

Implementing ITM for Total Joint Arthroplasty Analgesia under Spinal Anesthesia: From Journal Club to Operating Room

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Intro

- Postoperative pain control continues to be a major concern for total joint arthroplasty (TJA) cases
- Ease of administration and long duration of analgesia make ITM an ideal option for many patients
- No consensus regarding where these patients should recover after surgery

Methods

- Departmental journal club held to design protocol for ITM usage in TJA cases
- Initial pilot study included patients undergoing total knee arthroplasty with one surgeon. ITM dose – 150mcg
- Data collection accomplished through retrospective chart review

Conclusion

- ITM use for total joint arthroplasty yields numerous benefits, including decreased cumulative opioid consumption and improved VAS scores in immediate postoperative period
- Early identification of key stakeholders and the creation of a multidisciplinary team are key components in designing and successfully implementing new institutional protocols

I: CRNA/Resident	
P: Past medical history	
A: Anesthesia type	General Y N Spinal Y N ITM Y N Regional Block Y N → Catheter Y N
A: Airway/ASA	
S: Stability	
S: Safety Precautions	

Results

- Preliminary data from pilot study revealed that ITM use was associated with lower opioid consumption and improved pain scores in immediate postoperative period
- Protocol subsequently expanded to include all TJA cases performed at our tertiary care facility
- ITM administration did not increase incidence of postoperative nausea and vomiting when compared to a control group (continuous adductor canal block, no ITM)
- No significant difference observed in overall hospital length of stay

Initiate Now	Offset	Component	Status	Dose ...	Details
Highlands Spinal Opioid Post-Op (Planned Pending)					
Vital Signs					
☒		Vital Signs		Every 15 minutes, 4 times	
☒	+1 hr	Vital Signs		Every 30 minutes, 4 times	
☒	+3 hr	Vital Signs		Every 1 hr, 4 times	
☒	+7 hr	Vital Signs		Every 2 hr, 4 times	
☒	+15 hr	Vital Signs		6 times Daily	
☒		Notify		Notify MD, O2 Sat Less Than 92	
Patient Care					
☒		Neuraxial Opioid Drug Information Warning		Patient received neuraxial morphine in OR. For problems/questions, page primary service MD.	
☒		Sedation Level Check		Every 15 minutes, 4 times, With Vital Signs	
☒	+1 hr	Sedation Level Check		Every 30 minutes, 4 times, With Vital Signs	
☒	+3 hr	Sedation Level Check		Every 1 hr, 4 times, With Vital Signs	
☒	+7 hr	Sedation Level Check		Every 2 hr, 4 times, With Vital Signs	
☒	+15 hr	Sedation Level Check		6 times Daily, With Vital Signs	
☒		Notify		Notify MD, if Aldrete score 5 or less.	
☒		Notify		Notify MD, primary service MD if RR less than 8 or Patient unresponsive and give naloxone	
☒		Pain Assessment Adult		As Needed. Upon Pt report Assess Pain (utilizing 0-10 Pain Scale) & Side Effects	
☒		Pain Assessment Adult		Every 4 hr. Upon Pt Report Assess Pain (utilizing 0-10 Pain Scale) & Side Effects	
☒		Notify		Notify MD, primary service MD For questions or problems related to Pain Management	
☒		PCA Assessment		Record volume administered every 4 hours for duration of PCA.	
Medications					
☒		naloxone (naloxone 0.4 mg/mL injectable solution)		0.2 mg, Inj, IV, Every 5 minutes, PRN, Other (see comment), 4 dose(s)	
		naluphine		Give for RR less than 8 or Patient unresponsive. Do not exceed 10mg.	
☒		ondansetron		Not available for the facility of the active encounter	
				4 mg, Inj, IV, Every 4 hr, PRN, Nausea/Vomiting	
				Or Itching.	
☐		Standard Oral Opioid: oxycodone (oxycodone regular release)		5 mg, Tab, Oral, Every 4 hr, PRN, Other (see comment)	
				For pain score 6 or greater.	
		Reduced Oral Opioid (for renal impairment, sleep apnea, or 65 years or greater): oxycodone (oxycodone regular release)		2.5 mg, Tab, Oral, Every 4 hr, PRN, Other (see comment)	
☐				For pain score 6 or greater.	
		Standard morphine PCA dose: (Recommended Loading Dose is 4 mg or less)			

Discussion

- Efforts to design and successfully implement new institutional protocols can be challenging due to the number of clinical staff involved
- Identifying stakeholders early and creating a multidisciplinary team are key components in this process
- Continuous engagement of all parties helps to ensure that the highest quality of patient care is provided