i.v.STATION™

Exponentially Improving Injectable Medication Safety for Patients

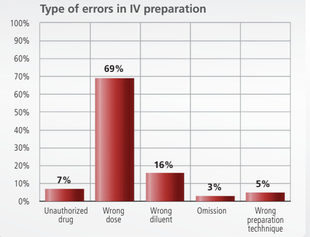
Safety and efficiency when compounding and dispensing Injectable Medications are growing concerns for healthcare organizations around the globe. Medication errors, clinician shortages, increasing patient acuity, restricted budgets, and an ever growing list of new and complex medications all contribute to mounting pressures on nursing and pharmacy staff and life-critical risks for patients. i.v.STATION is a revolutionary robotics technology specifically developed to automatically prepare and dispense ready-to-administer Injectable Medications within an ISO 5 environment, including those that require powder reconstitution and serial dilution. i.v.STATION adapts to your hospital's Injectable Medications workflow, and can easily be installed within a Centralized Pharmacy, a de-centralized patient care location or satellite pharmacy, or ideally, a mixture of both. Its small footprint and plug-and-play installation requirements make i.v.STATION an easy fit to diverse Injectable Medication Management strategies, thus granting rapid access to its clinical and financial features and benefits and an unprecedented return on investment.

i.v.STATION™ Profile

i.v.STATION Profile enables IV Admixture Supervisors to remotely and automatically observe, manage, audit, approve, and dispense Injectable Medications without the need to "gown-up" and enter the IV Room. These Tele-Dispensing features provide the added benefit to supervise IV Admixture and Dispensing tasks from locations outside the Pharmacy [and within and outside the Health-System] via secure intranet access, therefore enabling optimization of scarce pharmacy supervisory personnel.

i.v.STATION reduces compounding and dispensing errors

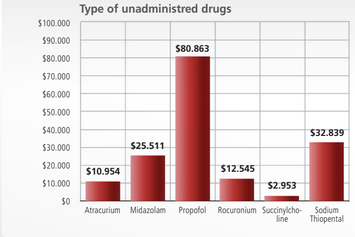
Incidence of compounding errors: 9% of prepared solutions



Source: Flynn, E. A., Pearson R. E., and Barker K. N.; Observational study of accuracy in compounding i.v.admixtures at five hospitals. Am J Health-Syst Pharm.; 1997; 54; page 904-912.

i.v.STATION reduces Injectable Medications' Waste

The total cost of unadministred drugs was $165.667, which is 26% of the total expenditure for drugs



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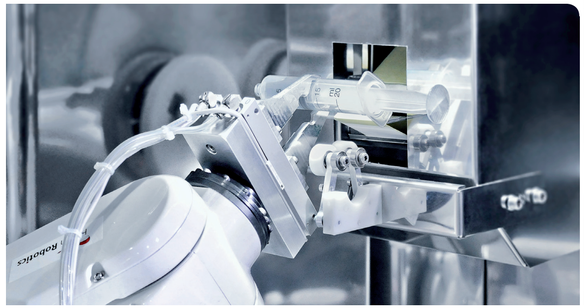

Health Robotics
Architecting the i.v. Room of the Future

Health Robotics Canada Inc.
Commercial Building 200
1920 Yonge Street
M4S 3E2 Toronto, Ontario
Canada

Health Robotics srl
Via Altman 9/A - 39100 Bolzano Italy
Phone +39.0471.200372
Fax +39.0471.200574
E-mail info@health-robotics.com

health-robotics.com

D Com 102.00

Health Robotics
Architecting the i.v. Room of the Future

i.v.STATION™

The Safe and Automated Solution for
Compounding and Dispensing Injectable Medications

Centralized Pharmacy Implementation

Centralization of Sterile Compounding has long been considered the gold standard to improve patient safety and to comply with aseptic admixtures regulations and legal requirements all over the world. i.v.STATION™ offers your pharmacy the option of improving high-quality centralized Sterile Compounding without having to outsource the preparation of IVs, with little or no reliance on high-cost pre-mix IV solutions, and without the need to recruit, hire, and train so many scarce clinical staff.

MEDICATION SAFETY

i.v.STATION enables you to address high-volume preparation of IV Admixtures without the need to compromise patient safety. Through its multiple double-checks and accuracy guarantees, i.v.STATION safely manages patient-specific as well as batch IV Admixtures and provides a complete audit trail for each IV dose.

REDUCE MATERIALS PURCHASING COSTS

i.v.STATION's high level of performance offers your hospital a unique value proposition to eliminate costly outsourced or premixed IV solutions. Flexibility of automated compounding with drug formats and final containers greatly increase in-house production potential, granting independence from third-party suppliers and over-priced premixes, and thus reducing pharmacy expenses.

REDUCE WASTE OF EXPIRED AND RETURNED MEDICATIONS

i.v.STATION's just-in-time compounding helps your pharmacy reduce the waste of returned and/or expired Injectable Medications. With i.v.STATION you can optimize IV Admixture production and dispensing cycles closest to administration time, without having to re-stock costly short-expiry medications, and eliminating the need to discard IV solutions that are no longer usable due to prescription changes or patient transfers.

RETURN ON INVESTMENT

Multiple hospital studies have proven an i.v.STATION's 3-to-1 average cost advantage over Pre-Mix/Frozen solutions by Baxter, B. Braun, and Hospira. i.v.STATION has also consistently revealed an average 6-to-1 cost advantage over outsourced custom IV manufacturing offered by Ameridose, CAPS, and PharMEDium in multiple North American local markets. These combined studies have shown a 6 to 9-month payback period for i.v.STATION.

TELE-DISPENSING

The i.v.STATION profile option permits secure and remote Pharmacy verification and approval of the Injectable Medications compounding process, thus optimizing efficiency of scarce supervisory pharmacy staff and dramatically improving turn-around time for IV Admixtures dispensing and administration for life-critical patients.

FLEXIBILITY

i.v.STATION addresses your hospital's need for flexibility whenever and wherever aseptic IV compounding is needed for diverse patients such as neonatal, haematology or intensive care. i.v.STATION produces batch or patient-specific preparations, handles a high variety of doses, formats, dilutions, and automatically fills the most common final IV solution containers on the market, such as Becton Dickinson, Baxter, Hospira, Terumo, Grifols and BIBraun.

De-Centralized Implementation

Safe compounding and dispensing of Injectable Medications in Satellite Pharmacies, Operating Rooms, Emergency Rooms and Intensive Care Units with i.v.STATION™ contributes to improve turn-around time for life-critical patients; decreases high-costs associated with outsourced, pre-mix and/or frozen solutions; eliminates drug and diluent exchange errors; minimizes strain on nursing and pharmacy staff; and reduces waste through just-in-time Injectable Medications production and dispensing. When combined with a Centralized Implementation, this deployment methodology yields optimized balance between just-in-time and batch IV production.

MEDICATION SAFETY

i.v.STATION incorporates cutting edge technology to eliminate reliance on error-prone manual IV compounding. Multiple automated checks throughout the IV Admixture process guarantee that the right drug in the right dose is compounded at the right time, with the right label for the right patient, eliminating drug and diluent exchange errors.

ACCURACY

Drug-Quantity accuracy of IV doses and concentrations is ensured by volumetric and gravimetric controls, thus ruling out the risks of large drug-quantity errors. i.v.STATION ensures dosing accuracy better than ±5% (volume ≥ 0.1ml) of the dose prescribed by the physician, significantly outperforming manual IV compounding.

REDUCTION OF NURSING TIME

i.v.STATION offers an unprecedented opportunity to release nursing staff from the labor-intensive and risky practice of preparing IV solutions and manipulating pre-mix IV solutions in non-sterile patient care locations. Labor activities are limited to loading and unloading the robot, while the compounding process is completely automated and nursing staff only handles ready-to administer doses.

STERILITY

i.v.STATION provides a certified compounding area which integrates seamlessly into any USP 797 and/or GMP compliant environment. It is equipped with class H14 HEPA filtering and handles Injectable Medicines within an ISO Class 5 air-controlled environment. Additional safety is granted by the i.v.STATION UV-C lamps, resulting in ideal conditions for microbiologically-safe IV Admixtures.

TRACEABILITY

High-performance software algorithms, Bar-Code and RFID technology, and integrated digital vision systems combine to provide complete audit trails of all IV doses compounded and dispensed with i.v.STATION. Retrieving information on patient doses, lot numbers, authorized users, vials utilized, etc. is performed within an All-Digital on- line transaction environment.

PLUG-AND-PLAY

i.v.STATION's small size and weight, and its standard electrical, heat output and network requirements permits easy, quick, and inexpensive installation anywhere in the hospital, without costly architectural modifications and within the typical constraints of premium-space requirements at patient care areas.

AVOID DIVERSION OF CONTROLLED SUBSTANCES

Diversion of controlled substances is recognized as a critical problem in the United States and many other countries around the world. Healthcare professionals have easy access to controlled substances, and according to the National Council of State Boards of Nursing, approximately 15% of healthcare professionals struggle with drug dependence. i.v.STATION is compliant with a host of global security guidelines for controlled substances, including tamper-evident syringe caps, biometric identification, restricted access only to ready-to-administer IVs, single-dose storage and retrieval, etc.

Technology

HEPA FILTERS / AIR TREATMENT UNIT
- Class H14 HEPA filters and integrated air circulation technology maintaining an ISO-5 environment
- UV lamps for enhanced sterility control

DRUG DOSING / COMPOUNDING AREA
- Includes powder reconstitution and serial dilution
- High precision balance for independent weight check
- Dosing accuracy better than ±5% (volume ≥ 0.1ml)
- Automatic tamper-evident syringe capping

LOADING / UNLOADING AREA & CAROUSEL
- Up to 28 drug vials (1 to 100 ml)
- Up to 25 IV bags (50, 100, 250, 500 ml and 1L)
- Up to 42 syringes (1, 3, 5, 10, 20, 30, and 50/60 cc)

LCD TOUCHSCREEN MONITOR
- Intuitive user interface
- Three levels for secure access:
  - Smart badge (proximity device) and/or
  - ID/password and/or
  - Biometric ID/facial recognition

DOSE LABELLING UNIT (thermal printing)
- Preparation tracking through Bar Code technology
- Labels size: 40x40mm for syringes and 56x65mm for IV bags
- Customizable content of labels

DILUENT INJECTION / WITHDRAWAL UNIT
- Tubing sets for quick withdrawal of excess diluent from bags
- Tubing sets for diluents injection (powder reconstitution)

WASTE MANAGEMENT
- Two separate waste bins (glass materials separated)

SUPPORTED PRODUCT BRANDS AND SIZES

Plastic syringes	Beckton Dickinson, Terumo, BIBraun	1, 2.5, 3, 5, 10, 20, 30, and 50/60 cc
Soft Plastic IV Bags	Baxter, Hospira, Grifols, Fresenius, BIBraun, Impromediform, Terumo, Otsuka	50, 100, 250, 500 ml and 1L
Drug vials		Vial Height between 32 - 110mm Base Diameter between 15 and 88mm Neck Height ≥ 6mm Cap Height 6 – 11mm Flip-off Height and Cap Height 6 – 11mm plus Zosyn® 40.5 g