to ensure diversity of program length, program type, and geography. All data from EM residents graduating in 2013-2022 were eligible for inclusion. Data from residents from combined training programs, those who did not complete their full training at that institution (i.e., transferred in/out), or did not have full data available were excluded. We determined the list of procedures based upon the ACGME Key Index procedures. Sites obtained procedure totals for each resident upon graduation. We calculated the mean and 95% CI for each procedure.

Results: We collected data from a total of 914 residents, with 881 (96.4%) meeting inclusion criteria. The mean number of procedures and distribution by year are included in the Table. The least frequent procedures included pericardiocentesis, cricothyroidotomy, cardiac pacing, vaginal delivery, and chest tubes. Most procedures were stable over time with the exception of lumbar punctures (decreased) and point-of-care ultrasound (increased).

Conclusions: In a national sample of EM programs, procedure numbers remained stable except for lumbar puncture and ultrasound. Data were limited by the retrospective nature, self-report, and inability to distinguish simulated vs live patient procedures. This information can inform residency training curricula and accreditation.

Table. Mean procedural numbers per resident by graduation year.

Year of Graduation	Adult Medical Resuscitation (Mean, 95% CI)	Adult Central Venous Cannulation (Mean, 95% CI)	Tracheal Intubation (Mean, 95% CI)	Central Venous Access (Mean, 95% CI)	Chest Tube (Mean, 95% CI)	Cricothyroidotomy (Mean, 95% CI)	Diagnostic Peritoneal Lavage (Mean, 95% CI)	Lumbar Puncture (Mean, 95% CI)	Peripheral Nerve Block (Mean, 95% CI)	Procedural Sedation (Mean, 95% CI)	Thoracostomy Tube (Mean, 95% CI)	Vaginal Delivery (Mean, 95% CI)	Point-of-Care Ultrasound (Mean, 95% CI)*
2013 (n=79)	139 (99-180)	79 (59-99)	6 (5-7)	48 (36-59)	14 (11-18)	7 (5-9)	17 (13-20)	75 (57-93)	27 (24-30)	29 (23-35)	19 (15-23)	4 (3-5)	27 (21-33)	14 (13-15)	287 (230-344)
2014 (n=80)	126 (100-152)	73 (54-93)	6 (5-7)	47 (36-58)	14 (11-18)	6 (5-7)	16 (14-18)	79 (73-86)	34 (32-36)	28 (23-33)	15 (14-17)	3 (2-5)	26 (20-32)	14 (13-16)	278 (261-296)
2015 (n=87)	129 (104-154)	69 (53-85)	7 (6-8)	50 (39-61)	16 (13-19)	7 (6-8)	17 (14-19)	84 (64-103)	36 (32-39)	29 (22-35)	15 (14-16)	4 (3-5)	26 (20-31)	15 (14-17)	286 (267-304)
2016 (n=88)	139 (109-169)	69 (53-85)	6 (5-7)	45 (35-55)	16 (14-18)	6 (5-7)	16 (14-17)	89 (79-99)	32 (28-36)	34 (26-42)	15 (13-16)	3 (2-4)	26 (20-31)	15 (13-16)	271 (227-314)
2017 (n=88)	149 (121-176)	80 (59-100)	6 (4-8)	50 (39-61)	19 (16-22)	7 (5-9)	20 (16-23)	87 (80-94)	25 (22-28)	39 (26-51)	21 (17-24)	4 (3-5)	30 (27-32)	14 (13-16)	325 (287-363)
2018 (n=94)	148 (120-175)	86 (70-102)	6 (5-8)	48 (34-62)	17 (15-19)	8 (6-9)	18 (16-21)	98 (80-116)	34 (32-36)	36 (31-42)	19 (16-21)	5 (4-6)	30 (26-33)	15 (13-16)	346 (304-388)
2019 (n=77)	126 (105-147)	72 (55-90)	7 (6-8)	44 (30-58)	15 (14-17)	5 (3-6)	17 (13-19)	93 (79-108)	23 (21-25)	39 (26-51)	17 (15-19)	5 (4-6)	30 (26-33)	14 (13-15)	415 (373-456)
2020 (n=88)	141 (122-160)	86 (70-102)	6 (5-6)	48 (35-60)	19 (16-22)	7 (5-9)	20 (17-22)	98 (83-114)	22 (20-24)	39 (26-51)	19 (17-21)	4 (4-5)	30 (26-34)	16 (15-17)	399 (321-476)
2021 (n=100)	139 (104-173)	81 (59-103)	7 (6-7)	49 (35-63)	17 (15-19)	6 (5-7)	18 (16-20)	99 (83-114)	28 (15-41)	37 (24-50)	17 (15-19)	4 (4-5)	29 (25-32)	14 (13-14)	518 (445-591)
2022 (n=108)	135 (123-146)	83 (73-93)	7 (6-8)	49 (35-62)	16 (15-17)	6 (5-6)	19 (17-21)	94 (79-108)	28 (15-41)	35 (25-45)	16 (15-18)	4 (4-4)	27 (24-30)	15 (14-16)	519 (444-594)
TOTAL (n=881)	140 (132-148)	84 (69-98)	7 (7-7)	48 (44-52)	16 (15-17)	6 (6-7)	18 (17-19)	88 (83-93)	29 (28-30)	31 (27-34)	18 (17-19)	4 (4-4)	28 (27-29)	15 (14-15)	368 (349-386)
ACGME Requirements	45	25	4	24	10	3	10	10	15	20	10	3	10	10	100

*CI, confidence interval; *, ultrasound data were not available for 83 residents*

3 Trends in Core Clerkship Grading Among Emergency Medicine Residency Applicants

Amanda Doodlesack, Andrew Ketterer

Background: Several studies have documented variability in clerkship grading systems, distributions and criteria used by US medical schools. As the United States Medical Licensing Exam (USMLE) transitions to pass/fail, transparency in applicants' remaining comparative data is increasingly important.

Objectives: To understand trends in core clerkship grading by looking at the number of US medical schools that have moved from a 3+ tier to a 2-tier (pass/fail) grading system and percentage of students given the top grade during the academic year (AY) 2020-21 compared to AY 2009-10. We hypothesize trends towards pass/fail grading and an increased percentage of top grades.

Methods: Medical School Performance Evaluations (MSPEs) from 145 US medical schools in 2021-2022 provided the grading systems used by each school and grade distributions for each of the core clerkships. Core clerkships included internal medicine (IM), surgery, obstetrics and gynecology (OB/GYN), pediatrics, and family medicine (FM). The number of schools using a 2-tier (pass/fail) vs. ≥3-tier grading system were compared to AY 2009-10. The percentages of students receiving the top grade for each clerkship were also compared to 2009-2010.

Results: In AY 2009-10, 5.0% of US medical schools used a 2-tiered system, compared to 12.4% in 2020-21. The percentage of students receiving the top grade in IM increased from 26.07% to 34.73%, surgery from 30.44% to 37.54%, pediatrics from 32.93% to 38.45%, OB/GYN from 31.71% to 37.37%, and FM from 35.27% to 38.30%.

Conclusions: US medical schools are increasingly adopting a 2-tier grading system. There also was a notable increase in the percentage of top grades given across all core clerkships comparing 2009-10 to 2020-21, suggesting a trend of grade inflation. With schools moving to pass/fail or giving out more top grades and the transition of USMLE Step 1 to pass/fail, it is becoming more difficult to differentiate medical students as they apply for residency.

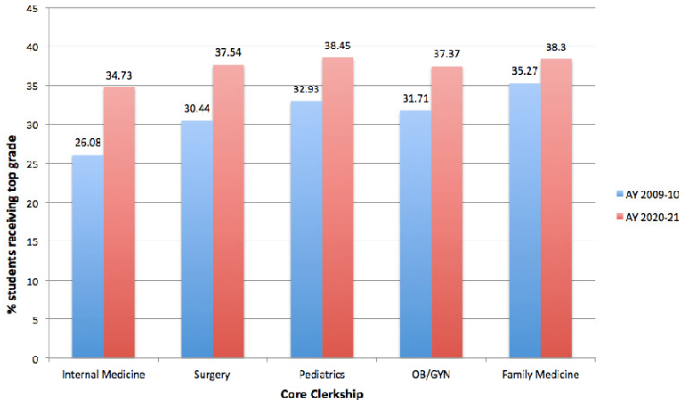

Figure 1. Percentage of students receiving top grade by clerkship AY 2009-10 versus 2020-21.

Table 1. Number of United States' medical schools using each grading system.

	3+ tiers	2-tiers	Total # schools
AY 2009-10	113 *(95.0%)*	*6 (5.0%)*	119
AY 2020-21	127 *(87.5%)*	18 *(12.4%)*	145