 Saskatchewan Health Authority	Policies and Procedures Title: MEDICATION ADMINISTRATION FOR THE PYXIS® MEDSTATION ES V1.4X I.D. Number: 1195
Authorization: <input checked="" type="checkbox"/> Former SKtnHR Nursing Practice Committee, Pharmacy Department	Source: Nursing Date Effective: Scope: Acute Care in Former Saskatoon Health Region

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DEFINITIONS

Client – resident, client or patient receiving care or services by SHR in the acute settings.

Health Care Professional (HCP) – for the purpose of this policy, HCP will be used to refer to any Registered Nurse (RN), Graduate Nurse (GN), Registered Psychiatric Nurse (RPN), Nurse Practitioner (RN(NP)), Licensed Practical Nurse (LPN), Graduate Licensed Practical Nurse (GLPN), Respiratory Therapist (RT), Paramedics, and nursing/paramedic/RT students.

MAR – refers to the Medication Administration Record, pharmacy generated Medication Administration Record or other record used for charting/documenting medication administration on a unit/department/therapeutic care areas.

Pyxis MedStation– is an automated medication dispensing cabinet.

Unit – for the purpose of this policy, Unit will be used to refer to any patient care area

1. POLICY

1.1 The Clinical Nurse Educator (CNE) or Manager of Nursing (MON) will identify and qualify any HCPs (end-users) for access to the Pyxis® MedStation ES v1.4x.

1.1.1 User identification entry/role assignment and maintenance will be the responsibility of the CNE, or in some areas the Clinical Coordinator or Clinician.

1.2 Changes to HCPs status will be determined by the default network timeout. When Network access is removed, access to Pyxis will not be available.

1.3 Education and Training

Policies & Procedures: Medication Administration for the Pyxis MedStation

- 1.3.1 All HCPs operating a Pyxis MedStation shall require initial mandatory training achieved by a means of completion of Pyxis E-learning modules and/or Hands on training via Clinical Nurse Educator/Clinical Coordinator, Clinician (in emergency departments) or SuperUsers.
- 1.3.2 All HCP's employed by a unit will be able to access all MedStations on that unit. Float pool nurses will have access to MedStations in the areas they have been orientated to.
- 1.3.3 HCP's who has not received training will be paired with an HCP who will access medication until training can be completed.
- 1.3.4 HCP's who are trained in Pyxis who float to another unit will be granted visitor access for a period of 14 hours
- 1.3.5 New HCP's that do not yet have network access:
 - must complete the confidentiality agreement(Appendix A) with the MON or CNE
 - must complete the on-line tutorial- see Appendix C for access instructions
 - must be added as a "local user". Will expire in 2 weeks
 - CNE and/or CC or MON will create "local user" access. See Appendix D for process
- 1.3.6 Preceptored nursing students and faculty that do not have network access or do not know their network ID:
 - must complete the on-line tutorial- see Appendix C for access instructions
 - must be added as a "local user". Will expire 2 weeks after their practicum is completed.
 - CNE and/or MON will create "local user" access. See Appendix D for process

Exception: 4th year nursing students in the Emergency departments will have network access.

1.4 User Identification, BioID, Password and Logon/Logoff

- 1.4.1 The login user ID for the MedStation will be the HCPs Saskatchewan Health Authority (SHA) network ID, typically last name + first initial of first name. Passwords will be changed every 90 days to coincide with the change to the SHA network password.
 - 1.4.1.1 Passwords cannot be changed on a Pyxis MedStation, they must be changed from a network computer.
 - 1.4.1.2 Lock-out of 30 minutes from Pyxis will occur with three consecutive failed sign in attempts.

- 1.4.2 The BioID fingerprint identification system (BioID) will be activated on all MedStations (see Appendix B for more information on the BioID fingerprint identification system).
 - 1.4.2.1 All HCPs will be required to register their fingerprint, except if unsuccessful after three consecutive failures.
 - 1.4.2.2 If the fingerprint fails to register, a witness is required for password login.
 - 1.4.2.3 For those HCPs that fail to register their BioID, it is recommended that they attempt, every 3 months, to use the BioID system.
- 1.4.3 HCPs must log off immediately after completing any transactions on the MedStation. They cannot leave the MedStation unattended with their user status active and logged onto the system.
- 1.4.4 The following policies and procedures will continue to be enforced:
SHR Region-wide Policy and Procedures Manual - #7311-60-004 Ordering of Medications, #7311-60-020 High Alert Medications
Tri-Hospital Nursing Policy and Procedure Manual - #1170 Medication Administration, #1091 Medication Administration Record (MAR), #1023 Aerosolized Medication for Inhalation; #1118 Intravenous &/or Peripheral Saline Lock Insertion & Maintenance; #1089 Intravenous – Push Medication Administration

2. PURPOSE

- 2.1 To comply with nursing, medical and legal standards.
- 2.2 Utilization of the Pyxis® MedStation ES v1.4x will support the safety and efficiency of medication administration through the following examples (not an exhaustive list):
 - Streamlines medication distribution and workflow
 - Improves nursing and pharmacy staff collaboration
 - Supports regulatory compliance efforts
 - Protects against unauthorized access, documents use, promotes pharmacist order review, provides patient education material
 - Enhances narcotics and controlled substances management
 - Facilitates the start of patient therapies faster by reducing time to first dose
 - Improves medication availability, even after hours
 - Reduces risk of harm early in the medication process by warning HCPs about potential errors before they reach the bedside
 - Limits access to a single dose and provides information on medication use
 - Ensures quality assurance through routine audits and reports

3. PROCEDURES

- 3.1 Medications will be removed for one patient at a time from the MedStation just prior to administration.

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- 3.2 Remove only the amount specified – do not remove extra doses for use later or for a different patient as this action will lead to inventory discrepancies

Exception: *In areas where HCPs restock non-narcotic medications into kits/trays/carts, there will be a patient named "Restock" which can be chosen. Quantity of medications needed will then be removed under the patient "Restock" and put into the intended location for future use.*

- 3.3 A removal warning is triggered if any user requests the same inventory item be removed within 150 minutes (2.5 hours) of that item being removed for the same patient (as a prompt to avoid double dosing). The medication can still be removed.

- 3.4 The medication administration record (MAR) will always be referred to when a discrepancy exists between the Pyxis® MedStation ES and the MAR.

- 3.5 During pharmacy hours of operation, a turn-around time for a medication order will be targeted for one hour. This time is reflective of when the order is received in pharmacy and the order being assessed for appropriateness and correctness prior to being entered into the pharmacy information system. The medication order is then displayed on the patient's profile on the profiled MedStations.

3.5.1 For stat orders, that are not available through the override medications in Pyxis, send order to the pharmacy STAT line, then page the pharmacist.

3.5.2 The stat order will only appear on Pyxis for 2 hours. If still needed, notify physician of the delay and call pharmacy to have it re-entered onto Pyxis.

- 3.6 The MedStation will always be the first area accessed for medication removal.

3.6.1 Scheduled Medications not loaded in the MedStation will be delivered to the iPoint carts or patient trays

3.6.2 Medications may be added to the MedStation for long stay patients or high volume orders at the discretion of the Pharmacy Department.

3.6.3 Medications not stored in the MedStation will be stored in unit specific designated locations.

- Patient own (controlled and non-controlled)
- Refrigerated (Controlled and non-controlled)
- Multidose/multi patient

- 3.7 Changes to the MedStation inventory will be considered by submitting a request using the *Floor Stock Request* form to the Pharmacy Department.

- 3.8 Profiled MedStation (Not applicable for PACU or OR)

3.8.1 Each MedStation will display a full patient profile of medications ordered.

3.8.2 Medication profiles for transferred out or discharged patients will be displayed for 2 hours.

- 3.8.3 Patient's own medication orders will display as "see MAR for order details"
- 3.9 Non-Profiled MedStation (Only applicable for PACU, OR and ED)
 - 3.9.1 For Emergency Department
 - 3.9.1.1 A patient list will display but no medication orders will be associated with those patients. A list of medications that are kept in that MedStation will display and it will be necessary to enter dose needed for each medication.
 - 3.9.2 For PACU
 - 3.9.2.1 Patients will be found using facility search to remove, waste, and return medications. When patient is selected, a list of medications that are kept in that MedStation will display and it will be necessary to enter dose needed for each medication.
 - 3.9.3 For OR
 - 3.9.3.1 The MedStation will be accessed by anesthesia, and other groups of HCP's. Process for each group is unique. Refer to unit specific policy for more information.
- 3.10 Narcotic Medications and Controlled Substances
 - 3.10.1 Narcotic medications and controlled substances (e.g. lorazepam) must be stored in the MedStation.
 - 3.10.1.1 Patient's Own Medication that is a controlled medication will not be stored in the MedStation. There will be a designated area on your unit where these will be stored.
 - 3.10.2 When a narcotic medication is not currently loaded in the MedStation, it will appear "grayed out" on the screen. Contact the Pharmacy Department in order to have the medication loaded in a timely manner.
 - 3.10.3 A blind count is required on all narcotic medications and controlled substances prior to removal from the MedStations.
 - 3.10.3.1 If the count entered does not match the expected amount, a second request will be made to enter the drawer count.
 - 3.10.3.2 If the second count entered does not match the expected amount, a discrepancy icon will be displayed on the MedStation.
 - 3.10.3.3 It is the responsibility of the nurse who found the discrepancy to facilitate resolving it by end of shift. Charge nurse to assist, if needed.
 - 3.10.4 Narcotic medication and controlled substances discrepancies will be resolved daily on the nursing unit prior to shift end.

- 3.10.5 All “fixed” discrepancies will generate a receipt that is deposited in the “Fixed Discrepancies” basket on top of the Pyxis MedStation or near the Pyxis MedStation, depending on the unit.
- 3.10.6 Unresolved discrepancies require that a written explanation (as to the reason(s) why the discrepancy remains unresolved) accompany the receipt and be given to the CNE or Clinical coordinator at the start of the next working day.
- 3.10.7 Unresolved discrepancies must be communicated to the Pharmacy Department by the MON
- 3.10.8 Inventory of controlled medications must be completed, at minimum, once per week. A full inventory of controlled medications must be conducted, at minimum, once a month with accessed inventory being completed each of the other weeks. Inventory will be conducted by the charge nurse or delegate, and a witness.
- 3.11 Medication Returns
 - 3.11.1 Unopened narcotic medications and controlled substances will be returned to the internal return bin in the MedStation and not to the original bin it came from. A witness is required for these returns. Non-controlled medications will be returned to the pharmacy return bin external from Pyxis.
 - 3.11.2 If a patient is on isolation precautions and the medication was in contact with that patient’s environment, the medication must be wasted and not returned.
 - 3.11.3 If a unit is on outbreak, all narcotics and controlled medications must be wasted instead of returned.
 - 3.11.4 External and internal return bins will be emptied by pharmacy technicians.
 - 3.11.4.1 A witness is required when the narcotic medication/controlled substances return bin is emptied.
- 3.12 Medication Wastage
 - 3.12.1 All medications that have been opened (packaging is not intact) are to be wasted and disposed of in the sharps bin.
 - 3.12.2 The wastage of narcotic medications and controlled substances requires a witness on the MedStation to verify.
- 3.13 Override Function on Profiled MedStations (Not applicable for OR and PACU)
 - 3.13.1 During pharmacy hours of operation, new medication orders will appear on the profile once they have been reviewed by pharmacy.
 - 3.13.1.1 If the medication is not on the profile, contact pharmacy.
 - 3.13.1.2 If the medication is urgent/emergent, override medication and administer.

- 3.13.1.3 Nighttime or after hours override will allow the HCPs to access all medications in the MedStation.
- 3.13.2 The Pharmacy Department will review the *Override Report* to ensure a physician order was written for each medication and will follow-up when an order was not received.
- 3.14 Process for new patient not on MedStation Census
 - 3.14.1 If medication administration is required before the patient is visible on the MedStation, use “Facility Search” option. If patient not found, the patient must be added as a temporary patient using the patient’s name (first and last name) and unit they are admitted to.

Note: *It is important to include as much patient info as known to allow accurate identification when reconciling this patient in the system.*
 - 3.14.2 If name is unknown, enter John/Jane Doe, and as much information as known – gender, location they are coming from, any information known about condition. If time permits, nurse can notify pharmacy that a temporary patient has been added with unknown name.
 - 3.14.3 Temporary patients will show with a blue indicator reading “Temporary.”
 - 3.14.4 Temporary patients will only display for 2 hours.
 - 3.14.5 Once the true patient admission appears after pharmacy processes it, ensure you are removing medication against the true admission. Any orders will be entered by pharmacy against the true admission.
- 3.15 Process for providing medications to another unit
 - 3.15.1 Other unit also has Pyxis: Grant visitor access to the HCP.
 - 3.15.2 Other unit does not have Pyxis and the medication is not in the night cupboard:
 - 3.15.2.1 Telephone requests received directly from a non-Pyxis unit will be referred to the on-call pharmacist.
 - 3.15.2.2 The on-call pharmacist will contact the Pyxis unit charge nurse to enter the patient as a temporary patient.
 - 3.15.2.3 The Pyxis unit nurse will access Pyxis and remove the med.
 - 3.15.2.4 These transactions will be reviewed by the Pharmacy Department on a daily basis to ensure a physician’s order was written for each medication.

3.16 Process for pass medications

3.16.1 The MedStation will not be utilized for the removal and distribution of medications for passes longer than 6 hours. HCPs will contact Pharmacy with requests for pass medications, indicating both the scheduled and prn medications that are required.

3.16.2 Unused pass medications (including narcotic and controlled medications) returned by the patient will be discarded and/or wasted in the sharps container.

3.17 Quality Assurance of the MedStations

3.17.1 Scheduled audits will be performed to maintain the quality assurance of the MedStations. A designated person will be responsible for this. See Unit Standards.

3.17.2 Any retraining requirements of HCPs will be forwarded to the CNE(s), as identified by data in the audits.

3.17.3 Any notable trends and/or areas of concern will be forwarded to the Manager of Nursing for further investigation.

Timeframe	Audit Description/Report
Monthly	1. Temporary Patient * When a temporary patient has been added, the transactions on that patient will be reviewed by accessing the <i>All Device Events Report</i>
	2. Resolved & Unresolved Discrepancies *All discrepancies will be reviewed by accessing <i>All Discrepancies Report</i>
	3. Narcotic & Controlled Substances Inventory *Audits of dates and type of inventory will be completed by accessing <i>All Device Events Report – group by device</i> , filter by Transaction types
When needed	Monitor Activity of an End-User *As needed basis by accessing <i>All Device Events Report– group by use</i> .

3.18 Pyxis® Downtime/Troubleshooting

3.18.1 In the event of a problem with the MedStation, such as a failed drawer/door, nursing should contact the following in the order listed:

- Nursing Admin (CNE, CC) or a Pyxis ES Super User
- Pyxis® Technical Support Center (TSC) at 1.800.727.6102

3.18.2 In the event that the MedStation cannot be accessed for an extended period of time, contact pharmacy and they will bring stock of medication and narcotics. A NAR sheet will also be brought to document all narcotic usage and wastage.

3.19 Pyxis BioID Downtime

- 3.19.1 If the BioID function experiences downtime, the system will force the HCP to log on with a password.
- 3.19.2 If HCPs do not remember their password, call 8200 for IT support with changing password 24hrs a day. Pyxis user ID and password is the same as the Network ID and password.
- 3.19.3 Temporary passwords given from IT cannot be changed on a Pyxis MedStation, they must be changed from a network computer

3.20 Power Failure

- 3.20.1 Pyxis® ES MedStations will always be connected to the emergency back-up power supply (red plug).
- 3.20.2 If back-up power supply fails, nursing will contact Pharmacy for medications.
- 3.20.3 When Pharmacy is closed, nursing will contact the on-call Pharmacist for required medications.

3.21 ADT Downtime (Sunrise Enterprise Registration)

- 3.21.1 When the ADT system is down, new patients will not appear on the MedStations.
- 3.21.2 During Pharmacy hours of operation, pharmacy will admit patients. When the registration system is restored, Pharmacy will correct the visit numbers to match the registration system.
- 3.21.3 Nursing will inform Pharmacy of admissions, transfers and discharges in a timely fashion.
- 3.21.4 Outside Pharmacy hours of operation(if applicable)
- 3.21.5 Nursing will add temporary patients for new admissions or transfers not appearing on the MedStation.

3.22 Pharmacy (BDM) Downtime

- 3.22.1 During unplanned pharmacy downtime, the interface from Pharmacy to the MedStations will not function.
- 3.22.2 Nursing will add temporary patients for new admissions or transfers if needing.
- 3.22.3 Pharmacy Pyxis® System Manager (or designate) will determine if the MedStation should be turned on to Critical Override, allowing the HCPs to access all medications in the MedStation.

3.23 Pyxis Interface Engine Downtime

3.23.1 If the Pyxis® Interface Engine is down, the interface between BDM and the MedStations will not function.

3.23.2 Any new information will not be sent to the MedStations, including new or changed medication orders and ADT information.

3.23.3 Icons will appear on the MedStation to indicate the Console and/or Interface Engine is not communicating with the MedStation.

3.23.4 During Interface downtime, nursing may need to add temporary patients. Pharmacy Pyxis® System Manager or designate may also need to turn the MedStation on to Critical Override, allowing the HCPs to access all medications in the MedStation.

3.24 Pyxis® MedStation ES Operations – [Link to this manual](#)

4. REFERENCES

Carefusion. (2012-2015). *Pyxis MedStation ES System*. San Diego, CA United States. Carefusion Corporate

PYXIS® MEDSTATION ES CONFIDENTIALITY AGREEMENT

The following is your User ID/Initial Password for the Pyxis® ES MedStation system. It will be used to access patient medications. The first time you access a Pyxis® ES MedStation system, you will be required to enter a new, confidential password and enroll four finger scans using BioID. **It is your responsibility to keep your new password secret and utilize your BioID access for personal access only.** You will be accountable for all transactions performed under this User ID and confidential Password/BioID. Please read and sign the following statement to verify that you understand this statement; and will maintain the integrity of your password/BioID access once it has been changed.

Below is a copy of my User ID and my initial password to the Pyxis® ES MedStation system. Upon accessing the Pyxis® ES MedStation system for the first time, I will change my password to a new confidential password and enroll my finger scan for BioID. I understand that my User ID and password/BioID will be my electronic signature for all transactions to the Pyxis® ES MedStation system. I understand that no retrievable record of my new password or BioID exists. All of my transactions on the Pyxis® ES MedStation system will be permanently recorded with my User ID and a date and time stamp, and will be audited as outlined in the Pyxis Policy, Procedures and Operations Manual.

I also understand that to maintain the integrity of my electronic signature, I must not give my password to any other individual. Unauthorized access, release or dissemination of this information shall subject me to disciplinary action. Should I have any suspicion that my personal password has become known to another individual, I will change it immediately and, if deemed appropriate, will immediately report such to the Manager of Nursing.

Signature: _____ Date: _____

Witnessed By:

Signature: _____ Date: _____

Confidential

Use this User ID and First Time Password to access the Pyxis® MedStation ES system

User ID: _____
Initial Password: To be entered by Pyxis Nursing Administration (This password will expire when you first enter the system—press OK and then enter a new, personal, and private password.)

Adapted from *ID/Password/BioID Confidentiality Agreement Pyxis® MedStation 4000 system* (2009) by CareFusion Corporation

Pyxis® BioID Fingerprint Identification System: The Next Generation Technology

BioID fingerprint identification system

The next generation technology

Executive summary

The BioID fingerprint identification system on the Pyxis MedStation™ 4000 system includes biometric sensor technology that provides reliable authentication and identity verification in healthcare settings, accommodating multiple environmental and demographic variables. In this technical whitepaper, we will provide an overview of biometrics applications in healthcare, a brief discussion of how biometrics work, an overview of technical challenges for biometrics in healthcare settings and a thorough discussion of the third-generation biometric solution for the BioID fingerprint identification system.

Biometrics applications in healthcare

Biometrics play an important role in healthcare applications, especially when there is a need to control access through positive identification of authorized users. Biometrics also facilitate operational efficiency in healthcare by providing quick and easy access—reducing costly workflow interruptions that occur when passwords are forgotten or access cards are misplaced. Pyxis medication dispensing technologies were the first automated dispensing devices to widely deploy a biometrics solution to meet the needs of the challenging healthcare environment. Today, millions of Nurses access secured systems using BioID to care for their patients every day.

Biometrics overview

Biometric systems provide a means of verifying identity by collecting information about unique human characteristics and comparing that information to previously-submitted data. BioID incorporates a biometric sensor that collects information about users' unique fingerprints and a matcher that facilitates decisions on whether access should be granted to the user based on data collected from the sensor.

The user places a finger on the external surface of the sensor, or platen, and relevant information is quickly extracted and transformed into a digital representation of the user's fingerprint, or template. A template is not an image of a fingerprint, and fingerprint images cannot be restored from the encoded templates.

The user's template is compared to the reference template the authorized user provided during an initial enrollment process. If the two templates match, the user is granted access. The entire process, from finger placement to match result, takes place in approximately two seconds with the BioID fingerprint identification system.

Understanding biometric performance

In order for a biometric deployment to be successful, the system needs to be able to quickly and reliably accept authorized users and reject unauthorized users. The two most common metrics for assessing biometric performance are the false accept rate (FAR) and the false reject rate (FRR). FAR measures the number of times the system allows access to someone who is not enrolled in the system. A high FAR exposes the system to security risks. FRR measures the number of times an authorized user is not recognized by the system. A high FRR creates hassles for authorized users who must try again or use an alternative method of gaining access.

The success of a biometric deployment also depends on how many authorized users can actually use the system. Failure to enroll (FTE) measures that portion of the authorized population that cannot use the system because the sensor cannot read their unique biometric information. These people will be unable to enroll in the system because the system will never recognize them. The failure to acquire (FTA) rate measures the number of times a sensor does not collect any biometric data at all. A high FTA rate slows system throughput.

Bringing biometrics to healthcare: the challenge

A sensor's ability to collect usable data can be influenced by various external conditions, including demographic variables, users' skin conditions, environmental variables and throughput requirements—making healthcare a particularly challenging environment.

- **Diverse user population:** Demographic variables such as ethnicity, sex and age all affect biometric performance and the diverse user population in healthcare has historically presented a challenge to conventional biometric systems.
- **Hand washing protocols:** Hospital policies require frequent hand washing and sanitizing for Nurses and others who come into contact with patients. Such users commonly have either very dry fingers or overly moisturized fingers. Both conditions can negatively impact an individual's ability to enroll or use a fingerprint biometric system.
- **Environmental conditions:** Hospitals are often kept cool and dry. This type of environment, especially when combined with frequent hand washing, can result in dry, cracked fingers. Ambient fluorescent lighting can affect a sensor's ability to capture a usable image. Hospital-approved disinfectants and moisturizing products can degrade sensor performance by damaging the data collection area of the sensor or interfering with the sensor/finger interface.
- **Throughput requirements:** Healthcare workers typically have time-critical duties and are susceptible to rushing through a biometric authentication process, which can affect the quality of data that is collected for future matching processes. In addition, all users may have variable finger placement or finger pressure on the sensor.

A successful biometric access system in the healthcare setting must maintain high biometric performance for each of these industry-specific challenges. Failure to reliably and efficiently authenticate the user places a burden on the staff, leading to unnecessary user frustration, a reduction in efficiency and poor adoption rates—reducing overall system security.

Conventional technologies fall short

The interface between the sensor and the surface of the finger is the primary vulnerability point of conventional sensors. Conventional fingerprint sensors fall into two main categories: semiconductor sensors and optical sensors. A new class of biometric sensor that relies on multispectral imaging will be discussed in the next section.

The two most common types of **semiconductor sensors** use small silicon arrays to measure either the difference in capacitance caused by contact of fingerprint ridges with the sensor, or the difference in radio frequency signals returned by the ridges and valleys of the fingerprint.

The fragile silicon array in semiconductor sensors is directly exposed to the environment and is susceptible to damage. Capacitive sensors don't work well when the skin is very dry, and both capacitive and radio frequency sensors fail when the sensor surface is wet. Both capacitive and radio frequency sensors measure the surface features of the skin only, resulting in reduced performance when the features are worn or absent.

Semiconductor sensors are widely used for commercial applications where size and price point are the primary considerations. However, their fragility and unreliability make them inappropriate choices for secure healthcare applications.

Optical sensors, typically with a glass or acrylic platen, are configured to look for the presence or absence of total internal reflectance (TIR), which is the phenomenon whereby the interface between glass and air acts like a mirror at certain angles. The points of contact between the skin and the platen are imaged.

Conventional optical sensors are very susceptible to non-ideal skin conditions. In particular, if the skin is too dry or does not make good contact with the sensor, the performance is severely degraded. This difficulty with dry fingers can be addressed with a special coating on the platen that improves the quality of contact between the finger and platen. However, this coating is vulnerable to scratching and erosion from cleaning products that are commonly used in hospital settings.

Both of these conventional technologies—semiconductor and optical—have inherent vulnerabilities that make them unsuitable for the healthcare environment. In large-scale deployments or adverse environments, the overall biometric failure rates can be as high as 20% for semiconductor or optical sensors.

BioID third-generation biometric solution:

Lumidigm® technology

To address the shortcomings of conventional fingerprint technologies, Lumidigm technology—multispectral imaging—was chosen for the BioID fingerprint identification system. This technology was specifically designed for and is uniquely suited to difficult application environments, such as healthcare settings.

Multispectral imaging technology

An important characteristic of fingerprint ridges is that their structure descends beneath the surface of the skin. Multispectral imaging collects information about the sub-surface fingerprint in order to augment available surface fingerprint data. Unique biometric data is collected under a variety of optical conditions: different wavelengths of visible illumination light, different polarization conditions and different illumination orientations. The varying optical conditions illuminate the skin at different depths, resulting in information-rich data about the surface and sub-surface features of the fingerprint.

The imager will collect data from the finger even if the skin has poor contact with the sensor (e.g., is dry, wet or contaminated with hand sanitizers and moisturizers). Multispectral sensors also have an uncoated glass platen that resists damage from harsh cleaning products.

Meeting the healthcare challenge

BioID with multispectral biometric technology was deployed in hospital settings in late 2008. Biometric performance has been enhanced in the following ways:

- **Lower FRR:** Multispectral sensors are less sensitive to variable conditions and poor sensor/finger contact, resulting in higher user satisfaction with BioID.
- **Lower FTE:** People who cannot use conventional sensors have no difficulty using the new BioID.
- **Lower FTA:** More people can successfully verify their identity using BioID on the first try.
- **Lower FAR:** The sub-surface capability of multispectral biometric sensors means more relevant data is collected, reducing the possibility that the system will mistake one user for another—enhancing security.

Tomball Regional Medical Center, a 357-bed hospital in Texas, dramatically increased user enrollment. Many users were previously utilizing alternate methods of authentication because they either couldn't reliably use the system themselves, or they observed that other users had difficulty. With the third generation BioID, biometric performance skyrocketed, increasing reliability, convenience and security along the way.

"Before upgrading to the Pyxis MedStation 4000 system, only about 50% of staff was using BioID—now we have 100% compliance, which has greatly enhanced system security. It even works for users with skin issues like eczema."

- Margaret Osburn, Pharmacy Informatics Project Manager, Tomball Regional Medical Center

Conclusion

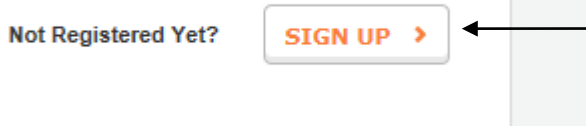
Biometrics has a significant role to play in healthcare. The BioID fingerprint identification system provides reliable, secure, robust and easy-to-use biometric fingerprint authentication to the healthcare industry. BioID with multispectral biometric technology is the only biometric access solution in the industry that solves the special problems commonly found in the healthcare environment.

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PYXIS MedStation ES v1.4x On-Line Nursing Tutorial

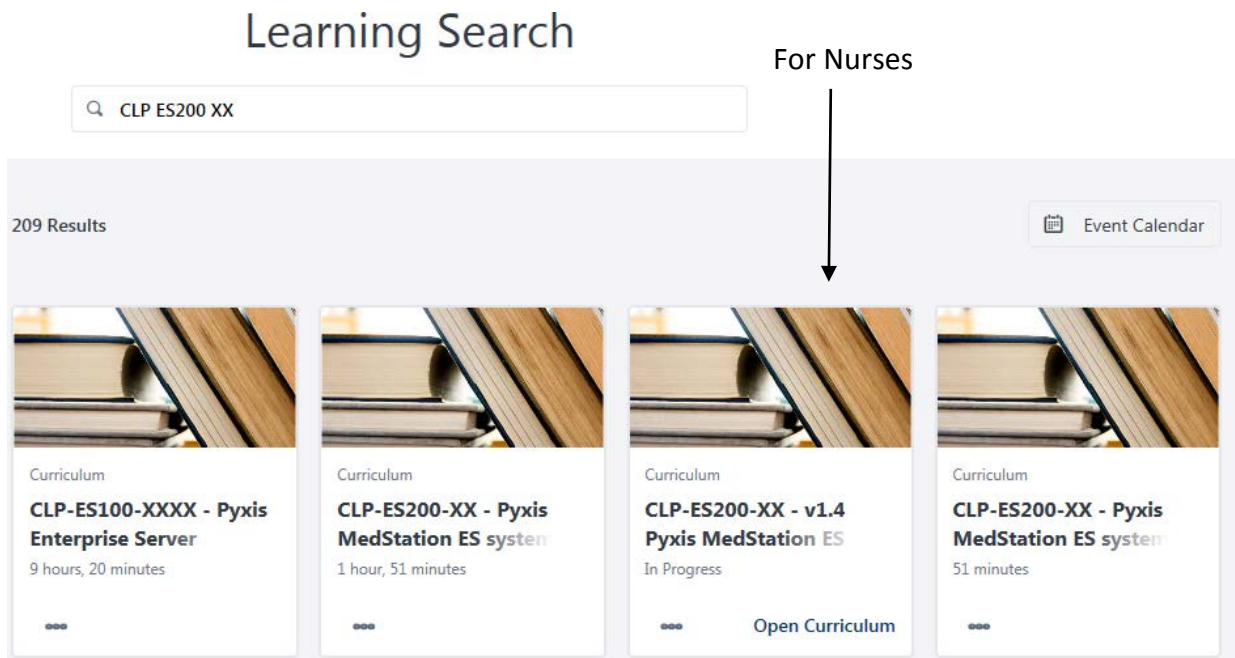
1. Please go to the following website: <https://eim.carefusion.com/Account/Login?to=CU>
2. Click **Sign Up**. This will take you to the registration page. Continue through all the steps and complete registration, then activate your account and log in.



NOTE: If your CNE or MON has registered previously, you will have received a confirmation e-mail.

Your email address is: Email you provided
Your password is: Password1

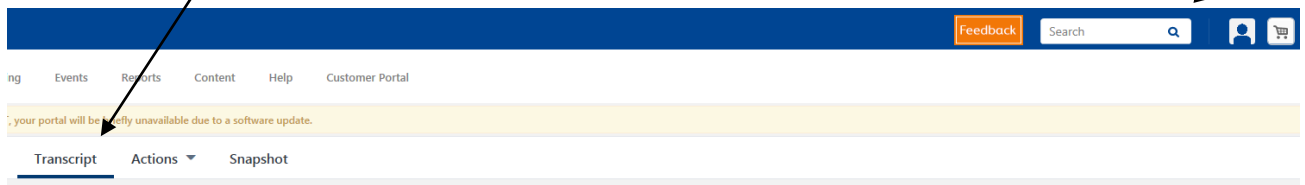
3. Once you have logged in, search for **CLP ES200 XX** and click on the **CLP-ES200-XX - v1.4 Pyxis MedStation ES system for Nurses** title



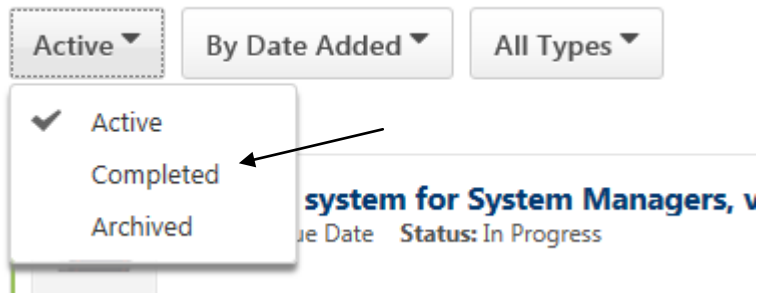
4. Click on **Request**
5. Under Option 1 review each topic, including:
 - CLP-ES200-01 - MedStation Basics
 - CLP-ES200-02 - Search For and Select Patients
 - CLP-ES200-03 - Remove Medications from a Profile
 - CLP-ES200-04 - Remove Medications from a Non-Profile Station
 - CLP-ES200-05 - Return Medications
 - CLP-ES200-06 - Document Medication Waste

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- CLP-ES200-07 - Resolve a Discrepancy
 - CLP-ES200-08 - Perform Inventory
 - CLP-ES200-10 - Recover a Failed Storage Space
 - CLP-ES200-17 - Replacing the paper on a Pyxis MedStation ES device
6. If your pop-ups are blocked on your computer, you will receive a message indicating this (usually a yellow bar at the top of your screen). Please click on the message to unblock pop-ups.
 7. Complete the interactive training module; this will take approximately 45-60 minutes.
 8. Once you have complete the training there is a short Simulated Quiz. Under **Option 1 Quiz Required**, select the **View Details** icon
 9. Select **Launch** icon next to **CLP-ES200-N_SimQuiz - Pyxis MedStation ES system Clinician Workflows Quiz**
 10. Once you have completed the quiz, select the profile icon in the top right of the screen.
 11. Select **Transcripts** in top center of the screen



12. In **Active** dropdown, select **Completed**



13. Select **View Completion page**
14. Select **View My Certificate**
15. Print
16. Bring a copy of the certificate to orientation or give it to one of the CNE's.

<h1 style="margin: 0;">WORK STANDARD</h1>	 Saskatchewan Health Authority		Title: Adding Local Users to Pyxis ES	
			Role performing Activity: CNE, Clinical Coordinator, Manager of Nursing	
	Location: Former SHR		Department/Unit: NP &E	
	Document Owner: NP&E		Date Prepared: Sept 4, 2018	
	Last Revision:		Date Approved:	
		Related Policies/Documentation Medication Administration for the Pyxis® MedStation ES v1.4x		

Work Standard Summary: How to add staff and students (who do not have network IDs) as local users to Pyxis ES

Essential Tasks:	
1.	Go to prod ES server link: https://pyxis-es.ehealthsask.ca and log in.
2.	Go to Settings , then Users , then User accounts .
3.	Click on Add user on bottom right of screen.
4.	Add users information. Last name required.
5.	When choosing User Id, <u>do not</u> use format of last name and first initial. For new staff without network access yet, use “tempLastnameFirstinitial” For preceptored nursing students, use “NSLastnameFirstinitial” For faculty that do not have network access or do not know their network ID: “F Lastname Firstinitial”
6.	Choose initial password that will be given to the user.
7.	Choose end date. For new staff, use date 2 weeks after first shift. For preceptored nursing students, use date 2 weeks after their final scheduled shift.
8.	Select Facility for access.
9.	Assign role. For new staff – Nurse role. For student and faculty - Nurse student.
10.	Click Edit and choose area they will have access to.
11.	Select Save .