

2003 Spring A22

Assessment of CA-1 resident peripheral nerve block experience and performance

MacLeod DB, Martin G, Taekman JM, Grant S A, Breslin DS, D'ercole FJ, Lineberger CK
Duke University Medical Center, Durham, NC

Introduction: Residents are required by the American Board of Anesthesiology to perform a minimum of forty peripheral nerve blocks (PNB) during their residency. This represents summative performance without reference to the technical abilities of block performance. Different strategies have resulted in increasing the overall number of PNB procedures (1). Studies have examined the number of spinal and epidurals needed for residents to achieve constant success (2), but to date no study has examined the experience with specific nerve blocks. We sought to develop a method of tracking resident performance using a dedicated logbook using a personal digital assistant (PDA) software program.

Methods: Following IRB approval, all CA-1 residents commencing training in July 2001 were asked to participate in the study. We designed a dedicated personal digital assistant (PDA) software program and issued it to all residents. Residents were asked to complete the program after each peripheral nerve block. The residents were asked to assess the degree of attending staff assistance during block completion by the resident as used previously (2): (A) resident completed block without attending intervention; (B) minimal attending assistance (<50%); (C) significant attending assistance (>50%); (D) resident unsuccessful, attending completed; (E) both resident and attending unsuccessful. The data were retrieved in July 2002. To determine the overall compliance, the number of blocks (all procedures) reported separately to the Residency Review Committee (RRC) for Anesthesiology of the Accreditation Council for Graduate Medical Education (ACGME) was obtained.

Results: All 13 CA-1s participated in the study. For the 12 month period the total number of PNB (all procedures), median and interquartile range (IQR), the total PNB reported to RRC and the overall compliance for all residents are shown in table 1. Review of the logbook identified 5 residents as being poorly compliant. The remaining 8 residents recorded 405 blocks from 446 reported to the RRC, giving an overall compliance of 91% (table 1). Analysis of this subgroup of individual PNB showed decreasing attending intervention with increased block experience as shown in table 2 for classic (Labat) placement.

Conclusion: Whilst RRC summaries provide a measure of exposure, there are no details of PNB techniques or a measure of the residents' ability (3). In particular, the residents exposure to an individual technique may vary considerably during their residency. This compounds the difficulty of researchers and educators to adequately capture and measure these events. This pilot study of the use of a dedicated PDA program has established it as a reliable tool with which to gather this necessary information.

References:

1. Martin G, Lineberger C, MacLeod D. *Anesth Analg* 2002;95:1423-7.
2. Kopacz D, Neal J, Pollock J. *Reg Anesth* 1996;21:182-90.
3. Kopacz D, Neal J. *Reg Anesth Pain Med* 2002;27:9-14.

Table 1: PNB performed by CA-1s July 2001 – June 2002

# Residents	Total PNB	Median	IQR	RRC Total	Compliance (%)
13	449	34	11 – 52	662	68
8	405	47	40 – 65	446	91

Table 2: Resident performance/attending intervention (A-E) during placement of sciatic PNB with increasing CA-1 block experience

Block #	Total PNB	A (%)	B (%)	C (%)	D (%)	E (%)
0 – 5	40	20	53	12	12	3
6 - 10	37	27	57	8	5	3
11 - 15	32	47	44	9	0	0
16 - 20	18	28	50	11	11	0
> 25	12	17	66	0	17	0