



Life Cycle of a Medication Event

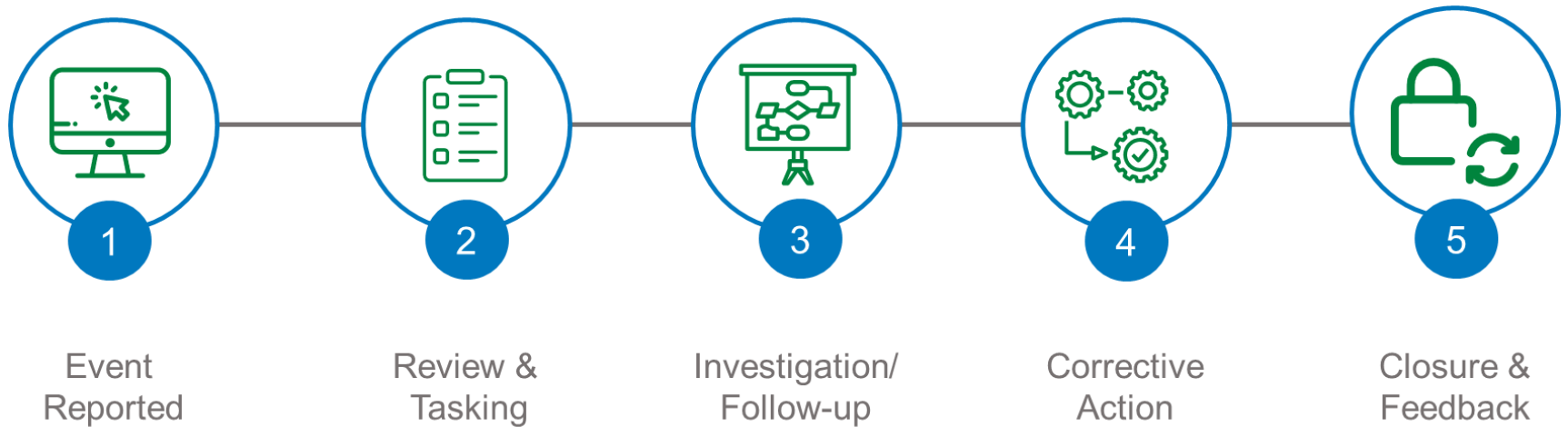
Rabih Dabliz, Pharm.D., FISMP, CPPS, CPHQ

November 4, 2023





LIFE CYCLE OF A MEDICATION EVENT



STEP 1: EVENT REPORTED

- Simplify the process
- Encourage reporting within 24 hours
- Develop a policy event management
- Only require essential information
- Include at least the following:
 - Brief description (SBAR format)
 - Location(s), date and time
 - Medication(s) involved
 - Medication Record Number (MRN)
 - Recommendations for improvement
- Retain all evidence (i.e, containers, lines)





Info Center



Alerts



Tasks



Search



New File



Folders



Reports



File Tracker

Icon Wall

Find a form

Please the search above to narrow down your event results by using keywords to describe the event that you're looking for.

RL has Just been Upgraded!

Please follow the new instructions found under the [Bookmarks](#) (on top right)



Caregiver



Security



Facility/Environment of Care



Medication-ADR



Skin Tissue



Fall



Communication



Lab/POCT



IV/Vascular Access Device

Patient ID/
Documentation/Consent

Provision of Care

Infection Prevention and
Control

Surgery/Procedure



Tube/Drain



Blood Product



Table of Contents

Medication / Adverse Drug R...

Medication Involved

Medication/Fluid Event Details

When and Where Event Occ...

...

File Status

1 of 28 total fields completed.

1 of 14 mandatory fields completed.

Medication / Adverse Drug Reaction Event

General information about the medication / adverse drug reaction event

Specific Event Type *

IT Service Desk Ticket Number

Select the person affected *

Severity Level *

Equipment Involved/Malfunctioned?

When filling 'What Happened?', Use SBAR (Situation, Background, Assessment, Recommendation)

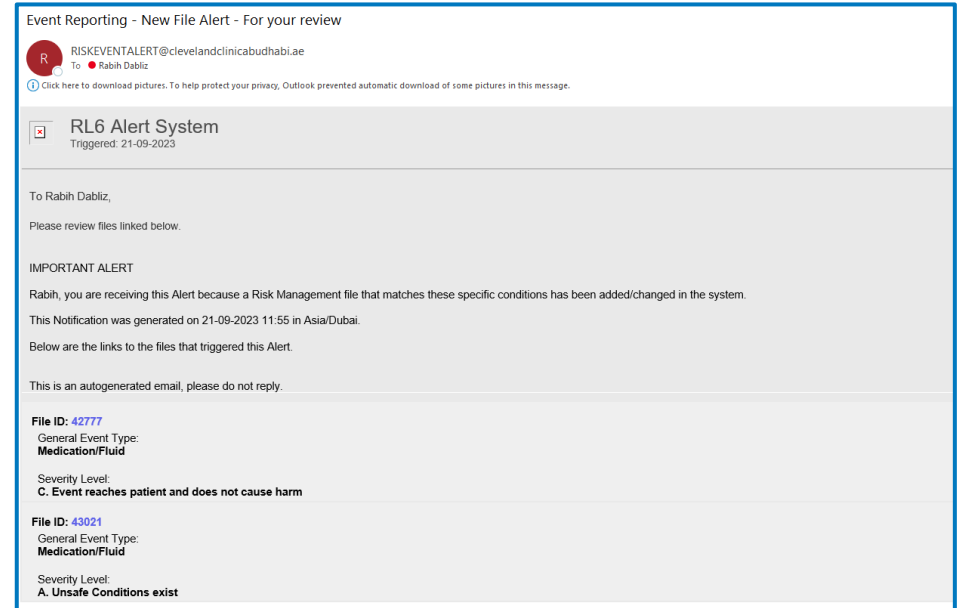
What Happened? *

Recommendations for Improvement



EVENT NOTIFICATION

- Should be immediate
- Use a tiered system
- Develop daily and weekly reports



EVENT REPORTS

Events in Last 24 hours

Risk Events Reported - Yesterday										
(Entered Date is within 12-03-2021) and (((File State is equal to "New") or (File State is equal to "In-Progress") or (File State is equal to "Closed")) and (General Event Type is not equal to "Safe Space"))										
Event Type	File ID	Unit/Area	Floor	Severity Level (Reported)	Event Description	Event Date	Entered Date	Entered Time	Reporter Position	File State
Medication/Fluid		Acute Care	L11	A. Unsafe Conditions exist	Includes summary of the events as entered by the reporter	11-03-2021	12-03-2021	06:26	Nursing (e.g. APN, LPN, NM, Nursing Directors, PCNA, RN)	New
Medication/Fluid		Out Patient Pharmacy	G	C. Event reaches patient and does not cause harm		12-03-2021	12-03-2021	22:53	Pharmacy	New



EVENT REPORTS

Follow-up in Last 24 hours

Medication Events-Follow-up Actions in past 7 days				
(Date is within 07-03-2021 and 14-03-2021) and (((File State is equal to "In-Progress") or (File State is equal to "Closed"))) and (General Event Type is equal to "Medication/Fluid"))				
File ID: 24759		File State: Closed		
General Event Type: Medication/Fluid	Contains a description of the event			
Follow-up By	Description	Type	Date	Time
Raya Al-Zayadeen	- Fields updated as appropriate - Review and actions completed , ongoing discussion with teams to standardize the process- No further follow up	Sign-Off	07-03-2021	12:18



EVENT REPORTS

	Monday	Tuesday	Wednesday	Thursday	Friday
Daily Summary	●	●	●	●	●
Daily Follow-up Summary	●	●	●	●	●
Events Pending Closure	●				
7 Day Summary					●
7 Day Follow-up Summary					●



STEP 2: EVENT REVIEW & TASKING

Medication / Adverse Drug Reaction Event

General information about the medication / adverse drug reaction event

Specific Event Type

*

IT Service Desk Ticket Number

Select the person affected

*

Severity Level

*

Equipment Involved/Malfunctioned?

When filling "What Happened?", Use SBAR

What Happened?

*

A. Unsafe Conditions exist

B1. Near miss: Event did not occur by chance

B2. Near miss: Event did not occur due to intervention

C. Event reaches patient and does not cause harm

D. An event requires monitoring to confirm no harm

E. Event resulted in temporary harm and required intervention

F. Moderate harm: Temporary harm, requires initial or prolonged hospitalization

G. Major harm: Event results in permanent harm

H. Major harm: Event requires life-saving intervention, no permanent harm

I. Catastrophic harm: Death or permanent harm

Parties Involved / Notified / Witnesses

Click Add to enter parties involved / notified / witnesses in the event

Party Involved / Notified / Witnesses

Add

Modify

Delete

Role	Name	Department
Not Specified		

Medication/Fluid Event Details

Details of the medication/fluid event

Process stage medication/fluid event discovered

Process stage medication/fluid event originated

Dose Type

Medication Source



STEP 2: EVENT REVIEW & TASKING

Medication Event - Reporting Form

Table of Contents

Medication / Adverse Drug R...

Medication Involved

Medication/Fluid Event Details

When and Where Event Occ...

...

File Status

1 of 28 total fields completed.

1 of 14 mandatory fields completed.

Clinical Institute and Department

Event related to Physician trainee supe...

Medication Involved

Click Add to enter medication details

Medication(s) Involved

Add Edit Delete

Drug Generic Name (Administered)

Not Specified

Medication/Fluid Event Details

Details of the medication/fluid event

Process stage medication/fluid event discovered

Process stage medication/fluid event originated

Prescribing/ordering

Reviewing

Preparing

Checking/Verifying

Dispensing

Delivery

Administering

Monitoring

MedRec/Transition of Care

Purchasing

Storing

012

STEP 2: EVENT REVIEW & TASKING

When and Where Event Occurred

When and where the event occurred

Submission Date

15-01-2020

Submission Time

11:17

Event Date

*

15-01-2020

Incident time

*

Floor

*

Site/Building

*

Unit/Area

*

Specific Location

*

Did this event involve a second location?

If Yes, please choose the other location:

Event Summary

In progress

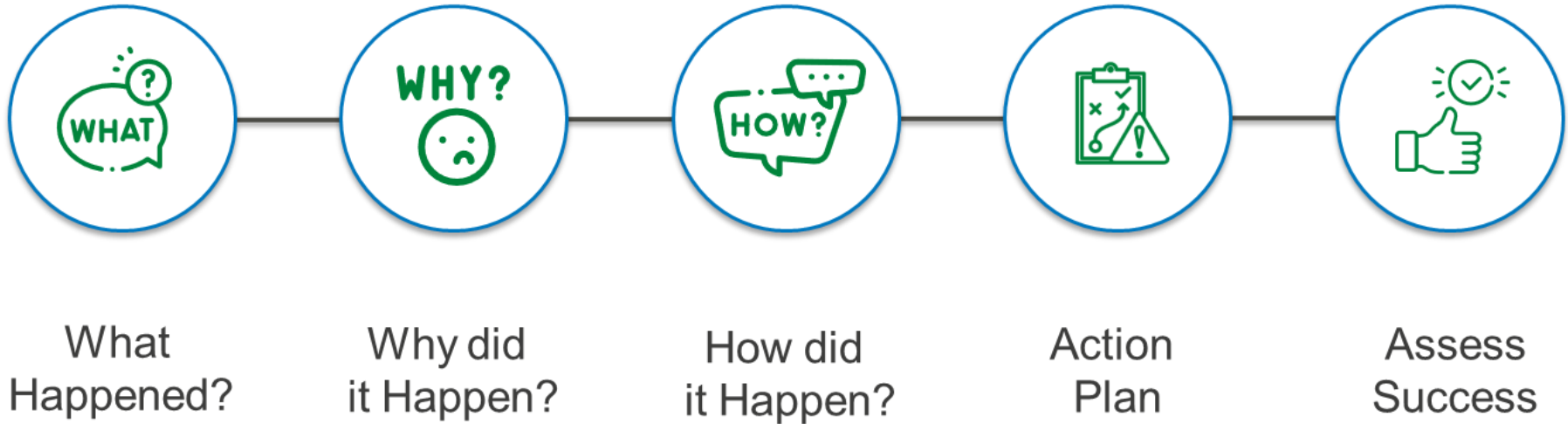
Follow-up Summary

In progress

Feedback to Submitter



STEP 3: INVESTIGATION & FOLLOW-UP



STEP 3: INVESTIGATION & FOLLOW-UP

Why Did it Happen?	Information System <ul style="list-style-type: none"> • Patient correctly identified? • Documentation provides a clear picture? • Training issue? Communication issue? • Level of automation appropriate? 	Equipment <ul style="list-style-type: none"> • Displays and controls understandable? • Equipment detects & displays problems? • Standardized or several different models? • Maintenance/upgrades up to date? • Warnings/labels understandable?
	Environment <ul style="list-style-type: none"> • Noise levels interfere with voices/alarms? • Lighting adequate for tasks? 	Architecture <ul style="list-style-type: none"> • Area adequate for people & equipment? • Clutter or inadequate stowage? • People flow adequate, optimal? • Work areas, tools..etc located correctly?
	Policies & Processes <ul style="list-style-type: none"> • Do people work around policy? • Standardized process or order set? • Use of checklists or other tools? • Audit/quality control for process 	Safety Mechanisms <ul style="list-style-type: none"> • Did anything stop or decrease harm? • Equipment safety mechanism functional? • System designed to be fault tolerant?
How to Prevent it?	Standardize/Simplify <ul style="list-style-type: none"> • Standardize equipment • Standardize protocol • Remove unneeded steps 	Improve or New Device <ul style="list-style-type: none"> • Better controls/displays • Better integration • More fault tolerant
	Automation/Computerization <ul style="list-style-type: none"> • Automatic calculations • Provide reminders • Assist decision making 	Improve Architecture <ul style="list-style-type: none"> • Improve flow of personnel • Better lighting, noise, clutter • More fault tolerant • Better stowage, signage, etc



STEP 3: INVESTIGATION & FOLLOW-UP

[RL-26411 Follow-up] Issue with Scanning Propofol - Message (HTML)

File Message Tell me what you want to do...

Delete Reply Reply Forward Done Appointment w... New Meeting w... MSOS To Manager Move Categorize Follow Up Translate Zoom Report Phish... Send to OneNote

Delete Respond Quick Steps Move Tags Editing Zoom PhishAlar... OneNote

Rabih Dabliz IT Service Desk; Khalid Abdel Dayem; Wael Labby; Raya Zayadeen; Shu'ab Mohamed; Mohammad Adam Siddiqui; + 4 05/03/2021

[RL-26411 Follow-up] Issue with Scanning Propofol

You forwarded this message on 05/03/2021 08:28.

Enterprise Vault + Get more apps

Dear IT Service,

Please open up a ticket to investigate the below incident that came through RL.

Event description summarized here

Rabih

كلينيك أبوظبي Cleveland Clinic Abu Dhabi

File State: In-Progress Owner: Ashal Salem Entered Date: 04-03-2021

Medication / Adverse Drug Reaction Event

General information about the medication / adverse drug reaction event

Specific Event Type Medication Event

IT Service Desk Ticket Number IN1327609

Select the person affected In-Patient

View My Tickets						
1 - 1 of 1						
Ticket Id	Description	Classification Description	Status	Reported By	Reported Date	Affected By
IN1327609	Issue with Scanning Propofol	Application \ Clinical Application Services	CLOSED	Rabih Dabliz	05/03/2021 09:12:09	Rabih Dabliz



STEP 3: INVESTIGATION & FOLLOW-UP

▲ Attachments

Attachments

[Open](#) [Add](#) [Edit](#) [Remove](#)

FileName	Category	Description
Not Specified		

▲ Follow-Up Actions

Follow-Up Actions

[Open](#)

	Type	Sub Type	By	Date	Follow-up To/With
<input type="checkbox"/>	Work done on file		Ammar Najjar	13-09-2023	
<input type="checkbox"/>	Review	Manager Review	Jeremy Gredig	13-09-2023	
<input type="checkbox"/>	Work done on file	Chart Review	Ammar Najjar	15-09-2023	
<input type="checkbox"/>	Work done on file	Chart Review	Joana Lopes	15-09-2023	



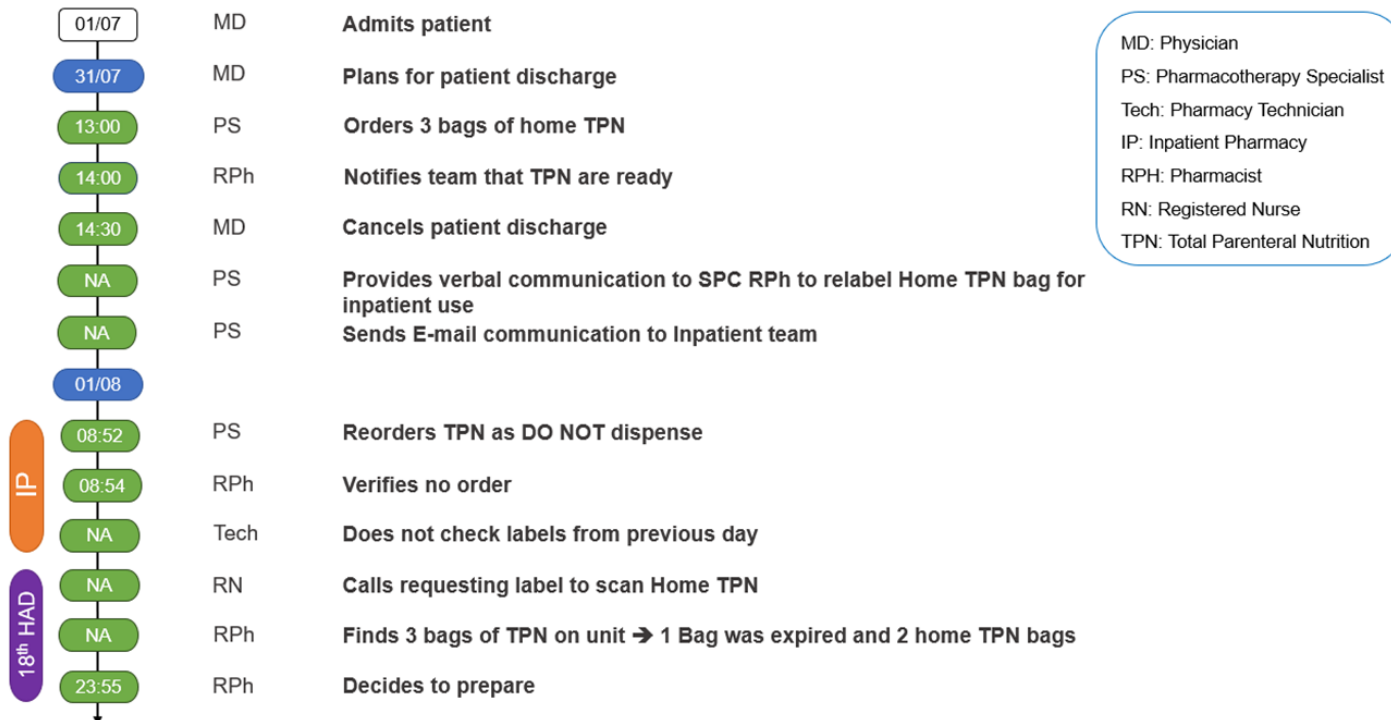
STEP 3: INVESTIGATION & FOLLOW-UP

RL- 42387	Level 18	August 2	Severity C
Brief Description of Event	Pharmacy did not dispense TPN to the unit resulting in RN calling at night for replacement		
WHAT Happened?	<ul style="list-style-type: none">• See timeline for details		
WHY did it Happen? (Contributing Factors)	<ul style="list-style-type: none">• Awareness of operational process• No handoff communication between SPC Pharmacists• Reporter did not read endorsement email• No check in SPC for previous day's TPN	<ul style="list-style-type: none">• No verbal communication to print label• Pharmacist misread the TPN labels• Home TPN bags sent to unit• No clear care plan in endorsement e-mail between PS and RPh	



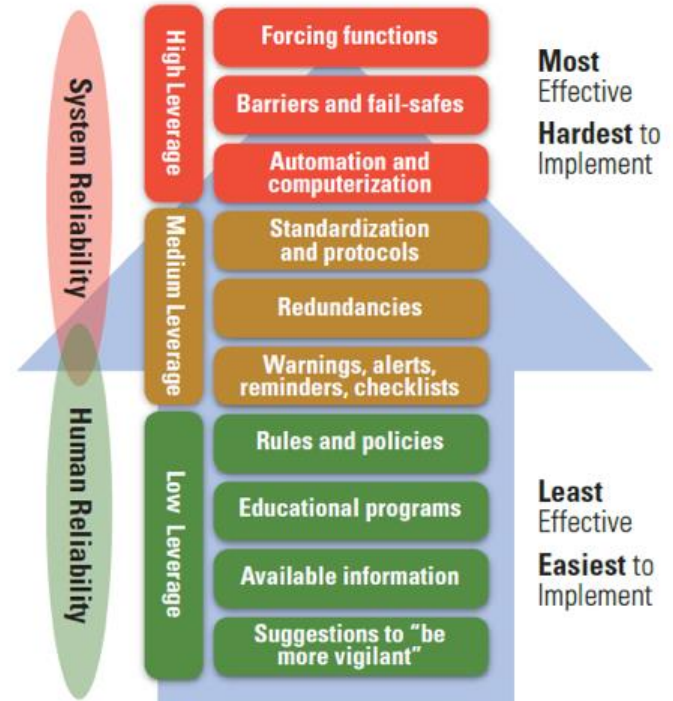
STEP 3: INVESTIGATION & FOLLOW-UP

RL- 42387	Level 18	August 2	Severity C
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STEP 4: CORRECTIVE ACTION

- System reconfiguration
 - Infusion pump
 - EPIC
 - Pyxis
- Removing the risk
 - Limiting access to the medication
 - Providing smaller size/strength



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STEP 3: INVESTIGATION & FOLLOW-UP

RL- 42387	Level 18	August 2	Severity C
HOW TO PREVENT IT?			
ROOT CAUSE	ACTION ITEM	OWNERS	WHEN
No standardized handoff process in place	<ul style="list-style-type: none">Develop a standardized process for communication of patient care plan both verbally and electronicallySend a safety brief on incident and lessons learned	F/U with Antoine/Mohammad	End of Sept
Patient Room showed up on TPN Label	<ul style="list-style-type: none">Remove patient room from home TPN	Khaled	10 days
Lack of familiarity with Do not dispense function	<ul style="list-style-type: none">Update the safety brief on how the functionality works	Rabih All	End of Week



+ New

Edit in grid view

Share

Integrate ▾

Open in SharePoint

...



Pharmacy Operations - Medication Safety

MedSafe Action Items Tracker ☆

RL Look-up ▾	RL Look-up: De... ▾	Root Cause ▾	Action Items ▾	Assigned to ▾	Priority ▾	Due Date ▾	Status ▾
42397 42420	Missed TPN Label; Vancon	No standardized handoff process in place	<ul style="list-style-type: none"> - Develop a standardized process for communication of patient care plan both verbally and electronically - Send a safety brief on incident and lessons learned 	Rabih Dabliz Mohammad Aslam S Antoine Cherfan	↑ High	9/30/2023	New
42397	Missed TPN Label	Patient Room showed up on TPN Label	Remove patient room from home TPN	Khalid Abdel Dayem	Normal	8/24/2023	New
42397	Missed TPN Label	Lack of familiarity with "DO NOT" Dispense function.	Create a safety brief with the incident and how DO NOT dispense works	Oussama Kalagieh Rabih Dabliz	Normal		New
42420	Vancomycin Wrong Patien	Wrong weight entered in system	<ul style="list-style-type: none"> - Discuss with nursing process for validating weight in EPIC - Make weight change visible to Pharmacist 	Rabih Dabliz Khalid Abdel Dayem	Normal	9/5/2023	New
42420	Vancomycin Wrong Patien	No process to confirm weight	Develop a process to validate weight in EPIC by a Pharmacist	Rabih Dabliz Wasim El Nekidy Shu'aib Mahomed Khalid Abdel Dayem	Normal	9/29/2023	New



STEP 5: CLOSURE & FEEDBACK

- Event updated with details of the resolution then closed
- Caregiver receives notification that submitted event is closed

The File 26548 submitted by you, is now Closed with status as: Resolved.

Please click on the 'Track File Progress' button below to read how the Event was resolved.

[Track File Progress](#)

Thank you for being an active part of CCAD's safety culture. Your effort makes CCAD a safer and more just healing environment for patients and Caregivers.
This is an auto generated email, please do not reply.



STEP 5: CLOSURE & FEEDBACK

The screenshot displays the 'File Submission Tracker' software interface. The top navigation bar includes the 'RL' logo, the text 'software for safer healthcare', and user controls for 'Dashboards', 'Bookmarks', and 'Logged in as Raya Al-Zaya...'. A left sidebar contains icons for file management and analytics. The main content area is divided into three sections:

- File Submission Tracker:** A list of files with filters for 'Open (0)' and 'Closed (14)'. The 'Closed' list shows files 26548, 26400, 26381, and 26362, all with their respective event, submitted, and closed dates.
- General File Information:** A detailed view for File 26548 (Medication/Fluid), highlighted with a red border. It includes a state progress bar (New > In Progress > Closed), event types, a brief factual description, and feedback to the submitter.
- File Updates:** A log of updates for the selected file, ordered from newest to oldest, showing actions like 'File opened', 'Summary viewed', 'File opened', '4 file update(s)', 'File has been closed', '2 new follow-up(s)', and 'File submitted'.

General File Information

File
26548 - Medication/Fluid

State
New > In Progress > Closed

General Event Type
Medication/Fluid

Specific Event Type
Medication Event

Brief Factual Description
Patient raised a concern regarding an alternative product of Sodium Phosphate (Phosphorus) to the usual Sandoz brand which he believed was of inferior quality to the Sandoz product with regards to taste and the time required to dissolve the tablets
[Show Less](#)

Feedback to Submitter
Pharmacy reached out tot he patient to resolve the issue Brand will be back end of March No further action needed

File Updates *Newest to Oldest*

Date	Update
14-03-2021	File opened 2 time(s).
	Summary viewed 1 time(s).
11-03-2021	File opened 2 time(s).
	4 file update(s).
	File has been closed.
	2 new follow-up(s).
	File submitted on 11-03-2021.



WHAT WE DO WITH THE EVENTS

EXTERNAL

- Department of Health
 - *Adverse Drug Reactions*
 - *Serious Harm Events*
 - *Controlled & Narcotics*
 - *All events (quarterly)*
- Institute for Safe Medication Practices

Date Reported to DOH	21-02-2021
DOH Reference Number	AE/001142/0221

INTERNAL

- Quality & Safety Committees (QOC, QSC)
- Annual Review
- Safety Briefs
- Risk & Project Registry





SAFETY ALERT



كليفلاند كلينك أبوظبي
Cleveland Clinic Abu Dhabi
A Mubadala Health Partner

ADRENALINE (EPINEPHrine) SAFE USE IN MRI



**ONLY BRING THIS
PACKAGE INTO
MRI MACHINE ROOM**



- Remove the syringe from the outer purple foil before bringing into the MRI room.
- The outer purple foil package of Adrenaline (EPINEPHrine) pre-filled syringes by Aguettant, contains an oxygen-absorber called Stabilox®, used to prolong the shelf-life of the product.
- Stabilox® contains iron, which in a recent incident, resulted in the syringe being pulled into the MRI machine outer wall.

EVENT REPORT OUT



كليفلاند كلينك أبوظبي
Cleveland Clinic Abu Dhabi
A Mubadala Health Partner



**NOREpinephrine
Incident**



SUMMARY OF INCIDENT

NOREpinephrine bag of 4 mg/250 mL (16 mcg/mL) programmed in Alaris pump as 16 mg/250 mL (64 mcg/mL)

Bag Label

Order Vt: 67 kg
(Dosing Weight)

norepinephrine (LEVOPHED), 4,000 mcg in 0.9% NaCl 250 mL, continuous infusion

Dose: 0.05-1 mcg/kg/min
Route: Intravenous
Frequency: Continuous

Conc: 16 mcg/mL
VTBI: 250 mL
Rate: 12.6-251.3 mL/hr

EXPIRES On: 12/3/23 12:25

[LOT: 1489977033 0724] A.Ph. RPh.

Physician intended 16 mcg/mL

Pump Screen

CareFusion Alaris® PC

B Guardrails Drugs All Units

NOREpinephrine

Low 4 mg/250 mL
Standard 16 mg/250 mL
Double 32 mg/250 mL

>Select Therapy Type

SILENCE
OPTIMIZE
SETUP
DRUG LIBRARY
SYSTEM ON

Nurse entered 16 mg/250 mL

Medication	Vial Strength (Concentration)	Standardization	Strength (Concentration)	
			EPIC	ALARIS
NOREpinephrine	4 mg/4mL (1 mg/1 mL)	Low	4,000 mcg/250 mL (16 mcg/mL)	4 mg/250 mL (16 mcg/mL)
		Standard	16,000 mcg/250 mL (64 mcg/mL)	16 mg/250 mL (64 mcg/mL)
		Double	32,000 mcg/250 mL (128 mcg/mL)	32 mg/250 mL (128 mcg/mL)
Epinephrine	1 mg/mL (1 mL)	Standard	4,000 mcg/250 mL (16 mcg/mL)	4 mg/250 mL (16 mcg/mL)
		Double	8,000 mcg/250 mL (32 mcg/mL)	8 mg/250 mL (32 mcg/mL)
		Quadruple	16,000 mcg/250 mL (64 mcg/mL)	16 mg/250 mL (64 mcg/mL)
		Anaphaxis	1 mg/250 mL	1 mg/250 mL



ACTION TAKEN

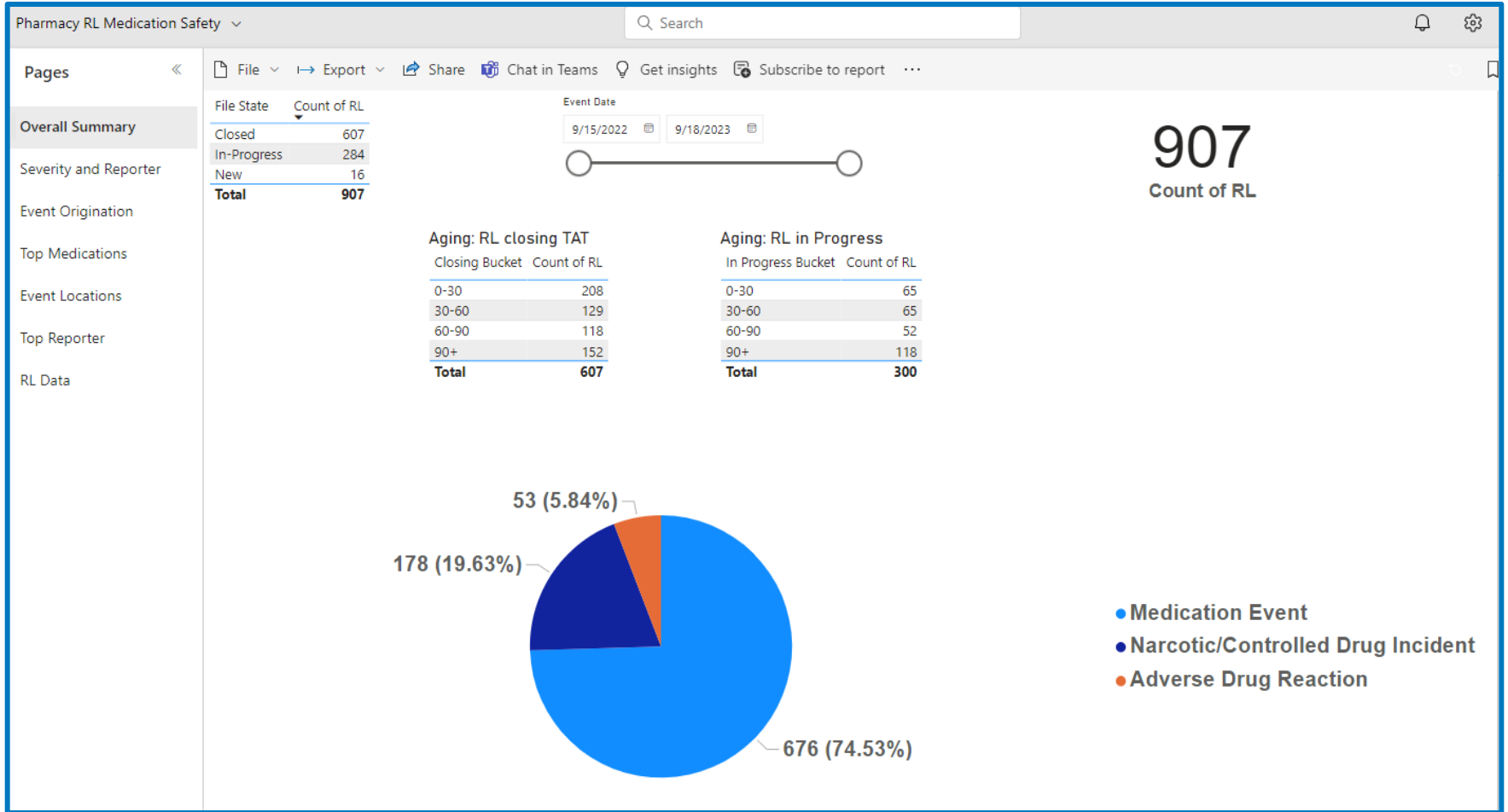
Change strength to:

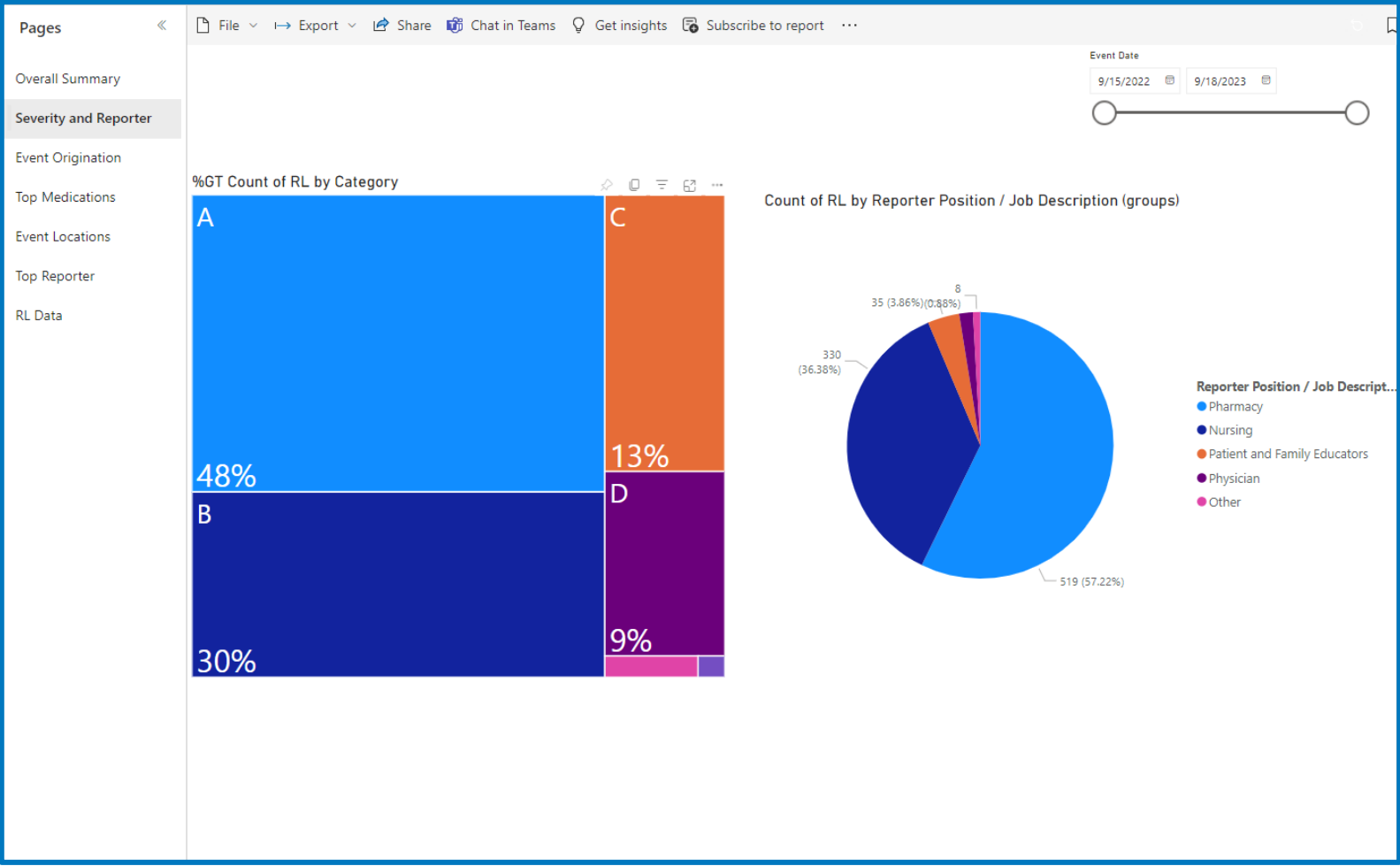
- Standard 5 mg/250 mL (20 mcg/mL)
- Double 10 mg/250 mL (40 mcg/mL)
- Triple 15 mg/250 mL (60 mcg/mL)

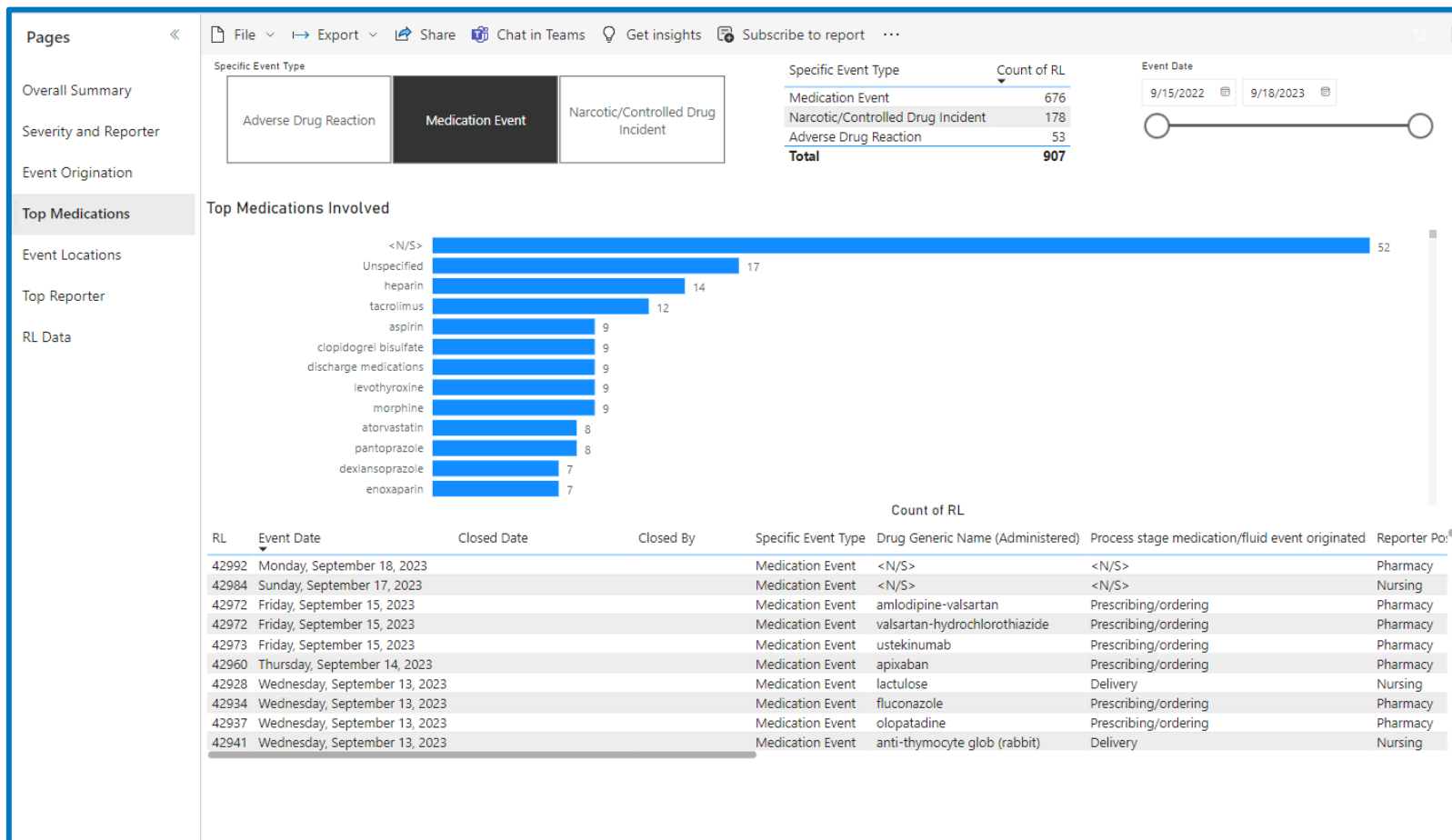
Change low concentration to:

- 2 mg/250 mL (8 mcg/mL)
- Or
- 3 mg/250 mL (12 mcg/mL)









NORepinephrine Example



NOREpinephrine

- Two incidents whereby anesthesia prepared NORepinephrine 4 mg/250 mL (**16 mcg/mL**) but RN programed Alaris pump as 16 mg/250 mL (**64 mg/mL**)

Action Plan:

- Reviewed all vasopressors and inotropes records
- Changing the following concentrations in EPIC/Alaris

NOREpinephrine	4 mg/250 mL (16 mcg/mL)	→	3 mg/250 mL (12 mcg/mL)
Epinephrine	4 mg/250 mL (16 mcg/mL)	→	5 mg/250 mL (20mcg/mL)
	8 mg/250 mL (32 mcg/mL)	→	10 mg/250 mL (40 mcg/mL)
	16 mg/250 mL (64 mcg/mL)	→	15 mg/250 mL (60 mcg/mL)

- Changing dosing buttons in EPIC from concentration (mcg/mL) to strength (xx mg/ xx mL)
- Standardizing concentration/strength display between Alaris and EPIC



NORepinephrine

Current

norepinephrine (LEVOPHED) 16,000 mcg in 0.9 % NaCl 250 mL continuous infusion

Order Instructions: Cardiac Monitoring Required.

Reference Links: • Lexi-Comp Drug Reference • Vasopressors/intropes policy

Dose: 0.05-1 mcg/kg/min 0.05-1 mcg/kg/min

Weight Type: Recorded Weight 60 kg Ideal Weight 52 kg Adjusted Weight 55 kg Dosing Weight 60 kg

Order-Specific Weight 60 kg

Calculated dose: 0.003-0.006 mcg/min (U)

Concentration: Standard 64 mcg/mL Low 16 mcg/mL Standard 64 mcg/mL Double 128 mcg/mL
11.3-225 mL/hr 2.8-56.3 mL/hr 1.4-28.1 mL/hr

Route: Intravenous Intravenous

Frequency: Continuous Continuous

Starting 9/8/2023 Today Tomorrow For Hours Days

At 09:35

Starting: Today 09:35 Ending: Until Discontinued

Admin Instructions: Insert SmartText 100%

NOTE CONCENTRATION

Starting dose: 0.003 mcg/min

Next Required Link Order

Revision

norepinephrine (LEVOPHED) 16 mg in 0.9 % NaCl 250 mL continuous infusion

Order Instructions: Cardiac Monitoring Required.

Reference Links: • Lexi-Comp Drug Reference • Vasopressors/intropes policy

Dose: 0.05-1 mcg/kg/min 0.05-1 mcg/kg/min

Weight Type: Recorded Weight 60 kg Ideal Weight 52 kg Adjusted Weight 55 kg Dosing Weight 60 kg

Order-Specific Weight 60 kg

Additional Details: Dosing weight: 60 kg (69 days ago)

Calculated dose: 0.003-0.006 mcg/min (U)

Concentration: Standard 16 mg/250 mL Low 3 mg/250 mL Standard 16 mg/250 mL Double 32 mg/250 mL
15-300 mL/hr 2.8-56.3 mL/hr 1.4-28.1 mL/hr

Route: Intravenous

Frequency: Continuous

Starting 9/8/2023 Today Tomorrow For Hours Days

At 10:00

Starting: Today 10:00 Ending: Until Discontinued

Admin Instructions: Insert SmartText 100%

NOTE CONCENTRATION

Next Required Link Order

Alaris Pump

Guardrails Drugs All Units

NORepinephrine

Low 3 mg/250 mL

Standard 16mg/250mL

Double 32 mg/250 mL

>Select Therapy Type

EXIT DRUG LIBRARY

MEDICATION MANAGEMENT UPDATE



WHAT IS CHANGING?

An update will occur to the concentrations of epinephrine and NORepinephrine in both EPIC and Alaris



WHY IS IT CHANGING?

This is in response to various events where epinephrine 4 mg/250 mL (16 mcg/mL) was confused with epinephrine 16 mg/250 mL (64 mcg/mL) resulting in patient harm



WHEN IS IT CHANGING?

Thursday August 31, 2023

	OLD	NEW
Epinephrine	4 mg/250 mL (16 mcg/mL) 8 mg/250 mL (32 mcg/mL) 16 mg/250 mL (64 mcg/mL)	5 mg/250 mL (20 mcg/mL) 10 mg/250 mL (40 mcg/mL) 15 mg/250 mL (60 mcg/mL)
NORepinephrine	4 mg/250 mL	3 mg/250 mL

WHAT DOES THIS MEAN TO YOU?



FOR PHYSICIANS

- The concentration buttons will be updated in EPIC and will now be displayed in strength instead of concentration

OLD

Concentration: Standard 1.6 mg/mL Standard 1.6 mg/mL Double 3.2 mg/mL
2.3-45 mL/hr 1.1-22.5 mL/hr

NEW

Concentration: Standard 400 mg/250 mL Standard 400 mg/250 mL Double 800 mg/250 mL
2.3-45 mL/hr 1.1-22.5 mL/hr



FOR NURSES

- An Alaris update will occur on Wednesday August 30. A separate communication will be sent accordingly
- Nurses will be able to access both the old and new concentration during a 5-day transitional period

Thank You

800 8 2223
clevelandclinicabudhabi.ae

