



Abstract: 2870

Scientific Abstracts > Regional Anesthesia

Regional Anesthesiology / Acute Pain Medicine Fellows' Perceived Quality of Fellowship Training

Nicole Verdecchia, Zahraa Majeed, Nicholas Schott, Mihaela Visoiu

UPMC

Introduction

Regional anesthesiology and acute pain medicine fellowship programs first became ACGME (Accreditation Council for Graduate Medical Education) accredited in 2016, with regulated, uniform guidelines on the training curriculum.¹

Before accreditation, program directors were surveyed in 2005, and 34% of program directors felt that formal education was extremely important, while 24% thought formal education was very important.² Regional anesthesia fellowship graduates were also surveyed before accreditation in 2013, and this was the first survey reported in the literature. Most fellows stated that most of their time was spent in the operating room managing regional anesthesia cases with less time practicing acute pain medicine. 90% of fellows agreed or strongly agreed that they had received adequate neuraxial and single injection extremity block training. 70% agreed or strongly agreed that they were competent placing nerve block catheters, and 40% reported feeling competent placing truncal blocks. A total of 75% of fellows agreed that they had adequate training in nerve stimulation. Less than 70% agreed or strongly agreed that they had sufficient training to manage acute or chronic non-surgical pain.³

No surveys have been published regarding regional fellow training experience since accreditation became common. At the same time, we know that before accreditation, before 2013, fellows felt uncomfortable with more advanced regional techniques such as catheters and newer truncal blocks. However, we don't currently understand the comfort level and quality of training of recent regional anesthesia fellows. Furthermore, we have no data on trainees' value in regional anesthesia and acute pain medicine fellowship.

The primary aim of this study was to survey fellows from the 2020-2021 class in the University of Pittsburgh Medical Center's regional anesthesiology and acute pain medicine fellowship to determine 1). The change in the perceived importance of specific aspects of education and training over time; 2). The satisfaction of achieving the appropriate level of competence with each part of education and training at the end of each rotation and the end of the fellowship: and 3) The change in comfort level over time with specific techniques in regional anesthesia and acute pain medicine.

Materials and Methods

This observational, prospective study was conducted at The University of Pittsburgh Medical Center from June 2020-August 2021. It was approved by The University of Pittsburgh Institutional Review Board, which waived the requirements for written consent*.

Surveys were distributed to 15 regional anesthesia and acute pain medicine fellows at the beginning of their fellowship, after each month, and at the end of the fellowship. They were asked the same questions after each month. The survey responses were blinded and anonymous. Survey questions response is based on a five-point Likert scale, the higher the number, the more satisfied the fellow is. Survey questions are listed in Figure 1.

*IRB approved 9/23/2020 STUDY20090022

Results/Case Report

Fellows perceived the quantity and quality of blocks, wellness, and faculty teaching as the most important. In contrast, Quality Improvement (Q.I.) projects and research were perceived as least necessary, with no significant differences over time. Fellows were satisfied or very satisfied with all aspects of the fellowship program at the end of the program. At the end of the fellowship program, the highest satisfaction scores were for quantity and quality of blocks, and the lowest scores were for teaching and wellness. Comfort level improved significantly over the 12 months for every item measured. At the end of the fellowship, fellows were very comfortable placing catheters and neuraxial, truncal, and extremity blocks, ultrasound skills, managing complications, using nerve stimulators, treating chronic and non-surgical pain, and teaching or supervising. Initial, final, and average comfort levels are listed in Table 1 and shown in Figure 2, along with slope, confidence interval, and p values for the change over time. When the sequence of linear regressions was done on comfort level responses over time, the reactions more statistically significantly improved in the early months compared with the later months. All measured survey responses reached their peak significance in change over time between the third to eighth months of the fellowship (Table 1, Figure 2).

Discussion

Fellows seem to value the quality and quantity of nerve blocks and work-life balance more than formal education, didactics, and research activities. They are contrasting with how fellowship directors feel. In the 2005 survey, over half of the program directors reported feeling that formal education was extremely important.² Fellows may think that lectures are not as helpful for teaching manual skills such as regional anesthesiology techniques, and many courses have already potentially been covered in residency programs. This knowledge can help program directors structure formal education to optimize fellows' time and perhaps spend more time and resources on clinical teaching. The mentorship was also perceived as only moderately crucial by the fellows, which may be explained by the transient nature of the fellowship and limited time spent at each site.

By the end of the year, fellows were extremely comfortable in most categories. This is an improvement from the survey of fellows in 2013 before accreditation, where many fellows were uncomfortable with catheters (only 70% felt competent), truncal blocks (only 40% felt competent), and managing chronic pain (only 70% felt competent).³ Interestingly, every survey item plateaued by eight months into the fellowship program, which indicated that fellows felt that most of their learning occurred within the first half to three quarters of the year. This is an opportunity to improve in areas where fellows are less comfortable such as supervising and teaching. Figure 2 shows that there was not as much of a change in areas such as neuraxial blocks and ultrasound skills as in pediatrics, nerve stimulator techniques, and managing complications. This is likely due to a baseline level of training from residency, which is typical

for ultrasound and neuraxial anesthesia. This knowledge could also be used to tailor didactics and teaching training to spend more time on nerve stimulation techniques and managing complications. Establishing minimum requirements, a structured program, and a large volume of block numbers is essential for fellows to feel competent at the end of their training.

References

1. Mariano ER, Rosenquist RW. ACGME program requirements for regional anesthesiology and acute pain medicine. *Accredit Counc Grad Med Educ*.
2. Landsdown AK, McHardy PG, Patel SC, Nix CM, McCartney CJL. *Local Reg Anesth* 2013;6:17-24. Survey of international, regional anesthesia fellowship directors.
3. Neal JM, Liguori GA, Hargett MJ. The training and careers of regional anesthesiology and acute pain medicine fellows, 2013. *Reg Anesth Pain Med* 2015;40(3):218-222.

Disclosures

No

Tables / Images

-
-
-

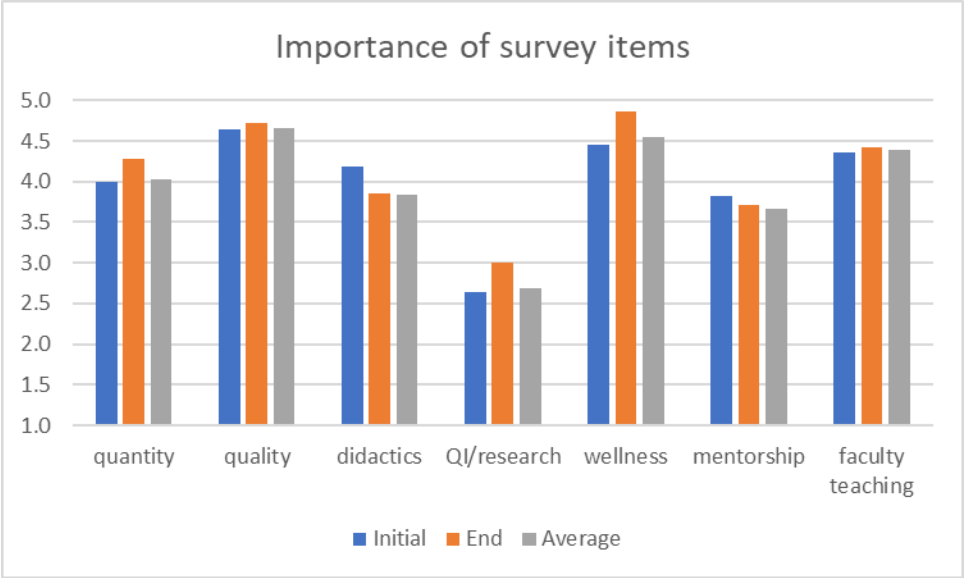


Figure 1. Each survey element on importance, including the number of nerve blocks, quality of nerve blocks, didactics, Q.I./research opportunities, wellness, mentorship, and faculty teaching (X axis), on a 1-5 scale (Y axis), is listed where fellows responded before starting the fellowship (Initial), at the end of the fellowship (End), and then the average of responses over 12 months (Average).

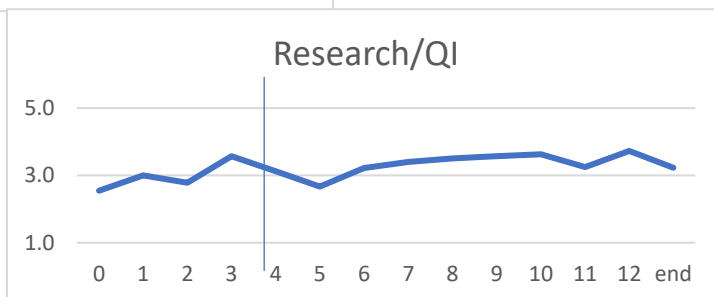
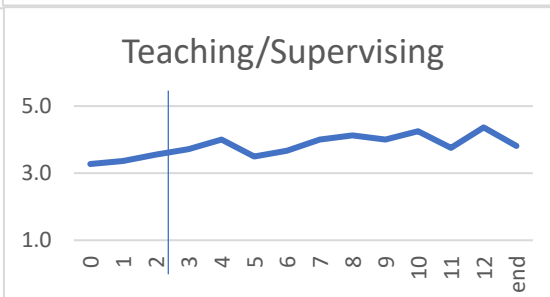
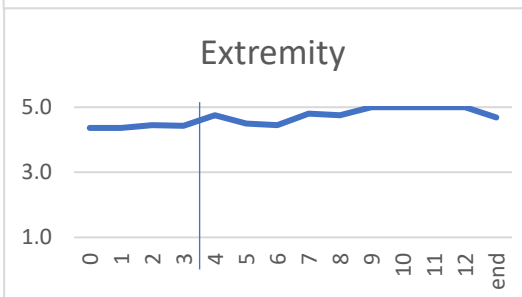
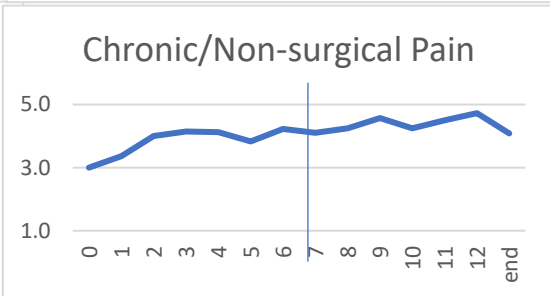
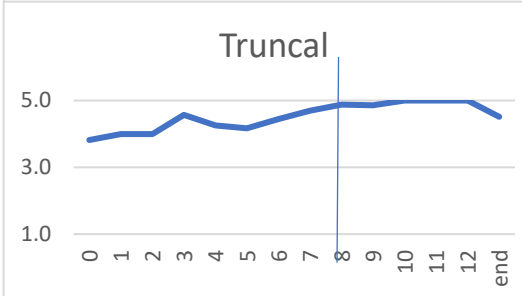
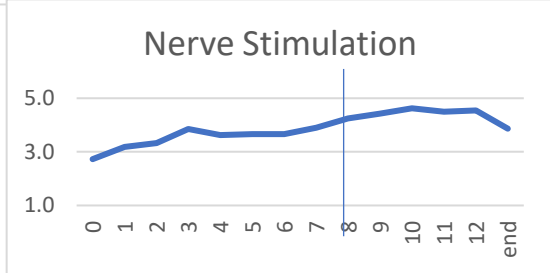
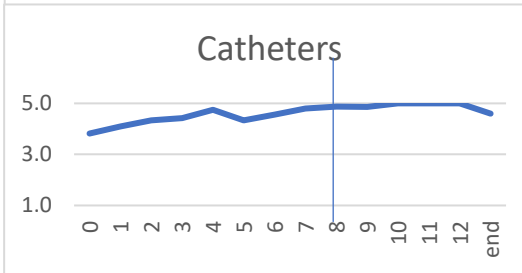
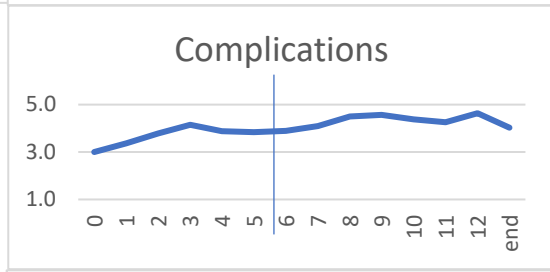
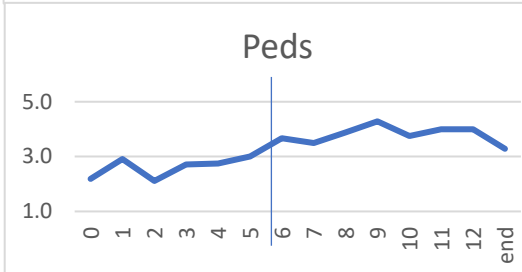
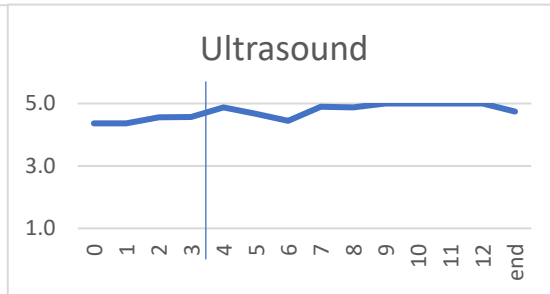
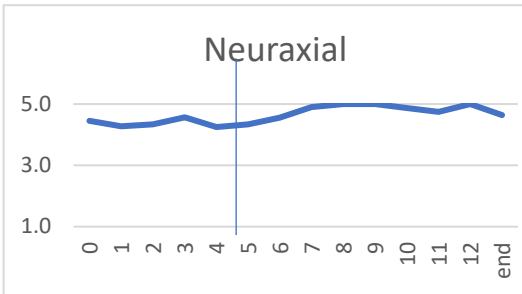


Figure 2. Comfort level with each survey item throughout the 12-month fellowship (X axis), with the pivotal month, marked where changes from one month to the next stopped reaching statistical significance on multiple regression testing, the Y axis represents the fellow responses to the survey on a 1-5 scale.

	Neuraxial	Peds	Catheters	Truncal	Extremity	Ultrasound
Initial	4.5	2.2	3.8	3.8	4.4	4.4
End	5.0	4.1	5.0	5.0	5.0	5.0
Average	4.7	3.2	4.4	4.4	4.7	4.7
Slope (95% C.I.), p value	0.0614 (0.0320, 0.0909), p=0.0008	0.1669 (0.1145, 0.2194), p<0.0001	0.0896 (0.0642, 0.1150), p<0.0001	0.1029 (0.0772, 0.1287), p<0.0001	0.0617 (0.0429, 0.0806), p<0.0001	0.0566 (0.0352, 0.0779), p=0.0001

	Nerve Complications	Stim	Chronic/Non - surgical	Teaching/Supervising	Research/Q.I	
	3.0	2.7	3.0	3.3	2.5	Initial
	4.7	4.7	4.7	4.6	3.6	End
	3.9	3.7	3.9	3.9	3.1	Average
	0.1068 (0.0674, 0.1462), p<0.0001	0.1421 (0.1104, 0.1738), p<0.0001	0.1036 (0.0619, 0.1452), p=0.0002	0.0707 (0.0366, 0.1048), p=0.0008	0.0726 (0.0277, 0.1175), p=0.005	Slope (95% C.I.), p- value

Table 1. The comfort level for each survey item at the beginning and end of fellowship, and the averaged responses over months 0-12. Slope of each regression line, 95% confidence interval, and p value is included.