



Intraoperative thoracic epidural management: A survey of faculty anesthesiologists at a large academic hospital

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Introduction

- Expert consensus guidelines for intraoperative epidural management are lacking
- UK society study: opioid-bupivacaine combination post-operatively, intraoperative not discussed¹.
- German regional anesthesiologist society: heterogeneity regarding intraoperative ropivacaine, opiate dosing, and rescue strategies².
- Some benefits of intraoperative use include reduction in postoperative morphine consumption and improvements in early pain experience^{3,4}.
- Our Aim: to define our institution's current intraoperative epidural practices to help inform the development of future guidelines.

Study design

- IRB approval obtained, protocol 72517
- Single-center, quality improvement study including faculty in Stanford University Department of Anesthesiology, Perioperative and Pain Medicine

Results & Discussion

- Perioperative epidural management strategies
 - Allowed respondents to select "all that apply"
 - "Individualized approach" - 35/48 respondents
 - Remaining respondents
 - Preoperative only - 2
 - Intraoperative only - 7
 - Only at the end of the case - 3
 - Postoperative only - 1
- Choice of Pharmacologic Agents
 - Local anesthetic: Bupivacaine, Lidocaine
 - Narcotic: Hydromorphone, Fentanyl
 - Concentrations and doses variable
- Open-ended comments
 - Interest in development of guidelines
 - Primary anesthesiologist should have ultimate discretion over management

Key Results:

Significant heterogeneity in epidural management with little consensus on when to initiate epidural analgesia and variable dosing strategies throughout the perioperative period.

Variable choice of local anesthetic, narcotic, and concentration/dose (respectively).

Figure 1: Perioperative Epidural Management Strategies

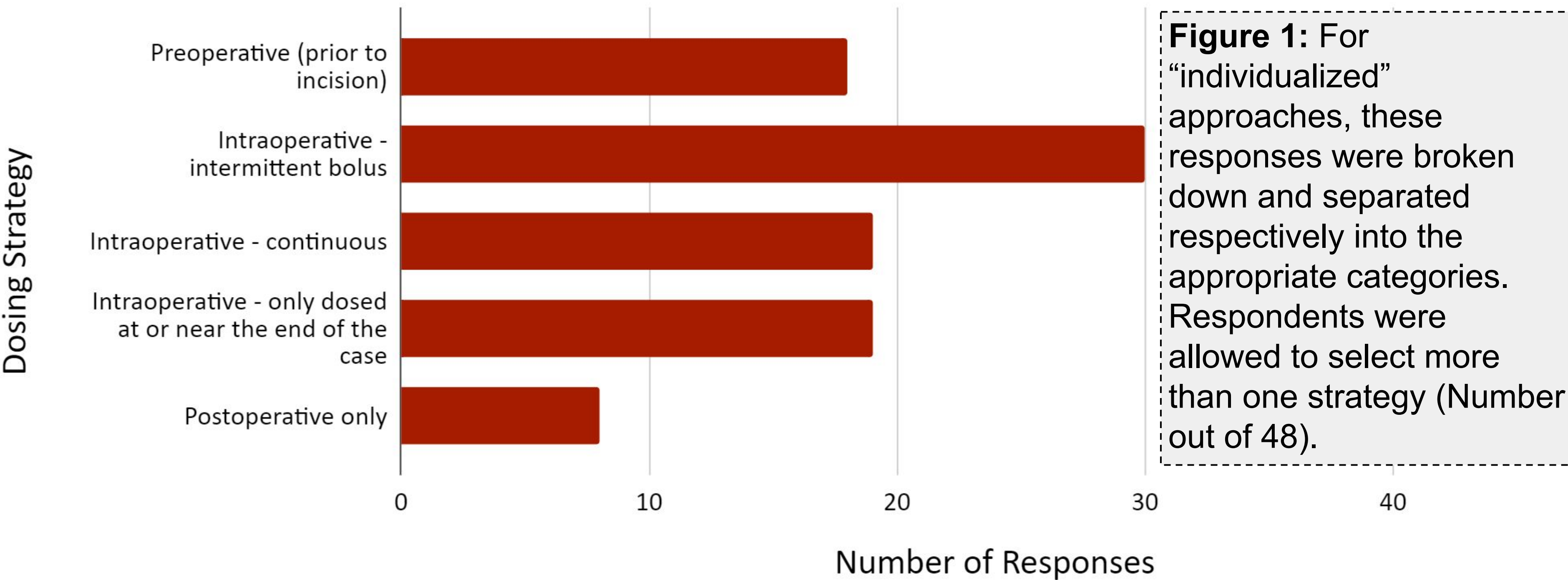


Table 1: Choice of pharmacologic agents utilized intraoperatively

Pharmacologic Class	Drug	Responses (%)	Concentration/Dose
Local Anesthetic	Bupivacaine	29 (60%)	0.125-0.25% (95.2% of respondents)
	Lidocaine	20 (42%)	1.0-2.0% (93.7% of respondents)
	Ropivacaine	9 (19%)	0.2% (67% of respondents, range 0.1-0.5%)
Narcotic	Hydromorphone	19 (40%)	0.2-0.4 (94.7% of respondents)
	Fentanyl	10 (21%)	50-100 mcg (100% of respondents)
	Morphine	0 (0%)	Not utilized outside of obstetrics
	No narcotics	15 (31%)	

Table 1: Notably the survey of the Department of Anesthesiology includes Stanford Hospital where bupivacaine and lidocaine are on formulary for epidurals, and Lucile Packard Children's Hospital where ropivacaine is on formulary for epidurals. N = 48

Table 2: Respondents characteristics (N = 48)

Subspecialty	Adult general OR	54%
	Pediatric	19%
	Obstetric	10%
	Regional	10%
	Cardiac	4%
	Pain	2%
Years of experience	<5 years	44%
	5-10 years	25%
	>10 years	31%
Number of epidurals placed/utilized per month	0	13%
	1	51%
	2-5	28%
	>5	8%
Epidural location	High thoracic T1-4	4%
	Mid thoracic T5-8	61%
	Low thoracic T9-12	48%
	Lumbar	28%

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