



Baptist Health Case Study

Reducing Waste with Ready-to-Administer Prefilled Syringes: A Health-System Implementation

Disclaimer: Testimonials and data that appear on this case study are provided by real clients. Case Studies describe our past work on real cases, but our past performance in a specific case is no guarantee or representation of the likelihood that you will prevail in your case if you use our products or services.

79%

Reduction in overall Hydromorphone HCl waste events*

42%

Reduction in overall Fentanyl Citrate waste events*

THE CHALLENGES

- Lack of dosage form standardization for IV push opioids
- Inefficient clinician workflows related to dispensing and wasting controlled substances

THE SOLUTION

- Use Simplist MicroVault® ready-to-administer prefilled syringes to more closely match clinical practice for commonly used IV push opioids
- Utilize Simplist MicroVault Cassettes in Omnicell's Controlled Substance Dispenser to reduce countbacks of new prefilled syringes

THE IMPACT

- Decreased hydromorphone and fentanyl waste by 79% and 42%, respectively, resulting in fewer opportunities for diversion*
- Simplified the IV push workflow with fentanyl citrate, hydromorphone HCl, and morphine sulfate in secure packaging
- Reduced time nurses spend counting and wasting controlled substances

**Data provided by Baptist Health Floyd and analyzed by Fresenius Kabi's Simplist Support Team.

Introduction

Baptist Health is a full-spectrum health system dedicated to improving the health of its communities. Founded in 1924 in Louisville, Kentucky, the Baptist Health family consists of nine hospitals and more than 400 points of care. Baptist Health employed provider network, Baptist Health Medical Group, has nearly 1,500 providers, including more than 750 physicians and more than 740 advanced practice clinicians. Baptist Health's physician network also includes more than 2,000 independent physicians.

Fresenius Kabi USA is a global, integrated pharmaceutical company dedicated to bringing lifesaving medications and solutions to clinicians. For more than 100 years, the company has been a leader in providing high-quality, affordable medications for chronically and critically ill patients.

The Challenge

The use of intravenous (IV) medications is essential to providing patient care in the hospital setting.¹ While administering medications via the IV push route may seem like a straightforward everyday process, it actually carries a high potential for patient harm due to the number of complex manipulations required to administer, compatibility concerns, narrow therapeutic indexes, and challenges with reversing pharmacologic effects of drugs administered by this route.¹ ISMP recommends providing adult IV push medications, to the greatest extent possible, in a ready-to-administer (RTA) form (to minimize the need for manipulation outside of the pharmacy sterile compounding area).¹ An RTA product may reduce the complexity of IV push administration, thus decreasing the likelihood of an error occurring.

Baptist Health recognized the advantages of simplification and decided to standardize to an RTA presentation for several commonly used IV push opioid medications. The Joint Commission revised its pain standards in 2018 to include a leadership standard that reads, "A hospital has a leader or leadership team that is responsible for pain management and safe opioid prescribing and develops and monitors performance improvement activities."² By adopting an RTA syringe in secure, tamper-evident packaging, the leadership team believed they could meet their objective of optimizing the clinical workflows surrounding the delivery of IV push morphine, hydromorphone, and fentanyl while reducing the risk of diversion.

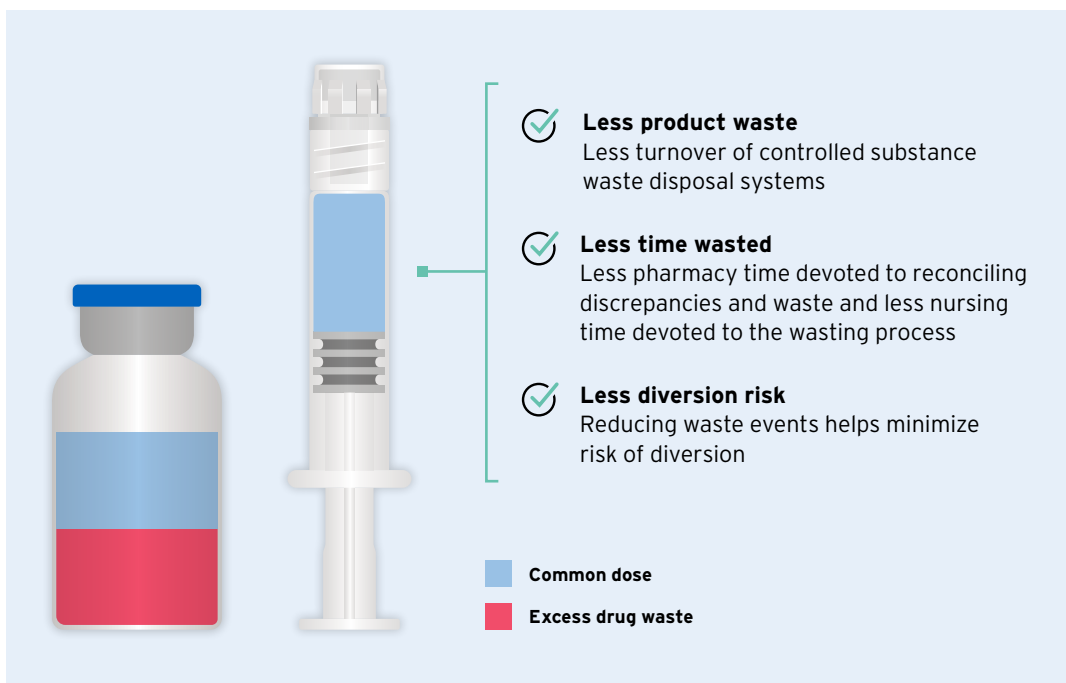
"Having a ready-to-administer syringe has helped me work more efficiently. I don't have to spend as much time drawing up doses or wasting medication, which allows me to focus on my patients."

Jay Smith, BSN, RN – Interventional Radiology, Baptist Health Floyd

The Solution

Reduction in Narcotic Waste

Health-system policies and procedures for handling and disposing of controlled substances vary.³ Wasting excess medication requires clinicians to dedicate significant time to a process that adds no value to patient care. To better understand what impact reducing narcotic waste could have, Baptist Health partnered with Fresenius Kabi's Medication Technology & Analytics (MTA) team for a complimentary analysis. Fresenius Kabi's MTA team of pharmacists was able to quantify controlled substance waste, labor inefficiency, and automated dispensing system storage space to develop a customized solution to support each hospital with the implementation of the new syringes.



One of the tools used to accomplish this was a narcotic waste calculator developed using *A Continuous Observation Workflow Time Study to Assess Intravenous Push Waste*¹ as a framework. In the study, the authors concluded that significant financial costs are associated with wasting product and skilled labor time. Optimizing product size, taking special note to match product availability with common practice use, would reduce the financial burden placed on health systems.³

Conclusions drawn from the study, in addition to the waste calculator results, supported Baptist Health's decision to implement Simplist MicroVault prefilled syringes in sizes that more closely match what is ordered in their hospitals. They understood that this combination had the potential to reduce product waste, resulting in fewer opportunities for diversion.

Automation of Controlled Substance Dispensing

Baptist Health was also seeking novel ways to automate time-consuming operational tasks that inhibit clinicians from spending more time with patients. Required countbacks of controlled substances at the automated dispensing cabinet (ADC) was one task they thought could be targeted for improvement.

Omniceil's Controlled Substance Dispenser (CSD) is an automated unit-dose narcotic dispensing system that ensures nurses' access to the selected dose for their patient, thus eliminating the need for countbacks. The CSD provides a simple and fast controlled substance workflow, which can save hours of nursing time each day.⁴ To improve dispensing workflows, they incorporated new cassettes designed specifically for Simplist MicroVault prefilled syringes into their CSD.

The Results

Reduction in Narcotic Waste

To illustrate the impact of implementing these initiatives, Baptist Health leveraged the results from Baptist Health Floyd, a mid-sized hospital within their network of nine locations. By converting IV push administration of commonly used opioid medications to the Simplist MicroVault platform, pharmacy leaders at Baptist Health were able to accomplish their standardization goals while simultaneously making system-wide opioid stewardship performance improvements. Adding products that more closely aligned with clinical practice reduced hydromorphone and fentanyl waste by 79% and 42%, respectively. This change resulted in improved workflows for nursing and pharmacy while significantly reducing time spent wasting.

THE INTERVENTION

Baptist Health Floyd achieved a reduction in overall waste events by adding the following Simplist MicroVault prefilled syringes:

- Dilaudid® (HYDROMorphone Hydrochloride) Injection, USP 0.5 mg per 0.5 mL
- Dilaudid® (HYDROMorphone Hydrochloride) Injection, USP 1 mg per 1 mL
- Fentanyl Citrate Injection, USP 50 mcg per 1 mL

Dilaudid® (HYDROMorphone HCl) Injection, USP IMPORTANT SAFETY INFORMATION

WARNING: SERIOUS AND LIFE-THREATENING RISKS FROM USE OF DILAUDID INJECTION

Addiction, Abuse, and Misuse

Because the use of DILAUDID INJECTION exposes patients and other users to the risks of opioid addiction, abuse, and misuse, which can lead to overdose and death, assess each patient's risk prior to prescribing and reassess all patients regularly for the development of these behaviors and conditions.

Life-Threatening Respiratory Depression

Serious, life-threatening, or fatal respiratory depression may occur with use of DILAUDID INJECTION, especially during initiation or following a dosage increase. To reduce the risk of respiratory depression, proper dosing and titration of DILAUDID INJECTION are essential.

Risks From Concomitant Use With

Benzodiazepines Or Other CNS Depressants
Concomitant use of opioids with benzodiazepines or other central nervous system (CNS) depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death. Reserve concomitant prescribing of DILAUDID INJECTION and benzodiazepines or other CNS depressants for use in patients for whom alternative treatment options are inadequate.

Neonatal Opioid Withdrawal Syndrome (NOWS)

Advise pregnant women using opioids for an extended period of time of the risk of Neonatal Opioid Withdrawal Syndrome, which may be life-threatening if not recognized and treated. Ensure that management by neonatology experts will be available at delivery.

Fentanyl Citrate Injection, USP IMPORTANT SAFETY INFORMATION

WARNING: SERIOUS AND LIFE-THREATENING RISKS FROM USE OF FENTANYL CITRATE INJECTION

Addiction, Abuse, and Misuse

Because the use of Fentanyl Citrate Injection exposes patients and other users to the risks of opioid addiction, abuse and misuse, which can lead to overdose and death, assess each patient's risk prior to prescribing and reassess all patients regularly for the development of these behaviors and conditions.

Life-Threatening Respiratory Depression

Serious, life-threatening, or fatal respiratory depression may occur with use of Fentanyl Citrate Injection, especially during initiation or following a dosage increase. To reduce the risk of respiratory depression, proper dosing and titration of Fentanyl Citrate Injection are essential.

Risks From Concomitant Use With

Benzodiazepines Or Other CNS Depressants
Concomitant use of opioids with benzodiazepines or other central nervous system (CNS) depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death. Reserve concomitant prescribing of Fentanyl Citrate Injection and benzodiazepines or other CNS depressants for use in patients for whom alternative treatment options are inadequate.

Cytochrome P450 3A4 Interaction

The concomitant use of Fentanyl Citrate Injection with all cytochrome P450 3A4 inhibitors may result in an increase in fentanyl plasma concentrations, which could increase or prolong adverse reactions and may cause potentially fatal respiratory depression. In addition, discontinuation of a concomitantly used cytochrome P450 3A4 inducer may result in an increase in fentanyl plasma concentration. Monitor patients receiving Fentanyl Citrate Injection and any CYP3A4 inhibitor or inducer.

Morphine Sulfate Injection, USP IMPORTANT SAFETY INFORMATION

WARNING: SERIOUS AND LIFE-THREATENING RISKS FROM USE OF MORPHINE SULFATE INJECTION

Addiction, Abuse, and Misuse

Because the use of Morphine Sulfate Injection exposes patients and other users to the risks of opioid addiction, abuse, and misuse, which can lead to overdose and death, assess each patient's risk prior to prescribing and reassess all patients regularly for the development of these behaviors and conditions.

Life-Threatening Respiratory Depression

Serious, life-threatening, or fatal respiratory depression may occur with use of Morphine Sulfate Injection, especially during initiation or following a dosage increase. To reduce the risk of respiratory depression, proper dosing and titration of Morphine Sulfate Injection are essential.

Risks From Concomitant Use With

Benzodiazepines Or Other CNS Depressants
Concomitant use of opioids with benzodiazepines or other central nervous system (CNS) depressants, including alcohol, may result in profound sedation, respiratory depression, coma, and death. Reserve concomitant prescribing of Morphine Sulfate Injection and benzodiazepines or other CNS depressants for use in patients for whom alternative treatment options are inadequate.

Neonatal Opioid Withdrawal Syndrome (NOWS)

Advise pregnant women using opioids for an extended period of time of the risk of Neonatal Opioid Withdrawal Syndrome, which may be life-threatening if not recognized and treated. Ensure that management by neonatology experts will be available at delivery.

OBSERVED WASTE REDUCTION

79%

Reduction in overall hydromorphone HCl waste events*

Hydromorphone HCl Waste Events Before	
Days Observed	183
Total Waste Events	8,002
Estimated Annualized Waste Events	15,960



Hydromorphone HCl Waste Events After	
Days Observed	92
Total Waste Events	846
Estimated Annualized Waste Events	3,356

42%

Reduction in overall fentanyl citrate waste events*

Fentanyl Citrate Waste Events Before	
Days Observed	183
Total Waste Events	3,330
Estimated Annualized Waste Events	6,642



Fentanyl Citrate Waste Events After	
Days Observed	92
Total Waste Events	974
Estimated Annualized Waste Events	3,864

Automation of Controlled Substance Dispensing



Dilaudid® (HYDROMORPHONE HCl) Injection, USP
IMPORTANT SAFETY INFORMATION (continued)

CONTRAINDICATIONS

DILAUDID INJECTION is contraindicated in patients with:

- Significant respiratory depression.
- Acute or severe bronchial asthma in an unmonitored setting or in the absence of resuscitative equipment.
- Known or suspected gastrointestinal obstruction, including paralytic ileus.
- Known hypersensitivity to hydromorphone, hydromorphone salts, sulfite-containing medications, or any other components of the product.

Fentanyl Citrate Injection, USP
IMPORTANT SAFETY INFORMATION (continued)

CONTRAINDICATIONS

Fentanyl Citrate Injection is contraindicated in patients with a hypersensitivity to fentanyl.

Morphine Sulfate Injection, USP
IMPORTANT SAFETY INFORMATION (continued)

CONTRAINDICATIONS

Morphine Sulfate Injection is contraindicated in patients with:

- Significant respiratory depression.
- Acute or severe bronchial asthma in an unmonitored setting or in the absence of resuscitative equipment.
- Concurrent use of monoamine oxidase inhibitors (MAOIs) or use of MAOIs within the last 14 days.
- Known or suspected gastrointestinal obstruction, including paralytic ileus.
- Hypersensitivity to morphine.

In addition to reducing narcotic waste, Baptist Health also improved the process of dispensing the new syringes by using Simplist MicroVault cassettes for Omnicell's Controlled Substance Dispenser. Simplist MicroVault tamper-evident packaging gave pharmacy leadership peace of mind knowing they were securely dispensing drugs with the highest abuse potential. Combining single-dose dispensing with products that more closely match common practice allowed Baptist Health to decrease opportunities for diversion and reduced waste in three ways:

- Physical amount of drug needing to be wasted
- Required time of two healthcare professionals to waste excess drug
- Time spent counting controlled substances and reconciling waste

Providing an Implementation Roadmap

Streamlining Storage of Simplist®

System-wide change can be a challenge if leadership doesn't have staff buy-in. To ensure a seamless rollout, pharmacy staff collaborated with Fresenius Kabi's Medication Technology & Analytics team to leverage their storage optimization tool, Optilytics. The results provided a roadmap to incorporate the syringes into ADCs simply and efficiently.

Dilaudid® (HYDROMORPHONE HCl) Injection, USP IMPORTANT SAFETY INFORMATION (continued)

WARNINGS AND PRECAUTIONS:

- **Opioid-Induced Hyperalgesia and Allodynia:** Opioid-Induced Hyperalgesia (OIH) occurs when an opioid analgesic paradoxically causes an increase in pain, or an increase in sensitivity to pain. If OIH is suspected, carefully consider appropriately decreasing the dose of the current opioid analgesic, or opioid rotation.
- **Life-Threatening Respiratory Depression in Patients with Chronic Pulmonary Disease or in Elderly, Cachectic, or Debilitated Patients:** Monitor closely, particularly during initiation and titration.
- **Adrenal Insufficiency:** If diagnosed, treat with physiologic replacement of corticosteroids, and wean patient off of the opioid.
- **Severe Hypotension:** Monitor during dosage initiation and titration. Avoid use of DILAUDID INJECTION in patients with circulatory shock.
- **Risks of Use in Patients with Increased Intracranial Pressure, Brain Tumors, Head Injury, or Impaired Consciousness:** Monitor for sedation and respiratory depression. Avoid use of DILAUDID INJECTION in patients with impaired consciousness or coma.
- **DILAUDID INJECTION contains sodium metabisulfite:** There is a risk of anaphylactic symptoms and life-threatening asthmatic episodes in susceptible people.

ADVERSE REACTIONS

Serious adverse reactions associated with DILAUDID INJECTION include respiratory depression and apnea and, to a lesser degree, circulatory depression, respiratory arrest, shock, and cardiac arrest.

The most common adverse reactions are lightheadedness, dizziness, sedation, nausea, vomiting, sweating, flushing, dysphoria, euphoria, dry mouth, and pruritus.

Opioid-induced esophageal dysfunction (OIED): Cases of OIED have been reported in patients taking opioids and may occur more frequently in patients taking higher doses of opioids, and/or in patients taking opioids longer term

To report SUSPECTED ADVERSE REACTIONS, contact Fresenius Kabi USA, LLC at 1-800-551-7176 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Fentanyl Citrate Injection, USP IMPORTANT SAFETY INFORMATION (continued)

WARNINGS AND PRECAUTIONS

- **Risks of Skeletal Muscle Rigidity and Skeletal Muscle Movement:** Manage with neuromuscular blocking agent. See full prescribing information for more detail on managing these risks.
- **Severe Cardiovascular Depression:** Monitor during dosage initiation and titration.
- **Opioid-Induced Hyperalgesia and Allodynia:** Opioid-Induced Hyperalgesia (OIH) occurs when an opioid analgesic paradoxically causes an increase in pain, or an increase in sensitivity to pain. If OIH is suspected, carefully consider appropriately decreasing the dose of the current opioid analgesic, or opioid rotation.
- **Serotonin Syndrome:** Potentially life-threatening condition could result from concomitant serotonergic drug administration. Discontinue Fentanyl Citrate Injection if serotonin syndrome is suspected.
- **Adrenal Insufficiency:** If diagnosed, treat with physiologic replacement of corticosteroids, and wean patient off of the opioid.
- **Risks of Use in Patients with Increased Intracranial Pressure, Brain Tumors, or Head Injury:** Monitor for sedation and respiratory depression.

ADVERSE REACTIONS

The most common serious adverse reactions were respiratory depression, apnea, rigidity, and bradycardia.

To report SUSPECTED ADVERSE REACTIONS, contact Fresenius Kabi USA, LLC, at 1-800-551-7176 option 5 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Morphine Sulfate Injection, USP IMPORTANT SAFETY INFORMATION (continued)

WARNINGS AND PRECAUTIONS

- **Cardiovascular Instability:** High doses are excitatory. Have naloxone injection and resuscitative equipment immediately available.
- **Opioid-Induced Hyperalgesia and Allodynia:** Opioid-Induced Hyperalgesia (OIH) occurs when an opioid analgesic paradoxically causes an increase in pain, or an increase in sensitivity to pain. If OIH is suspected, carefully consider appropriately decreasing the dose of the current opioid analgesic or opioid rotation.
- **Life-Threatening Respiratory Depression in Patients with Chronic Pulmonary Disease or in Elderly, Cachectic, or Debilitated Patients:** Monitor closely, particularly during initiation and titration.
- **Adrenal Insufficiency:** If diagnosed, treat with physiologic replacement of corticosteroids, and wean patient off of the opioid.
- **Severe Hypotension:** Monitor during dosage initiation and titration. Avoid use of Morphine Sulfate Injection in patients with circulatory shock.
- **Risks of Use in Patients with Increased Intracranial Pressure, Brain Tumors, Head Injury, or Impaired Consciousness:** Monitor for sedation and respiratory depression. Avoid use of Morphine Sulfate Injection in patients with impaired consciousness or coma.

ADVERSE REACTIONS

The most serious adverse reactions encountered are respiratory depression, apnea, circulatory depression, respiratory arrest, shock, and cardiac arrest.

Other common frequently observed adverse reactions include sedation, lightheadedness, dizziness, nausea, vomiting, constipation, and diaphoresis.

Opioid-induced esophageal dysfunction (OIED): Cases of OIED have been reported in patients taking opioids and may occur more frequently in patients taking higher doses of opioids, and/or in patients taking opioids longer term.

To report SUSPECTED ADVERSE REACTIONS, contact Fresenius Kabi USA, LLC, at 1-800-551-7176 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Clinical Education

Baptist Health also wanted to be sure every clinician who administers IV push medications was comfortable using the new syringes. Therefore, a new competency was added to the hospital's online training solution, requiring all new hires to review the Simplist Instructions for Use training video prior to using the product.

Fresenius Kabi was able to support the health system by providing an efficient roadmap to implement the products and provide training that ensured clinicians were confident when using Simplist. By partnering with Fresenius Kabi, Baptist Health was able to reduce diversion risk and improve clinician workflow, which ultimately resulted in more time for patient care.

"Adopting the Simplist platform in several of our opioid offerings was a win/win proposition. Having ready-to-administer syringes in our most commonly prescribed doses means less time is spent wasting critical medications, which saves nursing time and reduces opportunities for diversion within the organization."

M. Brandon McLain, PharmD, BCPS, MBA – Director of Pharmacy Operations, Baptist Health

Dilaudid® (HYDromorphone HCl) Injection, USP IMPORTANT SAFETY INFORMATION (continued)

DRUG INTERACTIONS

- **Serotonergic Drugs:** Concomitant use may result in serotonin syndrome. Discontinue DILAUDID INJECTION if serotonin syndrome is suspected.
- **Monoamine Oxidase Inhibitors (MAOIs):** Can potentiate the effects of hydromorphone. Avoid concomitant use in patients receiving MAOIs or within 14 days of stopping treatment with an MAOI.
- **Mixed Agonist/Antagonist and Partial Agonist Opioid Analgesics:** Avoid use with DILAUDID INJECTION because they may reduce analgesic effect of DILAUDID INJECTION or precipitate withdrawal symptoms.

USE IN SPECIFIC POPULATIONS

Pregnancy: May cause fetal harm.

OVERDOSAGE

Acute overdose with hydromorphone can be manifested by respiratory depression, somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, constricted pupils, and, in some cases, pulmonary edema, bradycardia, hypotension, hypoglycemia, partial or complete airway obstruction, atypical snoring, and death. Marked mydriasis, rather than miosis, may be seen with hypoxia in overdose situations. Toxic leukoencephalopathy has been reported after opioid overdose and can present hours, days, or weeks after apparent recovery from the initial intoxication.

In case of overdose, priorities are the reestablishment of a patent airway and protected airway and institution of assisted or controlled ventilation, if needed. Employ other supportive measures (including oxygen and vasopressors) in the management of circulatory shock and pulmonary edema as indicated. Cardiac arrest or arrhythmias will require advanced life-support measures. For clinically significant respiratory or circulatory depression secondary to hydromorphone overdose, administer an opioid overdose reversal agent such as naloxone or nalmefene. Because the duration of opioid reversal is expected to be less than the duration of hydromorphone in DILAUDID INJECTION, carefully monitor the patient until spontaneous respiration is reliably reestablished.

Fentanyl Citrate Injection, USP IMPORTANT SAFETY INFORMATION (continued)

DRUG INTERACTIONS

- **Concomitant Use of CNS Depressants:** May decrease pulmonary arterial pressure and may cause hypotension. See FPI for management instructions. For post-operative pain, start with the lowest effective dosage and monitor for potentiation of CNS depressant effects.
- **Mixed Agonist/Antagonist and Partial Agonist Opioid Analgesics:** Avoid use with Fentanyl Citrate Injection because they may reduce the analgesic effect of Fentanyl Citrate Injection or precipitate withdrawal symptoms.

USE IN SPECIFIC POPULATIONS

- **Pregnancy:** May cause fetal harm.
- **Lactation:** Infants exposed to Fentanyl Citrate Injection through breast milk should be monitored for excess sedation and respiratory depression.
- **Geriatric Patients:** Titrate slowly and monitor for CNS and respiratory depression.

Morphine Sulfate Injection, USP IMPORTANT SAFETY INFORMATION (continued)

DRUG INTERACTIONS

- **Serotonergic Drugs:** Concomitant use may result in serotonin syndrome. Discontinue Morphine Sulfate Injection if serotonin syndrome is suspected.
- **Mixed Agonist/Antagonist and Partial Agonist Opioid Analgesics:** Avoid use with Morphine Sulfate Injection because they may reduce analgesic effect of Morphine Sulfate Injection or precipitate withdrawal symptoms.

USE IN SPECIFIC POPULATIONS

Pregnancy: May cause fetal harm.

Geriatric Patients: Use caution during dose selection, starting at the low end of the dosing range while carefully monitoring for side effects.

OVERDOSAGE

Acute overdose with morphine can be manifested by respiratory depression, somnolence progressing to stupor or coma, skeletal muscle flaccidity, cold and clammy skin, constricted pupils, and, in some cases, pulmonary edema, bradycardia, hypotension, hypoglycemia, partial or complete airway obstruction, atypical snoring, and death. Marked mydriasis rather than miosis may be seen with hypoxia in overdose situations. Toxic leukoencephalopathy has been reported after opioid overdose and can present hours, days, or weeks after apparent recovery from the initial intoxication.

In case of overdose, priorities are the reestablishment of a patent and protected airway and institution of assisted or controlled ventilation, if needed. Employ other supportive measures (including oxygen and vasopressors) in the management of circulatory shock and pulmonary edema as indicated. Cardiac arrest or arrhythmias will require advanced life-support measures. For clinically significant respiratory or circulatory depression secondary to morphine overdose, administer an opioid overdose reversal agent such as naloxone or nalmefene. Because the duration of opioid reversal is expected to be less than the duration of action of morphine in Morphine Sulfate Injection, carefully monitor the patient until spontaneous respiration is reliably reestablished.

Dilaudid® (HYDROMORPHONE HCl) Injection, USP
IMPORTANT SAFETY INFORMATION (continued)

INDICATIONS AND USAGE

DILAUDID INJECTION (hydromorphone hydrochloride) for intravenous, intramuscular, or subcutaneous use, is an opioid agonist indicated for the management of pain severe enough to require an opioid analgesic and for which alternate treatments are inadequate.

Limitations of Use: Because of the risks of addiction, abuse, misuse, overdose, and death, which can occur at any dosage or duration, and persist over the course of therapy, reserve opioid analgesics, including DILAUDID INJECTION for use in patients for whom alternative treatment options are ineffective, not tolerated, or would be otherwise inadequate to provide sufficient management of pain.

Do not rapidly reduce or abruptly discontinue DILAUDID INJECTION in patients who may be physically dependent on opioids.

This Important Safety Information does not include all the information needed to use Dilaudid® (HYDROMORPHONE HCl) Injection, USP safely and effectively. Please see full prescribing information, including Boxed Warning, for Dilaudid® (HYDROMORPHONE HCl) at www.simplist-us.com.

Fentanyl Citrate Injection, USP
IMPORTANT SAFETY INFORMATION (continued)

INDICATION AND USAGE

Fentanyl Citrate Injection is indicated for:

- analgesic action of short duration during the anesthetic periods, premedication, induction and maintenance, and in the immediate postoperative period (recovery room) as the need arises.
- use as an opioid analgesic supplement in general or regional anesthesia.
- administration with a neuroleptic as an anesthetic premedication, for the induction of anesthesia and as an adjunct in the maintenance of general and regional anesthesia.
- use as an anesthetic agent with oxygen in selected high-risk patients, such as those undergoing open heart surgery or certain complicated neurological or orthopedic procedures.

Fentanyl Citrate Injection should be administered only by persons specifically trained in the use of intravenous anesthetics and management of the respiratory effects of potent opioids. Ensure that an opioid antagonist, resuscitative and intubation equipment, and oxygen are readily available.

This Important Safety Information does not include all the information needed to use Fentanyl Citrate Injection, USP safely and effectively. Please see full prescribing information, including Boxed Warning, for Fentanyl Citrate Injection, USP at www.simplist-us.com.

Morphine Sulfate Injection, USP
IMPORTANT SAFETY INFORMATION (continued)

INDICATIONS AND USAGE

Morphine Sulfate Injection is an opioid agonist indicated for the management of pain severe enough to require an opioid analgesic and for which alternative treatments are inadequate.

Limitations of Use: Because of the risks of addiction, abuse, misuse, overdose, and death, which can occur at any dosage or duration, and persist over the course of therapy, reserve opioid analgesics, including Morphine Sulfate injection, for use in patients for whom alternative treatment options are ineffective, not tolerated, or would be otherwise inadequate to provide sufficient management of pain.

Do not rapidly reduce or abruptly discontinue Morphine Sulfate injection in patients who may be physically dependent on opioids.

This Important Safety Information does not include all the information needed to use Morphine Sulfate Injection, USP safely and effectively. Please see full prescribing information, including Boxed Warning, for Morphine Sulfate Injection, USP at www.simplist-us.com.

Contact us

To learn how narcotic waste is impacting your hospital, contact your Sales Representative or call Customer Service at 1.888.386.1300

www.simplist-us.com

References: 1. Institute for Safe Medicine Practices. Safe Practice Guidelines for Adult IV Push Medications. Accessed June 23, 2022. 2. The Joint Commission. R3 Report Issue 11: Pain Assessment and Management Standards for Hospitals. Accessed Nov 2, 2022. 3. Hertig J, Jarrell K, Arora P, et al. A continuous observation workflow time study to assess intravenous push waste. Hosp Pharm. 2021;56(5):584-591. 4. Omnicell. Omnicell Controlled Substance Dispenser. Accessed May 6, 2022.

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