



CASE STUDY

A STUDY OF PRODUCTIVITY USING THE BAXA RAPIDFILL™ AUTOMATED SYRINGE FILLER (ASF)

By Gwen Sunderson,
RPh Pharmacy Sterile Products Supervisor



OVERVIEW

Hoag Memorial Hospital Presbyterian is a 511-bed acute care, not-for-profit hospital that provides advanced medical services in many specialties; as well as five centers of excellence: Hoag Cancer Center, Hoag Heart and Vascular Institute, Hoag Neurosciences Center, Hoag Orthopedic Services and Hoag Women's Health Services.

PROBLEM

Hoag Hospital Pharmacy dispenses approximately eight-hundred, large-volume IV and IV piggyback (IVPB) doses and twenty to thirty Total Parenteral Nutrition (TPN) solutions per day. In order to meet this high demand, IVPB doses are pre-mixed whenever possible. A batch is run every morning that includes all IV piggybacks and large-volume IV doses needed for the next 24 hours. This batch is generally completed within 3-4 hours. New orders and TPN production demand full attention once the batch is done.

Besides the main pharmacy, Hoag has two satellite pharmacies, only one of which prepares Large Volume Parenterals (LVPs) and IVPBs for the floors that they service. An additional pharmacy is located in the Hoag Cancer Center to serve the needs of oncology patients who report to the center for out-patient chemotherapy. Pharmacists rotate between distributive functions in the main pharmacy, and assignments to various nursing floors where they consult and manage therapy under protocol at the request of physicians: anticoagulation, aminoglycoside dosing, PCA (patient-controlled analgesia), and renal dosing. Their clinical pharmacists manage and write almost all daily orders for adult TPNs. Hoag Hospital has pharmacists on staff specializing in high-risk pregnancy, critical care, and oncology.

SOLUTION

Hoag Memorial Hospital Pharmacy adopted the use of the Baxa RapidFill Automated Syringe Filler (ASF) as a means to increase productivity in the manufacture of pre-filled piggyback syringes. A pharmacy technician is assigned to produce selected piggyback syringes in lots of up to six hundred at a time. The syringes are then frozen and thawed on an as-needed basis. Prior to implementation of the RapidFill ASF, the Baxa Repeater™ Pump was used for all syringe manufacture.

CONCLUSION

Use of the RapidFill ASF technology has significantly decreased the preparation time required for production of Hoag's 10 mL piggyback syringes. The time required to manufacture these syringes has been reduced by approximately 40% due to the elimination of manual labeling of the syringes. Additional time savings have been realized by freeing the pharmacy technician to prepare 20 mL syringes using the Baxa Repeater Pump while, at the same time, monitoring the progress of the RapidFill ASF. For example, the technician can prepare 2 g/20 mL syringes of cefazolin with the Repeater Pump, while 1 g/10 mL syringes of cefazolin are being filled, capped

and labeled on the RapidFill ASF. To avoid mix-ups, simultaneous manufacture of dissimilar products is not permitted.

At this time, Hoag Pharmacy uses the RapidFill ASF strictly for the manufacture of 1 g/10 mL antibiotic piggyback syringes. The primary advantage that they have seen with their adoption of the RapidFill ASF automation is in increased productivity. This has permitted the redeployment of technicians to other areas of need within the pharmacy.

Currently, cefazolin is the only product available in a 300 g bulk package¹. Reconstitution and pooling of 10 gram antibiotic vials for batch filling of other antibiotics is much more labor intensive. For Hoag, the RapidFill Technology has increased pharmacy technician productivity by automating the preparation of pre-mixed IV piggyback syringes.

¹ SmartPak®, Samson Medical Technologies, www.samsonmt.com/