

# Efficacy of Subacromial Bupivacaine Infusion after Arthroscopic Rotator Cuff Repair

Randy Rust, MD, Randy Schwartzberg,  
MD, Bryan Reuss, MD, Linda Papa, MD,  
MPH, and Pete Wheeler, PA-C

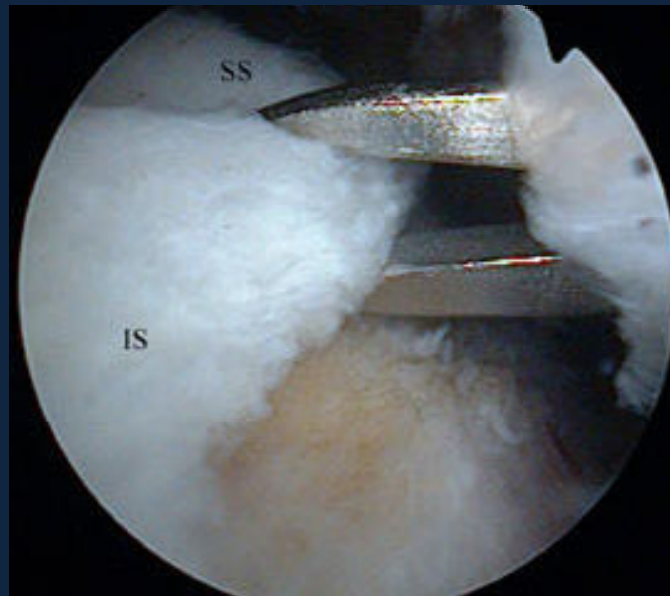


# Disclosures

- Dr. Rust
  - None
- Dr. Reuss
  - None
- Dr. Schwartzberg
  - Consultant, Arthrex
- Pete Wheeler
  - None
- Dr. Papa
  - None

# Introduction

- Arthroscopic rotator cuff repair is a commonly performed outpatient procedure
- Ideal mode of pain relief has yet to be established



# Introduction



- Continuous infusion indwelling pain catheters have been available for use since mid 1990s
- Generally considered safe with reports no of long or short-term complications
  - Busfield, et al. *JSES* 2008
  - Jarvalla, et al. *Arthroscopy* 2008

# Methods

- Prospective study
- 99 consecutive patients
- Randomized into three groups
  - Group A: Pain pump with marcaine
  - Group B: Pain pump with saline
  - Group C: No catheter
- Arthroscopic rotator cuff repair by one of two surgeons

# Methods

- All patients were given a 30 cc bolus of 0.5% bupivacaine injection after procedure
- **Group A:** 200 cc of 0.5% bupivacaine infused at 4 cc/hr for 48 hours
- **Group B:** 200 cc of 0.9% saline infused at same rate for 48 hours
- **Group C:** no catheter

# Methods

- Patient diaries recorded for 3 days post operatively
  - Amount of oxycodone taken
  - Any other pain medications taken
  - VAS score
    - Multiple points on DOS and POD1
    - AM pain
    - PM pain

# Results

- 96 patients enrolled in study
  - 34 in group A
  - 33 in group B
  - 29 in group C



# Results

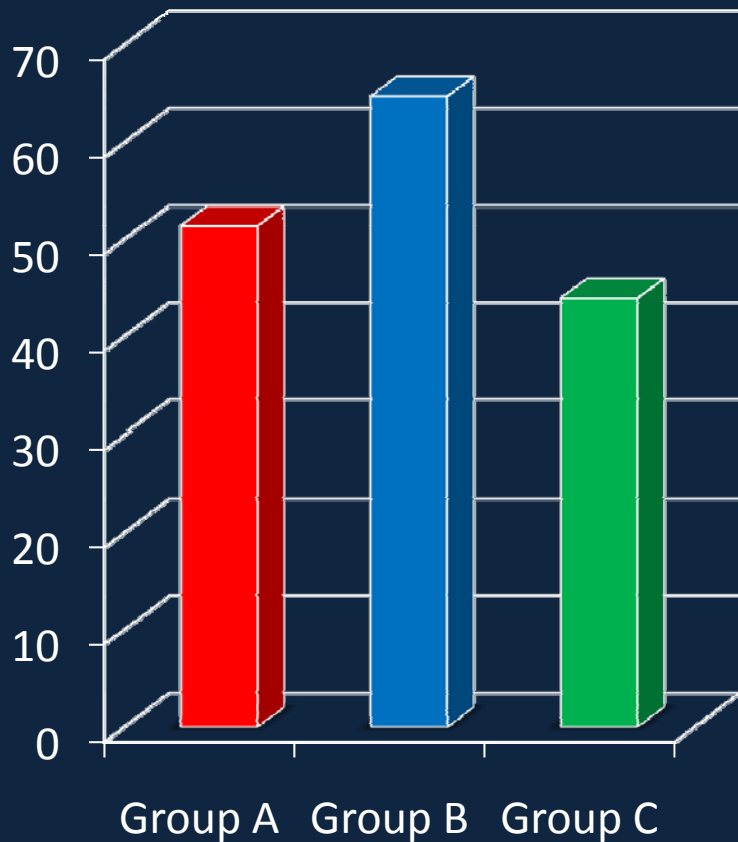
- Ave age 57 (38-79)
- 41% Female
- 59% Male



# Results

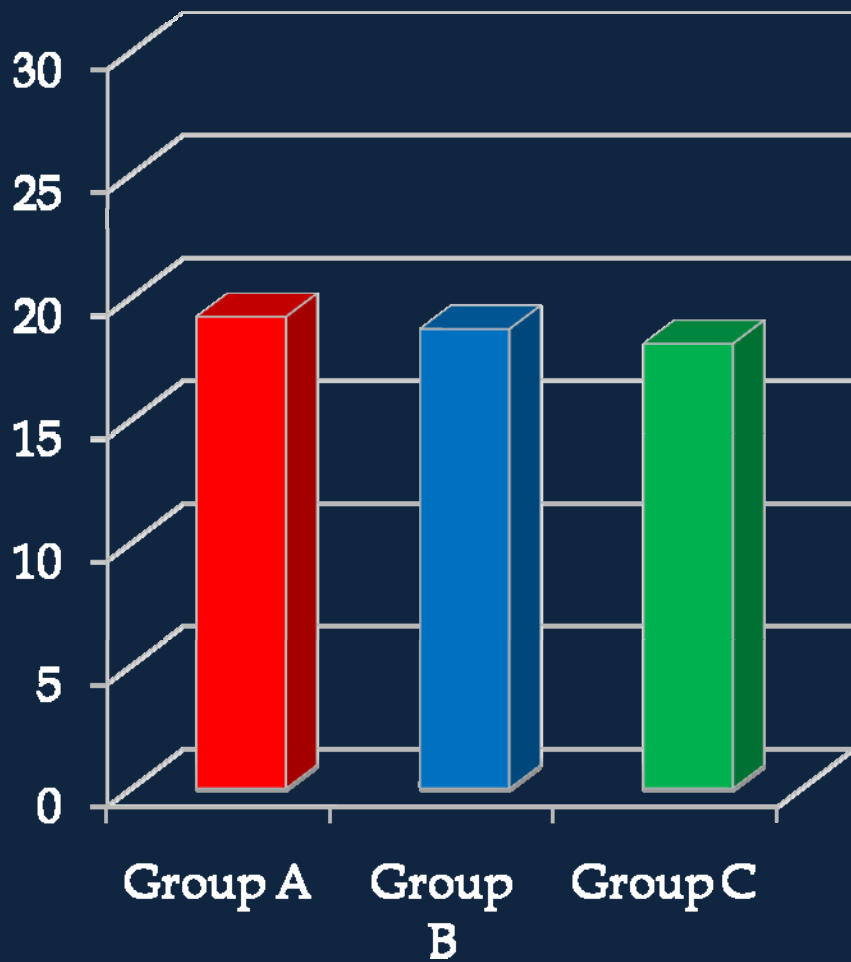
- No Difference between groups regarding
  - Age, sex, ethnicity
  - Tear size
  - Tear shape
  - Operative time
  - Amount of intraoperative narcotics
  - Concomitant procedures performed

# Immediate Post Operative Pain



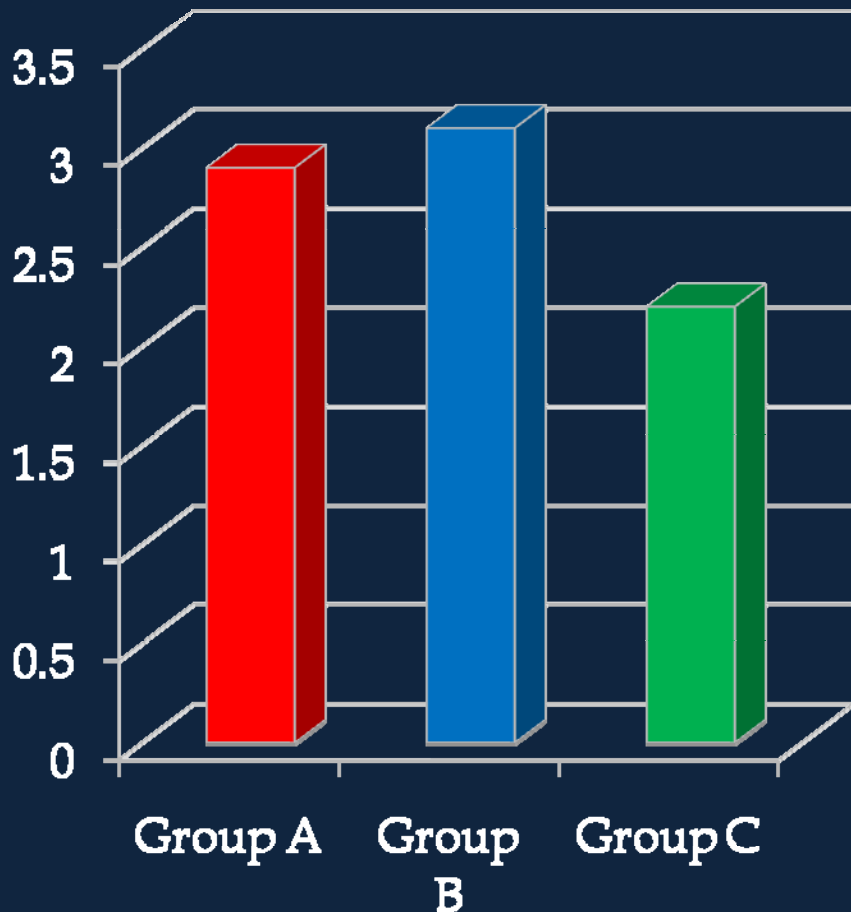
- Statistically significant decrease in immediate post operative pain in group with no catheter
- ( $p = 0.037$ )

# Daily Mean VAS Score



- Group A – 19.2
- Group B - 18.7
- Group C - 18.1
  
- No statistically significant difference

# Mean Oxycodone Pills Taken Per Day



- Group A – 2.9
- Group B – 3.1
- Group C – 2.2
  
- No statistically significant difference

# Results

- VAS scores were significantly better in the no catheter group in the immediate post operative period
- No significant differences in VAS scores in any other time point
- No significant differences between the groups in any of the daily mean oxycodone tablets ingested

# Conclusion

- We were unable to show a clinically detectable benefit in the use of bupivacaine infusion pumps for providing pain relief after arthroscopic rotator cuff repair

# Clinical Relevance

- Indwelling pain catheters are commonly used after arthroscopic rotator cuff repair
- Body of literature is mixed in terms of supporting or refuting their use
- Our results do not support the use of continuous infusion of bupivacaine following arthroscopic rotator cuff repair