



# ISMP Oxytocin Medication Safety Best Practices

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# Objectives



Review the five event themes associated with oxytocin



Summarize the ISMP Targeted Medication Safety Best Practices (TMSBP) 2022-2023 recommendations for oxytocin

# Oxytocin (Pitocin<sup>®</sup>)

- **Common Indications:** Induction or stimulation of labor, postpartum uterine bleeding, termination of pregnancy
- **Supplied As:** 10 units/mL (various volumes available)
- **Precautions:** Improper administration can cause hyperstimulation of the uterus, which in turn can result in fetal distress, the need for an emergency cesarean section, or uterine rupture
  - A few maternal, fetal, and neonatal deaths have been reported because of oxytocin errors

# History of Reported Errors

- ISMP analyzed voluntary error reports submitted between **1999 and 2019**
  - During that time, 52 reports involved oxytocin:
    - 10% described  $\geq 1$  oxytocin error
    - 44% originated during dispensing
    - 23% originated during the administration
    - 13% originated during prescribing
    - 25% resulted in maternal, fetal, or neonatal harm

# Five Event Themes Associated with Oxytocin

## Prescribing errors

- (e.g., ordering oxyCODONE and accidentally selecting oxytocin)

## Look-alike drug packaging and names

- (e.g., Pitocin® and Pitressin®, both referred to as “pit”)

## Preparation challenges

- (e.g., unlabeled infusion bags)

## Administration-associated errors

- (e.g., concentration milliunits per mL or units per L)

## Communication gaps

- (e.g., conflicting orders during change of shift)

# ISMP's Targeted Medication Safety Best Practices (TMSBP) for Hospitals and Survey

2022-2023

- Targeted for the hospital setting; applicable to other healthcare settings
- Survey:
  - Hospitals participated (N =188):
    - ≥ 500 beds (30%)
    - 300-499 beds (21%)
    - 100-299 beds (27%)
    - 26-99 beds (16%)
    - ≤ 25 beds (6%)
  - > 66% report having part or full-time medication safety officer(s) (MSO)

# ISMP's TMSBP for Hospitals and Survey

2022-2023

1. Require the use of standard order sets to prescribe for labor induction/augmentation and control of postpartum bleeding
  - 83% full implementation
  - Barriers: Anesthesia staff resistance, allowing prescribers to bypass order sets, accepting free-text orders
  - Enabler: Systemwide standard order set, leadership requiring its use

# ISMP's TMSBP for Hospitals and Survey

2022-2023

2. Standardize to single concentration/bag size for antepartum and postpartum infusions (e.g., 30 units in 500 mL)
  - 84% full implementation
  - Barriers: Anesthesia staff resistance to single concentration for both indications
  - Enabler: Single concentration in CPOE & infusion pump drug library
  - Most respondents report using 30 units/500 mL standardized concentration



# ISMP's TMSBP for Hospitals and Survey

2022-2023

3. Standardize how doses, concentration & rates are expressed & communicate orders in dose rate aligned with smart infusion pump DERS
  - 80% full implementation of standard of expression
  - 82% orders in dose rate, aligning with DERS
  - Barriers: Allowing different dosing based on indication & excluding oxytocin from infusion pump interoperability due to workflow challenges
  - Enablers: Standardize dosing units & concentration in orders sets & smart pump drug library

# ISMP's TMSBP for Hospitals and Survey

2022-2023

4. Provide oxytocin in **ready-to-use form**. Boldly label both sides of infusion bag to differentiate oxytocin bags from hydrating & magnesium infusions
  - 86% have ready-to-use form
  - 36% labeling both sides of the infusion bag
  - Barriers: Unavailability of premixed bags and “supply issues”
  - Enablers: Require pharmacy to prepare all infusions & purchase premixed infusions

# ISMP's TMSBP for Hospitals and Survey

2022-2023

5. Avoid bringing oxytocin infusion bags to the patient's bedside until prescribed & needed
  - 57% full implementation
  - Barriers:
    - Nursing staff shortages
    - Nursing preference to have emergency medications in the patient's room
    - Inability to leave patient to retrieve oxytocin infusion

# Summary



Precautions must be taken with use of oxytocin to prevent maternal, fetal, and neonatal harm



ISMP's TMSBP 2022-2023 oxytocin recommendations can mitigate identified challenges associated with the medication



Limitations to survey results include small sample size



# Questions?

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