

Development and Implementation of a Narcotic Weaning Protocol

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Background

- The implementation of a narcotic habituation wean protocol has been shown to lower the incidence of withdrawal symptoms, decrease hospital length of stay, and decrease exposure to narcotics by decreasing time of weaning^{1,2,3,4,5,6,7,9,10}.
- The recent 2022 Critical Care Practice Guidelines recommend using a standardized narcotic weaning protocol in combination with a withdrawal assessment tool in patients at risk for iatrogenic withdrawal syndrome⁸.

Aims

- This project's goal is to improve narcotic weaning practices for hospitalized pediatric patients through the development of a standardized protocol.
- Targeted aims include increasing the use of the standardized wean process by 50%, maintaining or decreasing the duration of narcotic weans, and maintaining or decreasing the number of rescue doses of Ativan or methadone.
- The initial timeline for achievement of targeted goals was six months.

Measures

- Outcome:
 - Average length of narcotic wean in days
 - The final dosages of Ativan and Methadone
- Balance:
 - Assess for adverse outcomes including the incidence of WAT-1 scores greater than or equal to three
 - The number of rescue doses of narcotics required
- Process:
 - Rate of initiation of and adherence to the protocol based on documented narcotic weaning templates in the EMR.

Weaning Protocol "Smart Phrase" Example

Sedation Wean Plan for **<10 days on opioids or benzos drips:**
Wean **both** medications each day

- A) Patient's weight at the start of wean: ***
- B) Patient's starting intermittent Methadone: *** q ***
20% increment of Methadone from start of wean ***
- C) Patient's starting intermittent Ativan: *** q ***
20% increment of Ativan from start of wean ***
- D) End dose (0.05 mg/kg/dose) for Methadone & Ativan: ***
- E) Space out frequency after reaching end doses
- F) Please add narcotic habituation to problem list tabs

Schedule:

Date/Wean day	Methadone (Dolophine)		Lorazepam (Ativan)	
	Dose	Changes made today	Dose	Changes made today
***	***		***	
***	***		***	
***	***		***	
***	***		***	
***	***		***	
***	***		***	
***	***		***	
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***	***		***	
***	***		***	
***	***		***	

WAT-1 scores should be taken once every nursing shift
 WAT-1 <3: continue current wean
 WAT-1 3-7: continue current regimen without wean; consider adjustment with frequent use of rescue doses (rescue doses typically 0.05 mg/kg/dose of Ativan/Methadone)
 WAT-1 > 7: consider increasing medication(s) to previous dose and readjusting wean plan

Consider weaning clonidine patch/liquid when Methadone/Ativan wean is completed

Interventions

- A narcotic weaning protocol was developed by an interdisciplinary group of pediatric residents, a clinical pharmacist, and pediatric hospitalist.
- Published as "smart phrase" in electronic medical record
- Inclusion criteria:
 - Patients on sedation in PICU fewer than 20 days prior to transfer to hospitalist service.
 - Patients were then further divided into groups receiving sedation drips for <10 days and those receiving sedation for 10-20 days.

Results

- Pre-implementation data was collected using a one-year retrospective chart review.
- Followed by a six-month post-implementation chart review.
- Patient ages ranged from 6 weeks to 23 years old with an average age of 5 years.
- Of post implementation patients, 62.5% of patients were on sedation for less than 10 days and 37.5% were on sedation for 10-20 days.

Conclusions

- Decrease in duration of narcotic weans to the recommended terminating dose had no clinically significant adverse outcome.
- Next Steps:
 - Education on proper utilization of WAT-1 scores to ensure appropriate recognition and treatment of iatrogenic withdrawal syndrome

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