



Regional anesthesia/acute pain medicine fellows' perceived quality of fellowship training at a single institution over a one-year period

Nicole Verdecchia, MD · Mihaela Visoiu, MD

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To the Editor,

Regional anesthesia and acute pain medicine fellowship programs became accredited in the USA by the Accreditation Council for Graduate Medical Education (ACGME) in 2016, with regulated requirements on the training curriculum.¹

Prior to accreditation, program directors were surveyed internationally over a 20-year period in North America in 2005, and program directors felt that formal education was very important.² Prior to accreditation, Neal *et al.*³ conducted a survey and found that most fellows' time was spent in the operating room managing regional anesthesia cases with less time practicing acute pain medicine. Ninety percent of fellows agreed or strongly agreed that they had received adequate neuraxial and single injection extremity block training. As ultrasound-guided and nerve catheter techniques were only beginning to emerge, a lower percentage of graduates felt comfortable with catheter placement, truncal blocks, and chronic pain management.³ There have been no surveys

published regarding regional anesthesia fellow training experience since accreditation.

We anonymously surveyed 15 regional anesthesia and acute pain medicine fellows for one year to determine perceived importance of specific aspects of education and training, the satisfaction of achieving the appropriate level of competence, and the change in comfort level over time. The survey was approved by the University of Pittsburgh Institutional Review Board (Pittsburgh, PA, USA), who waived the requirement for written consent. The survey responses were anonymously recorded on a 1–5 Likert scale, and responses are reported as mean values.

Response rates were different every month and ranged from 6 to 11 for 12 monthly surveys; the average response rate was 50%. Our fellows perceived the quantity of blocks, quality of blocks (perceived educational value of type of block), wellness, and faculty teaching as most important, (mean Likert scale responses, 4.0, 4.7, 4.5, and 4.4, respectively), and quality and quantity of blocks had the highest satisfaction scores. Fellows performed an average of 916 blocks. Quality improvement (QI) and research were perceived as least important (mean Likert scale response, 2.7). Didactics and mentorship were perceived as moderately important (means, 3.8 and 3.7, respectively) throughout the year. Our fellows have dedicated didactics once weekly, and have a scholarly project and QI project requirement where they are paired with a faculty mentor. They felt that lectures are not helpful for teaching manual skills, and many courses were covered in residency. This knowledge can help us structure formal education to optimize our fellows' time.

Comfort level improved over 12 months for practical items with mean scores > 4.5 as the number of blocks performed exceed those required by the accreditation board

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N. Verdecchia, MD (✉) · M. Visoiu, MD
Department of Anesthesiology, University of Pittsburgh Medical Center, Pittsburgh, PA, USA
e-mail: verdecchianm@upmc.edu

(Electronic Supplementary Material eAppendix). Our fellows felt somewhat comfortable placing pediatric blocks (4.1) and conducting research (3.6). The responses improved more in the early months compared with the later months (Figure).

Interestingly, every survey item plateaued by eight months, indicating that fellows felt most of their learning occurred within the first half of the year. This is an opportunity to improve in areas where fellows are less comfortable to tailor didactics and teaching. Our fellows

were less comfortable with pediatric blocks, as they only spend one month doing pediatrics and would be required to pursue additional fellowship training to perform these. Unfortunately, fellows' comfort level was not extremely high for research and QI projects, with limited time in training to complete these projects and less importance placed on this training component.

This study has several limitations, the most significant of which is the response rate and generalizability. Nevertheless, our rate is standard for survey studies.

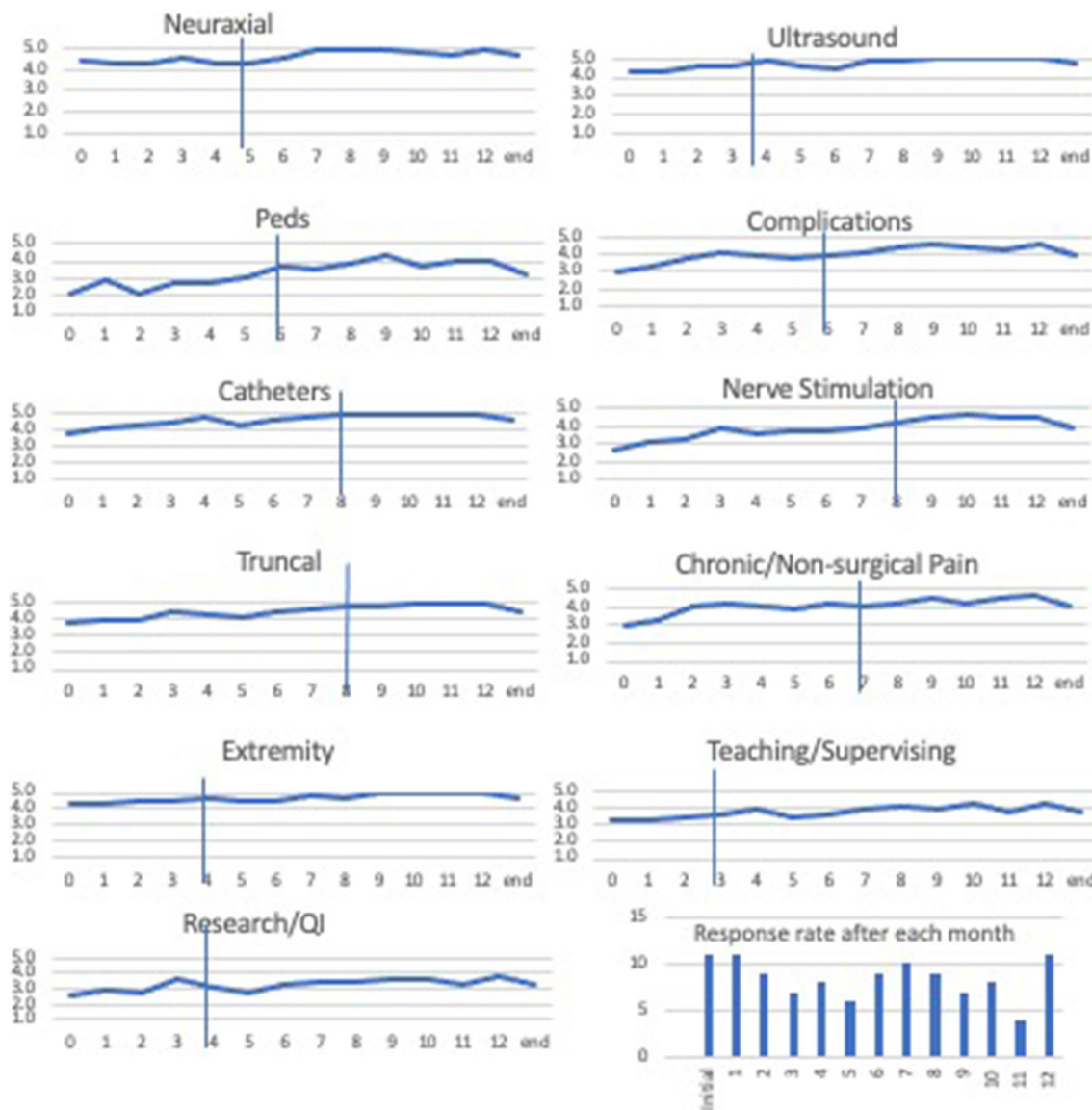


Figure Fellows' comfort level with each survey item throughout the 12-month fellowship, with the pivotal month marked by a vertical line. Survey items included placing nerve block catheters, neuraxial block placement, truncal block placement, extremity block placement, pediatric blocks, ultrasound skills, managing complications of nerve blocks, using nerve stimulators, treating chronic and nonsurgical pain, teaching or supervising trainees, and

conducting research or quality improvement projects. Changes from one month to the next stopped reaching statistical significance on multiple regression testing at the pivotal month. The y-axis represents the 1–5 Likert scale responses and the x-axis represents month of the year. The response rate for each month is also included, with the y-axis representing the number of fellows and the x-axis representing the number of responses.

Despite efforts to improve responses, only half of the fellows responded for some months. Responses were most robust at the beginning and end of the fellowship, where most of the data are focused. Other limitations include selection bias, a small sample size from one institution within a one-year period, and the fact that data are not representative of the longitudinal perception for each fellow due to poor response rates, and the responses of each individual were not tracked. The data presented were not compared with data before accreditation or with other programs, and no long-term outcomes were explored.

Establishing minimum requirements, a structured program, and a large volume of blocks is important for fellows to feel competent and satisfied at the end of their training, although this does not predict the success of the fellows or the program.

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