



IntelliFill® i.v. Pharmacist Checking



INTRODUCTION

Pharmacists bear ultimate responsibility for the accuracy of each dose prepared in, and dispensed from, the pharmacy. The use of pharmacy technicians has changed the way that responsibility is managed. Now pharmacists check each prepared dose to ensure the technician preparing the dose performed the preparation properly. Checking verifies that:

- The correct medication was selected
- The selected medication was not expired
- The ordered dose was prepared
- The medication appears to be intact

For IV admixtures, this checking process also verifies that:

- The correct dosage form was prepared (according to pharmacy procedures and medication preparation requirements)
- The correct commercial medications were selected
- The correct base solution (if applicable) was selected
- If needed, the medication was reconstituted correctly
- If needed, the medication was diluted correctly
- The correct amount of each medication was measured into the final dose container
- The admixture process produced no visible chemical incompatibilities
- The admixture process produced no unwanted inclusions (particles) in the final dose preparation
- The label is complete, legible and accurate for the dose required

CHECKING ON INTELLIFILL i.v.

When IV admixtures are prepared on IntelliFill i.v., the preparation involves in-process checks that verify a number of these items:

Checking Step	IntelliFill i.v.
The correct dosage form was prepared (according to pharmacy procedures and medication preparation requirements)	<p>The Pharmacy Information System already contains the determination of the dosage form to be prepared. IntelliFill i.v. “reads” the label in the label stream and prints a pass-through label if the dose is not intended to be a syringe or cannot be prepared on IntelliFill i.v.</p> <p>This check is performed in-process during dose preparation.</p>
The correct commercial medications were selected	<p>All medication containers are bar code scanned to ensure they are correct for the dose to be prepared.</p> <p>This check is performed in-process during dose preparation.</p>
The correct base solution (if applicable) was selected	<p>IntelliFill i.v. contains controls to ensure the correct diluent is loaded onto the system. The device will not operate if someone attempts to load the incorrect diluent.</p> <p>This check is performed in-process during dose preparation.</p>
If needed, the medication was reconstituted correctly	<p>Reconstitution is performed according to formulary entries that can be created only by an authorized user. The system always performs reconstitution according to these instructions. If there are any problems reconstituting a vial, the software discards the vial.</p> <p>This check is performed in-process during dose preparation.</p>
If needed, the medication was diluted correctly	<p>Dilution can be performed in the syringe or by preparing a dilution vial. If in-syringe dilution is performed, the software computes the effective density of the resulting solution and uses weight checking to ensure the proper amount was delivered.</p> <p>If a dilution vial is to be prepared, the software tare-weighs the empty vial, weighs the vial after addition of the undiluted drug to ensure accurate delivery of the drug and weighs the vial again after addition of the diluent to ensure the proper amount of diluent was added.</p> <p>This check is performed in-process during dose preparation.</p>

Checking Step	IntelliFill i.v.
The correct amount of each medication was measured into the final dose container	<p>Several checks are built into the mechanical systems that deliver the dose; if one of these systems fails, the dose is discarded and remade.</p> <p>Every dose is weighed before issue to ensure the correct amount of fluid is contained in the syringe.</p> <p>This check is performed in-process during dose preparation.</p>
The admixture process produced no visible chemical incompatibilities	<p>IntelliFill i.v. produces doses with only one active drug, with the result that compatibility issues are taken into account before the dose can be prepared on IntelliFill i.v.</p> <p>This check is performed prior to a dose being assigned to IntelliFill i.v.</p>
The admixture process produced no unwanted inclusions (particles) in the final dose preparation	<p>For reservoir-mode fills, this inspection occurs during the verification of the reservoir containers.</p> <p>There is currently no automated mechanism for performing particulate inspection for doses filled from vials; this occurs when doses are verified.</p>
The label is complete, legible and accurate for the dose required	<p>As IntelliFill i.v. prepares each dose, it prints and applies the label and then scans the bar code on that label to ensure it is correct. If the bar code cannot be read, or if it contains incorrect information, the software prints and applies a new label.</p> <p>Checks for clinical appropriateness are performed prior to a dose being assigned to IntelliFill i.v.</p>

All bags hung in IntelliFill i.v. must be labeled with a barcode label that contains the drug ID, the volume of the container, the lot number and the expiration date. Pharmacists check these bags as if they were large volume parenteral admixtures, including inspecting them for particulates. This check ensures the technician cannot hang the wrong bags on IntelliFill i.v. and that these bags will not contribute particulate matter to doses prepared on IntelliFill i.v.

If vials contain a manufacturer's bar code, generally IntelliFill i.v. can use it to verify vial selection. If a vial does not have such a bar code, or its bar code cannot be read by IntelliFill i.v., Baxa offers software to print barcode labels to be applied to these vials. The application of these labels must be checked by a pharmacist to ensure they were properly applied. This includes scanning the bar code in the inventory loading program to ensure it represents the correct vial to the software. IntelliFill i.v. comes with template policies and procedures that contain forms for this purpose.

Doses prepared from vials may occasionally contain cores. During setup, Baxa field service engineers and implementation specialists configure the machine for each vial to minimize the opportunity for such occurrence. The pharmacy department should observe which vials are likely to produce cores and focus dose checking on these doses.

Each State Board of Pharmacy applies its own rules to checking requirements for automated pharmacy systems. Many State Boards require a 100% check for a short period of time, followed by a statistical check to ensure the doses continue to be prepared properly. Pharmacies should verify with their State Boards what checking will be required for doses prepared on IntelliFill i.v.

To support pharmacist checking of doses, the IntelliFill i.v. software provides a checking system. Scanning the bar code on the dose label in this system brings up the preparation history log record of the syringe along with picture(s) of the vial(s) used to prepare the dose or a listing of the reservoir(s) used to prepare the dose. The pharmacist can inspect the syringe dose, and the records from the dose preparation, and indicate “verified good” or “verified bad” for each inspected syringe.

IntelliFill i.v. also comes with a Formulary Verification Report that can be printed out and used by a checking pharmacist to ensure the formulary entries that control dose calculations were correct when the dose was prepared.

SUMMARY

IntelliFill i.v. automates most of the steps normally taken by pharmacists to ensure that a syringe dose was properly prepared. Manual dose checks are required only to ensure there are no particulates in the dose and to meet State Board requirements. Pharmacists must check the application of any labels to drug containers to ensure the bar codes on those labels will correctly identify the contained drug.

IntelliFill i.v. is manufactured for Baxa Corporation by FHT, Inc.