



## Medication Management Policy/Procedure

<b>TITLE:</b>	Pyxis Anesthesia System	<b>NUMBER:</b>	50.97
<b>Sponsor:</b>	Manager of Pharmacy	<b>Page:</b>	1 of 12
<b>Approved by:</b>	Director of Pharmacy	<b>Approval Date:</b>	Oct 2016
		<b>Effective Date:</b>	Oct 2016
<b>Applies To:</b>	Pharmacy, Medical Staff, Respiratory Therapists, Anaesthesia Assistant Anaesthesia Technicians, MRI and CT technicians, Nurses, Students and Unit Aides		

### PREAMBLE

The purpose of this policy is to define and describe best practice for the storage, dispensing, deliver, charging, and quality assurance of medication usage with the Pyxis Anesthesia System

### POLICY

Personnel who use the Pyxis Anesthesia System will adhere to protocols to provide safe and accurate provision of medication, secure storage, accurate accountability for Narcotic and Controlled substances, and compliance with Provincial and Federal Regulations.

Pharmacy is responsible for loading, unloading, and refilling all medications within the Pyxis Systems. Pharmacy uses the Outdate Tracking function to manage drug expiration dates for replacement of expired items. Anesthesia Technicians have access to non-controlled drawers to restock anesthesia supplies. MRI and CT Technicians and MRI, CT and Cath Lab nurses shall have access to all items.

In the event of a power failure, without generator backup, or a Pyxis Anesthesia System failure the Care Area shall have keys in their locked cupboard to access medications by opening the back of the MedStation.

Pyxis Anesthesia System is a medication inventory management system. It is not used to document medications administered to patients. Records of removals from Pyxis will be reflected in Meditech, however the Anesthesia Record is the document that indicates whether the medication(s) were actually administered to a patient.

All controlled substances removed from Pyxis Anesthesia System whether opened, partially used, or compromised in terms of tamper resistance, must be wasted in compliance with Federal regulations and documented in the Pyxis Anesthesia System.

## PROTOCOL

### A. Authorized Privileges for Access

#### 1. ID/Passwords

- a) Users will include anaesthesiologists, anaesthesia residents/fellows, and anaesthesia assistants, MRI and CT technicians and MRI, CT and Cath Lab nurses, who will be administering drugs, plus anaesthesia technicians, pharmacists and pharmacy PPA.  
Security levels vary between users and may include access to only supplies and non-narcotics, or may include narcotics if within the individual's scope of practice.
- b) Upon beginning employment:
  - i. Managers will request Pyxis access by sending an On-line Service Request. Pharmacy personnel will establish security and access parameters for the use based on job title and will return the access code to the Manager or delegate. Upon completion of Pyxis training and competency assessment the Manager or delegate will give the new user his/her password and ensure the user changes his/her password.
- c) The BioID scanner will be the preferred password methodology and must be used when viable. BioID scanning technology will be used in place of a password whenever possible.
  - i. Use of the third finger is recommended because it is less prone to positioning issues, injury, and temperature variations.
  - ii. If the initial scan does not work the user will warm his/her finger; clean the BioID with soft cloth, disinfectant or alcohol swab and try again.
  - iii. If the BioID fails three times, the user will be prompted to enter their password. The system will prompt the user to have a witness validate that they are changing their own account. The user can then proceed to User Menu to Change Biometrics (BioID).
  - iv. If the user persistently cannot validate using BioID, he/she will call the Pharmacy and pharmacy personnel will determine whether the user should be allowed to use a password instead.
  - v. The only users exempt from using BioID are those with verified finger failures reviewed by pharmacy.
- d) Passwords may be alpha/numeric and should not exceed eight characters.
- e) All passwords are confidential and, if shared, will lead to disciplinary action.
- f) Pharmacy will maintain initial access codes, new assignments, and deletions from the system. If a user forgets his/her password, he/she must bring

his/her health centre ID to the pharmacy to have the password reset. User activity will be reviewed to verify that unauthorized activity has not occurred.

## **B. Access Privileges**

1. Anaesthesia, MRI and CT technician, MRI, CT and Cath Lab nurses and pharmacy personnel will be able to access Pyxis Anesthesia System for removing and stocking medications.
2. Anaesthesia Technicians will be able to access Pyxis Anesthesia System for restocking supplies.
3. No other Pyxis users will have access to Pyxis Anesthesia System.

## **C. Inactivate Users**

1. Department management and Human Resources or medical staff office will notify pharmacy of voluntary terminations.
2. Human Resources/area manager will immediately notify pharmacy of any involuntary terminations.
3. Pharmacy will produce a monthly report of inactive users and department managers will review this report to determine the correct privileges.

## **D. Education/ Training**

1. All persons responsible for administering or handling medications will receive training prior to use of the Pyxis Anesthesia System.
2. Training consists of the following:
  - a) Self-guided tutorial completion (Listed under Tools on the Pyxis Anesthesia System, if no one is logged into the System)
  - b) Completion of a competency checklist with a superuser.
3. Employee documentation of training is the responsibility of the individual Employee to maintain.
4. Physician training/ competency documentation will be maintained by Anesthesia department.
5. An annual review of the policies and procedures associated with Pyxis Anesthesia System will be required and is the responsibility of the individual user through the mechanisms provided.

## **E. Medication Access**

1. Overview
  - a) The Pyxis Anesthesia System contains medications needed for patient care and will charge for these medications when removed for a patient.
  - b) Controlled substances are contained in mini drawers and dispensed one at a time. Users are required to verify counts on narcotics that are accessed.
  - c) Non controlled substances are contained in drawers that unlock and remain unlocked while the practitioner is using the system.
  - d) A sealed, acrylic box (Emergency Box) will be stored on top of the Pyxis Anesthesia System Carts (containing propofol, atropine, EPINEPHrine prefilled syringe, phenylePHrine, epHEDrine, rocuronium and succinylcholine). The boxes will be maintained by an Anesthesia Technician or delegated care area staff.

Other emergency drugs are available outside the Pyxis Anesthesia System on a Cardiac Arrest Cart.

- e) Non-drug supplies will be maintained in the Pyxis Anesthesia System by Anesthesia Technicians, Anesthesia Assistants or Nursing depending on the care area.

## 2. Patient Selection and Medication Removal

- a) Patient names will transfer automatically from Meditech Admissions to the Pyxis Anesthesia System.
- b) Whenever possible a patient should be identified on the system and medications removed utilizing the patient's name.
- c) If a patient does not appear on Pyxis Anesthesia System census screen the patient can be added using the *Add Temp Patient* function. Care should be taken to be sure the name is correct, as this is the Control Substance record.

## 3. Kits

- a) Kits may be built by users in the Pyxis Anesthesia System or by pharmacy at the console. Kits built at the pharmacy console will be available to all users. Kits built by individual users will need to be updated by the users when products change. Pharmacy is only able to update kits that are built on the pharmacy console. Kits should be standardized to avoid excessive kits in the formulary.
- b) Removed medications for multiple-use must be either kept in the designated drawer space in the Pyxis Anesthesia System or taken with the user when he/she leaves the room.

## 4. Returned Medications

- a) Medications in the original, unopened package and charged but not administered to a patient may be returned using the *Return Med* function and placed in the external Return Bin. Pharmacy will unload and return to stock. The system shares a drug formulary with the rest of the health centre so has been set to not permit returns to the original pocket.
- b) Credit will be issued for all reusable returned medications.

## 5. Wasted Medications

- a) All controlled substances removed from Pyxis Anesthesia System whether opened, partially used, or compromised in terms of tamper resistance, must be wasted in compliance with Federal regulations and documented in Pyxis Anesthesia System.
- b) Non-controlled medication waste and shared vials need not be documented in Pyxis Anesthesia System.

## 6. Controlled Substance Documentation

- a) An *All Station Activities* report is generated when necessary to document disposition or discrepancy of each controlled substance removed from the Pyxis Anesthesia Systems.
- b) It is the administering Anesthesiologist's responsibility to accurately document the medication administered in the appropriate medication administration report (Innovian) and to document controlled substance removal, any waste or return in the Pyxis Anesthesia System software under the appropriate patient's name.

## 7. Transfer to Another User

- a) Controlled medications may be transferred to another user, provided both users are in the room. The recipient will be prompted to enter their user ID and BioID.
- b) If both users are not in the room, the current user shall return or waste the remaining controlled medications in the Pyxis Anesthesia System. The user taking over the room, shall remove required controlled medications under their own user ID.

## 8. My Items

- a) My Items is an option which allows the user to remove medications without selecting a patient.
- b) In most situations, best practice is to remove medications from a patient listed in Patient Cases. Narcotic/controlled medications that will likely be shared between patients may be removed under My Items to simplify the documentation of waste.
- c) My Items feature also permits users to take the remaining medications and move to another OR. The list of medications in My Items follows the user to each Pyxis Anesthesia System.
- d) My Items contents shall be cleared at the end of the day.

## 9. Drug Discrepancy Resolution

- a) Discrepancies are created when the actual item count in the Pyxis Anesthesia System pocket does not match the perpetual inventory in the Pyxis Anesthesia System software.
- b) Controlled substance discrepancies are noted on the Pyxis Anesthesia System screen and a report printed.
- c) Controlled substance discrepancies shall be resolved daily whenever possible. All resolutions shall be entered before the 7th day.
- d) Discrepancies that cannot be resolved must be reported to pharmacy and entered in the Adverse Events Monitoring System (AEMS).
- e) Unresolved discrepancies will be monitored by Pharmacy with alerts provided to management and physician leader.

## 10. System Management and Maintenance

- a) Pyxis Anesthesia System Inventory
  - i. Pharmacy is responsible for maintaining inventory (loading, restocking, emptying the return bin, modifying medications and removing outdates).

- ii. Individual medication pocket quantities that fall below 50% of the maximum quantity will be refilled Monday to Friday, between 1800 and 2100 hours. Stock out messages will be monitored for medications needing to be refilled between regular refills.
  - iii. Outdates will be tracked by Pyxis Anesthesia System. An outdated medication report will be generated routinely and outdated medications will be removed from Pyxis Anesthesia System. Medications nearing their expiry date will be identified to “use first”, to minimize wastage.
- b) Clinical personnel using the Pyxis Anesthesia are responsible for administering medications per policy, properly identifying/selecting patients, removing, wasting controlled medications, and returning medications appropriately and recovering drawers as needed.
- c) The pharmacy should be called for any medication that is not available in Pyxis Anesthesia System or if the machine is malfunctioning.

### **11. Downtime Procedures/Disaster Plan**

- a) All Pyxis Anesthesia Systems are connected to emergency power and have a battery that will keep the system functional for thirty minutes between power switches.
- b) In the event of a power outage or in the event that the Pyxis Anesthesia System is not functioning, follow the steps below:
- i. Retrieve medication that is required immediately from another area.
  - ii. Phone pharmacy to inform them of the situation. Request required medication from pharmacy, if not able to retrieve from another area. Pharmacy will send via pneumatic tube system.
  - iii. Retrieve keys from the locked cupboard in the Birth Unit Med room, Pharmacy or another care area locked cupboard.
  - iv. A Pyxis Anesthesia System from another operating room may be wheeled in and plugged into a power supply. Please alert pharmacy if this is required. The Pyxis Anesthesia System will function without a data connection. Patient names will need to be added manually until Pharmacy and Information Technology are able to temporarily connect the system to the IWK network. Note: If moving to a data port on the same floor and same building IT support is not required.
  - v. Refer to Appendix A for an illustration of the steps required to access medications within a failed Pyxis Anesthesia System. All of the drawers may be opened by releasing switches in the back of the machine. However, opening the back of the cart should be a last resort.
  - vi. Controlled medications removed from Pyxis Anesthesia System during a downtime are logged on a paper Anaesthetist Narcotic and Controlled Drug Administration Record (Stored in Birth Unit Med room locked cupboard or other care area locked cupboard).
  - vii. When the Pyxis Anesthesia System is back in service, if two users are available, inventory the narcotics and medications signed out during the downtime and relock the cart. Resolve discrepancies and forward the completed controlled drug paper records to pharmacy. Pharmacy will

inventory the cart as soon as they are able to coordinate staffing with the OR schedule.

- c) In the event of a clinical emergency the Emergency Box (top of Pyxis Anesthesia System) and/or Cardiac Arrest Cart should be utilized.

## 12. Quality Assurance

### a) Controlled Substance Inventory

- i. A complete controlled substances inventory will be completed weekly by two users.
- ii. Controlled substance discrepancies will be reviewed. Unresolved discrepancies will be entered in Adverse Events Monitoring System (AEMS) and forwarded to care area management or physician leadership.

### b) BioID Scanning Device

- i. Hands should be clean and dry before using the Pyxis Anesthesia System.
- ii. Do not clean the BioID with tape. A soft cloth, disinfectant or alcohol swab should be used to clean the lens.

### c) Touch Screen

- i. Suspend screen prior to cleaning or during procedures when the room needs to be dark (see Tools- upper right hand corner of screen).
- ii. Use a very slightly damp cloth (water and mild soap if needed). Do not spray directly on the screen.
- iii. Pointed edges must not be used on the screen (fingernails, pens, pencils, etc.).

### d) Paper Replacement

- i. Pharmacy PPAicians will check paper daily during the routine check of the Pyxis Anesthesia System and will supply and change printer paper if empty. Paper will also be stored within the Pyxis Anesthesia System for immediate replacement.

### e) Drawer Cleanliness

- i. The Anesthesiologist will wipe up spills, etc. as they occur around or in the Pyxis Anesthesia System.
- ii. Pharmacy PPA will wipe pockets during the refill process.

### f) Pyxis Anesthesia System Functionality

- i. The power to the Pyxis Anesthesia System is never turned off unless instructed to do so by the pharmacy or the Pyxis Technical Support Center. Pharmacy must be called if there is any question about the functionality of the machine.

### g) Reports

- i. Reports used to ensure that Pyxis Anesthesia System is utilized according to policy.

### Reports Used to Ensure Proper Use of Pyxis Anesthesia System

<b>Title</b>	<b>Frequency</b>	<b>Reviewed By</b>	<b>Purpose/Action</b>	<b>Parameters</b>
All Station Events by Patient	On Demand	Pharmacy PPA	To aid in auditing patient charts for removal of controlled meds in accordance with administration records. Pharmacy Manager follows up with Anesthesiologist if does not correspond.	Narcotics/Controlled/ Benzodiazepines by Patient
All Station Events by User	On Demand	Pharmacy PPA	To audit user activity in cases of suspected diversion to clarify activity. Pharmacy Manager follows up with Anesthesiologist as appropriate.	Narcotics/Controlled /Benzodiazepines by User
BioID User Activity	On Demand	Pharmacy PPA	Used to make sure all nonexempt users are using BioID.	
Discrepancies	Daily for Last 2-5 days	Pharmacy PPA	Follow up on discrepancy concerns to be sure that all resolutions are entered before the 7 <sup>th</sup> day.	Narcotics/Controlled/ Benzodiazepines
Entered ADT information	Weekly	Pharmacy PPA	Audit to be sure that valid patient. Should be entered, last name, first name. Pharmacy Manager follows up with Anesthesiologist as appropriate.	
Hospital-Wide Med Summary	On Demand	Pharmacy PPA	List meds alphabetically and gives locations of each medication. May be used to determine location of specific med. Helpful if Pyxis disaster occurs.	
All Meds Inventory Verification	Weekly	Pharmacy PPA/ Pharmacist Manager	To confirm whether or not weekly inventory took place. If not inventory must be completed immediately.	Narcotics/Controlled/ Benzodiazepines
Loading and Unloading	Weekly	Pharmacy PPA	To ascertain all items unloaded from Pyxis Anesthesia System make it back into pharmacy inventory.	All meds, all classes, all users, all locations
My Items Aging Report	Weekly	Pharmacy PPA	To ascertain all controlled medications are being documented. Pharmacy Manager follows up with users as appropriate.	



**APPENDIX A (2 pages)****POWER FAILURE OR COMPLETE  
PYXIS ANESTHESIA SYSTEM FAILURE**

All Pyxis Anesthesia Systems are connected to emergency power and have a battery that will keep the system functional for **thirty minutes** between power switches.

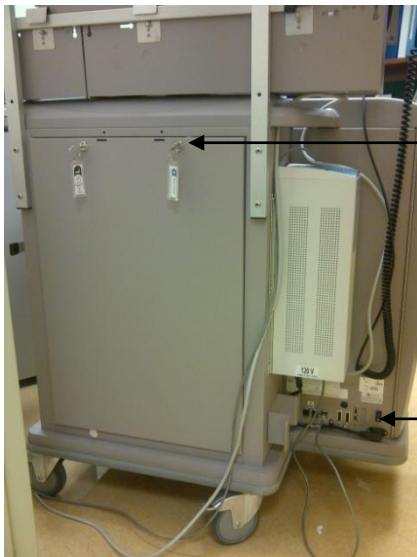
In the event of a power outage or in the event that the Pyxis Anesthesia System is not functioning, follow the steps below:

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5. Refer to next page for an illustration of the steps required to access medications within a failed Pyxis Anesthesia System. All of the drawers may be opened by releasing switches in the back of the machine. However, opening the back of the cart should be a last resort.
6. Controlled medications removed from Pyxis Anesthesia System during a downtime are logged on a paper Anaesthetist Narcotic and Controlled Drug Administration Record (Stored in Birth Unit Med Room, MRI and Cath lab locked cupboards).
7. When the Pyxis Anesthesia System is back in service, if two people with access, are available inventory the narcotics and medications signed out during the downtime and relock the cart. Resolve discrepancies and forward the completed controlled drug paper records to pharmacy. Pharmacy will inventory the cart as soon as they are able to coordinate staffing with the OR schedule.

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**The keys are stored in the locked cupboard in Birth Unit Med-Room, Pharmacy and in other care areas.**

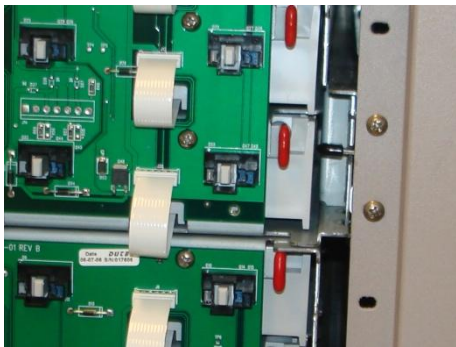


There are two keys, one for the right side of the back panel and one for the left side of the back panel. Unlock and carefully lift the cords out of the way in order to remove the back panel.



Turn off power by placing the power switch (located on the right rear of the cart) to the 0 (off) position

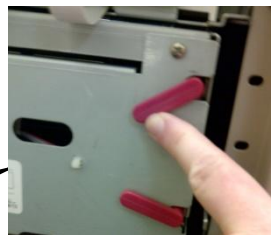
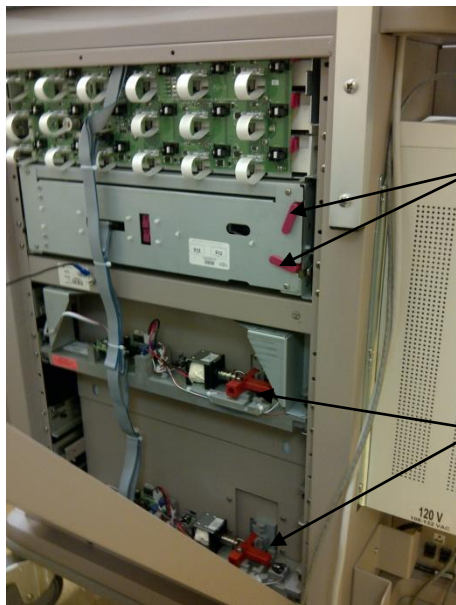
**WARNING:** Some drawers will relock if you do not turn off the power to the station.



**To open the Mini Drawers (controlled pockets)**

Slide the red levers to the right.

Then move to the front of the cart, push in and then release each Mini drawer to open them. When finished, the lever on the back of the cart must be moved back to the left position in order for the mini drawers to stay closed.



To open the **Drawers** :

Turn the red release levers. This will allow you to pull the drawer open from the front.



Push the red release levers. This will allow you to pull the drawer open from the front.

If the drawer relocks, check that the power has been turned off.

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### Version History

Major Revisions (e.g. Standard 4 year review)	Minor Revisions (e.g. spelling correction, wording changes, etc.)