MSOS Member Briefing
March 2022

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March 2022

Moderated by: E. Robert Feroli, PharmD, FASHP

MSOS
MEDICATION SAFETY OFFICERS SOCIETY

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Tools for tracking progress in Medication Safety

Allison Whalen, PharmD, MHA

OhioHealth Medication Safety Officer

Pharmacy Manager of Medication Safety and Antimicrobial Stewardship

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OhioHealth

- Nationally recognized, not-for-profit, charitable, healthcare outreach of the United Methodist Church.

- Serving its communities since 1891, OhioHealth is a family of 30,000 associates, physicians and volunteers, and a system of 12 hospitals and more than 200 ambulatory sites, hospice, home health, medical equipment and other health services spanning a 47-county area.

- Riverside Methodist Hospital
- Grant Medical Center
- Doctors Hospital
- Grady Memorial Hospital
- Dublin Methodist Hospital
- Hardin Memorial Hospital
- Marion General Hospital
- O'Bleness Hospital
- Mansfield Hospital
- Shelby Hospital
- Grove City Methodist Hospital
- Berger Hospital

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Standardization

SMART PUMPS

ADC CABINETS

EMR

SAFETY REPORTING SYSTEM

POLICIES (FOR THE MOST PART)

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Medication Safety Team

- System Medication Safety Officer
- Medication Safety Pharmacist at each site
  - Some cover multiple sites, range in hours of coverage based on size of hospital
  - Meet daily with Patient Safety team at their care sites to discuss events
- Pharmacy team meets weekly to discuss site specific medication events, plan for new implementations/projects
  - Includes Pharmacist Informaticist, Pharmacy Informatist, Clinical Coordinator responsible for pump updates
  - Team escalates discussions from the weekly level to a multidisciplinary team involving nursing and providers which meets on a monthly basis

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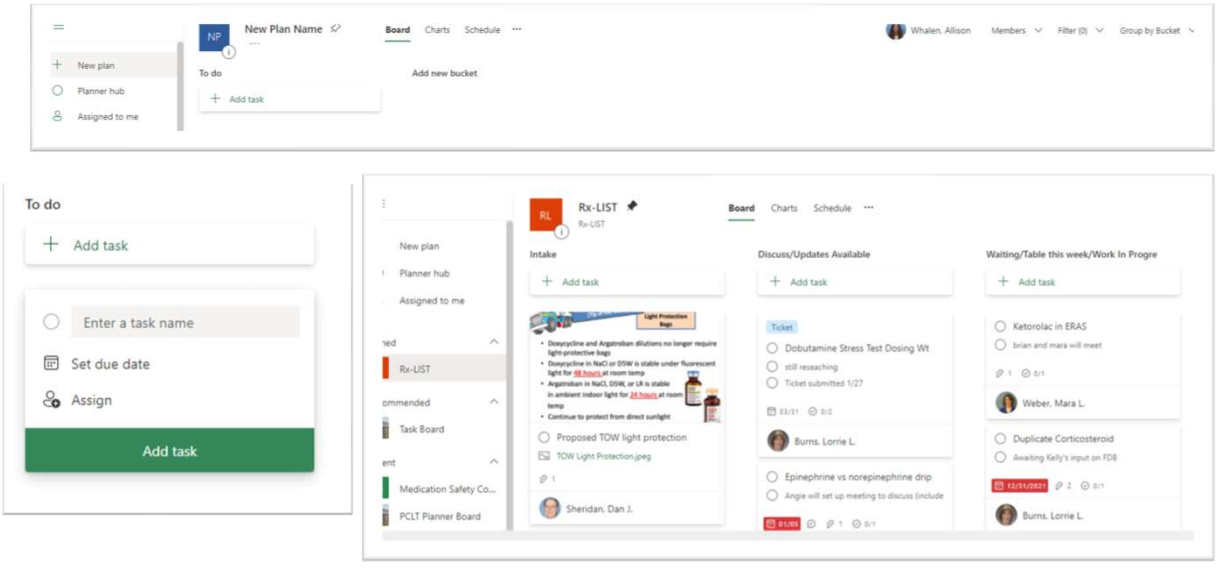
Tools of the Trade: Microsoft Planner



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Tools of the Trade: Microsoft Planner

All team members can add agenda items "tasks" to board

- Share safety events from their site with the team for brainstorming
- Project Management
- Safety evens from outside organizations (ISMP etc.)
- Suggest Safety strategies implemented at their site
- Discuss Education documents for feedback
- Bring topics forward from other service lines (Drug shortage implications, new medications etc.)

Assign owners, due dates, create customized columns for organization

Track Progress, attach documents, add "labels" for easy sorting

Complete cards when finished, but can be retrieved

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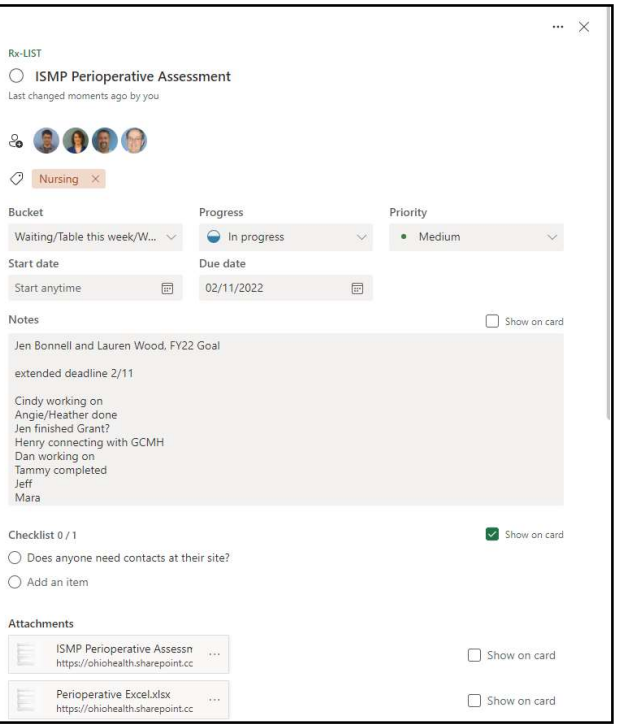
Task Example

- Title
- Owners
- Labels-customizable
- Progress, priority, due date
- Notes
- Checklist
- Attachments

- Can sort your board by many of these items



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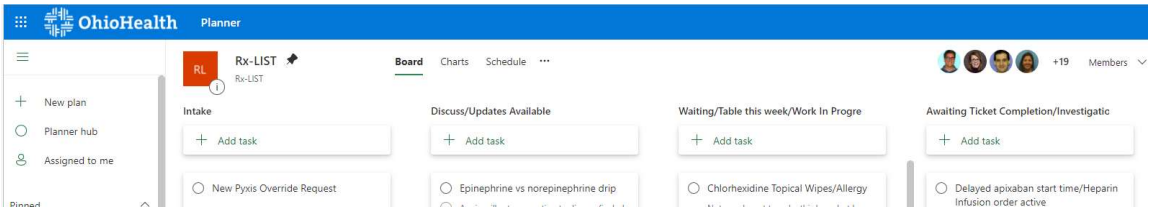
Example Columns "Buckets"

- Intake
- Discuss/Updates Available
- Waiting/Table this week
- Awaiting IS ticket completion
- Backlog

- Any member of the board can move items or update them



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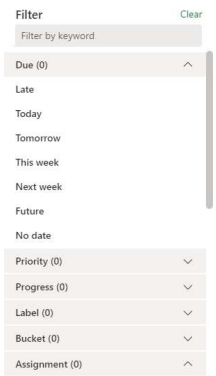
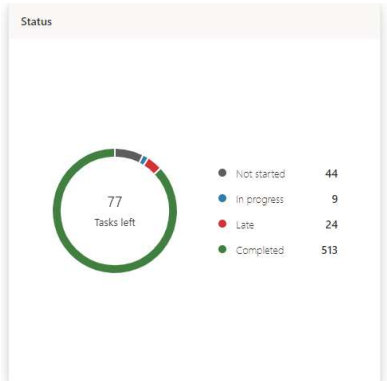
Tracking

Completed medication safety cards can be aggregated and retrieved if the issue at hand resurfaces





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Summary

Pros

- Allows for all members to add own agenda items
- Easy search option to recall previous tasks
- Easy tracking of progress/completion

Cons

- Still requires “facilitator”
- Must hold team members accountable to update/move tasks
- Not good for creating “minutes”

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Addressing Incorrect Weight Programming in Smart Infusion Pumps

March 24, 2022

Silvana Balliu, PharmD
Coordinator of Medication Safety Services – Smart Pumps

Cleveland Clinic

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Cleveland Clinic Health System

- **Main Campus**
- **18** hospitals
- **19** full service family health centers throughout Northeast Ohio
- Cleveland Clinic locations in Florida, Nevada, Toronto, London and Abu Dhabi

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Introduction

- Types of errors that can lead to incorrect weight programming in the infusion pumps
  - Transcription/entry errors
  - Weight type errors
    - Ideal vs adjusted vs actual
  - Weight updates in Electronic Health Record (EHR)

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Transcription/Entry Weight Programming Errors

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Incorrect Weight Programming Transcription/Entry Errors

- Result of human error due to manual programming process
- Pump guardrails related to the weight (Adults)
  - Lower hard limit
    - 20 kg
  - Lower soft limit
    - 40 kg
  - Upper soft limit
    - 200 kg
- Settings apply to a care area level
- Limits are the same for the anesthesia/OR care area

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Specifics of Weight Transcription/Entry Errors

- Medications dosed based on the weight
  - For example: aminocaproic acid, argatroban, bivalirudin, atracurium, dexmedetomidine, ketamine, midazolam, propofol
- Areas of practice
  - Critical care areas/anesthesia
- Error types
  - Dose/weight
  - Decimal point errors
  - Double digit errors

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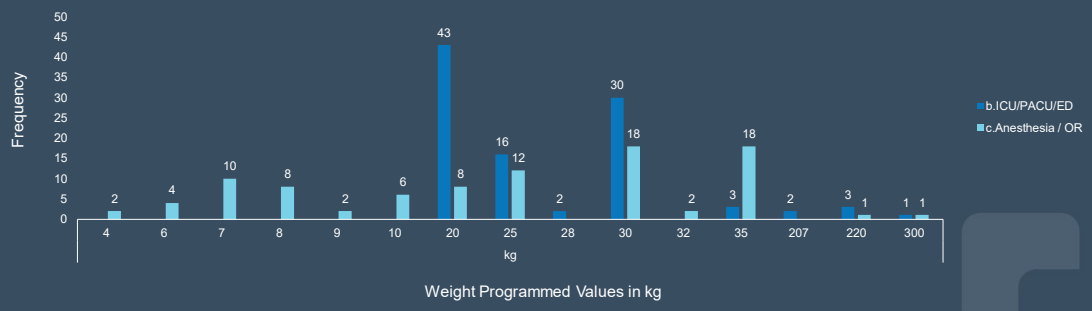
Propofol Weight Alerts in 2021 that Resulted in Reprogramming



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Transcription/Entry Weight Programming Errors Summary

Challenges

- Difficult to define an upper hard weight limit
- Not all pump software has the ability to set weight limits
  - All limits are necessary (lower, upper, soft and hard)

Recommendations

- Implement lower hard weight limit in the drug library
- Implement an upper soft weight limit based on the clinical feedback
- Weight limits should apply to all care areas, including anesthesia

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Weight Type Programming Errors

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Incorrect Weight Programming Weight Type Errors

- Some medications can be dosed based on the actual, ideal, or adjusted body weight
- Medications that can be dosed using multiple different weight types
  - Neuromuscular Blocker Agents
- Precipitating factors
  - Lack of awareness about dosing using different weight types
  - Some patients could be on multiple infusions where different weight types are used to dose each
  - Weight associated with the order in EHR is overlooked

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Weight Type Programming Errors Summary

Challenges

- Few high leverage safety strategies to facilitate appropriate weight type programming on the pump
- Education/alerts are the only options if integration of smart pumps with EHR is not implemented
- Integration will address this issue, but manual programming will still exist during downtimes

Recommendations

- Add clinical advisory to alert clinicians about programming the weight associated with the order
- Educational flyers
- Review and discuss any events at huddles
- Vendor consideration to the naming of weight field in the pump
  - "ordered weight" instead of "patient's weight"

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Errors Related to Weight Updates in EHR

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Errors Associated with Weight Updates in EHR

- New weights are entered if orders in EHR are discontinued and restarted
  - Dose titrated based on response
  - Keep previous weight if weight changes within a certain range
- Patients that stay in hospital for an extended time
  - Define a hospital cut off for weight changes when order updates are needed

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Summary

- Soft/hard and lower/upper options for the weight limits in the drug library software are necessary
- Implementation of lower hard weight limit has the largest impact in preventing weight manual programming errors
- All humans are prone to errors
  - Hard weight limits are necessary for anesthesia care area as well
- Integration of smart pumps with EHR will address most of the issues related to weight programming on the pump
- Weight programming on the pump is impacted by the weight selection in EHR

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Questions

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Managing the Shortage of CADD Epidural Supplies

Norka Carranza, PharmD
Medication Safety Pharmacist

Shannon Robb, PharmD, BCPS
Clinical Pharmacy Specialist – Pain Management

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Pre-Shortage Epidural Process

CADD Epidural Pump

CADD Yellow Epidural Tubing

Yellow CADD Cassette

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CADD Tubing & Cassette Issue

- CADD epidural and PCA tubing, and cassettes are on manufacturer backorder
- CADD tubing inventory is depleted

- We must plan for an alternative means of administering epidurals for laboring patients

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Plans for Epidural Administration

- Epidurals will be administered using the Hospira Plum 360 infusion pump (Hospira typically used for large volume infusions)
- Extra safety precautions must be taken to ensure safe infusion

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Plans for Epidural Administration

- A **check list** will be used with a **time out** for **all epidural** set-ups
- The pump must be placed on the **BED IV POLE** on the **opposite side** of the bed as the **main IV pole** to ensure it is physically separated from other infusion pumps
- **Tubing** must be **labeled x2** with yellow "EPIDURAL" stickers
  - Hospira line close to pump and end near epidural catheter
- ONLY utilize **SINGLE CHANNEL** Hospira tubing

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Plans for Epidural Administration

- **Yellow** "EPIDURAL" **sign** on **face of pump**
- **Filter** will be placed by anesthesia between tubing and epidural catheter
- Face of Hospira **pump** will be **locked** (Code 0963)
- **Medication** must be placed **in a lockbox**

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Plans for Epidural Administration

- Clinician **boluses** and/or patient controlled epidural analgesia (PCEA) **boluses can not be administered** on the Hospira pump
- Boluses must be administered manually by the Anesthesia provider

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Plans for Epidural Administration

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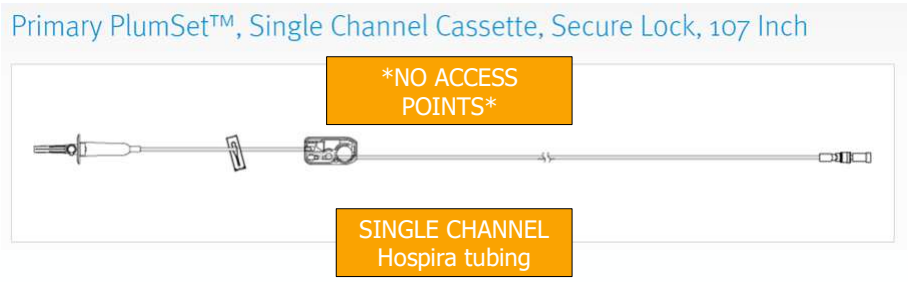
Plans for Epidural Administration



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Plans for Epidural Administration

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Plans for Epidural Administration

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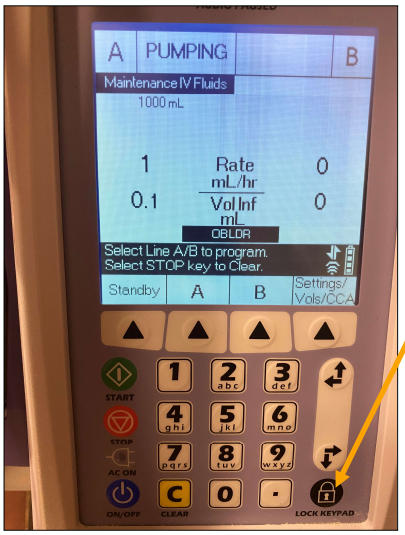
Plans for Epidural Administration



- The face of the pump should be locked after programming is complete
- Same code "0963" will unlock the pump
- Ensure code is concealed from non-healthcare providers

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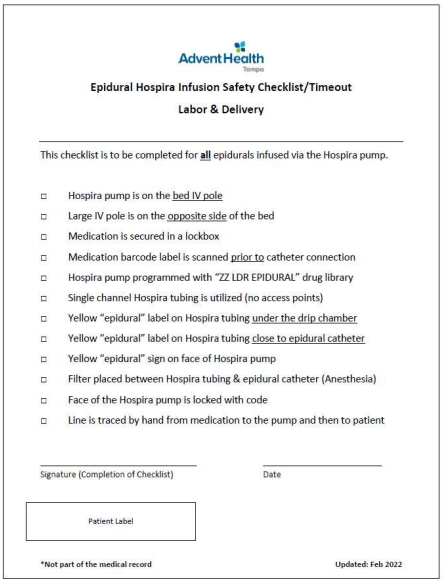
Hospira Epidural Administration Set Up



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Epidural Hospira Infusion Safety Checklist/Timeout

Labor & Delivery

This checklist is to be completed for **all** epidurals infused via the Hospira pump.

- ☐ Hospira pump is on the bed IV pole
- ☐ Large IV pole is on the opposite side of the bed
- ☐ Medication is secured in a lockbox
- ☐ Medication barcode label is scanned prior to catheter connection
- ☐ Hospira pump programmed with "ZZ LDR EPIDURAL" drug library
- ☐ Single channel Hospira tubing is utilized (no access points)
- ☐ Yellow "epidural" label on Hospira tubing under the drip chamber
- ☐ Yellow "epidural" label on Hospira tubing close to epidural catheter
- ☐ Yellow "epidural" sign on face of Hospira pump
- ☐ Filter placed between Hospira tubing & epidural catheter (Anesthesia)
- ☐ Face of the Hospira pump is locked with code
- ☐ Line is traced by hand from medication to the pump and then to patient

Signature (Completion of Checklist) _____ Date _____

Patient Label

*Not part of the medical record

Updated: Feb 2022

- Nursing + anesthesia at bedside for epidural set-up
- The Epidural Hospira Infusion Checklist/Timeout needs to be completed for **ALL** epidurals infused by the Hospira pump

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ISMP High Alert Self Assessment

	Preventing Misconnections and Wrong Route Errors
15	Equipment used for neuraxial opioid and/or local anesthetic insertion and infusion is standardized throughout the facility so that it is familiar to all practitioners administering or supervising neuraxial analgesia.
FAQ 16	Infusion pumps (including syringe pumps) used for epidural medications are standardized throughout the facility, specifically configured for epidural medications, visually distinguishable from those used for IV administration, and labeled or visually identified as delivering epidural medication.
17	Dual-channel infusion pumps are not used for simultaneous administration of IV and epidural infusions.
18	Infusion pumps used to administer medications and solutions via different routes of administration (e.g., IV and epidural) are not stacked on the same pole.
19	Epidural infusion lines and central venous access lines are secured on opposite sides of the patient's back or chest.
20	Administration sets with yellow-striped tubing and without injection ports are used for all epidural infusions, and not for any other purpose; **and** the end of the tubing closest to the patient is clearly labeled "Epidural."
21	All bags and syringes of neuraxial opioids and/or local anesthetics, and their overwraps if applicable, are labeled with a prominent auxiliary warning (e.g., **For Epidural Use Only**; **For Intrathecal Use Only**) in a large font size (e.g., greater than 20 point) on both sides of the bag or syringe.
22	The pharmacy dispenses epidural infusions with an epidural administration set/tubing or connects the epidural tubing to the bag prior to dispensing the infusion.

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Resources

- Cohen MR, Smetzer JL. Mix-Ups Between Epidural Analgesia and IV Antibiotics in Labor and Delivery Units Continue to Cause Harm. *Hosp Pharm*. 2019;54(3):155-159.
- ISMP. Medication Safety Self Assessment® for High-Alert Medications. 2018 Jan 25.
- ISMP. Medication Safety Alert. Epidural-IV route mix-ups: reducing the risk of deadly errors. 2008 July 3;13(13):1-3.

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Acknowledgments

- Stacy Carson, PharmD, BCPS, FISMP, Corporate Medication Safety Officer
- Dr. Rayna Clay, Chief of Anesthesia
- Dr. Ellen Webb, Labor and Delivery Anesthesia
- Rebeccah Vires, Labor and Delivery Nurse Manager
- Tommy Banks, Director of Supply Chain

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Questions?

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ISMP
Institute for Safe Medication Practices
An ECRI Affiliate

ISMP Update
MSOS Briefing March 2022

Michael R. Cohen, RPh, MS, ScD (hon.), DPS (hon.), FASHP
President Emeritus
Institute for Safe Medication Practices

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Announcements

- Shannon Bertagnoli, PharmD, joined ISMP on 3/7 as Medication Safety Specialist, Publications
- New Guidelines for Safe Preparation of Compounded Sterile Preparations to be published end of April
- International Medication Safety Network (IMSN) Covid-19 SIG guidelines published https://www.intmedsafe.net/imsn-cvsig-issues-recommendations-for-global-implementation-of-safe-covid-19-immunization-practices/
- ISMP is moving to new offices shared with ECRI in Plymouth Meeting, PA
- Three new Targeted Medication Safety Best Practices have been published and 3 have been archived
- IMSN forming an oxytocin SIG

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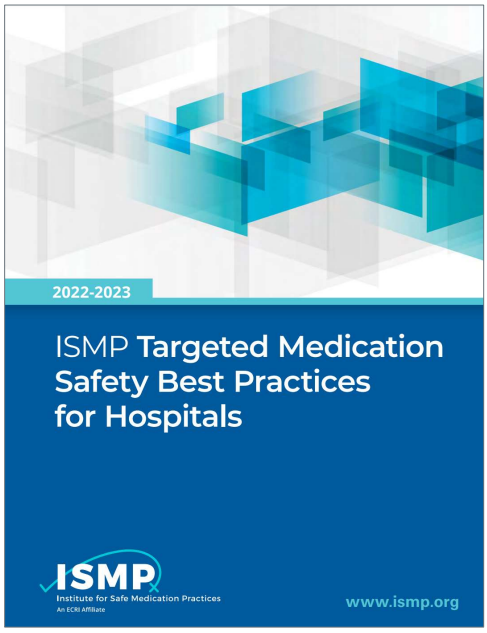

Institute for Safe Medication Practices (ISMP). *ISMP Targeted Medication Safety Best Practices for Hospitals*; 2022. https://www.ismp.org/guidelines/best-practices-hospitals.

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Currently have 19 *Best Practices*, including the three new *Best Practices* for 2022-23

- *Best Practice* 17: Safeguard against errors with oxytocin use
- *Best Practice* 18: Maximize the use of barcode verification prior to medication and vaccine administration by expanding use beyond inpatient care areas
- *Best Practice* 19: Layer numerous strategies throughout the medication-use process to improve safety with high-alert medications

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Three TMSBPs have been archived

- **Archived *Best Practice* 4:** Ensure that all oral liquid medications that are not commercially available in unit dose packaging are dispensed by the pharmacy in an oral syringe or an enteral syringe that meets the International Organization for Standardization (ISO) 80369 standard, such as ENFit
- **Archived *Best Practice* 5:** Purchase oral liquid dosing devices (oral syringes/cups/droppers) that only display the metric scale
- **Archived *Best Practice* 10:** Eliminate all 1,000 mL bags of sterile water (labeled for "injection," "irrigation," or "inhalation") from all areas outside of the pharmacy

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New ISMP Headquarters

5200 Butler Pike, Plymouth Meeting, PA 19462

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ENFit syringe "misconnection" incident

- Inpatient with a g-tube had topical compounded pain gel ordered by chronic pain service consult. Contained amitriptyline and ketamine in a gel base, packaged into ENfit syringes. Properly labeled as topical medication.
- Patient's nurse accidentally administered the gel per G-tube along with a number of other enteral liquid medications that were due at the same time and also packaged in ENFit syringes.

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Questions?

- A copy of today's slides will be posted on our website
- Next MSOS Briefing date – May 26, 2022.

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