

NURSE CLINICIAN FORUM STANDARDS

CATEGORY: System-Level Clinical

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TITLE: INFUSION/SYRINGE PUMPS

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Approval: Melissa Betrand, Executive Sponsor Clinical Policy & Procedure Committee <i>Melissa Betrand</i>	Date: February 2, 2022

PURPOSE

To provide standards for the safe use of IV infusion pumps at HSN.

STANDARDS

Philosophy	<p>HSN is dedicated to:</p> <ul style="list-style-type: none"> • A documented and coordinated approach for infusion pump safety that includes a process to report problems with infusion pumps. This approach is continually evaluated for effectiveness. • The ongoing education of its nursing staff. Patient care is our priority. Upon hire, all new staff are given clinical orientation by the nurse clinician group. • A documented and coordinated approach when providing education to clients and families on the safe use of client-operated infusion pumps.
Accreditation Standards (Tests for Compliance)	<p><u>Training and Re-Training</u></p> <p>The following initial and re-training on the safe use of infusion pumps must be provided:</p> <ul style="list-style-type: none"> • Staff who are new to the organization or temporary staff new to the service area. • Staff who are returning after an extended leave (more than six months). • When a new type of infusion pump is introduced or when existing infusion pumps are upgraded.

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	<ul style="list-style-type: none"> • When evaluation of competence indicates that re-training is needed. • When infusion pumps are used very infrequently, just in time training is provided. <p><u>Evaluation Mechanisms</u> Evaluation mechanisms may include:</p> <ul style="list-style-type: none"> • Investigating patient safety incidents related to infusion pump use • Reviewing data from smart pumps • Monitoring evaluations of competence • Seeking feedback from clients, families and team members <p><u>Client/Family Education</u> When clients are provided with client-operated infusion pumps (i.e. patient controlled analgesia, insulin pumps), training is provided on how to use them safely and documented accordingly.</p>
<p>Training and Re-Training</p>	<ul style="list-style-type: none"> • The Plum 360 Training Checklist (Appendix A), LPCA IV PCA Pump Skills Checklist (Appendix B), Medfusion Syringe Pump Training Checklist (Appendix C), Sapphire Epidural Infusion Therapy Skills Checklist (Appendix C) will be used for all initial and re-training. • Initial training will be provided either during general clinical orientation or departmental orientation. • Re-training must be provided at least every two years. • Upon return from an extended leave, re-training will be provided by the nurse clinician/delegate on that unit. • When the staff member identifies that he/she requires training/re-training. • When a new type of infusion pump is introduced, corporate roll outs will be led by the nurse clinician group. • Any staff member who has demonstrated a lack of competence will be given re-training by the nurse clinician/delegate in that unit. Lack of competence is defined as usage of no drug select when drug is available in the drug library. • The nurse clinician/delegate will advise their clinical manager of any re-training provided due to non-compliance.
<p>Reviewing/Auditing Smart Pump Data – General Purpose Large Volume (GPLV)</p>	<ul style="list-style-type: none"> • Data is circulated daily (not including “Other” CCA areas). • The nurse clinician/delegate will review the daily Hospira Infusion Summary report. • Random audits will be performed if no drug select was used to delivery a medication or infusion when the medication or infusion was indeed available in the drug library.
<p>Documentation</p>	<ul style="list-style-type: none"> • All Level 2-6 patient safety pump incidents will be entered into the CRMS for managerial review. • For syringe pumps Nursing staff will document independent double checks with all medication administration. • Nursing staff will document client/family education on one of the following pre-printed orders: <ul style="list-style-type: none"> ○ Medication Administration Record – Pain Management (used for PCA/epidural pumps only) (Appendix D)

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	<ul style="list-style-type: none"> ○ Medication Administration Record – Palliative Infusion (used within the Medicine and Emergency Care Program) (Appendix E)
Client/Family Education	<ul style="list-style-type: none"> • “Do Not Touch” signs will be placed on each pump. (Appendix F) • All clients/families will receive education on the PCA infusion pump, including a pamphlet on what they need to know about PCA. (Appendix G)

EDUCATION AND TRAINING

Definitions

1. Incident: When a nurse has used “no drug selected” when ordered medication or infusion is available in the drug library.

APPENDICES

APPENDIX A



Plum 360™ Infusion System Checklist

Skill	Yes
I am able to load the set into the pump	
I am able to identify the components of the pump layout (Battery and Display symbols)	
I am able to power on the pump and describe keypad	
I am able to choose CCA	
I am able to program a simple delivery (lines A & B)– using Drug List	
I am able to titrate the rate	
I am able to program a piggyback delivery with callback	
I am able to program a concurrent delivery	
I am able to program a delayed start	
I am able to program the bolus feature	
I am able to set the pump up for standby	
I am able to stop and restart the Infusion (with secondary infusing)	
I am able to change a clinical care area (CCA)	
I am able to program a dose calculation	
I am able to access volumes infused	
I am able to clear volumes	
I am able to remove air from the line by back priming	
I am able to correct a distal occlusion	
I am able to titrate a dose to trigger hard & soft limits	
I understand the recalculation alert message	
I am aware of the products needed to clean the pump	

My signature verifies that I am able to perform all of the skills listed above competently and that I have received education on the Plum 360 Infusion pump.

Date:	
Signature: PLEASE PRINT & SIGN	
Clinical area:	

APPENDIX B

LPCA IV PCA Pump Skills Checklist

Pump Overview	Yes	No	N/A
I am able to identify the components of the pump layout. ON/OFF SILENCE and History Buttons			
Set up and programming			
I am able to load the pre-filled medication vial into the infusion pump			
I am able to select the appropriate care area (CCA)			
I am able to prime the set			
I am able to program a loading dose			
I am aware of the delivery modes and how to program them:			
PCA only			
PCA and Continuous infusion (critical care area and palliative area)			
Continuous infusion (critical care, pediatric and palliative areas)			
Protocols			
I am able to change a PCA dose			
I am able to change the hourly limit			
I am able to clear the pump at the end of shift			
Patient Education – For PCA only			
I am aware that all pumps must contain a “PT USE ONLY” sticker on pendant			
I am aware of how to fill in the education component on the nursing documentation			
I am aware that each patient must be educated regarding the use of the pump and its safety features re: how and when to self-administer their analgesia			
I am aware that family must be included in the education process when available			
Alarms			
I understand how to override a soft limit			
I understand how to correct a hard limit			

My signature verifies that I am able to perform all of the skills listed above competently and that I have received education on the LPCA Infusion pump.

Date:	
Signature: PLEASE PRINT & SIGN	
Clinical area:	

APPENDIX C



Medfusion Syringe Pump Training Checklist

	Skill	✓ when complete
✓	Demonstrate how to power on pump and describe keypad	
✓	Indications for use (infusions, intermittent drug admin., blood products)	
✓	Syringe size (20 mL)/ type of delivery line (micro-volume)	
✓	Medication Calculation (mL/hr)	
✓	Loading a syringe (manufacturer/type)	
✓	Delivery modes (continuous, volume/time, dose/time)	
✓	Main menu	
✓	Change rate	
✓	Options/ Bolus dose	
✓	Back Button	
✓	Clear volume	
✓	Alarms	

Name _____ Date _____

Signature: _____

UNIT _____

APPENDIX E

Medication Administration Record – Palliative Infusion
 (used within the Medicine and Emergency Care Program)

Health Sciences North/Horizon Santé Nord

Infusion pump #: _____ Drug /Concentration: _____ Route: IV SC

Date:									
Loading dose (mg)									
PCA dose/ bolus (mg)									
Lockout interval (min)									
Continuous rate mg/hr									
Four hour limit (mg)									
Initial / Co-initial									

Initials	Education (For PCA Only)
	<input type="checkbox"/> Patient aware that only he/she is able to press the pendant
	<input type="checkbox"/> Patient aware of how and when to self-administer their analgesia
	<input type="checkbox"/> Family is included in the education when available
	<input type="checkbox"/> Patient provided pamphlet and is aware to read through it
Note: Initiate teaching after starting PCA and continue teaching as needed	

Date	Time	Comment (rate change, syringe change, shift total, waste, site change)	Medication Administration				Patient Assessment					Initials	Co-initials	
			Spontaneous	Complete	Partial	Denied	Shift Total	Pain Scale	R	LOS 0 - 5	Side effects			

LOS - Level of Sedation	Side Effects	Special titration orders Date initiated: _____ Continuous: _____ mg/hr Increase by: _____ mg/hr every ___hrs To max rate of _____ mg/hr every ___hrs Titration D/C Date: _____
0 - Alert	N - Nausea	
1 - Occasionally drowsy	V - Vomiting	
2 - Frequently drowsy, easy to rouse	P - Pruritus	
3 - Somnolent, difficult to rouse	UR - Urinary Retention	
4 - Sleeping	C - Constipation	
5 - Non rousable/Comatose	D - Delirium	
	M - Myoclonus	

APPENDIX F

Pump Signs

<p>Please do not touch the pump!</p>  <p>If you have questions about the pump, please ask your nurse.</p>	<p>Veillez ne pas toucher la pompe!</p>  <p>Si vous avez des questions à propos de la pompe, parlez-en à votre infirmière.</p>
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<p>Please do not touch the pump!</p>  <p>If you have questions about the pump, please ask your nurse.</p>	<p>Veillez ne pas toucher la pompe!</p>  <p>Si vous avez des questions à propos de la pompe, parlez-en à votre infirmière.</p>

APPENDIX G

PCA Pamphlet

Why we use it?

- You are in control!!!!
- Pain medication is important after surgery
- You will heal better when your pain is well controlled
- You do not have to wait for someone to give you more pain medicine
- The IV medication infuses into your bloodstream making it more effective than if you were to take a pill or receive a needle
- This method of pain control has been found to result in less pain and earlier discharge from the hospital

What happens if I still have pain?

- Tell any member of your health care team if you still have pain
- We can re-assess and prescribe the medications that will work best for you

What is it?

- PCA stands for Patient Controlled Analgesia
- Analgesia is another word for pain relief
- An infusion pump containing a syringe of pain medication is connected directly to your intravenous
- Intravenous (IV) means inside the vein
- A small dose of medication is then delivered through your IV by pushing a button
- Before a PCA pump is started a nurse will explain how to use it

There is a small chance you may experience the following side effects:

- Nausea/Vomiting
- Mild itching
- Drowsiness
- Constipation
- Trouble emptying your bladder

If you experience any of these side effects inform a member of your health care team. These minor side effects can be easily treated.

The Acute Pain Service Team (APs) supervises all patients with PCA at Health Science North

We are available 24 hours a day and can be contacted when needed

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Health Sciences North
Horizon Santé-Nord

(disponible en français)

What you need to know about ...

PCA: Patient Controlled Analgesia



Acute Pain Service
Health Sciences North
Ramsey Lake Health Centre

Who can press the PCA button?



PCA is your pump
YOU, THE PATIENT, ARE THE ONLY PERSON WHO SHOULD PRESS THE BUTTON

Family, friends and visitors **ARE NOT ALLOWED TO** push the button for you

When should I press the PCA button?

- You should press the button when you feel you need medicine to control your pain
- Before you do something that makes the pain worse e.g. deep breathing and coughing exercises, prior to getting out of bed to walk
- Before a procedure that may cause pain
- **DO NOT** wait until your pain is severe before you use the pump

When shouldn't I use the PCA button?

- For purposes other than pain relief e.g. to help you sleep or to calm you down

How safe is PCA?

- It is considered very safe if used appropriately. You should always be awake enough to push the button.

There are two safety features on the pump to keep you safe:

1. **A lockout**: A set amount of time must pass (usually 5- 6 minutes) before another dose of medication is delivered. Even if you press the button you will only receive one dose of medication in that period.
2. **A four hour limit**: The PCA pump will keep track of how much medication you are receiving in 4 hours and will not give you any medicine over a limit that has been set by your doctor.