

# Non-Narcotic Pain Management Protocol In Minimally Invasive Lobectomy Patients



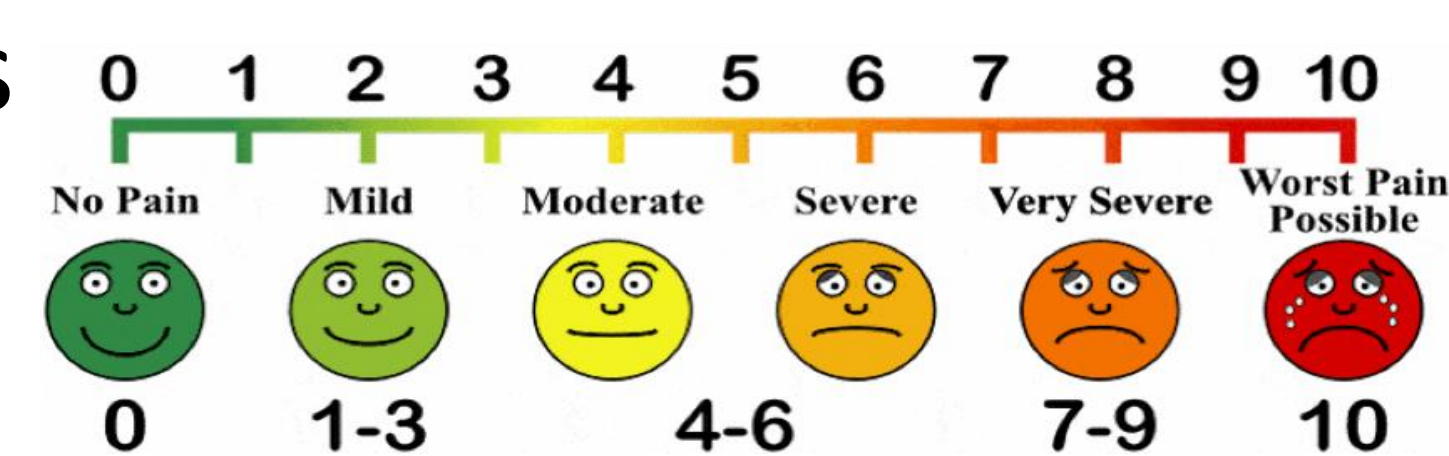
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## BACKGROUND

Narcotic abuse and addiction continues to be a devastating problem in the community, and up to 40% of patients begin their addiction with legally prescribed opioids following injury or surgery. To decrease exposure to narcotics in opioid-naïve patients, a narcotic-free pain regimen was developed for use after minimally invasive lobectomy.

## PROJECT AIM

To prove that our narcotic free multi modal pain protocol had equivalent efficacy for controlling postoperative pain in thoracic surgery lobectomy patients as evidenced by a 50% reduction in the use of narcotics and equal pain scores



## PROJECT DESIGN/STRATEGY

- Retrospective single institution database study
- Minimally invasive lobectomy patients before and after implementation of narcotic free protocol
- Patients receiving narcotic-free protocol were compared to those prior to protocol implementation
- Evaluated pain scores, narcotic use, length of stay

## CHANGES MADE (PDSA CYCLES)

1. Identification of key staff that had been left out of the initial education; second round of education rolled out to recovery room staff and anesthesia providers.
2. Surgeon education and standardization of technique to improve the effectiveness of liposomal bupivacaine.
3. Implemented the use of green wrist bands (month 3) so staff could easily identify these patients to reduce the risk of patients getting additional lidocaine products.
4. Collaboration with pharmacy to adjust medication doses and dosing schedules for multimodal medications.
5. Ongoing data collection to identify outliers real time; education for new nursing staff and providers joining the team caring for thoracic surgery patients.

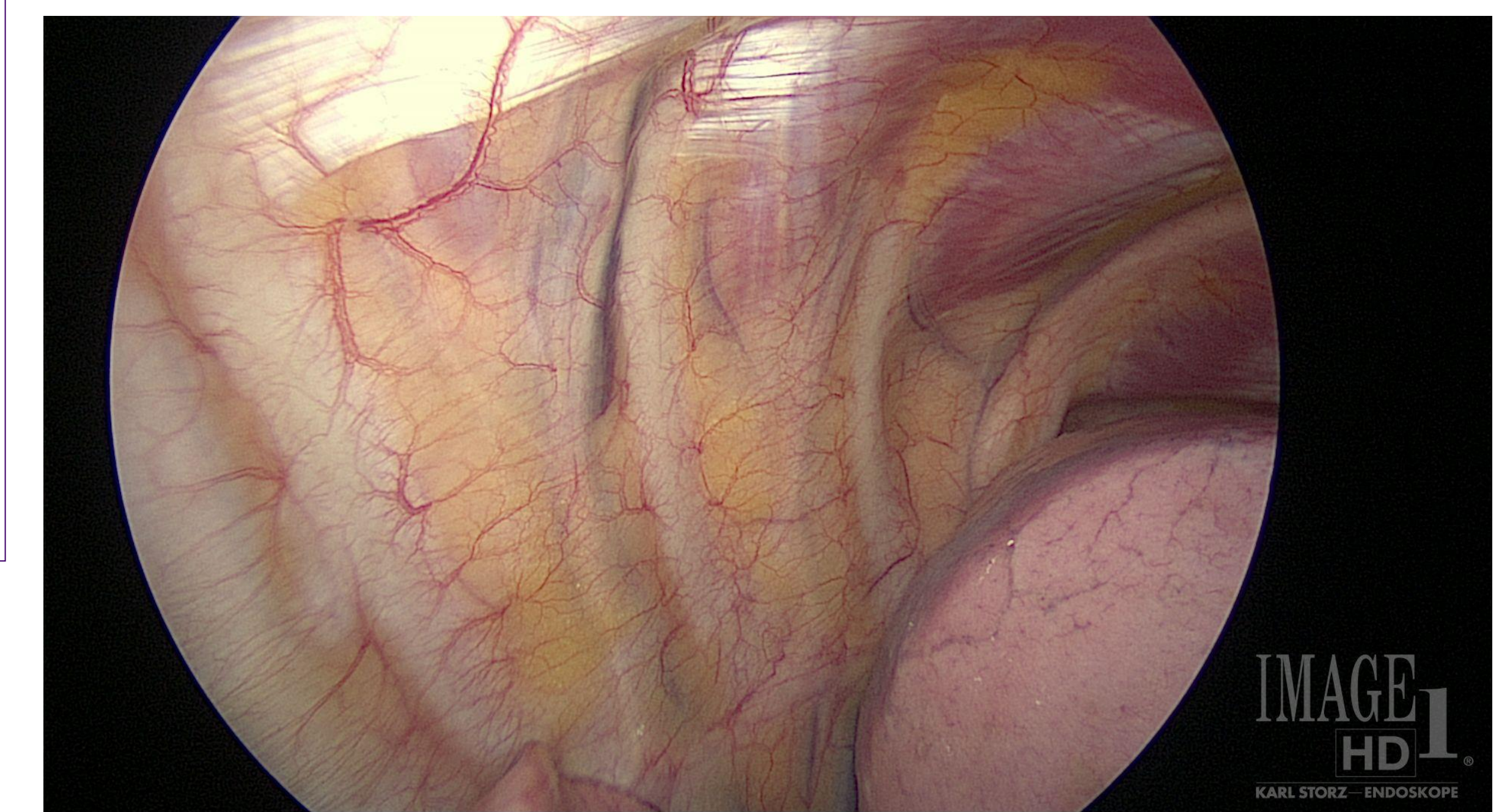
## RESULTS/OUTCOMES

- 268 lobectomy patients were analyzed from 2016 to 2020.
- 56 patients received the narcotic free protocol (Table 1)
- 212 patients were treated with typical postoperative narcotics. (Narcotic Protocol)
- Narcotic Free Protocol patients had significant decreases in average morphine equivalent use (MME), percent of patients using a patient controlled analgesia (PCA), and percent of patients receiving oral narcotics (Table 3)
- 53.6% (30/56) patients in the narcotic free group received no narcotics at all
- Patient's in Narcotic Free group had better pain control and shorter length of stay

		Narcotic Free Protocol (n=56)	Narcotic Protocol (n=212)	P value
Mean MME (mg)	POD 0	25.4	74.7	0.008
	POD 1-7	37.3	98.6	0.001
	Total Stay	60.1	181.6	<0.0001
PCA Narcotic Use	POD 0	12.5% (7/56)	77.4% (164/212)	<0.0001
	POD 1-7	0% (0/56)	12.3% (26/212)	0.0037
	Total Stay	12.5% (7/56)	80.7% (171/212)	<0.0001
Oral Narcotic Use	POD 0	14.3% (8/56)	48.1% (102/212)	<0.0001
	POD 1-7	42.9% (24/56)	71.7% (152/212)	0.0001
	Total Stay	42.9% (24/56)	94.8% (201/212)	<0.0001

## LESSONS LEARNED

Liposomal Bupivacaine	
Gabapentin	300mg PO q8hrs
Acetaminophen	1000mg PO q8hrs
Methocarbamol	500-1000mg PO or IV q8hrs
Ketorolac	15 or 30mg IV q8hrs



## NEXT STEPS

- Ongoing data collection to identify benefits of narcotic avoidance in terms of reducing length of stay and avoidance of postoperative complications and associated cost savings.
- Expand the use of liposomal bupivacaine and non narcotic protocol to other patient populations.
- Roll out other ERAS protocols to improve patient outcomes and experience, i.e. reduced fasting times prior to surgery, pre-habilitation.

## CONTACT INFORMATION

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