



# Methadone Loading for Minimally Invasive Repair of Pectus Excavatum

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## Introduction

- Minimally invasive Repair of Pectus Excavatum (MIRPE) – procedure of choice
- Thoracic epidural - 1° pain management technique
  - Stopped at our institution - surgeon preference
  - PCA found to be less than satisfactory
- Intraoperative IV methadone (0.1 mg/kg) loaded
  - NMDA antagonism incorporated into mgmt.
  - PCA demand only - postoperatively
  - Modeled upon existing PSF perioperative home

## Hypothesis

- Intraoperative methadone loading dose will lead to lower pain scores and reduce PCA demands

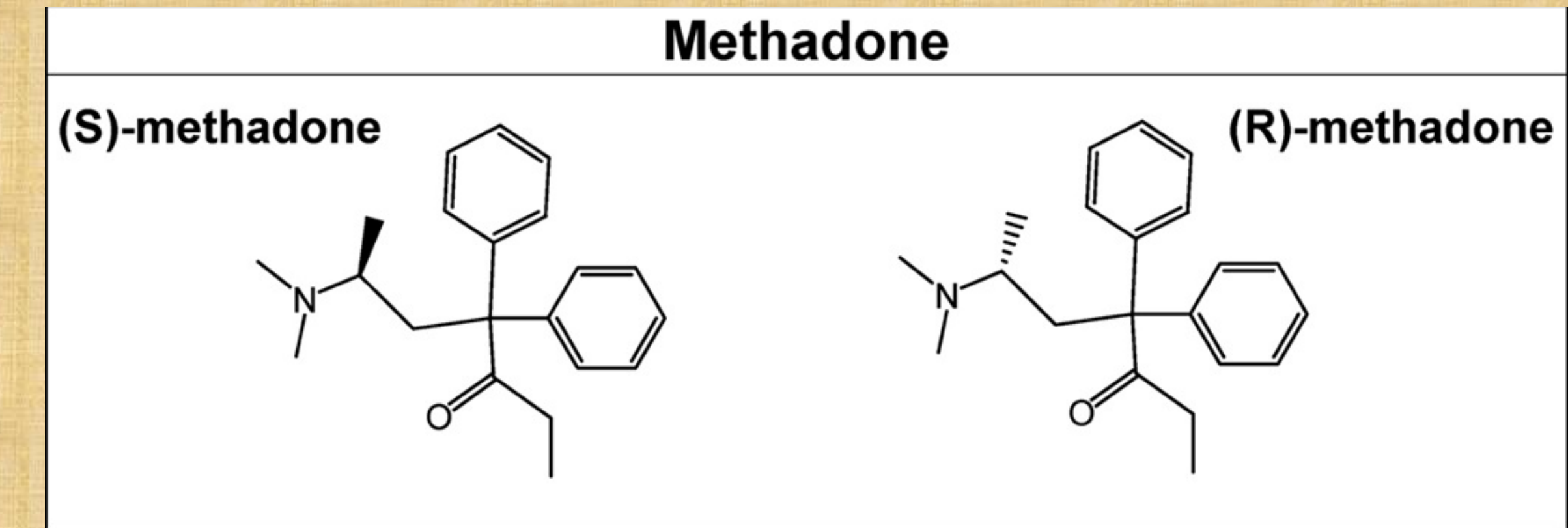
## Methods

- Retrospective analysis of patients who underwent MIRPE
- Data collected (for each postoperative day):
  - Maximum pain scores
  - Total PCA demand doses
  - Doses of PRN opioid, diazepam, ondansetron
  - Compared methadone vs. non-methadone

## Results

Methadone (n=4)	Maximum Pain Scores			PCA Demand Doses			PRN Medication Doses		
	POD 1	POD 2	POD 3	POD 1	POD 2	POD 3	Ondansetron	Diazepam	Opioid
mean	7.8	4.5	4.3	11.3	9.5	NA	2.3	1.0	0
SD	0.5	1	1.9	4.5	7.9	NA	1.5	0.8	0
median	8	4	3.5	12	8	NA	2	1	0
PCA Only									
(n=12)	POD 1	POD 2	POD 3	POD 1	POD 2	POD 3	PRN	PRN	PRN
mean	7.1	5.8	4.8	31.0	24.7	24.0	3.4	3.1	0.2
SD	1.6	1.4	1.9	16.6	15.3	8.5	1.9	2.1	0.4
median	7	6	4	26	20	24	4	3	0

- Total patients: 16
  - + Methadone: 04
  - - Methadone: 12
- PCA: Morphine or Hydromorphone
- Methadone group: demand only
- Control group: demand + continuous
- Maximum pain scores – no significant difference
- PRN medication use – no significant difference
- PCA demands - lower in Methadone group on Postoperative Day #2
- PCA no longer needed in Methadone group after Postoperative Day #2



## Discussion

- MIRPE Pain is 2° pectus bar pressure, not incisions
- Methadone:
  - mu agonist and NMDA antagonist
  - provided immediate and long term analgesia
  - Similar results seen in PSF patients
- Other institutions - epidural for MIRPE stopped
- Demonstrates need for MIRPE perioperative home

## Conclusion

Methadone may represent a replacement to epidural for patients undergoing MIRPE

## References

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