# Anesthesiology and Developing as an Expert Witness

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*Expert Witnesses are drawn from an endless variety of career paths and specialisations, particularly in the medical profession, but all are sought out for their in-depth knowledge and commitment to the truth. In this feature, Dr John C Lundell speaks with us about his anesthesiology practice and shares his own career development as an expert witness. How have these two sides of his work informed each other?*

## Please introduce yourself and tell us a little about what led you to specialise in anesthesiology.

My name is John Lundell. I have been practicing full-time as an anesthesiologist since 1999. From an early age I knew I wanted to be a doctor. When a mentor advised me to choose a college major which could be a viable alternative to a career in medicine, I chose electrical and computer engineering. Later, none of the wide variety of specialties I tried during my third-year medical school rotations seemed right for me. My wife, a medical school classmate at Yale, suggested I try anesthesiology as one of my electives. It appealed to my engineer-trained brain. I liked the combination of procedural intervention and cerebral diagnosis and the immediacy of the treatment and response. I felt privileged to interact with the body's well-engineered controls for heart rate, blood pressure, respiration, etc. to my patient's benefit. I had one major concern encapsulated by a friend's question: "You have such a good bedside manner—why waste it in anesthesia where your patients are all asleep?"

Ultimately, I decided that a good bedside manner was even more important in anesthesia, where I first meet patients on the day of surgery and have only 10 minute to allay their fears and get them to trust me with their life! Now I routinely call patients the night before to see if they have questions or concerns. This brief conversation really impresses and reassures my patients. They also appreciate my offering to converse in Spanish if that makes them more comfortable. I became fluent in Spanish during a two-year volunteer missionary service before medical school.

After medical school and internship, my wife and I headed to North Carolina, where I completed anesthesia residency and cardiothoracic anesthesia fellowship at Wake Forest before beginning a five-year commitment to the US Air Force. While on active duty, I trained anesthesia residents at the Air Force hospital in San Antonio. I led the cardiac anesthesia section and the medical student rotators and served a tour of duty in Iraq supporting Operation Iraqi Freedom. Upon completion of my military service, we moved to San Diego, where I accepted a faculty appointment in the UCSD Department of Anesthesiology while my wife pursued a one-year Radiology fellowship. We then returned to Texas, settling in the Dallas area, where I joined a prestigious private practice group at Baylor University Medical Center. I have been with this same group for more than 16 years, weathering changing clinical commitments, group mergers, and hospital and insurance contract renegotiations, while seeing my children graduate, my parents pass, and my wife and I mature and grow closer. I have been blessed.

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## What sorts of cases require your anesthesiology expertise and how is the information you provide crucial to the outcome of these disputes?

As an anesthesiologist I give patients medication to induce anesthesia. I place breathing tubes, arterial catheters, central venous catheters, and nerve blocks. I manage consciousness, patient safety and positioning, blood pressure, heart rate, respirations, urine output, blood loss and transfusions under changing surgical conditions. I control emergence from anesthesia, reversal of muscle relaxants, removal of the breathing tube, and a variety of patient management issues in the PACU (post anesthesia care unit). I transport critical patients between the OR and the ICU, manage critically ill patients for emergency surgery and run intraoperative codes. Complications can happen during any of these activities.

I have been consulted to evaluate failed intubations, intraoperative fires, injuries possibly due to patient positioning, nerve blocks, central lines, and intraoperative warming devices. I have been consulted to evaluate intra-op hypotension, intra-op stroke and cardiac arrest, possible medication errors, overdoses and toxicity, post-op respiratory arrest and perioperative management of OSA (obstructive sleep apnea).

I could be consulted in any area of anesthesia where there might be a complication. My experience in anesthesia is quite broad, but there are a few areas (e.g. OB, peds, cardiac) that I no longer practice and will refer to colleagues.

Usually, attorneys want to know if the anesthesiology team followed the standard of care. Sometimes they ask my opinion about causation. Some cases are straightforward — the anesthesia team followed the standard of care, or the patient injury was unrelated to anesthesia. Plaintiff attorneys are often unsurprised by my opinion but still appreciate knowing when there's not much of a case. Other times, the deficiencies in care are easily identified. Plaintiff attorneys are excited

to know this, but defence attorneys also value these opinions to help them decide how to proceed.

Many cases are not so clear. I review the anesthesiologist's actions, look at the clinical situation, and consider relevant publications in forming my opinion. Once I have formed an opinion, I discuss it with retaining counsel and let them know the reasons for my opinion. I also tell them how likely it is that other experts could differ in opinion and what those differences may be. As an expert for both plaintiff and defence cases, I am used to thinking about the other side of the argument — especially when the standard of care may be unclear or in flux.

More than once, the case settled shortly after I submitted my opinion or report to retaining counsel. Juries and even judges and lawyers do not know enough about the medical considerations to be able to decide the case. Expert witnesses must recognise the issues and explain them in terms simple enough for almost anyone to understand, thus enabling a jury to be able to decide the question of medical malpractice. A strong expert opinion, clearly expressed and well-supported, is gold.

## What developments have you witnessed in the field of anesthesiology during your time as a medical practitioner and an expert witness?

During my career I have seen numerous changes to improve patient safety and the practice of anesthesia. Some of these changes have come in the form of new medications — notably Exparel and Precedex. Exparel is a long-acting form of Bupivacaine, a local anesthetic, that can be used to help decrease post-operative pain for up to three days. Precedex is a medicine that works on the sympathetic nervous system (fight or flight) to decrease pain and cause mild sedation without significant respiratory depression (excessively slow breathing). These medicines, together with the new emphasis on 'multi-modal analgesia' help to control post-operative pain with much less need for narcotic pain medicines. Advances in ultrasound technology and nerve block studies using ultrasound guidance further enhance the practice of multi-modal analgesia by making pain-relieving nerve blocks safer and easier to perform.

Sugammadex is a newer medication that also may enhance patient safety. Sugammadex uses a unique approach to reverse the commonly used muscle relaxant medicines Rocuronium and Vecuronium. Instead of relying on competitive inhibition (see the 'team musical chairs' analogy below) to overwhelm the muscle relaxants, Sugammadex binds Rocuronium and Vecuronium, removing them from circulation. This allows much quicker, more complete restoration of muscle strength after muscle relaxation administration. This is potentially life-saving in a difficult intubation scenario.

One other significant advance in anesthesia is the widespread adoption of 'surgical time-out', a communication tool which promotes the exchange of important information about the patient, the surgical procedure and anticipated concerns just before beginning the operation. Surgical time-out is intended to help decrease wrong site/side surgery, positioning injuries and burn injuries, and to promote appropriate antibiotic use and patient temperature management. Another key component of surgical time-out is promoting communication and championing the cause of patient

safety. All members of the surgical team including doctors, nurses and technicians are encouraged to speak out about any safety concerns.

## Roughly speaking, what proportion of your career has consisted of your expert witness practice?

Expert witnessing has been a small but enjoyable part of my career—I find it challenging and intellectually stimulating. I practiced anesthesia for nearly 20 years before taking any cases as an expert witness. I accepted my first case as an expert witness in 2018, so I have been an expert witness for about 15% of my anesthesia career. I still practice anesthesia full-time, so my expert witness activities are limited, occupying about 5-10 % of my time. Even this relatively small involvement has provided me with valuable experience. I believe I am a better, more careful anesthesiologist because of my efforts as an expert witness.

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## What qualities would you attribute to an effective expert witness?

Effective expert witnesses need to pay attention to details and be organised. Experts who are confident in the face of criticism, can think on their feet, and know how to teach are invaluable. The ability to explain difficult concepts clearly is also key. An effective expert witness can make complex issues understandable both verbally and in writing.

Sometimes, experts must think up their own analogies to get the point across. I once explained competitive inhibition by likening it to team musical chairs where two different teams of chemicals (e.g. Fentanyl and Narcan) compete for opioid receptor binding sites (chairs). If one team vastly outnumbers the other, it will get almost all the chairs, displacing the other team and negating its chemical effect.

One of the things that helped me to be a more effective expert witness is related to my teaching experience. Although I no longer have the kind of daily personal interaction with anesthesia residents as I did while at UCSD or during my military service, I still have opportunities to teach students the basics of anesthesia. Because even the basic anesthesia textbooks are too long and detailed for students and residents on a 2- to 4-week anesthesia rotation, I wrote a short handbook for the rotators while I was in the US Air Force. Over the years I have revised it several times and offered it to help teach students at Baylor University Medical Center. Recently, I decided to formally publish Anesthesia Basics for Medical Student and Resident Rotators.

Although these rotators have medical training, most of them have little background in anesthesia. Consequently, while writing and revising this textbook I had to keep in mind who my audience was and what kind of explanation would best convey the concepts I was trying to teach. I chose my words carefully and added analogies, graphs, charts and illustrations to clarify my meaning. This kind of writing is great practice for explaining concepts as an expert witness.

## What advice would you give to another MD looking to train as an expert witness?

The law can seem very intimidating at first, but serving as an expert witness, like all endeavours, gets easier with practice. You are already an expert — years of schooling, training and experience have made you an expert in your field. To be an expert witness you just need help with the witness part. There are several organisations that train medical expert witnesses and various social media websites with willing mentors. Invest some time and effort into getting yourself trained. Get feedback on your work from mentors as you are learning. Get listed in a directory. Answer inquiries promptly. Work hard and give good value to your clients but do not undervalue your services — especially as you gain experience. Do not be afraid of depositions. Remember you are the expert. Do not get rattled by aggressive questions. Take a deep breath and answer the question honestly. Stick to your guns, but graciously admit when you have made a mistake and move on. Tell the truth; your integrity is priceless.

You will probably get more inquiries from plaintiffs than defence counsel at first. Take both kinds of cases — it will make you a better expert. If you fear taking plaintiff cases, start by taking cases that make you say, "Oh my gosh, they did what?!" Maintain your objectivity and do not be swayed by retaining counsel who may try to push you into opinions that are not truly your own. Your opinion of the standard of care and causation should be the same regardless of who retains you. When you sign your name to an affidavit or a report, make sure you understand what it says and that it reflects your opinion accurately. Medical expert witness work can be rewarding and exciting. It can make you a better doctor and a more careful documentarian. It is not for everyone, but if you have an interest in it, I encourage you to explore being an expert witness.