

March 2015

➤ **Anesthesia Insights: Advice for Medical Students**

*“Although anesthesiologists remain key players in the O.R., they are moving beyond their historical role as the “internists of the operating room.”*

**(Mis)Perceptions of Anesthesia as a Specialty**

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Ask a layperson what an anesthesiologist does and you’re likely to be told that they “put you to sleep.”

Ask an outpatient medicine nurse and you might get a secondhand joke like, “the ABCs of anesthesia are airway, breathing and crossword puzzle.”

Misconceptions about anesthesia, anesthesiology and anesthesiologists abound among patients and in popular culture, but I (Ryan) was even more surprised to hear “it must be awesome to get paid to do nothing” from a fellow first-year medical student after I’d told her that I am interested in the specialty.

These misperceptions of anesthesia – a specialty that requires critical thinking in life-or-death situations and a mastery of anatomy, physiology and pharmacology – have unfortunately at times been fostered within the medical community. Also, if current medical students do not understand what the specialty entails, the challenge in educating the public will only be doubly difficult.

Anesthesiologists are moving beyond their historical role as the “internists of the operating room.” Increasing numbers of anesthesiologists choose to subspecialize in critical care medicine, a model well established around the world. Some lead hospital and health system administration and quality improvement (our home department’s chair was recently named chief medical officer of our health system) or are thought-leaders in health policy. And clinically, anesthesiologists are the driving force behind a reimagined future of surgical care in the Perioperative Surgical Home model.

While preclinical medical students are wise to keep an open mind about their future professional direction and eventual choice of specialty, if you are interested in becoming a leader in your field, we hope you’ll join us in exploring the specialty... and in educating your classmates!

## **To Go or Not To Go?: Tips for Third-Year Medical Students Considering an Away Rotation**

*“For every action, there is an equal and opposite reaction. While Newton was referring to physics, this same principle applies to the advantages and disadvantages of choosing to explore other medical facilities.”*

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As third-year medical students, we often assume that choosing a specialty is the toughest decision that we must make before the academic calendar comes to an end. Our special cohort chose to pursue an exciting career in anesthesiology. Now that we have overcome that obstacle, we face many more barriers that are almost equally challenging. We have been asked to design the perfect fourth-year schedule and determine the utility of visiting student clerkships. In hopes of making this decision a little less anxiety-provoking, we gathered advice from recent applicants, current anesthesiologists and members of admission committees.

Choosing whether or not to partake in a visiting student clerkship in anesthesiology has been a controversial subject. Unlike orthopedic surgery and emergency medicine, there is no clear answer for the benefit of away rotations in this field. It all comes down to personal preference, but the advantages and disadvantages are universal.

### *Advantages*

Meeting with residents, attending physicians and program directors gives visiting medical students the opportunity to separate themselves from the large stack of applicants they must decipher. Committee members may favor an applicant whose face is familiar when compared to other applicants with similar scores and evaluations. This can be extremely beneficial for individuals with family ties or spousal careers tied to specific locations. In addition to desiring a specific location, it is also beneficial to visit programs of your interest when you prefer to move out of the region of your medical school for residency. We often focus on residency programs' opinions of applicants during the interview process. It is important to remember that we are also interviewing the program. Visiting an institution provides great insight on the type of environment you may work in as a resident and the people you will learn from for four years. This knowledge can make a huge impact when creating a rank list for the Match. Medical students without an anesthesiology residency program at their home institutions must partake in an away rotation in order to receive letters of recommendation. Letters from academic institutions are better received than letters from community physicians that are not affiliated with a medical school.

### *Disadvantages*

For every action, there is an equal and opposite reaction. While Newton was referring to physics, this same principle applies to the advantages and disadvantages of choosing to explore other medical facilities. The most commonly perceived disadvantage is the time required for visiting students to familiarize themselves with a new hospital system. This adjustment often hinders a student's performance during the first of four short weeks, and first impressions are critical. Another major disadvantage in away rotations is the financial obligation. After paying Visiting Student Application Service (or VSAS) fees, applicants must pay administrative fees to the visiting institution, which can amount to hundreds of dollars. In addition to those costs, students must also cover the cost of housing at their visiting location and homes for that month.

In summary, visiting student clerkships are not necessary to match well in anesthesiology. Away rotations are recommended primarily for students who lack anesthesiology residency programs at their home institutions or students who would like to attend a residency program outside of the region of their medical school.

For more information, visit: <https://www.aamc.org/students/medstudents/vsas/>

## ➤ Pursuing a Career in Anesthesia

### *Beyond Residency: Fellowships in Anesthesia*

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As we can all attest, one of the biggest stressors of medical school is deciding which specialty to pursue when applying for residency. It is common for nearly all medical students to fret over the decision of a specialty and wonder if they will be happy in the long run. This stress is understandable considering the fairly limited scope of training that most residencies offer. However, the students who have chosen to pursue training through a residency in anesthesiology are able to rest a little easier. With more than 15 fellowships to choose from, graduates of anesthesiology residencies have a greater variety of work settings and subspecialties than almost any other residency offered. In short, one of the greatest strengths of training in anesthesiology is the freedom of choice.

Throughout four years, anesthesiology residents are introduced to many different practice settings, patient populations, work environments and multiple applications for the skillset they are learning. After exposure to the multitude of different opportunities within anesthesiology, the residents are much more familiar with their preferences and strengths and are able to make more informed decisions about which subspecialty is right for them. Armed with this new information, fourth-year residents are then able to tailor their future careers by taking advantage of one of the many fellowship programs available.

To most medical students, the idea of anesthesiology offering a wide array of training opportunities is completely foreign. In fact, even those who are familiar with the profession may be surprised by the variety of options for fellowships that can be seen on the following list.

#### FELLOWSHIPS BY TYPE

Anesthesia Acupuncture  
Adult Critical Care  
Advanced Clinical Anesthesia  
Anesthesia Global Health  
Cardiothoracic Anesthesiology  
Neurological Critical Care  
Neurosurgical Anesthesiology  
OB Anesthesia  
Otorhinolaryngology  
Pain Medicine  
Pediatric Anesthesia  
Pediatric Critical Care  
Regional and Ambulatory Anesthesia  
Transplant Anesthesia  
Trauma Anesthesia  
Quality and Safety

As anybody can imagine, the breadth of interests that can be served by the above list of fellowships is astounding. Somebody interested in pediatrics can pursue a career in pediatric critical care or pediatric anesthesia. Both options will provide the opportunity to work with pediatric patients, but offer very different experiences depending on your preferences. What better career could there be for a person with intense interest

in hemodynamics and blood flow than cardiothoracic anesthesia? Imagine being able to stop people's hearts, run their blood supply through a bypass machine to keep them alive during an eight-hour operation only to bring them back at the appropriate time. Perhaps high-stakes trauma is all that will hold somebody's attention. Properly trained trauma anesthesiologists are masters at resuscitation and are generally a critical member of the trauma team at most level one trauma centers.

Finally, if you crave a slower paced lifestyle with regular hours, technically challenging work and great pay, pain medicine might be exactly what you are looking for.

Throughout the coming year, we will be highlighting several of the available fellowships in our newsletters in order to provide more specific information about the training and the career opportunities that each of them can provide. Armed with this additional information, it is our hope that students interested in anesthesiology will feel confident knowing that they have chosen a career with so many options available to them after residency. And perhaps the next time a fellow student is feeling particularly stressed about which residency they should pursue, you can help them to take a deep breath and then permanently relieve their anxiety by pointing them toward a career in anesthesiology.

### [Fellowship Opportunities](#)

The Accreditation Council for Graduate Medical Education (ACGME) provides a list of accredited programs and sponsoring institutions at the <https://www.acgme.org/ads/public> ACGME website.

### ***Fellowship Spotlight: Cardiothoracic Anesthesiology***

*“Completing a cardiothoracic fellowship provides the opportunity to help patients with some of the most advanced disease.”*

By: Joshua McAnulty, M.S.  
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#### *What is the cardiothoracic anesthesiology fellowship?*

The cardiothoracic fellowship is an additional one to two years of training after completing residency in anesthesiology. There are 60 accredited and 15 unaccredited cardiothoracic fellowships available throughout the United States. While residents are exposed to cardiothoracic cases, a fellowship is essential to mastering the invasive monitoring techniques used during these operations and understanding the complex physiology.

#### *What is learned during the fellowship?*

Cardiovascular physiology is mastered through clinical experience and didactics. As importantly, the nuances of cardiac lesions or other disease states on the cardiovascular system are learned. Several invasive monitors are used during cardiac surgery to guide management, including arterial lines, pulmonary arterial catheters, spinal drains, and transesophageal echocardiography (TEE). Specifically, gaining experience with TEE is a crucial aspect of the fellowship. TEE is used to diagnose and evaluate the anatomy and function of the heart in real time during surgery. Acquiring the skill to manipulate the endoscope to obtain the appropriate view of the heart is crucial.

#### *What sort of cases do cardiothoracic anesthesiologists perform?*

Cardiothoracic anesthesiologists take care of patients with a variety of pathology. Some examples include: surgical repair or replacement of valvular lesions, coronary artery bypass grafting (CABG), heart and lung transplantation, and surgical placement of ventricular assist devices for end-stage cardiac failure.

Depending on the practice, the amount of cardiothoracic-specific cases performed varies. Therefore, the variety of cases outside of cardiothoracic surgery can be chosen.

### *Why choose a cardiothoracic fellowship?*

Completing a cardiothoracic fellowship provides the opportunity to help patients with some of the most advanced disease. Part of what makes anesthesiology interesting is using knowledge of the body's physiology to make pharmacological interventions. With the use of invasive monitoring during cardiothoracic surgery, a more complete picture of the patient's physiology can be determined to provide the best patient care. Great strides have been made in minimally invasive surgery and intravascular approaches. Cardiothoracic anesthesiologists have the unique skillset for these surgeries and can help to further the progression of these innovations.



Find more information about the cardiothoracic anesthesiology fellowship and specific programs at <http://www.scahq.org/>.

### *Sources:*

Society of Cardiothoracic Anesthesiologists: <http://www.scahq.org/>

Jordan Goldhammer, M.D.. Assistant Professor of Anesthesiology at Thomas Jefferson University Hospitals. Recent graduate of the University of Pennsylvania Cardiothoracic Anesthesiology program.

## **Outside the O.R.: How Anesthesiologists Utilize their Skills on a Global Scale**

*“Austere environments (post-disasters, areas of conflict, and chronic humanitarian crises) are not intuitive. Even the most experienced volunteer can meet unexpected challenges...” Kelly McQueen, M.D., 2013 (Chair, Committee on Global Humanitarian Outreach)*

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As I watched an episode of “Grey’s Anatomy,” I wondered why it seemed as if surgeons had all the cool cases and was consistently shown to exemplify the proverbial “grace under pressure”? As an aspiring anesthesiologist, I would like others pursuing the specialty to realize that there is more to anesthesia than primetime television realizes or understands. On a day-to-day basis, anesthesiologists demonstrate the ability to handle versatility in cases and patients, unrelenting focus on patient safety and care, and possess the courage and leadership skills that it takes to lead a team. Traditionally, anesthesia professionals perform their roles inside the operating room, but there is a continuing need and growing trend for this role to expand. For those thinking that I am referring to NORA or “non-operating room anesthesia”, I essentially am; however, let’s consider anesthesia even outside of the hospital.

### *Academic Pursuits: International Health Electives and Global Anesthesia Fellowship*

Anesthesia fulfills a critical role in global health care by ensuring patient safety during various procedures or natural processes like childbirth. Medical conditions that are considered trivial or routinely treated according to standards of care in developed nations can be life threatening in third-world countries due to lack of access, adequate supplies or medical education. Academic institutions recognize the need for the skills of anesthesiologists abroad and have developed global health programs to address health care disparities. Anesthesia residents are encouraged to explore opportunities for clinical training in the developing world and are provided research-based guidance for projects on an international scale. International health electives and global anesthesia fellowships enhance resident training by providing learning experiences focused on perioperative patient care and anesthetic management in resource-poor environments. Residents are not only managing more advanced pathology and medical conditions in the developing world that aren't encountered back home, but they are also enjoying rich cultural experiences different from their own.

### *Humanitarian Efforts: Medical Mission Trips and Post-Disaster Relief*

According to the [ASA Committee on Global Humanitarian Outreach](#), there is an anesthesia crisis in low-income countries around the world, and the organization has made improving patient safety in low-income countries a top priority. Commitment to volunteerism has been a long-standing tradition among anesthesiologists who have provided their services and ensured patient safety during surgical, obstetric and pain management procedures. The skills that make anesthesiologists essential in the operating room prove to be critical when similar procedures are undertaken in areas that lack resources. Although being outside of the controlled environment of the operating room can be challenging, it can only prove to increase the expertise of the clinician. Volunteer anesthesiologists have made an impact on the lives of citizens in every region of the world by decreasing health disparities through medical missions and providing desperately needed medical care in disaster relief efforts.



ASA-GHO Photo Gallery, Haiti 2011.

In conclusion, you have chosen an excellent specialty. Although I could only give you a brief overview of the impact that anesthesiologists make on a global scale, I hope that I was able to share some insight into the vast opportunities available to you. There are many ways in which you can contribute to communities and people's lives as a future anesthesiologist. As you look at residency programs and research volunteer opportunities throughout medical school, consider the ways in which you can make an impact not only in your own communities but also abroad. Be sure to reach out to your institution's department of anesthesiology or a mentor for advice. Remember that our world can only be as great as the individuals who decide every day to make a difference!

## *Is Anesthesia a Cush Specialty?*

By: Christopher Li, M.S.  
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Every aspiring physician comes to the same crossroads in their medical career, facing the same question – “What specialty is right for me?” Factors ranging from board exam scores to work-life balance all flood the brain at once. The culmination of these factors for me was to take the route to perioperative care, to become an anesthesiologist. With that decision rooted in my mind I proudly gave my reply to all who inquired of my interest. However, to my chagrin, I was met with the reproach that I was taking the easy road, a softer specialty. Was that what I was doing? Is anesthesia a cushy specialty?

In search of an answer, I turned to Dr. Richard Novak, the Deputy Chief of Anesthesia at Stanford University, or more specifically, to his blog: The Anesthesia Consultant. Dr. Novak’s reply to this question is no simple one, but he does decisively shred the myth of the anesthesiologist golfer, intermittently interrupted to perform their duties in the operating room. He describes in detail the on-call anesthesiologist, in at 6:30 a.m. with eight surgical anesthetic cases for the day, a night of epidurals, and a struggling endotracheal tube greeting him along with the sun. Dr. Novak admits that there is a lifestyle advantage, one that juxtaposes periods of dedicated work and dedicated leisure. Due to the absence of chronic patient follow-up and hospital employee overhead, anesthesiologists have flexibility in their schedule that allows for part-time work or longer vacations. However, does this make anesthesia a laxer specialty? Dr. Novak notes that an anesthesiologist, the epitome of airway expertise, provides care to 500-1,000 patients every single year, ensuring that each one of them receives the airway management care they require for whatever the situation, be it delivery, trauma, organ transplant or critical care. Many of these cases are as prevalent during the day as the night, and no matter the cause for that patient’s presence, right by their side is an anesthesiologist, whether they know it or not.

After reading his article, I bring myself back to the question at hand. Is anesthesia a cushy specialty? My answer is no - the anesthesiologist, just as any other physician in any other specialty, toils over their patients because that is what drew them to medicine in the first place. As it has been described to me before, the anesthesiologist is the airplane pilot of the operating room. Passengers don’t clap for a pilot when a plane lands safely – they fully expect it to each and every time it lifts off. Patients most likely won’t clap for an anesthesiologist when they successfully emerge from surgery, even if there were bouts with blood pressure or bronchospasm that had to be dealt with while they were under. Regardless, the anesthesiologist is there, by the patient’s side through it all. Therefore, as a medical student striving toward mastery of airway management, I will always state with pride that I want to be an anesthesiologist, the pilot laboring over his passengers until the end of every flight.

*The Anesthesia Consultant ([www.theanesthesiaconsultant.com](http://www.theanesthesiaconsultant.com)), by Dr. Richard Novak, is an online blog designed to inform and entertain both laypeople and medical specialists on various topics in the field of anesthesiology.*

## ➤ Opportunities in Anesthesia



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We invite you to attend the [2015 ASA Legislative Conference](#)! This grassroots advocacy meeting will be held at the J.W. Marriot Hotel in Washington, D.C. on Monday, May 4 to Wednesday, May 6, 2015.

The Legislative Conference is the premier advocacy meeting of the [ASA Political Action Committee](#) (ASAPAC). The conference will include sessions on legislative, regulatory, political and grassroots advocacy activities. The conference will culminate in going “up on the Hill” to meet with lawmakers in Congress to educate them on the important issues facing anesthesiologists!

Why should you attend? You are the future of the specialty! It is important to stand up for patient safety, your future career and the interests of our specialty. Attend so you can communicate directly to your lawmakers that you care about the issues being debated.

The registration deadline is April 10. All registration is done through your [state society](#), so contact them today! The registration fee is \$100 for medical students, though some states have graciously covered this cost for students to be able to attend.

I attended this conference last year and had an incredible experience. The conference provided a great “refresher course” on how the legislative process works and insight into current issues. It was also a wonderful venue for networking with many of the great leaders in anesthesiology. Don’t hesitate to email me ([sshumpert@mcw.edu](mailto:sshumpert@mcw.edu)) if you have specific questions or check out [www.asahq.org](http://www.asahq.org) for more information. I hope to see you in D.C.!



## *FAER Scholarship Opportunity*



The [Foundation for Anesthesia Education and Research](http://faer.org) (FAER) is offering three scholarships to each of the two workshops within the Anesthesiology Innovation and Entrepreneurship Program held in 2015. The scholarships include complimentary registration and up to \$500 to help cover travel expenses.

**To apply for a scholarship, please submit the following materials to Sara Lueders at [SaraLueders@faer.org](mailto:SaraLueders@faer.org) by the deadlines listed below.** The workshop planning committee will review all applications and decide upon recipients.

### ***DEADLINES***

April 15: Patents and Commercial Assessment Workshop (June 6)

July 15: Funding Strategies Workshop (September 12)

<http://faer.org/programs/resident-and-medical-student-innovation-workshop-scholarships/>

### ***Plan to attend the ANESTHESIOLOGY® 2015 annual meeting***

Learn, share and engage with more than 15,000 attendees from around the world at the ANESTHESIOLOGY 2015 annual meeting held October 24-28 in San Diego. With dedicated sessions and events for medical students, you'll find this meeting to be an investment in your future. Mark your calendar and visit [goanesthesiology.org](http://goanesthesiology.org) for more information today. Registration opens in June.

**\*\*\*Interested in Getting Involved? Contribute to the *MSC Newsletter*.** If you are interested in writing an article for an upcoming *MSC Newsletter*, please contact [asa.mscsecretary@gmail.com](mailto:asa.mscsecretary@gmail.com)