

Effective Management of Oxytocin

Background

In 2023, 33.2% of US Births involved IOL (Osterman et al., 2025)

Prentice CY 25 IOL rate was 43%

An IV oxytocin rate of 6 mU/min is believed to be equivalent to endogenous oxytocin levels during labor (Fuchs et al., 1983)

Aim of this project:

1. Standardize the titration of Pitocin for patients
2. Ensure that at least 60% of patients are reaching 6 mU/min of Pitocin by 60 minutes of initiation

Policy

Policy 12.0053

Induction & Augmentation of Labor

According to the policy it is at the discretion of the L&D nurse to increase Pitocin every 15-30 mins by 1-2 mU

Knowledge

Risk associated with waiting LONGER than guideline to increase pit when maternal/fetal status is reassuring:

- higher association with c/s (Maeder et al., 2020)
- risk factor for PPH
- increased risk of infection

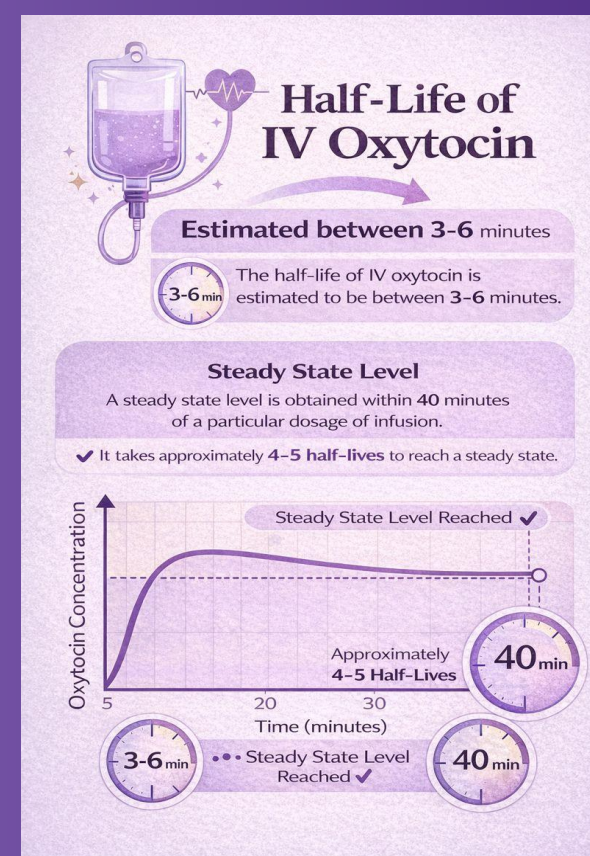
Indications to decrease oxytocin

-FHR concerns including:

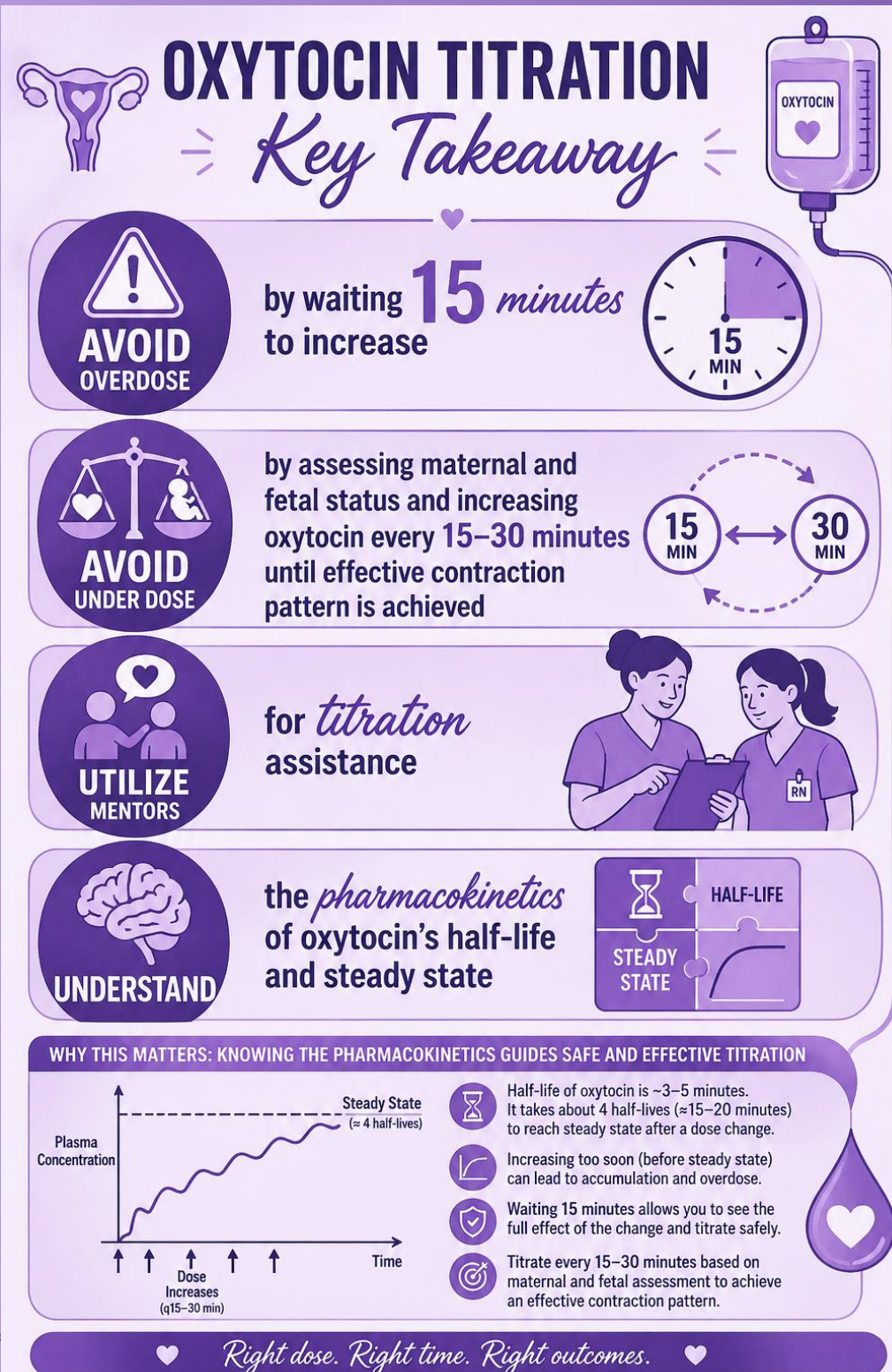
1. Recurrent variable or late decelerations
2. Absent variability
3. Presence of prolonged decelerations

-Tachysystole defined as:

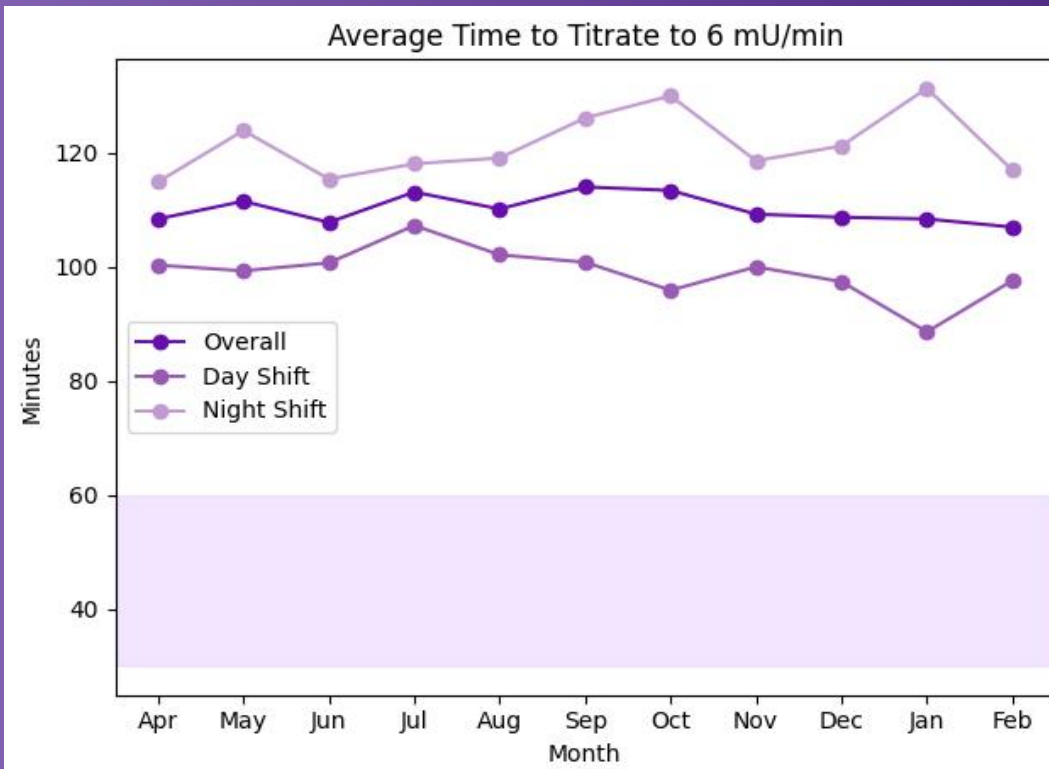
1. More than five contractions in 10 minutes averaged over a 30-minute window



Pitocin Titration Key Takeaways



Data



Over 300 pt records/month. April 2025-February 2026

References

- Association of Women's Health, Obstetric, and Neonatal Nurses. *Guidelines for Professional Registered Nurse Staffing for Perinatal Units*. Washington, DC: Association of Women's Health, Obstetric, and Neonatal Nurses: 2010.
- Fuchs, A. R., Goeschen, K., Husslein, P., Rasmussen, A. B., & Fuchs, F. (1983). Oxytocin and initiation of human parturition. III. Plasma concentrations of oxytocin and 13, 14-dihydro-15-keto-prostaglandin F2 alpha in spontaneous and oxytocin-induced labor at term. *American Journal of Obstetrics & Gynecology*, 174(5), 497-502.
- Maeder, A. B., Park, C. G., Vonderheid, S. C., Bell, A. F., Carter, S. C., McFarlin, B. L. (2020). Maternal and System Characteristics, oxytocin administration practices, and cesarean birth rate. *Birth Issues in Perinatal Care*, 47(2), 220-226. <https://doi.org/10.1111/birth.12482>
- Osterman, M. J. K., Hamilton, B. E., Martin, J. A., Driscoll, A. K., & Valenzuela, C. P. (2025). Births: Final data for 2023. *National Vital Statistics Reports*, 74(1), 1-87. Doi: 10.15620/cdc/175204

Oxytocin Dosing Project

Overview

Problem Statement: Oxytocin is the most frequently administered medication by RNs in Labor and Delivery. The preliminary data showed the mean time to get to 6mu/min (108.4) and 10mu/min (231.1) is much higher than outlined in the policy.

Goal/Benefit: Over the course of 12 months improve effective oxytocin up-titration. The aim to align mean time titration of oxytocin reaches 6mu/min in 30-60min and to 10mu/min in 60-120 min in accordance with current oxytocin titration policy (in the absence of s/s of fetal distress).

Scope: This project will focus on labor and delivery patients that receive oxytocin administration. **Out of scope:** Patients whose oxytocin rate was decreased prior to reaching 6mu/min

Definitions of Success		Key Milestones		Date
Outcome Metric(s): Mean time oxytocin reaches 6mu/min to 30-60min and 10mu/min in 60-120 min to align with current policy	Key Deliverables: - Monthly tracking of compliance with mean oxytocin titration times - Analysis of RN identified barriers to oxytocin titration - Education on pharmacokinetics of oxytocin - Implementation of quick-start oxytocin protocol	Define	Baseline oxytocin up-titration times	05/25
		Measure	Mean time oxytocin reaches 6mu and 10 mu	05/26
Process Metric(s): “How will you ensure the interventions you implement are being completed?”		Analyze	Monthly oxytocin adherence	05/26
		Improve	Educate RN staff and providers on pharmacokinetics of oxytocin. Identify barriers to oxytocin up-titration.	05/26
		Control	Adjust protocol to a quick-start oxytocin protocol	05/26

Team

Executive Sponsor: Ob Quality Committee	Clinical Sponsor: Dr Kominarek
Process Owner: Angela Maeder, Mary Clare Vanecko Janelli Barrow	Improvement Leader: Angela Maeder, Mary Clare Vanecko, Janelli Barrow
Team Members: Anna Roselle, Lena Volpe	