

# Neonatal Iatrogenic Withdrawal

## An Evidence-Based Practice Project

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### Background

- Neonatal iatrogenic withdrawal occurs after exposure to medications used for sedation or pain management in the neonatal intensive care unit (NICU).
- A standardized weaning process should be guided by duration of exposure to the medications, need for additional “rescue” doses, and withdrawal scores.<sup>1</sup>
- There are limited weaning evaluation tools and literature for iatrogenic withdrawal, compared to withdrawal after maternal exposure in utero.

### Purpose

The purpose of this evidence-based practice project is two-fold:

1. identify an appropriate withdrawal assessment tool for neonates experiencing iatrogenic withdrawal
2. facilitate the utilization of an established practice guideline

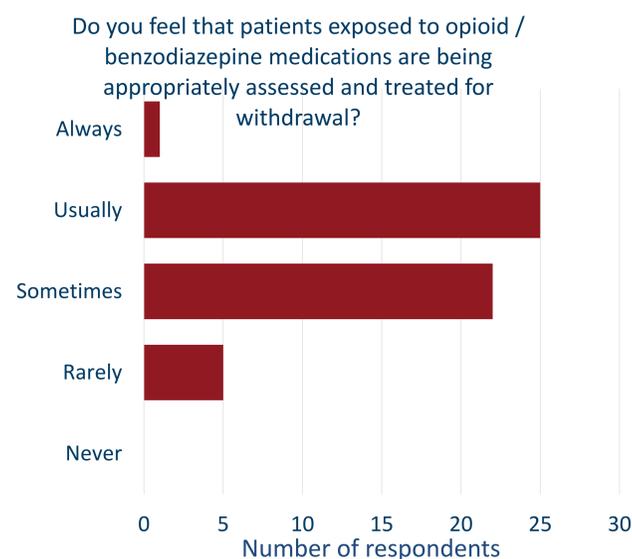
### Synthesis of Evidence

A comprehensive literature search revealed:

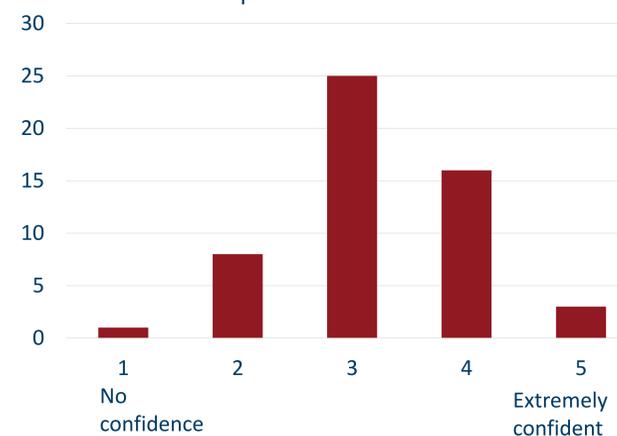
- The Modified Finnegan weaning assessment tool is the focus of this literature which was developed for in utero exposure .
- 6 articles focusing on the Withdrawal Assessment Tool (WAT-1).
  - The WAT-1 has been validated for use in neonates two weeks or older and has shown higher specificity, sensitivity, and reliability for patients experiencing iatrogenic withdrawal.<sup>2</sup>

### Baseline Survey & Chart Review Data

- A baseline survey exploring practice and perceptions of weaning processes was conducted; 53 NICU nurses and providers responded.
- Inconsistency in weaning, scoring, and PRN medication practices were identified.



How confident are you that the Modified Finnegan accurately identifies degree of withdrawal in an infant exposed to opioid or benzodiazepine infusions in the NICU?



A retrospective chart review revealed:

- average wean duration = 7 days
- range of additional medication doses = 3 – 232 doses
- 17% of patients needing an escalation in dosage of medication after wean started

### Practice Recommendations & Implementation

- One-on-one education for all NICU RNs, topics included:
  - Why, how, and when to use the WAT-1 tool to assess weaning
  - How to access and use the pre-established Clinical Practice Guideline for Iatrogenic Withdrawal, developed to guide practice at UW Health
- All NICU patients monitored by project lead to identify patients to be assessed using the WAT-1
- Report created to evaluate weaning practices

Use the WAT-1 assessment tool for all NICU patients:

> 42 weeks PMA

> 2 weeks old

Exposed after birth

### Ongoing Evaluation

Patient data is being evaluated to determine duration of wean, cumulative dosage of medication, and number of PRN medications given to assess the implementation of these practice recommendations.

### Next Steps & Conclusions

- Repeat survey to determine post-implementation practice and perceptions of weaning using the WAT-1
- Survey data will determine next steps for implementation and ensuring consistency of scoring and weaning of our neonates
- By using the WAT-1, in conjunction with the medication weaning clinical practice guideline, NICU nurses are better poised to more accurately assess neonates experiencing iatrogenic withdrawal and treating with the lowest possible doses and shortest duration of medication exposure to manage withdrawal.

### References

1. Chiu, A.W., Contreras, S., Mehta, S., Korman, J., Perreault, M.M., Williamson, D.R., Burry, L.D. (2017). Iatrogenic opioid withdrawal in critically ill patients: A review of assessment tools and management. *Annals of Pharmacology*, 51(12), 1099-1111.
2. Franck, L.S., Scoppettuolo, L.A., Wypij, D., & Curley, M.A.Q. (2012). Validity and generalizability of the Withdrawal Assessment Tool-1 (WAT-1) for monitoring iatrogenic withdrawal syndrome in pediatric patients. *Pain*, 153(1), 142-148.

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