

# The Journey to Initiating Minimal Sedation in the Children's Institute

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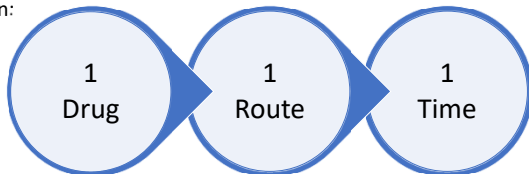


## Background/Problem

- Children experience many anxiety-provoking procedures in medical settings
- Medical procedures may have lasting adverse consequences
- Comfort interventions exist for children to improve outcomes and patient satisfaction → minimal sedation
- **Goals:**
  - Minimize psychological trauma and anxiety related to medical procedures
  - Prevent behaviors that could compromise patient safety or procedure efficacy
  - Improve patient and family experience
  - Promote the safety and welfare of our healthcare caregivers

## Literature Review

- Minimal sedation (anxiolysis) a drug induced state characterized by:
  - Baseline responsiveness
  - Maintenance of respiratory and cardiovascular function
- Under minimal sedation, only observation and intermittent assessment is needed
- Minimal sedation is safe and effective in the ED and urgent care when given:



- Common benzodiazepines for minimal sedation include midazolam, lorazepam, and diazepam
- Research on use of minimal sedation in inpatient and outpatient settings is needed

## Purpose

- Provide safe, standardized practice for ordering, administering, and monitoring patients undergoing pediatric minimal sedation for procedures in the hospital, ambulatory, and ED settings

## Process of Implementation

### Policy and Procedure Guidelines



Common Procedures

- Anal-rectal manometry
- Dressing changes
- Indwelling urinary catheter insertion
- IVAD access
- Laceration repair
- Lumbar punctures
- Naso-enteric tube placement
- Non-invasive diagnostic procedures
- PIV insertion
- Trans-nasal endoscopy
- Urodynamic Testing

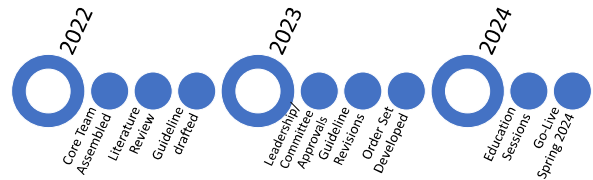


Caution with These Conditions

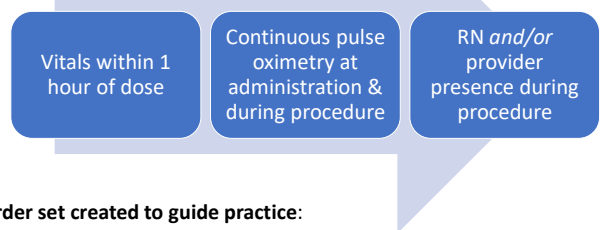
- Cardiac, respiratory compromise
- Concurrent opioid, sedation, respiratory depressants
- Congenital syndromes
- Altered mental status
- Difficult airway
- Hypotonia
- Central apnea
- Kidney, liver dysfunction
- Obstructive sleep apnea
- Extreme tonsillar hypertrophy

## Process of Implementation, cont'd

### Minimal Sedation Implementation Timeline



### Minimal Sedation Monitoring



### Order set created to guide practice:

- One benzodiazepine
- Weight-based dose
- Oral, intranasal, or intravenous route

Midazolam	Lorazepam	Diazepam
<ul style="list-style-type: none"> <li>• Oral: 0.5mg/kg</li> <li>• Max 20mg</li> <li>• Intranasal: 0.2mg/kg</li> <li>• Max 10mg</li> </ul>	<ul style="list-style-type: none"> <li>• Oral: 0.05mg/kg</li> <li>• Max 2mg</li> <li>• IV: 0.05mg/kg</li> <li>• Max 2mg</li> </ul>	<ul style="list-style-type: none"> <li>• Oral: 0.2mg/kg</li> <li>• Max 10mg</li> <li>• IV: 0.05mg/kg</li> <li>• Max 5mg</li> </ul>

### Dissemination:

- Initiative presented (20 minutes) to all providers within inpatient, ambulatory, and ED settings
- Computer-based learning module (5-10 minutes), mandatory for nursing staff

## Continuous Monitoring

- Ongoing feedback from providers and RNs
- Regular review:
  - Order set use
  - Rapid responses and code events related to minimal sedation
  - Use of reversal agent, flumazenil, for cases of minimal sedation

## Future Steps

- Consider adding intravenous midazolam to order set
- Research on the safety and efficacy of minimal sedation in the inpatient and outpatient pediatric settings

## Acknowledgments

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