



Development of a Hybrid Clinical & Academic Anesthesiology Elective

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BACKGROUND

Medical students are the “essential, emerging physician workforce.”¹ Interruptions in clinical training due to COVID-19 forced the Department of Anesthesia to halve the four-week Adult Anesthesia Elective and re-design a two-week curriculum to accommodate 61 fourth-year medical students interested in applying for anesthesiology residency. We created an intensive hybrid clinical and academic curriculum to maximize student exposure to anesthesiology for career decision making, equip students with tools for professional development and success in the Match, and prepare the emerging workforce to fight the pandemic.

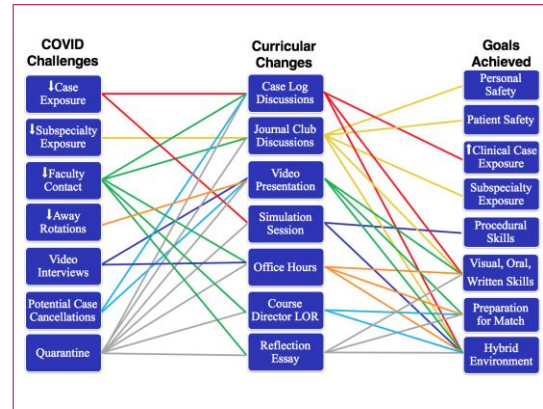
GOALS

- 1 • Personal Safety
- 2 • Patient Safety
- 3 • Increased Clinical Case Exposure
- 4 • Anesthesiology Subspecialty Exposure
- 5 • Procedural Skills Development
- 6 • Visual, Oral, & Written Skills Refinement
- 7 • Career Advice, Mentorship, & Match Preparation
- 8 • Hybrid Clinical & Academic Environment

METHODS

Canvas modules were created with case log and journal club discussions, a reflection essay to assist with personal statement development, and a two-minute teaching video presentation that was later published to a novel IU Anesthesia YouTube channel. Students were surveyed before and after a 45-minute simulation session as well as before and after the elective. Weekly Zoom office hours were held for ongoing mentorship and career advice. These curricular additions provided material for a Course Director letter of recommendation that was offered due to decreased faculty contact on the shortened rotation.

CURRICULAR CHANGES



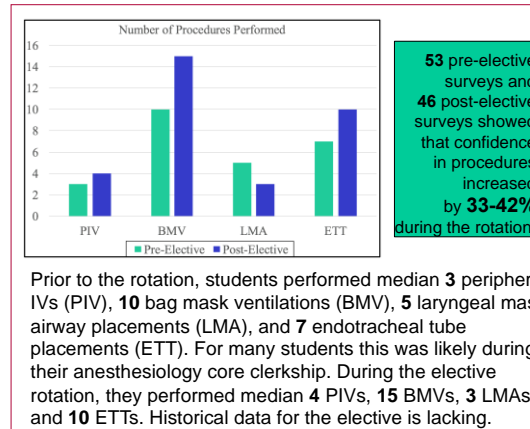
GRADING

Despite being Satisfactory/Fail, a grading schema was developed to make the evaluation process transparent. Grading was designed for quick turnaround in gradebook completion and stratification of students for letters of recommendation. Clinical evaluations and attendance were minimized in the event of quarantine or OR closures. Attendance was 6:30 AM-3:00 PM. Late call was optional and assigned once weekly.

	Attendance	Case Log Discussion	Journal Club	Quiz	Video Present	Reflection Essay	Evaluations	Total
Day 1	2	5	5	3				15
Day 2	2	5	5	3				15
Day 3	2	5	5	3				15
Day 4	2	5	5	3				15
Day 5	2	5	5	3				15
Day 6	2	5	5	3				15
Day 7	2	5	5	3				15
Day 8	2	5	-	-	20			27
Day 9	2	5	-	-	5			12
Day 10	2	5	-	-	20	10		37
Sum	20	50	35	21	25	20	10	181
Factor	1.50	0.20	0.29	0.24	0.80	1.0	0.50	0.55
Weight	30%	10%	10%	5%	20%	20%	5%	100%

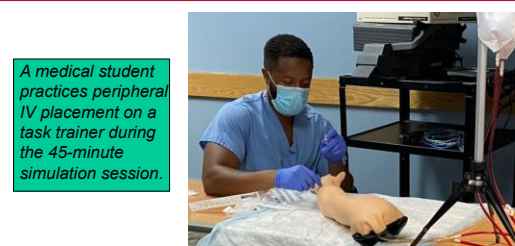
¹Whelan A, Prescott J, Young G, Catanese V, McKinney R. Guidance on Medical Students' Participation in Direct In-person Patient Contact Activities. AAMC website. Aug 14, 2020. Accessed 1/7/20. www.aamc.org/media/43311/download.

SURVEY RESULTS: PROCEDURES



Prior to the rotation, students performed median 3 peripheral IVs (PIV), 10 bag mask ventilations (BMV), 5 laryngeal mask airway placements (LMA), and 7 endotracheal tube placements (ETT). For many students this was likely during their anesthesiology core clerkship. During the elective rotation, they performed median 4 PIVs, 15 BMVs, 3 LMAs, and 10 ETs. Historical data for the elective is lacking.

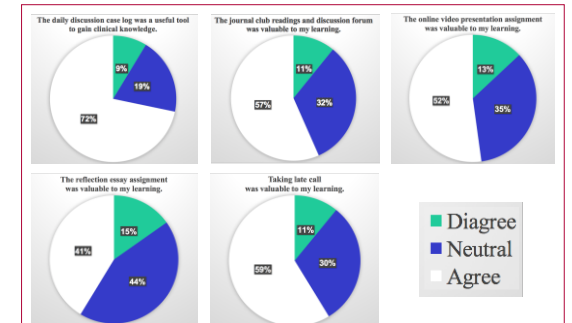
SURVEY RESULTS: SIMULATION



A medical student practices peripheral IV placement on a task trainer during the 45-minute simulation session.

Students rotated through 3 different simulation stations for PIV, airway management, and ultrasound vascular access. 89% of the 45 student responses found the activity valuable to their learning. Confidence in PIV, BMV, LMA, ETT, and ultrasound use for vascular access increased by 50%, 25%, 27%, 22%, and 30% respectively.

SURVEY RESULTS: CURRICULUM & COVID



Student comfort with preoperative anesthetic evaluation, knowledge of intraoperative management of anesthesia, and postoperative anesthetic complications increased by 49-60% after the rotation. Students' agreement with the value of the daily case log discussions, journal club discussions, online video presentation, reflection essay, and optional late call was 72%, 57%, 52%, 41%, and 59% as shown above. 51% of students felt adequately protected from COVID-19 prior to the rotation, increased to 87% by the end of the rotation. 55-57% of students were not anxious about contracting COVID-19 or having PPE prior to the rotation, increased to 80-85% of students by the end of the rotation. 23 of the 61 students that completed the elective requested Course Director letters of recommendation.

CONCLUSIONS

We successfully developed a hybrid clinical and academic anesthesiology elective during the coronavirus pandemic. We were able to maximize learning through clinical case and journal club discussions as well as promote students' audiovisual and written communication skills. We offered letters of recommendation, prepared students for the Match, and trained students to develop procedural skills and clinical acumen as an emerging physician workforce.