Residents' Review

Lessons From a Student-Run AIG After Return to In-Person Medical School Following COVID-19

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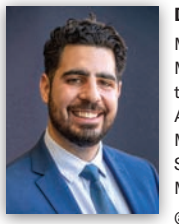
Like many schools, Tufts University School of Medicine shut down all in-person learning and transitioned to an entirely remote learning environment in early 2020. While higher learning suffered on a global level in this time, the new virtual environment proved difficult for first-year medical students (*Med Educ* 2020;54:591-2). Uncertain and anxious, students attended class and cadaveric dissections over Zoom. Robbed of the opportunities to meet each other in person, students held virtual game nights to introduce themselves and attempted to connect with each other through weekly "student spotlight" emails. Yet what would have been a closely linked cohort within a few weeks remained tenuously linked.

Typically, during the first year, students have the chance to explore specialties by engaging with and managing student-run interest groups. A key tenet of these clubs is interacting with faculty leaders, planning, and attending in-person events. Throughout the 2020-2021 school year, though, anesthesia interest group (AIG) meetings and recruitment events were held virtually. Everyone involved worked hard to create what would normally have been a dynamic and inspiring experience, but like many digital gatherings, it fell short. "Panel lectures by anesthesiologists are interesting," said Alex Jenson, Tufts AIG Co-President, "but ultimately not the best way to generate and spark interest in anesthesia." Now, two years later in the wake of Tufts returning to in-person education, we have successfully rebuilt our medical school's AIG and reinvigorated student interest in the field of anesthesia through 1) hosting skills-based, in-person anesthesia events with the support of our anesthesiology department and 2) centralizing resources online for our Tufts AIG.

Despite literature demonstrating that hands-on experience is key for medical students in developing a genuine desire to pursue anesthesiology as a career, exposure to the field remains largely within the clinical years (*Ochsner J* 2020;20:250-4). "Many students, including myself, find a passion for the field rather late" said Rahul Reddy, an MS-4 at Tufts and AIG delegate to the ASA Medical Student Component (MSC). "Crucial experience with skills such as ultrasound and airway management were vital to develop my love for anesthesia, but these came later in school for me." This type of feedback from student mentors inspired us to immediately plan an in-person event. With the guidance of our faculty mentor, Dr. Joyce, we held an in-person airway workshop in fall 2021. The 30 spots for this workshop filled within minutes. During this workshop, attending and resident anesthesiologists coached students in the use of various airway management tools, demonstrated the basic functions of the OR ventilator, and helped students navigate bronchoscopy simulations.

Being the first specialty interest group to launch an in-person event helped our AIG attract a great deal of interest among students. "I originally came to medical school not even considering anesthesia,"



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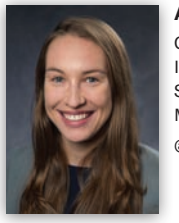

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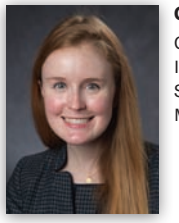

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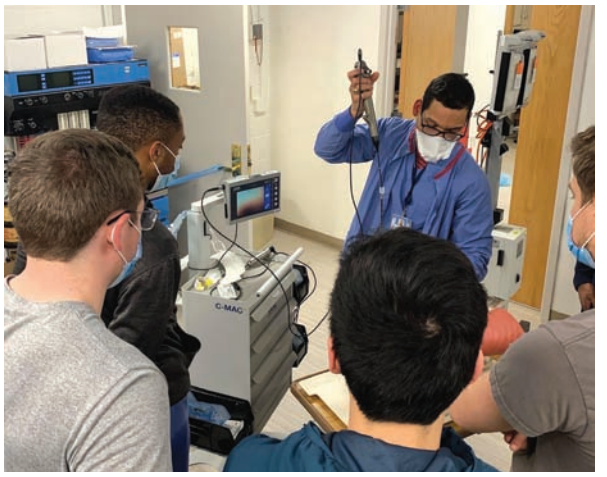
said Erin Mooz, MS-1 at Tufts. "But after this workshop, I am strongly considering anesthesia." Ed Hasaba, a current MS-2 who experienced his first year of medical school virtually, shared in the excitement: "COVID hit us hard when it came to in-person activities. These in-person workshops are golden opportunities."

With a resounding call for more anesthesia events by Tufts AIG members, we began planning a session on the application of ultrasound in anesthesia. While Tufts coursework in the first year covers basic ultrasound techniques, students found it fascinating to apply these skills at an advanced level. The palpable excitement and audible "wows" from students as they found and traced their classmate's sartorius muscle for regional nerve blocks told us that this event was crucial to sparking interest in anesthesia. We implore all AIGs to host both an airway and an ultrasound workshop, as this has been the keystone strategy to engaging young medical students.

While we found that in-person workshops are crucial for student engagement, the Tufts AIG realized that for modern medical students, who access nearly all our information through devices, online resources are also an important asset. Luckily, students interested in anesthesiology are fortunate to have numerous resources available online through the ASA MSC. However, these resources can often be overlooked by students who are only just beginning their journey in anesthesiology, since they do not know they exist. As a bridge to ASA MSC resources, and to better advertise Tufts AIG events, we created a website specifically tailored to the Tufts AIG (asamonitor.pub/3S1cJka).



This website serves as a centralization of Tufts resources online, giving every medical student at Tufts the ability to quickly access Match results, shadowing opportunities, research, clerkships, opportunities for national advocacy, and much more. We found that this website has served as an excellent recruitment tool for the Tufts AIG, as students can easily identify opportunities for involvement throughout the year, even if they did not sign up for our email listserv during the first month of school. We look forward to continuing to expand and enhance the website and were able to design it with free services online, enabling any medical school AIG to create this resource.

Even in the best of times, specialty interest groups struggle with sparking interest and recruiting new members in the early years of medical school. Worse yet, COVID-19 caused the severing of mentor networks that allow for hands-on experiences. Luckily, the easing of COVID-19 restrictions this year has enabled the Tufts AIG to generate a huge interest in anesthesiology. As a testament to these interventions, we have improved membership from 6% (12/200) of the class of 2024 to 30% (60/200) of the class of 2025, and now to 42.5% (85/200) of the new class of 2026 at Tufts University School of Medicine. In the wake of COVID-19, we urge that all AIGS switch to a hybrid model and specifically 1) host information sessions virtually with access to resources online and 2) prioritize in-person training events. ■

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Guidelines for perioperative management of patients with pulmonary hypertension and right heart failure (September 2022)

Pulmonary hypertension with right heart failure is a risk factor for perioperative morbidity and mortality. In a recently published consensus statement, the International Society for Heart and Lung Transplantation recommended a multidisciplinary approach to preoperative assessment to ensure that the indication and benefits of surgery are reasonable and that the patient's condition is optimal for surgery.[1] Intraoperative considerations include use of invasive monitoring for higher-risk cases, use of slowly titrated epidural or spinal neuraxial anesthesia as appropriate, and induction of general anesthesia with etomidate with appropriate use of vasopressors. Vigilant postoperative monitoring is necessary for early recognition and treatment of complications.

Perioperative management of biologic disease-modifying antirheumatic drugs (September 2022)

There is limited evidence to inform the optimal timing of use for biologic disease-modifying antirheumatic drugs (DMARDs) in the perioperative period among patients with systemic rheumatic diseases. In a meta-analysis of cohort studies including over 7<300 patients on biologic DMARDs for systemic rheumatic diseases who were undergoing surgery, patients who continued biologics did not appear to be at an increased risk for surgical site infection or delayed wound healing.[2] Stopping biologics prior to surgery, however, was associated with higher rates of disease flares (26 versus 7 percent). These findings are limited by the retrospective and heterogenous nature of the evidence. Our general approach to patients on biologic DMARDs undergoing elective surgery is to withhold the medication at the end of the dosing cycle if disease activity permits.

Combination pharmacotherapy for painful diabetic neuropathy (August 2022)

Combination pharmacotherapy is frequently used for patients with painful diabetic neuropathy that does not respond to initial monotherapy, despite limited data to support the efficacy of this practice. In a multicenter trial of 130 patients with painful diabetic neuropathy who were given initial monotherapy with amitriptyline, pregabalin, or duloxetine, those whose pain did not improve at six weeks were given a second agent from a different pharmacologic class.[3] At 16-week follow-up, combination strategies consisting of pregabalin added to amitriptyline, amitriptyline added to pregabalin, or pregabalin added to duloxetine all provided greater benefit than monotherapy, and each strategy provided similar (approximately 50 percent) pain reduction relative to baseline pain. These results support the strategy of combination pharmacotherapy for patients with painful diabetic neuropathy that does not respond to initial monotherapy.

1. McGlothlin DP, Granton J et al. ISHLT consensus statement: Perioperative management of patients with pulmonary hypertension and right heart failure undergoing surgery. *J Heart Lung Transplant*. 2022;41(9):1135.
2. van Duren BH, Wignall A et al. The Effect of Perioperative Biologic Disease-Modifying Anti-Rheumatic Drugs on the Risk of Postoperative Complications: Surgical Site Infection, Delayed Wound Healing, and Disease Flares Following Orthopaedic Surgical Procedures. *J Bone Joint Surg Am*. 2022;104(12):1116.
3. Tesfaye S, Sloan G. Comparison of amitriptyline supplemented with pregabalin, pregabalin supplemented with amitriptyline, and duloxetine supplemented with pregabalin for the treatment of diabetic peripheral neuropathic pain (OPTION-DM): a multicentre, double-blind, randomised crossover trial. *Lancet*. 2022;400(10353):680.