

Medical Student Component Anesthesia Insights: Advice for Medical Students

PACE: The Four-Letter Word to Conquering Preclinical Years in Medical School

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The start of the first year of medical school is both exhilarating and terrifying: you are well on your way to becoming a physician and entering the clinical world, but now you are surrounded by students who survived and achieved in the same pre-medical classes, medical school applications, interviews and MCAT as you did. It's easy to be overwhelmed during medical school, especially the first year: adjusting to the depth and amount of classwork, balancing extracurricular activities and making time for yourself. However, a key word to keep in mind as you navigate through medical school is to PACE yourself.



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(P)ersonal Life

Medical school, especially the preclinical years, will be quite draining and it's easy to get bogged down and push your personal health aside. Lectures, OSCEs, exams and anatomy labs really make you feel like you don't have too much time for yourself. However, keeping yourself healthy will allow you to efficiently function day-to-day and be more productive. Take time to exercise, eat healthy and reflect on the broader scope of what you're trying to accomplish.

There is an analogy that medical school is like "drinking from a fire hydrant." The amount and pace of the information can be overwhelming at times... keep a big picture mentality...

(A)cademics

Step 1, class rank, residencies, specialties are probably some of the most common words you will hear throughout medical school. There is an analogy that medical school is like "drinking from a fire hydrant." The amount and pace of the information can be overwhelming at times, and it's easy to get hung up over details or get upset over one bad test grade. However, from an academic standpoint, it's important to learn the coursework and apply it in the clinical setting. Keeping a big picture mentality will allow you to grasp key concepts, and studying efficiently will help you make the most use of your time (concept mapping is one of many studying methods that you can utilize; check out our resources below to learn more about it).

(C)areer Choices

Some medical students come into medical school with a career choice in mind: orthopedic surgery, radiology and pediatrics, just to name a few. While some medical students do eventually go into their desired careers, many students switch interests, especially during and/or after their third year rotations. Your decision on a specialty choice will take into account many factors outside your Step 1 score such as: job stability, family life, location and much more. If you do have an interest in a certain specialty, seek it out, join a student interest group or set up a shadowing experience; however, keep an open mind.

(E)xtracurriculars

Many medical schools have clubs and various organizations (anesthesiology student interest group hint, hint...). Being involved is a great way to take a break from studying and join groups that you have a genuine interest in. But sometimes it's easy to get too involved and join various groups that you might not be able to fully commit to. Take time to look at all the groups: inquire about meeting times, officer positions and events that the club might hold throughout the year. Also, keep true to your interests and be honest with yourself about your goals.

As you make your way through your preclinical years, make sure to reflect and congratulate yourself for getting into medical school in the first place! The journey is just beginning. Although medical school can be daunting and time consuming, you'll become more comfortable with the rigor and setting your

own pace and goals. Whichever specialty you decide to choose, don't lose sight of what you set out to accomplish. Work hard, explore your interest and enjoy the journey!

Resources: Concept Mapping - http://www.ttuhsc.edu/som/success/nonttuesp cm unit.aspx

ERAS 101: What makes an applicant competitive?

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Preparation for residency applications can be challenging as a medical student. If you are reading this article, you are considering a great, if not the best, specialty for your future career. As interview season approaches, I am sure that many of you are wondering how you measure up alongside other applicants or how to make yourself standout on paper. It is important to approach your application with the understanding that although attributes that make an applicant competitive vary between different specialties and residency programs, there are some consistent components to every application that can make you stand out. Throughout medical school we often hear about the significance of Step scores, clerkship grades and class rank; however, your curriculum vitae, personal statement and letters of recommendation are also critical components of a strong application. Hopefully, this article will help you gain insight into important components of the residency application.

Step Scores

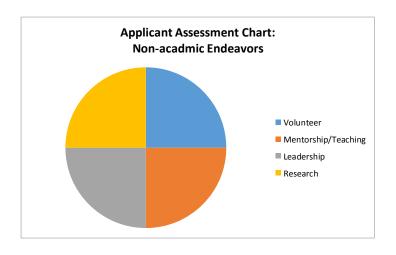
Your goal on Step 1 and 2 are to prepare and do as well as you can. The 2014 national average Step 1 score of U.S. seniors that matched into anesthesiology was 230. With this being said, ranges are considered but consideration varies among different residency programs. If you are concerned about your score, be sure to discuss your application strategy with a mentor and do well on Step 2. Most importantly, use your scores in order to develop an informed strategy as far as determining the programs to which you apply, how many places you decide to apply to and interview and ultimately how you rank programs on your match list.

Letters of Recommendation

It cannot be stressed enough how essential LORs are to your application. This is the time where physicians you have worked with are able to inform programs about your character, work ethic and potential as a future anesthesiologist. You should aim for at least four letter writers, with three being the minimum for a complete ERAS application. Letters from anesthesiologists, surgeons, critical care and internal medicine are preferred. Providing your CV and personal statement will better inform them of who you are and ensure that they are better able to write a letter of substance. Be sure to ask your writers if they can write a strong letter for you. If they are honest enough to say that they cannot, don't take it personally, say thank you, and find someone else. Asking for letters early on can ensure that you meet application deadlines and will allow your writers enough time to write a solid letter. Remember that it is never too early to ask.

Curriculum Vitae

The CV is a comprehensive view of what you have been doing inside and outside of the hospital, highlighting your individual experiences, involvement in activities, skills and interests, and commitment to service, research and/or leadership. Make sure that your CV is thorough; however, it should be a summary that does not exceed two pages. According to Dr. Nichole Taylor, Associate Anesthesia Residency Program Director at Wake Forest,



residency programs like to see a well-rounded applicant and assess them based on their nonacademic endeavors. She states that an individual applicant rarely has an equal distribution between volunteerism, teaching/mentoring, leadership and research, but it is ideal to see at least two of these categories heavily represented.

Personal Statement

Your personal statement is really your time to shine. It provides residency programs with insight into who you are as a person, your unique characteristics and life experiences, and what makes you a fit for their program. Please avoid the "I love physiology and pharmacology" cliché and rehashing your CV. This should be a statement about your journey in medicine and how it has led you to pursue anesthesia as a career. Not only should you keep in mind your audience when writing, but also know your writing style and strengths in order to ensure that they enhance your story. Make sure that it is grammatically correct and has a logical flow. It cannot be reiterated enough that you proofread your personal statement and have multiple people review it, particularly someone who reviews applications.

Applying to residency programs is another step in your journey towards a rewarding career in medicine. Your ultimate goal is to bring your application to life and present your best self in order to ensure that you receive interviews at your desired anesthesiology residency programs. Best of luck on the interview trail!

Resources:

Charting Outcomes in the Match 2014 - http://www.nrmp.org/match-data/main-residency-match-data/

ERAS Application Worksheet - https://www.aamc.org/students/download/424186/data/ worksheet2016.pdf

Personal Statement Advice - http://www.ama-assn.org/ama/pub/about-ama/our-people/member-groups-sections/minority-affairs-section/transitioning-residency/writing-your-personal-statement.page



Pursuing a Career in Anesthesia

Fellowship Highlight: Adult Critical Care Anesthesia

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After graduating from nursing school, I was fortunate to land a job in the adult critical care unit of the regional level one trauma center in my town. As a new nurse I was constantly awed by the knowledge and experience of everybody around me, and I wondered if I would ever operate with the same efficiency and intuition that the rest of the team seemed to have. Among all of these talented individuals there were two doctors who seemed to stand out above the rest. It was rumored among the nurses that the reason why one was so good was because he had been a nurse before becoming a doctor. Go figure! Who would have thought that nurses would hypothesize that doctors would be much better doctors if they had been nurses first? However, rumor had it that the second doctor was so good because he had been an anesthesiologist and then went back to do a second residency in internal medicine and intensive care.

After several months I decided I would ask that doctor about the path that lead him to do two residencies. It was then that I was first introduced to the wide array of specialties that a residency in anesthesiology can lead to. He chuckled as I told him of the rumors of his dual residency and clarified that he had done a residency in anesthesiology and then a fellowship in critical care. He told me that anesthesiology residents have a variety of fellowships to choose from and that critical care was simply one of the paths he could have chosen.

What is the Critical Care fellowship?

The Critical Care fellowship is an additional 12 months of training after completing residency in anesthesiology. There are 54 accredited fellowships available throughout the United States. Critical Care medicine is a multidisciplinary field concerned with patients who have sustained, or are at risk of sustaining, life threatening, single- or multiple-organ system failure due to disease or injury. The fellowship in Critical Care medicine will train fellows to recognize and manage acutely ill patients, providing care for these patients in the setting of the intensive care unit through continuous observation and interventions.

What is learned during the fellowship?

Critical Care medicine is mastered through both clinical experience as well as didactics. For those who are thinking they've already endured a lifetime worth of didactics, these sessions don't seem to be the

"run of the mill sleeper hold" lectures. Fellowship didactics include learning transesophageal echocardiogram (TEE), external cardiac echocardiogram techniques, learning modules that are integrated into monthly simulation exercises, advanced trauma life support (ATLS), and learning the nuances of invasive monitoring necessary to care for the critically ill patient. But perhaps the keystone of the Critical Care training is the clinical experience. Most programs offer nine months of clinical experience in the multidisciplinary adult surgical ICU and three months of elective rotations in areas such as cardiovascular, neurosurgical, orthopedic, transplant or vascular surgery patients. One surprising feature of several Critical Care fellowships is that a portion of the time spent clinically is actually in the O.R. providing anesthesia for critically ill patients and practicing some of the skills such as TEE in cardiothoracic cases.

Finally, what fellowship would be complete without research? Critical Care fellowships offer a myriad of research opportunities in a mentor-guided environment to allow fellows the opportunity to advance their skills in anesthesia or critical care based research.

Why choose a Critical Care fellowship?

Choosing which fellowship is right for you is a highly individualized decision. The doctor that I worked with in Flagstaff, AZ, chose critical care medicine because he liked the challenge that the ICU represented. The cerebral nature involved with providing care for 15 critically ill patients at once drew him to critical care. Perhaps others will be drawn by the variety of cases that will be encountered every night while working with this patient population. Further, others may be drawn out of the O.R. by the continuity of care. Anesthesiologists in the O.R. generally only see patients for a few hours while a critical care trained anesthesiologist in the ICU may see a patient through the entire period of their acute illness.

Whatever the reason might be, if you loved your rotations in the ICU as a medical student, then the Anesthesia Critical Care route will provide the best training to successfully become a leader within critical care team.

Resources:

Find more information about the Critical Care fellowship and specific programs at Society of Critical Care Anesthesia - http://www.socca.org

Duke University Critical Care fellowship - http://anesthesiology.duke.edu/?page_id=818043

Vanderbilt University Critical Care fellowship - https://www.mc.vanderbilt.edu/root/vumc.php? site=1anesthesiology&doc=32537

The Anesthesia Care Team, Current and Future

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As ambassadors of anesthesiology within our medical schools, it is important for members of the ASA-MSC to understand both the current landscape of anesthesia care and to stay informed as to legislative changes affecting the specialty.

Many fields of medicine use midlevel providers (MLP) – a phrase generally used to refer to advanced practice registered nurses (APRNs) and physician assistants (PAs) – and most students interested in anesthesiology are familiar with at least one type of MLP: the certified registered nurse anesthetist (CRNA). While CRNA practice can be a divisive issue, with more than 100 million surgeries performed

annually in the United States, there are simply not enough physician anesthesiologists to provide all of the anesthesia care required by a growing and aging population.

MLPs are, therefore, crucial elements within the health care delivery system, in both operative and non-operative settings. Of the approximately 205,000 APRN's in the U.S., 48,000 are CRNAs (with the majority of the remainder licensed as nurse practitioners and certified nurse midwives). Physician assistants, a role much more recently defined than nursing, total approximately 92,000, with 1,500 of those practicing as a specialized form of PA, the anesthesiologist assistant (AA).

Both types of MLP providing anesthesia have received specialized training, and both are used to effectively extend the physician anesthesiologist's ability to provide high-quality patient care. The American Society of Anesthesiologists® (ASA®) supports CRNA- and AA-provided anesthesia within the Anesthesia Care Team (ACT) model:

Directed by an anesthesiologist, the Anesthesia Care Team consists of anesthesiologists supervising qualified nonphysician anesthesia providers and/or resident physicians who are training in the provision of anesthesia care. The anesthesiologist may delegate patient monitoring and appropriate tasks to these nonphysician providers while retaining overall responsibility for the patient.

One crucial difference between CRNAs and AAs is their scope of "independent" practice: all physician assistants (including anesthesiologist assistants) must be supervised by a physician, while laws regulating APRNs' authority for independent practice vary state-to-state. According to the National Council of the State Boards of Nursing, 24 states and the District of Columbia allow CRNAs to provide anesthesia independent of physician collaboration or oversight.

The latest threat to physician-led anesthesia, however, has come not at the state level, but within the Veterans Health Administration (VHA), the nation's largest integrated health care system. Currently, APRNs who work in VHA facilities are subject to the laws of the state in which they are licensed. House Resolution (H.R) 1247, introduced in March 2015, would allow APRNs who work in VHA facilities "full practice authority," removing the need for physician oversight of CRNAs.

As student members of the ASA, we are the next generation of advocates for high and unwavering standards of patient medical care. Educate yourself about the issues – federal, state and local – facing anesthesiology specifically and the practice of medicine broadly. The ASA website's "Advocacy" section (https://www.asahq.org/advocacy) has a number of resources for peer and patient education. Organized opportunities to have your voice heard, such as the recent Legislative Conference in

Washington, D.C., provide a forum to work directly with others deeply involved in these debates so critical to patient safety and the future of the specialty.

Anesthesiology is an incredible field, with leaders in basic science, clinical research, patient safety and health administration. I suspect that as student members of the AMA-MSC, most of us identify at least one of our professional aspirations within that list. Equally important, however, is the health of the specialty as a whole, and it is our collective responsibility to ensure it withstands the continually changing political landscape. I urge you to take the time to gain an understanding of the challenges facing anesthesiology and to become involved in whatever capacity best utilizes your unique talents and ambitions.

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Current Events in Anesthesia

ASA Legislative Conference Recap

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One of the hallmarks that draws me into the field of anesthesiology is the specialty's longstanding focus on improving patient safety and the quality of patient care. This focus was highlighted during this year's ASA Legislative Conference held in Washington, D.C. Key issues at this year's conference included continued efforts for both the House and Senate to promote the physician-led anesthesia care team by opposing efforts by the Department of Veterans Affairs (VA) Office of Nursing Services to advance a nurse-only model of care via a new policy outlined in the "VHA Nursing Handbook." Mandating independent practice of APNPs, a global category that includes nurse anesthetists, would jeopardize the safety of this current team-based physician-led surgical anesthesia care model. We asked our representatives in the House to oppose H.R. 1247, the Improving Veterans Access to Quality Care Act, that includes provisions that aligned with the VHA's proposed policy. We also asked the Senate to support S. 297, the Frontlines to Lifelines Act, that would improve Veteran access to health care without eliminating team-based surgical anesthesia care.

Another major issue addressed at the legislative conference was improved rural health care access for critical access hospitals across the country. These rural hospitals are allowed to access Medicare Part A "pass-through" funds to employ or contract with anesthesiology assistants and nurse anesthetists, however, physician anesthesiologists are excluded, creating a barrier for rural critical access hospitals to utilize these funds for physician anesthesiologist compensation and instead relying on low Medicare Part B payments. We advocated for this critical access to safe physician anesthesia care to our lawmakers in the House through H.R. 2138, the Medicare Access to Rural Anesthesiology Act of 2015.

The conference was a huge success with over 600 attendees, including 10 medical students. There was also a focus on increasing the use of social media to expand the visibility of our advocacy efforts. I participated as an ASA "Social Media Ambassador," which included actively posting conference highlights and even live tweeting the session presented by Senator Bill Cassidy, M.D., (R-LA). Check out #ASAWLC on Twitter to see how social media was used during the conference and to review some of the highlights from the many great speakers that were involved. You can also read more about the issues that were addressed at http://www.asahq.org/Legislative

It is truly inspiring to have such great physician anesthesiologists leading the advocacy efforts and preserving the greatness of the specialty. I offer my sincere thanks to my state component, the Wisconsin Society of Anesthesiologists, and the ASA for their inclusion and mentorship during the conference.

Opportunities in Anesthesia

Rural Access to Care Anesthesia Scholarship

Around 25 percent of the U.S. population lives in rural areas, but it is estimated that less than 5 percent of the total number of active anesthesiologists practice in rural areas. The American Society of Anesthesiologists sponsors a scholarship for medical students introducing future physicians to rural anesthesia. Medical students can apply for scholarships valued up to \$750 to pay for travel and lodging expenses for a rural-clerkship.

Important Information Concerning Eligibility and the Application

Applicants must be a third or fourth year medical student in an approved U.S. program and must be a medical student member of the ASA (\$10 annual fee). An ASA member mentor must oversee the medical student's activities during the rotation. Applications can be submitted throughout the year.

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If you are interested in applying, visit

http://www.asahq.org/about-asa/component-societies/asa-medical-student-component/rural-access-scholarship for more details about the application process, potential rural areas and connecting with an ASA mentor.

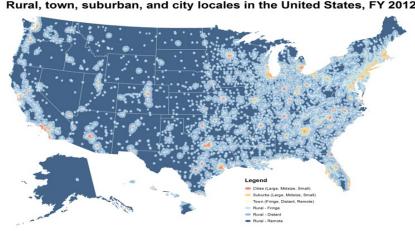
Rural Access to Anesthesia and the Perioperative Surgical Home: Scholarship Recipient Reflection

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Several years ago I underwent an operation, my fourth at the time, and although most were outpatient procedures, I merely met the anesthesiologist for five minutes before being brought into the O.R. However, things were different for my fourth operation. My understanding at the time was that the anesthesiologist was the physician with whom I would interact for a few minutes, stating any medical issues that would prove to be an obstacle during the anesthetic care and then a CRNA would stay with me in the O.R. However, during the last surgery I underwent, the anesthesiologist called and spoke with me for some time about the procedure, the anesthetic agents that would be used, to discuss any comorbidities or previous problems with anesthesia I had, and lastly to put my mind at ease about the operation. This incident stood out in my mind, as it gave me new perspective on the role the anesthesiologist has in the surgical care of a patient and how this role can be expanded upon preoperatively. However, this expansion of surgical patient care can not only be expanded upon preoperatively but also in regards to what has become known as the perioperative surgical home.

This idea would invoke the concept of having the anesthesiologist undertake the primary role in patient care throughout the perioperative surgical time frame, leading to a decrease in the disintegrated care that patients may receive from being seen by multiple different practitioners. Although this is a concept that has begun being utilized more and more in tertiary care centers, there does not seem to be as many resources in establishing this type of care in a rural setting.

This is the concept I was hoping to witness while on my rural anesthesia rotation in Crosby, MN, at Cuvuna Regional Medical Center (CRMC) with rural mentor Dr. Mark Guier (Medical Director of Perioperative services), as this system of care seems to be the way health care is trending towards. I was afforded the opportunity to experience the practice of anesthesia in a rural setting by the ASA Committee on Rural Access to Anesthesia Care, who had established the Rural Access to Anesthesia Scholarship program nearly 10 years ago in order to increase the exposure of medical students to rural anesthesia. My expectation entering the rotation was to gain insight into how anesthesia in a rural setting differed from anesthesia at a hospital in an urban setting, but when I arrived at CRMC I found that the level of cases did not differ greatly between the two. CRMC is a 25bed, critical-access hospital that boasts over 1,000 employees. The operating room is staffed by two anesthesiologists, five independently practicing CRNAs (Patients are risk stratified and elevated risk patients are managed by the Anesthesiologist one on one.) and 16 board certified surgeons. Over 5,000 surgical procedures per year are done with five operating rooms and two endoscopy suites.



Rural, town, suburban, and city locales in the United States, FY 2012

During my rotation I was able to see how the perioperative surgical home has been established and implemented in a rural setting, increasing the surgical volume by reduction in patient transfers to tertiary centers through physician delivered anesthesia for the most challenging patients. Since implementation of this model CRMC has demonstrated reduced the length of stay and readmission rates, and patient morbidity and mortality.1

In order to establish this model, the anesthesiologists began a preoperative clinic to assess the patients undergoing more complex procedures or with multiple co morbidities. These patients are referred to the clinic by primary care physicians, surgeons and consultants such as cardiology who have learned the value of consultation with an anesthesiologist preoperatively. The clinic has cut down on the number of patients needing transfer to tertiary medical centers and allowed the time necessary for any additional testing that needed to be done, reducing any delays that could arise on the day of surgery. This also allowed the anesthesiologist time to develop a plan in order to maximize the intraoperative anesthetic management of the patient instead of gauging the patient's comorbidities right before the case. This is the beginning of establishing a patient physician

relationship that will continue from the preoperative period until discharge. At this point, the anesthesiologist develops a one-on-one relationship with the patient, and through coordinated efforts with the primary care practitioner, the patient's care is managed pre-, intra-, and postoperatively. The rural setting facilitated the concept of one patient to one anesthesiologist providing care, further solidifying the patient physician relationship and providing comfort for the patient. Through this relationship between the anesthesiologist and the patient, the patient will feel more comfortable with his or her anesthetic care. Patients are seen virtually every day by the anesthesiologists and co-managed with the Hospitalist Service until discharge. For those patients requiring ICU care, again anesthesia continues daily rounds and provides consultative services to the Hospitalist service. In addition to this, a Community Paramedic program was initiated by the Anesthesia department to assess postdischarge care needs, through which an initial safety assessment of the home was done and scheduled visits based on need made to evaluate wound care, pain control and vital signs as well as address any other concerns. This allowed for better and more efficient patient care but was only one step in establishing the complete perioperative surgical home.

One thing that stood out in my mind during this rotation in contrast to many other anesthesia models that I have seen is that the anesthesiologists and CRNAs stay with their patients from the very beginning to the very end of their hospital care. They do not hand off their patients during a case or go on breaks. This type of care would be difficult in large busy surgical centers however it seems to work quite well in the rural setting despite being a busy surgical center. Another observation was how anesthesiologists and CRNAs can coexist in a non care team model where everyone is independent yet patients are assigned based on comorbidities and surgical complexity. This maximizes skill sets being assigned where they are best suited and gives all providers the respect they deserve and allows practicing to the extent of everyone's training.

In establishing these programs, the perioperative surgical home can provide a more cohesive model of patient care, benefitting the hospital, the medical team and most importantly the patient. Throughout my rural access to anesthesia experience, I have been able to see this model fully implemented and the benefits of having a consistent, interconnected unit of care. The experience has reaffirmed my interest in practicing medicine in a rural setting, not only due to the need but also in viewing the efficiency, effectiveness and level of cases that the anesthesiologist has in such a setting. I strongly believe that anyone considering anesthesia as a specialty should do a rural based rotation, as it has become an invaluable experience, and I was able to see how much can truly be achieved at a rural hospital.





Join us October 24–28, 2015, in San Diego, California, for ANESTHESIOLOGY® 2015. This five-day, everything-anesthesiology event, attracts upwards of 15,000 attendees from around the world, including physicians, residents and medical students. Although you are encouraged to attend any sessions of interest, ASA has developed a customized conference schedule with sessions and workshops targeted towards medical students. The conference will provide opportunities for networking, learning more about residency programs by meeting with residents and program directors, and social gatherings throughout the weekend. Registration is now open and free for medical student members of the ASA. We hope to see you there!

For more information visit the links below:

Registration - http://www.asahq.org/Annual%20Meeting/Attend/2015%20Registration

Medical Student Conference Schedule - http://www.asahq.org/Annual%20Meeting/Go%20ANESTHESIOLOGY%202015/Residents%20Fellows%20Medical%20Students

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