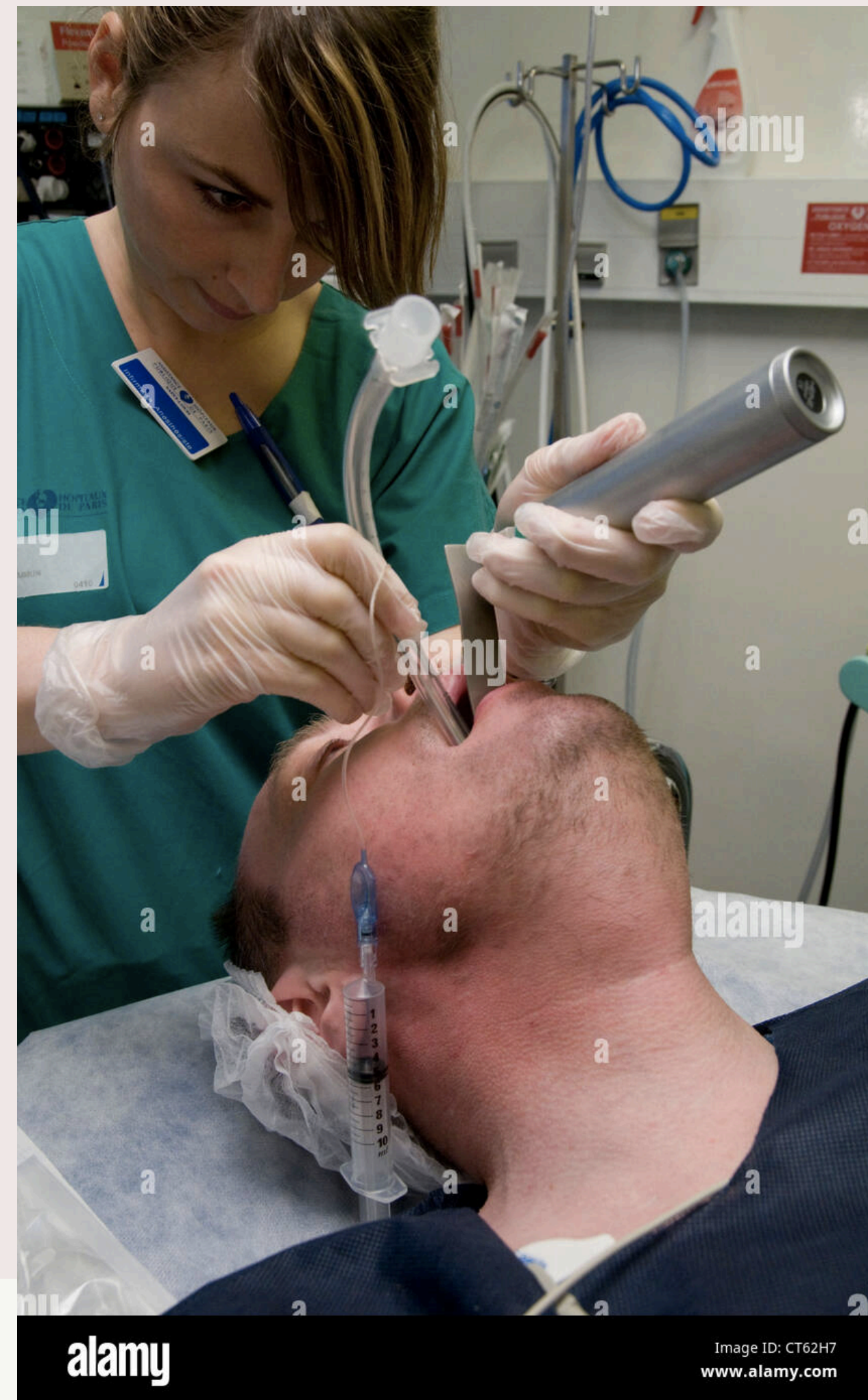
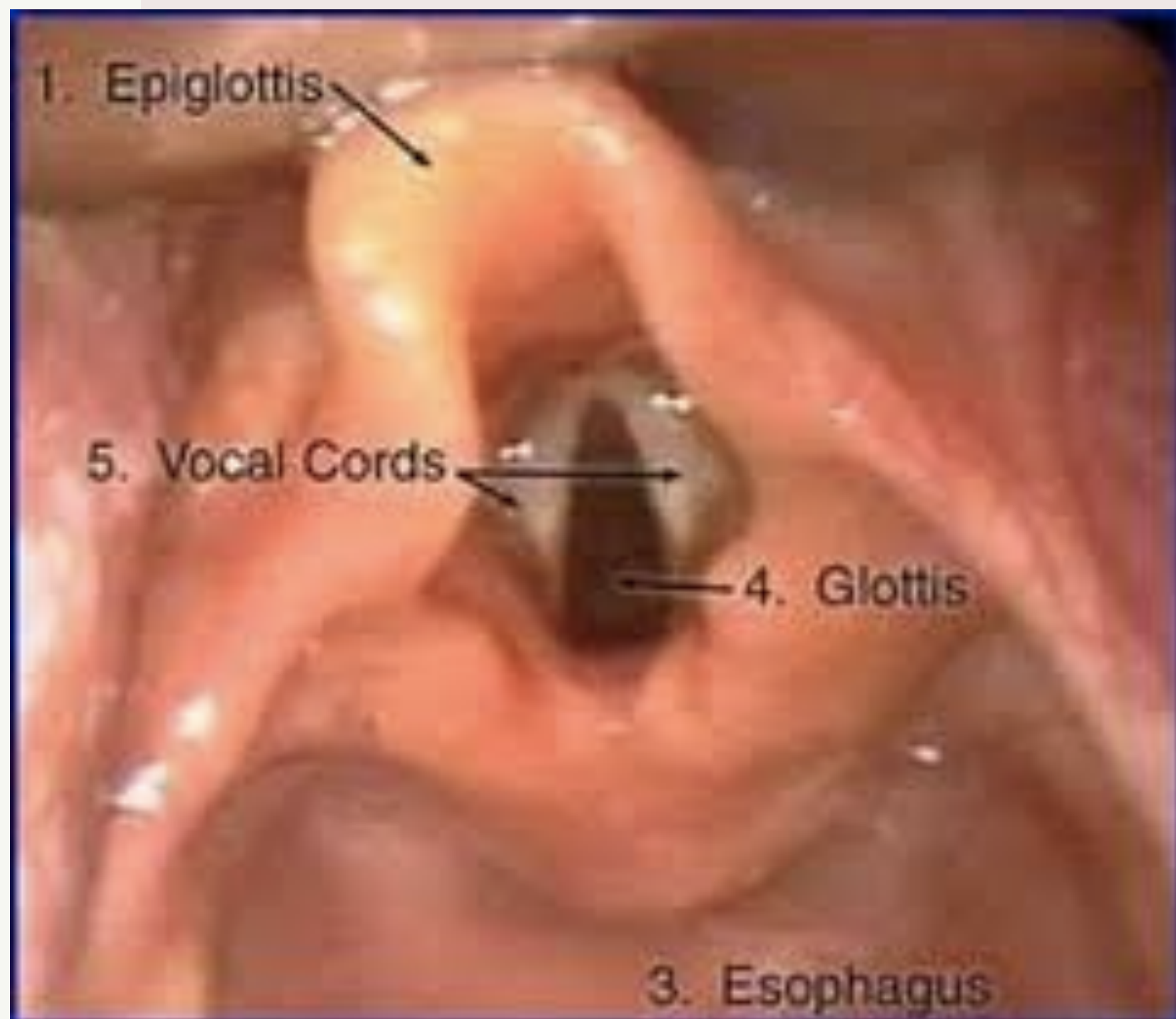


# Types of Anesthesia: General Anesthesia

- General Anesthesia
  - Most common
  - Used for major operations
  - Anesthesia medications
  - Unconsciousness and unaware
  - Intubation
  - Monitoring of vital signs and management of any changes
  - Reverse medications and return to consciousness
  - Manage immediate postoperative care



# Intubation



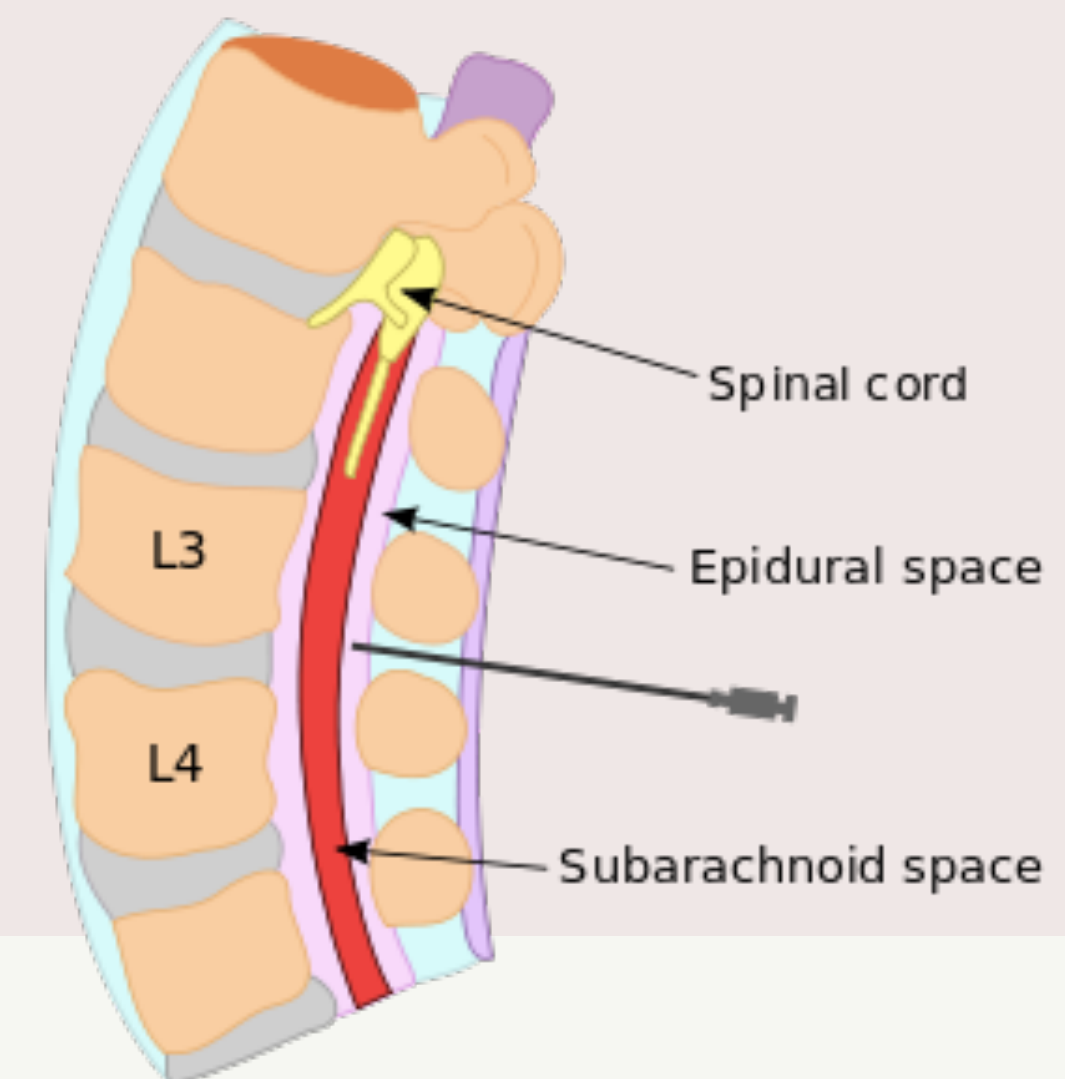
# Types of Anesthesia: MAC Anesthesia

- Intravenous/Monitored Anesthesia Care (twilight sedation)
  - Minor surgeries/procedures—biopsies, colonoscopies
  - Sedation ranges from minimal to deep
  - Patients breath on their own
  - Normal to hear things and respond or very sleepy and have no recollection
  - Drowsy
  - Safe sedation, pain control, anxiety control



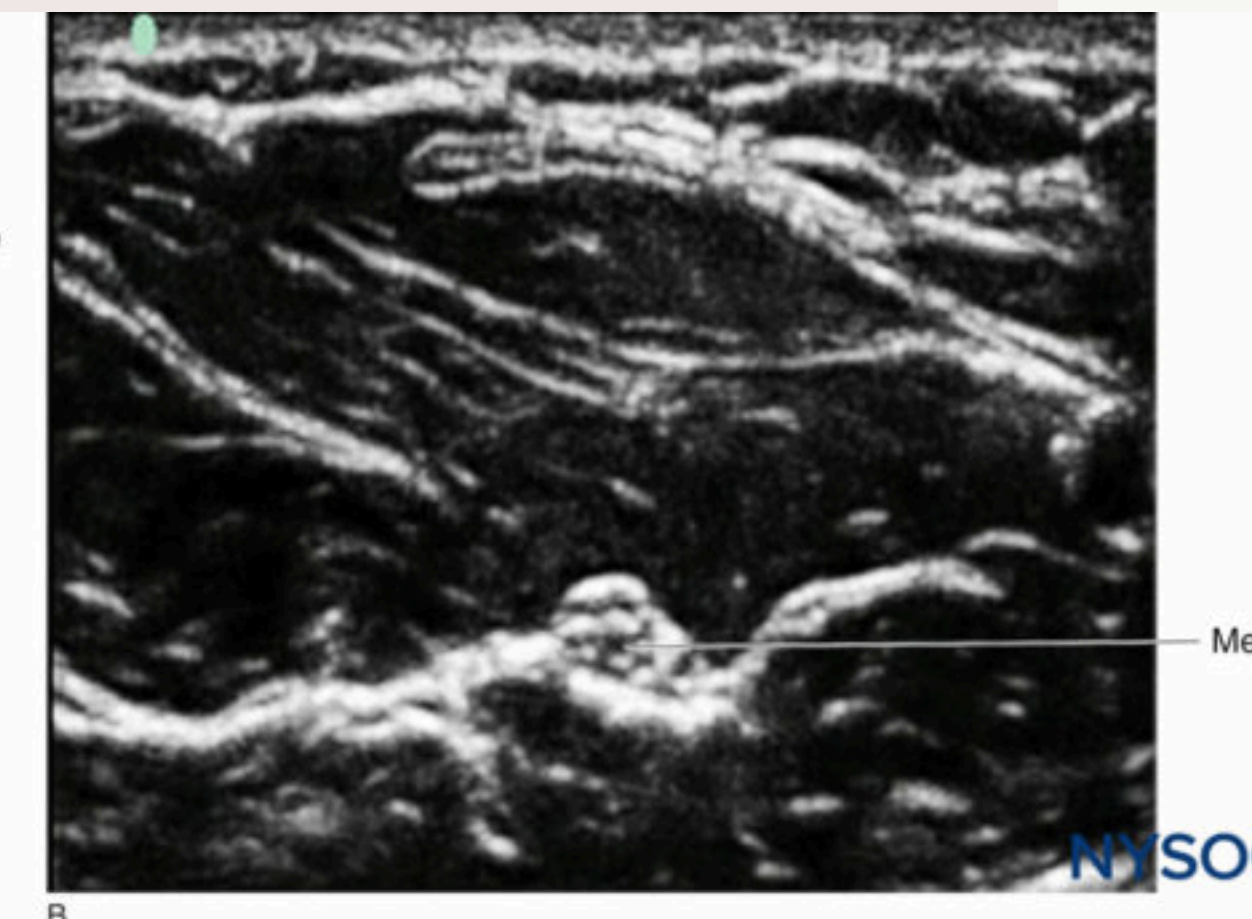
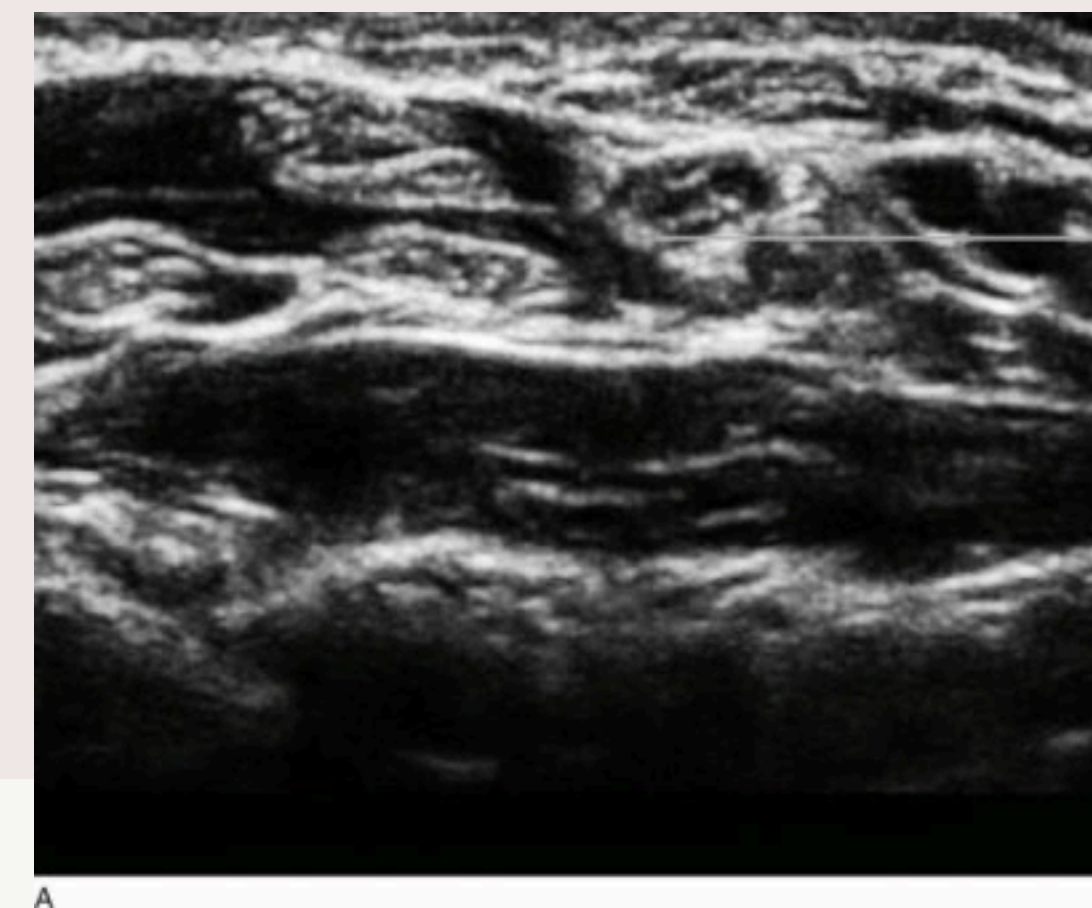
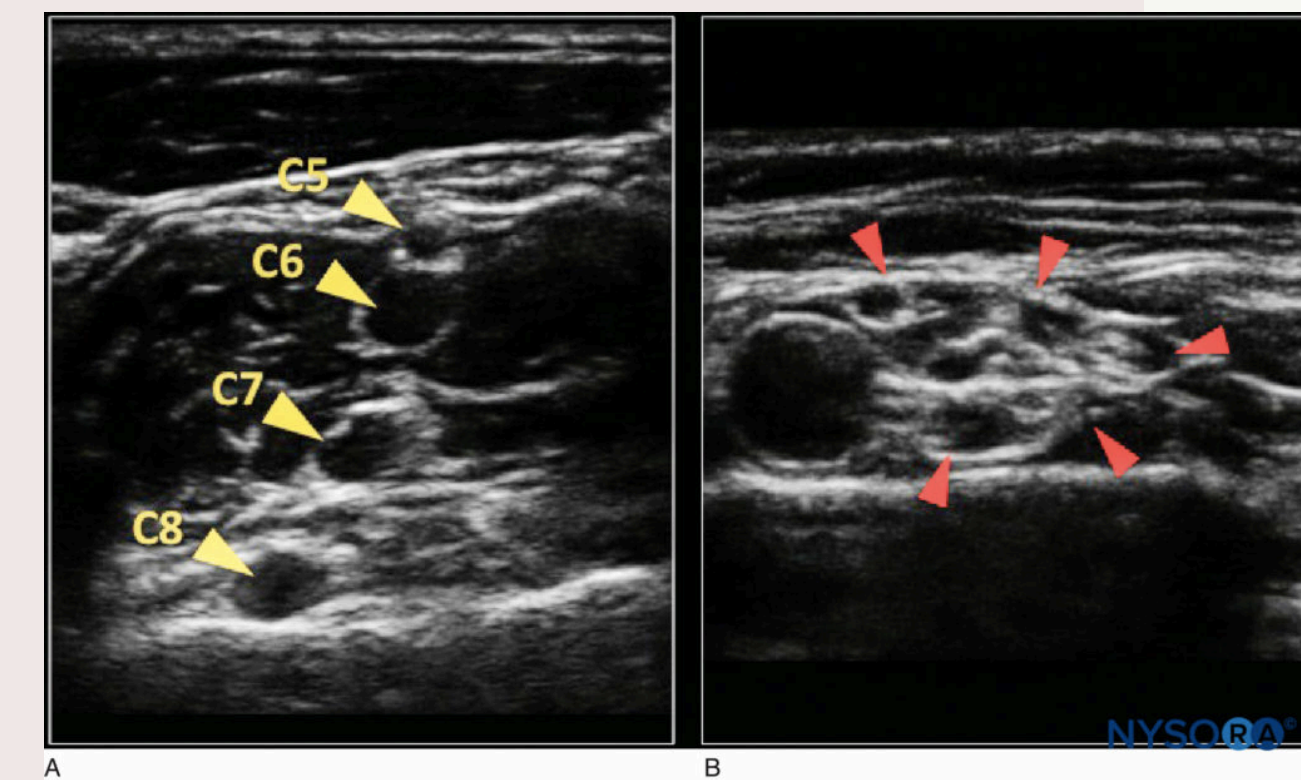
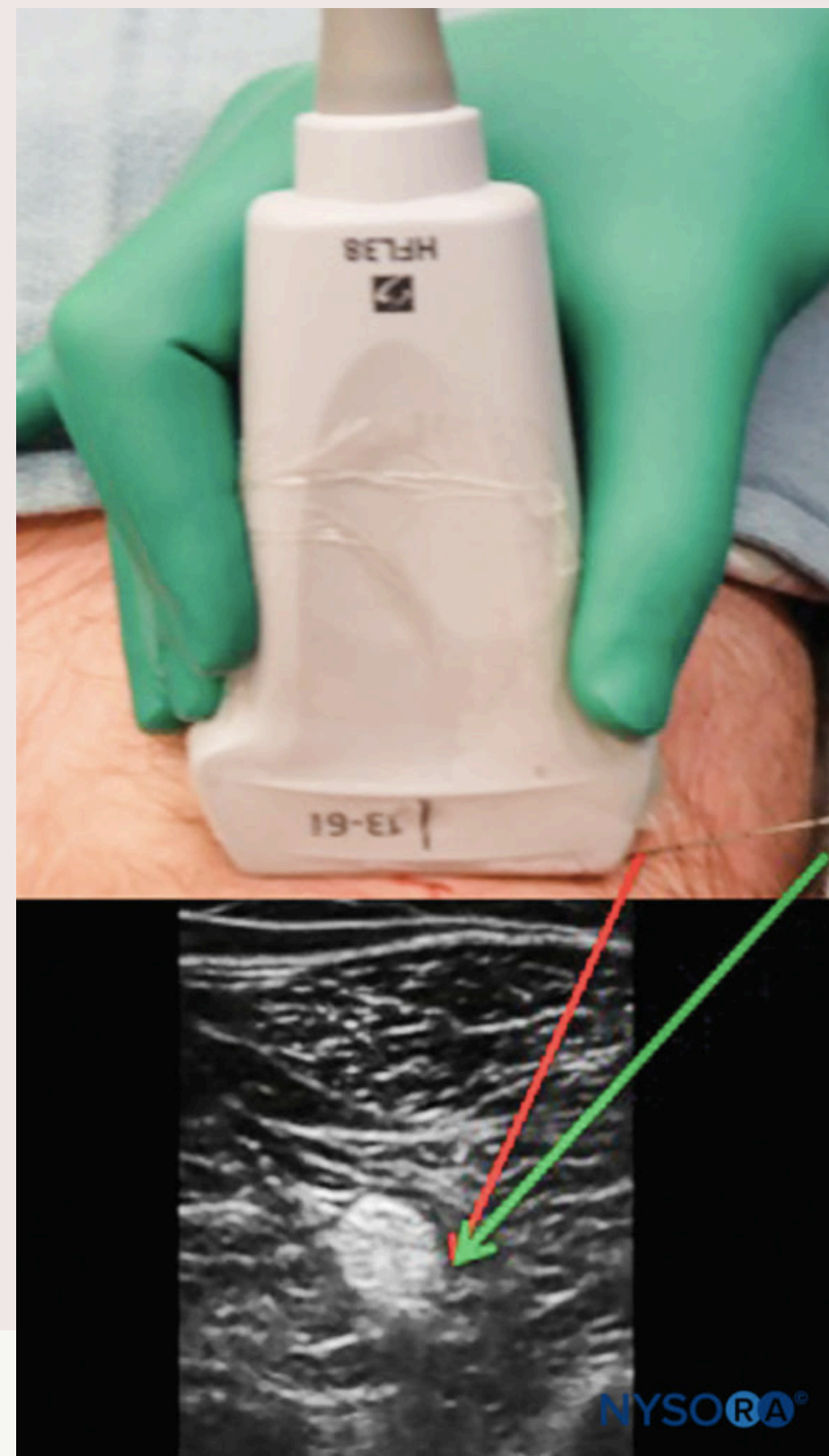
# Types of Anesthesia: Spinal & Epidural

- Injecting an local anesthetic agent/numbing medication into a space in the spine
- Numbs the abdomen and legs to block or relieve pain
- Epidural anesthesia—medication in a thin catheter
- Spinal is a single injection with a very fine needle
- Pain-free surgery
- Surgeries below the navel —knee and hip surgery, child birth



# Types of Anesthesia: Peripheral Nerve Blocks

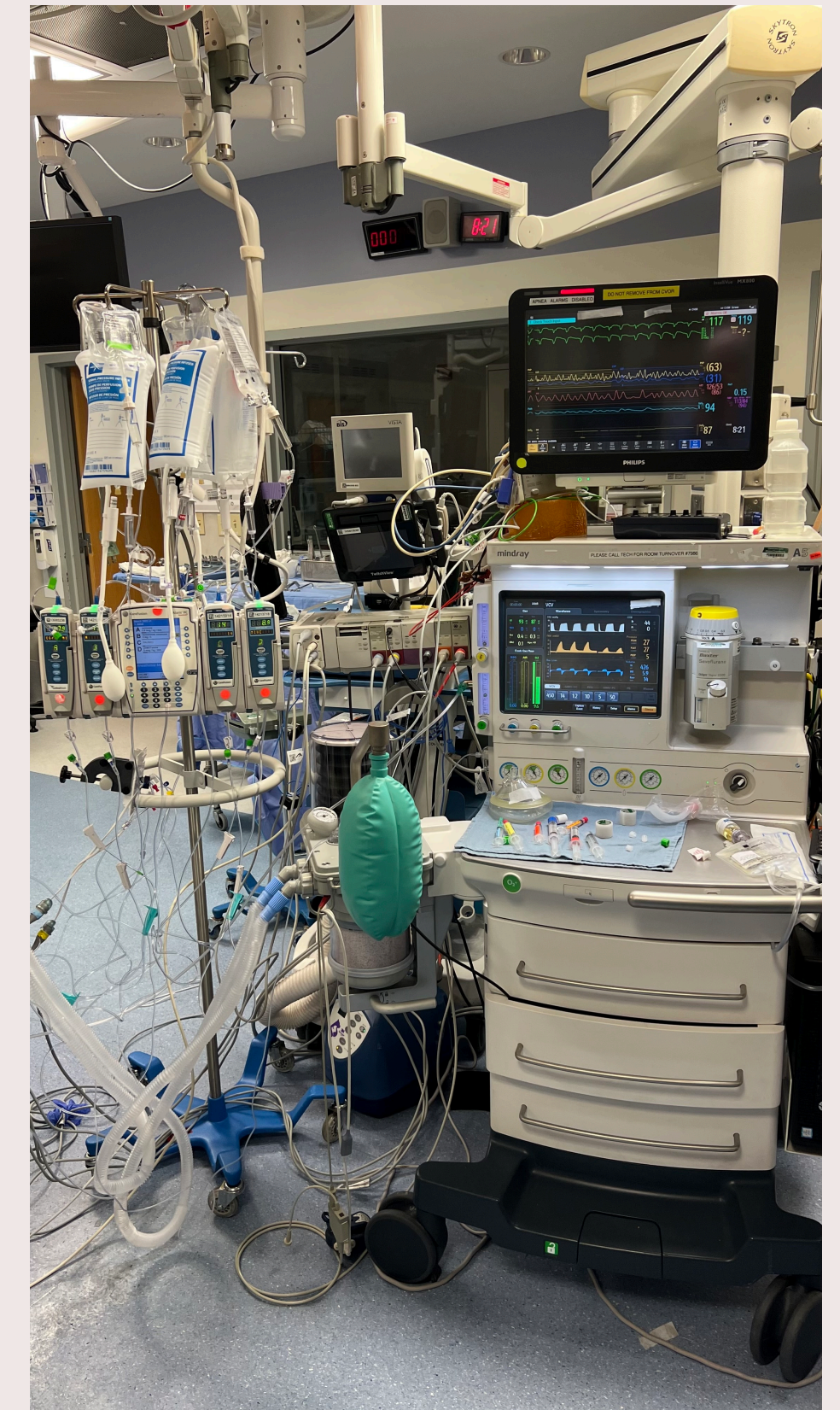
- Local anesthesia medication is injected near specific nerves to numb only the area of the body that requires surgery
- Ultrasound greatly improved safety and efficiency
- Highly technical technique
- Great patient satisfaction— immediate diminished feeling and relief of pain
- Can last for hours after surgery

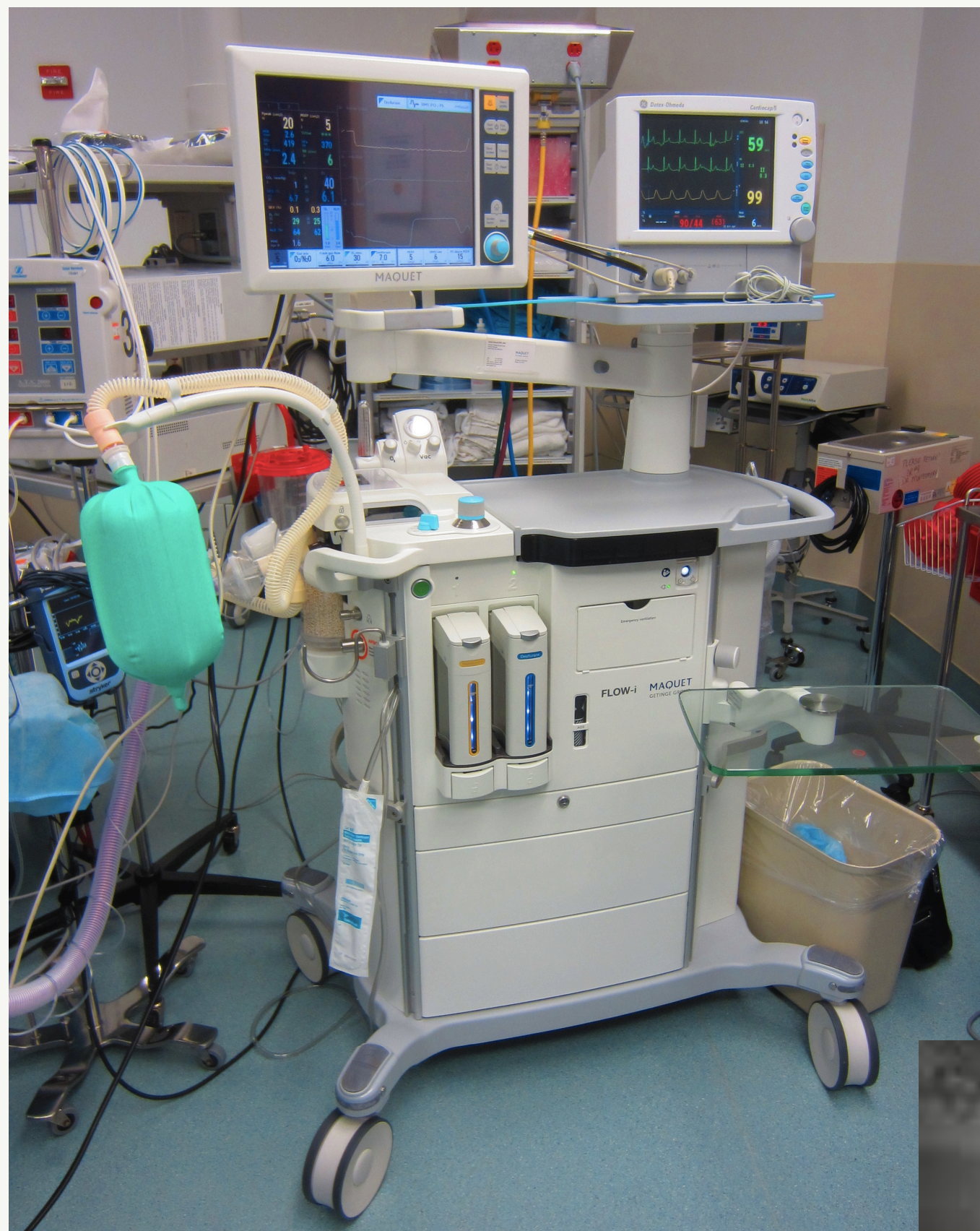




# Anesthesia Process

- **THE INTERVIEW!**
  - Patient evaluation—History, physical exam, lab and tests, optimization
- **Prep Work!**
  - Explanation of anesthesia, discussion and decision of anesthesia plan
  - Preparing medications, set-up equipment and supplies
- Preanesthetic medication
- Induction and Intubation
- Maintenance and monitoring
- Emergence and Recovery





# Anesthesia Environments

- Operating Rooms
- Intensive Care Units
- Labor and Delivery Suites
- Pain Clinics
- Radiology Suites
- Gastroenterology Suites
- Cardiology procedural labs
- Ambulatory Surgery Centers
- Dental Offices





# Anesthesia Specialities

- Critical Care
- Cardiac Anesthesia
- Pain and palliative care
- Neuro-anesthesia
- Obstetrics
- Pediatrics
- Neonatal



# SO Many Career Choices...



# **What is a Certified Registered Nurse Anesthetist?**

## **CRNA**

- A nurse anesthetist is an advanced practice registered nurse who specializes in giving anesthesia to patients in every setting in which anesthesia is delivered
- CRNAs are highly trained anesthesia experts administering safe anesthesia care
- Professionals that have been around for 150 years
- Safely administer more than 50 million anesthetics to patients each year in the US
- Main anesthesia providers in most rural hospitals and in the U.S. Armed Forces

# Certified Registered Nurse Anesthetists

- Qualified to make independent judgments regarding all aspects of anesthesia care
- Provide anesthesia in collaboration with many qualified healthcare professionals



# CRNA Career

- High job satisfaction rate
- Teamwork
- Collaboration
- Life-long learning
- Respect and recognition as “one of the best” in your field
- Latest technology
- Opportunities all over
- Income potential



# CRNA

- The position comes with great responsibilities, some great benefits and also high liabilities
- Schooling is extremely difficult
- Specialized nursing care
- Critical-thinking skills
- Science, math, and pharmacology
- Team player with a common goal: **the patient's well-being!**



# Education and Training



- Minimum of 7 to 8.5 years of education and experience to prepare a CRNA
  - A baccalaureate or graduate degree in nursing
  - An unencumbered license as a registered professional nurse and/or APRN
  - A minimum of one year of full-time work experience as a registered nurse in a critical care/ICU setting
  - The average experience of RNs entering nurse anesthesia educational programs is 4.5 years

# Education and training

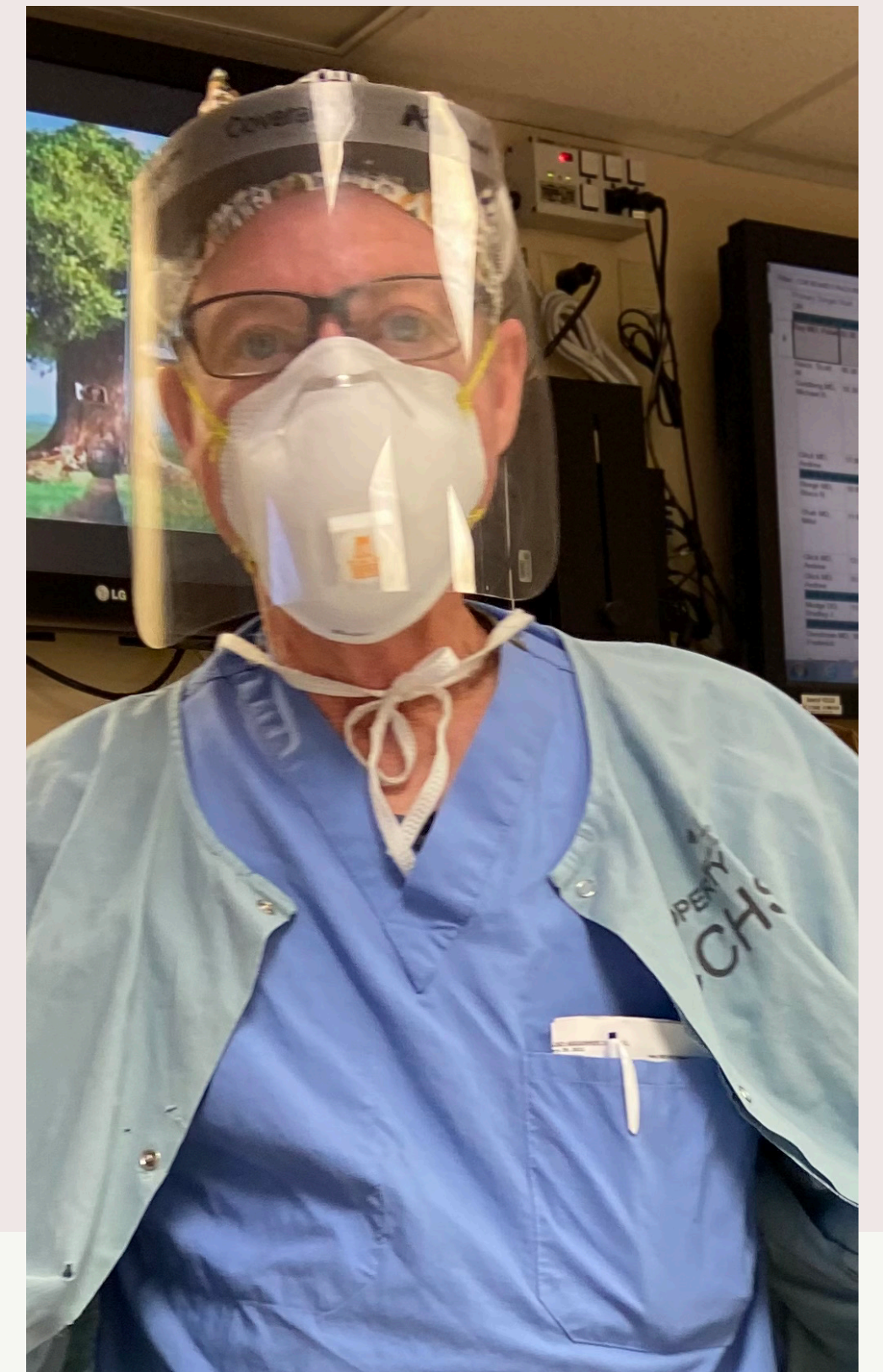
- Master's and doctorate prepared advanced practice nurses
- A nurse anesthetist becomes “certified” by passing a national exam after completing a rigorous graduate degree program
- Graduates of nurse anesthesia programs have an average of 9,369 hours of clinical experience
- Opportunity for fellowships in chronic pain management, pediatrics, and other specialties





# Nurse Anesthetists Schools

- As of September 2020, there were 124 accredited nurse anesthesia programs in the United States and Puerto Rico
- Nurse anesthesia programs range from 36-51 months
- All CRNA schools will be doctorate level by 2025



# Education Requirements

- 3.2 Grade Point Average/GPA (on a 4.0 scale)-average is 3.6-3.7
- Science GPA minimum 3.0-average is 3.5
- Minimum 1-year critical care nursing experience
- High scores on graduate tests (GRE, MAT)
- Evaluations from supervisors, former nursing school faculty, and peers



# Education Requirements

Nurse anesthesia educational programs have intense admission requirements

## *EXAMPLES:*

### *1. Requirements to Apply:*

- *Conferred BSN degree with GPA of 3.2 or higher*
- *Cumulative science GPA 3.0 or higher*
- *Prerequisite Coursework*
  - *Statistics*
  - *Assessment*
  - *Nursing Research*
- *At least 1-year of critical care (ICU) work experience*

### *2. Requirements to Apply:*

- *Conferred BSN degree with GPA of 3.2 or higher*
- *Cumulative science GPA 3.2 or higher*
- *Prerequisite Coursework*
  - *Statistics*
  - *Assessment*
  - *Nursing Research*
- *At least 2 years of critical care (ICU) work experience*
- *3 Letters of Recommendation (including one from the candidate's direct supervisor). 2 essays. Invited interview. GRE for GPAs below 3.2. BLS, ACLS required. Current RN license required. CCRN preferred.*

# CRNA Career Information

For more information on how to become a  
Certified Registered Nurse Anesthetist visit

The American Association of Nurse Anesthesiology at  
[www.aana.com](http://www.aana.com)



1. Stop 
2. Think   
How will this affect myself or others?
3. Make a good choice! 

**YOU ARE  
BRAVER THAN  
YOU BELIEVE,  
STRONGER THAN  
YOU SEEM, AND  
SMARTER THAN  
YOU THINK.**

2020 Weekly Planner

**HARD  
WORK  
PAYS  
OFF**

**SURROUND  
yourself with  
PEOPLE  
who are  
ONLY GOING  
to lift  
YOU HIGHER.**

**STAY HUMBLE.  
BE KIND.  
WORK HARD.**