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# Does the use of peri-articular anesthetic cocktail provide adequate pain control following shoulder arthroplasty?

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# DOES THE USE OF PERI-ARTICULAR ANESTHETIC COCKTAIL PROVIDE ADEQUATE PAIN CONTROL FOLLOWING SHOULDER ARTHROPLASTY?

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# BACKGROUND

- Regional anesthesia
  - **Interscalene nerve block (INB)**
- Local infiltration analgesia
  - **Liposomal bupivacaine (LB)** – long lasting agent
  - **Anesthetic Cocktail** – usually consisting of ketorolac, ropivacaine, epinephrine, and sometimes morphine

# PURPOSE

- **Prospective cohort study** of post-operative pain control
  - INB vs. Local LB vs. Local infiltration cocktail (LIC)
  - LIC consisting of ropivacaine, ketorolac, and epinephrine
- **Hypothesis:** No significant difference in pain levels or narcotic requirements with LIC

# METHODS

- Prospective trial
- **Non-Industry Sponsored**
- 87 patients, Age: 18+
- Primary TSA or RTSA
- 3 fellowship trained shoulder surgeons
- Exclusions: Alcohol/drug abuse, allergies, pregnancy



# METHODS

- Nerve block group:
  - Preop ultrasound guided INB
- Liposomal Bupivacaine Group:
  - 20cc LB/ 20 cc saline
- LIC
  - 200 mg 0.5% ropivacaine, 1 mg epinephrine, 30 mg ketorolac
- Standardized pain regimen
- VAS, opioid consumption & LOS collected





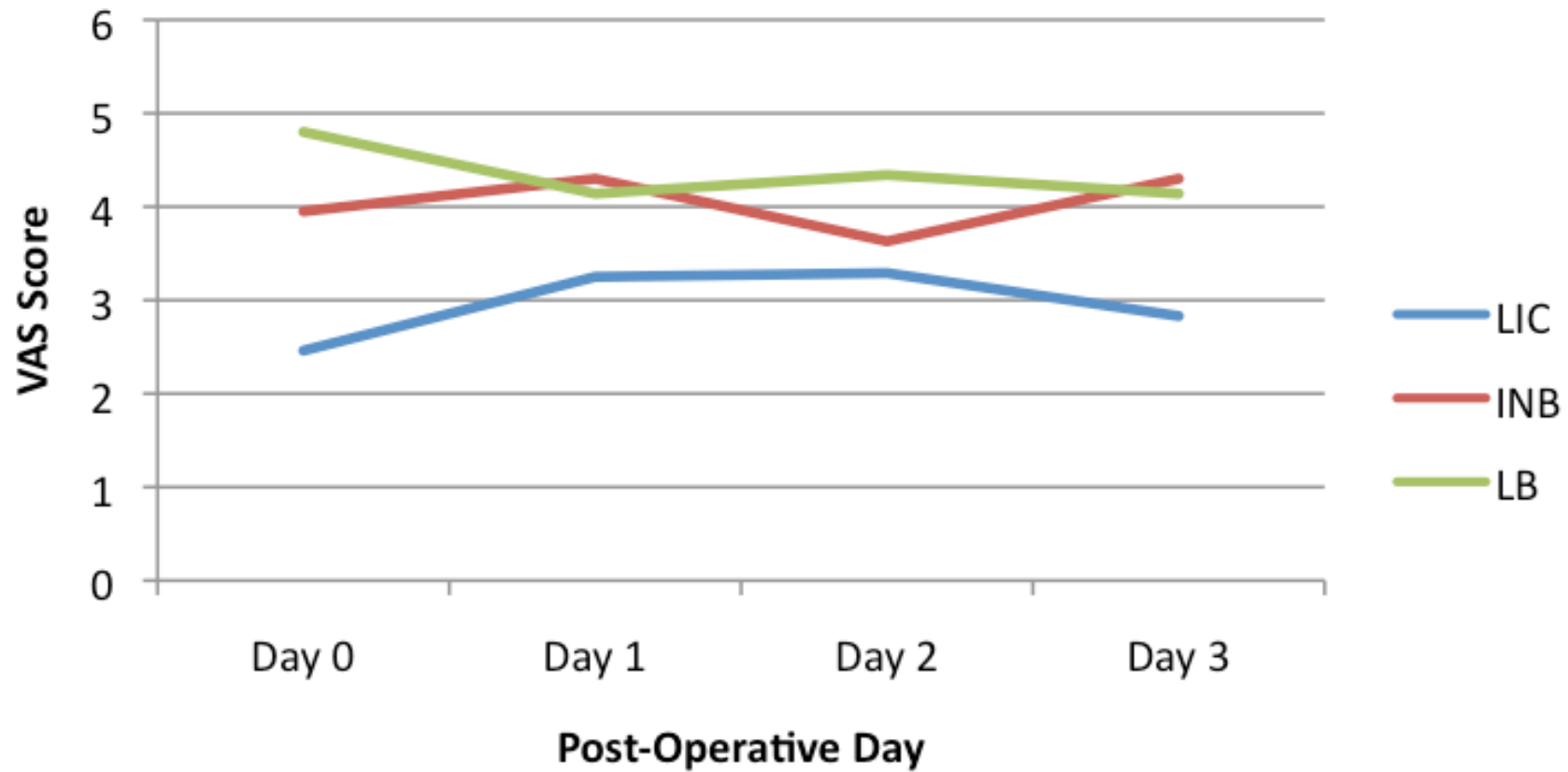
# RESULTS

Table I. Patient Demographics				
	LIC	INB	LB	P-value
Number of patients	30 (34.5%)	31 (335.6%)	26 (29.9%)	
Males	15 (17.2%)	16 (18.4%)	12 (13.8%)	0.916
Females	15 (17.2%)	15 (17.2 %)	14 (16.1%)	0.916
Mean age (SD), years	73.5 (7.8)	67.3 (12.9)	69.4 (8.1)	<b>0.014*</b>
Mean BMI, kg/m <sup>2</sup> (SD)	28.6 (7.0)	29.8 (5.3)	32.3 (6.5)	<b>0.030*</b>
Surgery				
TSA	2 (2.3%)	15 (17.2%)	18 (20.7%)	<b>&lt;0.001</b>
RTSA	28 (33.2%)	16 (18.4%)	8 (9.2%)	<b>&lt;0.001</b>
<p>LIC, local infiltration cocktail; INB, interscalene nerve block; LB, liposomal bupivacaine; BMI, body mass index; TSA, total shoulder arthroplasty; RTSA, reverse total shoulder arthroplasty</p> <p>* Average age in LIC group is higher than age in INB group (p=0.014). Average BMI in LIC group is lower than BMI in LB group (p=0.030). Bold values are statistically significant.</p>				



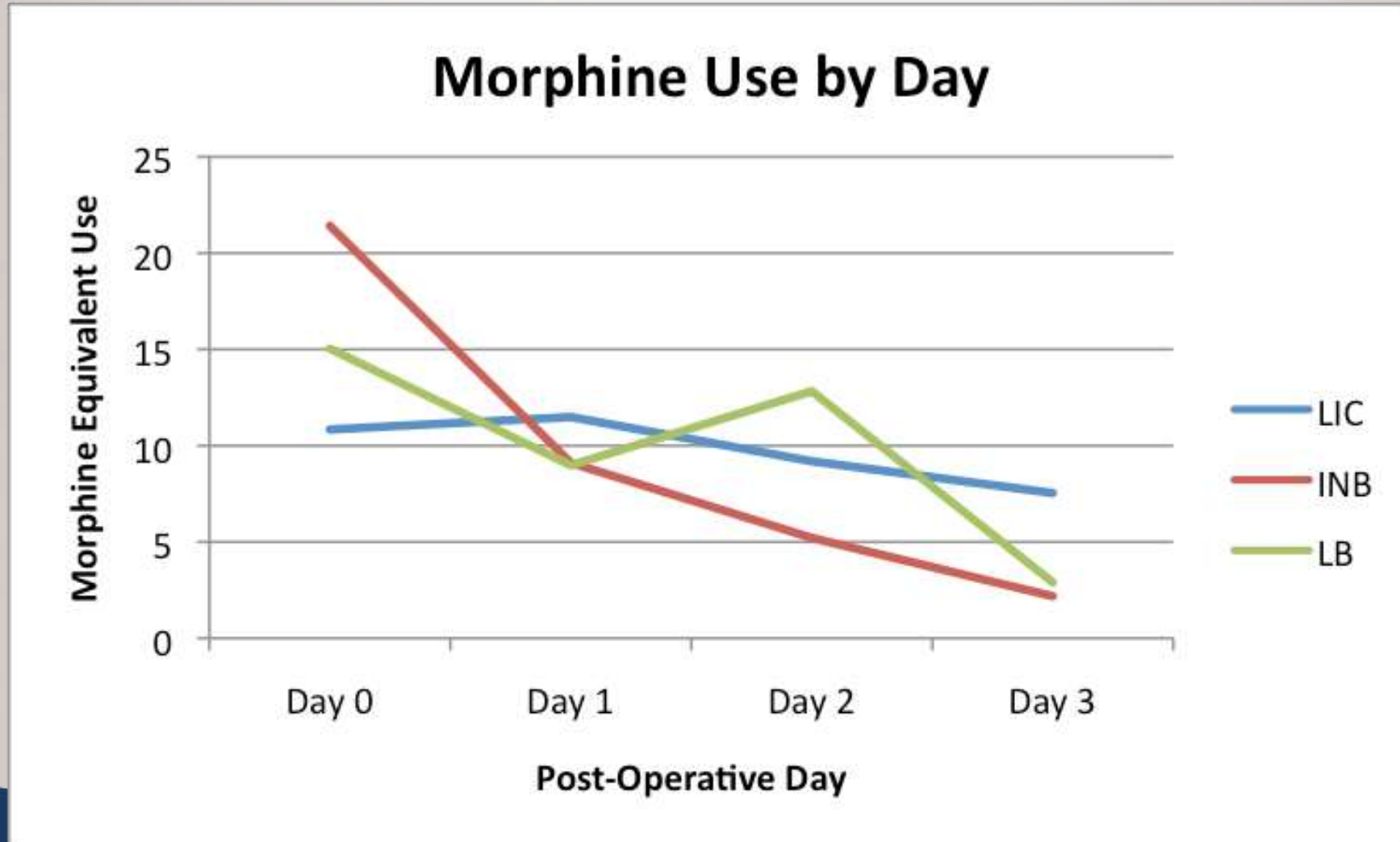
# RESULTS

## VAS Score by Day





# RESULTS



## CONCLUSION

- Shorter LOS:1.5 days for INB and LB vs 1.0 days for LIC ( $p < 0.001$ )
- 1 complication in INB group
- **LIC** appears to be an effective means of obtaining **adequate overall post-operative pain control** when compared to **INB and LB** without significant increase in opioid requirements

# THANK YOU

