

Travis Clean Air's Modular Acrylic Cleanroom

Mississippi Baptist Medical Center (MBMC) is a 620-bed, full-service hospital located in Jackson, Mississippi. MBMC's primary service areas include cardiology, oncology, and women's services, with additional areas of expertise, such as specialty surgery, radiology, urology, and behavioral health. The pharmacy provides complete IV admixture services, compounding about 900 preparations per day, including total parenteral nutrition (TPN) and chemotherapy agents.

When USP <797> was originally published in 2004, the problem MBMC and many other facilities faced was the chapter's standards were a moving target and subject to change during the recently completed revision process. Even so, we were required to take interim measures toward compliance and achieve full compliance by January 2008. Having to meet the deadline, but not knowing what the final standards would be presented MBMC with a significant dilemma. With this in mind, we decided to develop a cleanroom that met the most stringent standards under consideration by the USP.

Cleanroom Construction Roadblocks

At the time, our cleanroom would have required major renovations to meet <797> standards. The ceilings, walls, and floors needed to be upgraded, but the primary roadblock to new construction was our pneumatic tube station, located in our anteroom. The station was clearly incompatible with <797>, but it was cost-prohibitive to relocate. At a minimum, we were looking at a major remodeling of the anteroom and the loss of extensive – and expensive – custom anteroom cabinetry. After looking at multiple options, we decided a modular cleanroom offered a solution of known quality with the flexibility to meet future <797> standards at a cost that would not wreak havoc on our budget. The modular design allowed us to avoid “immovable” obstacles while customizing the cleanroom to the available space and incorporating a major portion of our existing anteroom cabinetry into a new staging area.

Selecting a Modular Cleanroom

We looked at quite a few modular cleanroom manufacturers and found their offerings to be mostly equal in quality, as they often utilized the same base components. We found Travis Clean Air's modular acrylic cleanroom to be the equal of any product in the mid-priced spectrum, and because of our high compounding volume, we particularly liked its large pass-through chamber. That said, we were ultimately sold by the quality of their people and customer service. Their expertise was apparent, their attention to meeting our specific needs was first rate, and their installation team was highly qualified.

Installation

In the fourth quarter of 2007, we installed a 27x12-foot positive-pressure modular

cleanroom in our main pharmacy and a 14x14-foot negative-pressure modular cleanroom in our Hederman Cancer Center pharmacy. Almost no structural changes to the pharmacies were required, as we designed the cleanrooms around existing components and equipment that would have been expensive to relocate.

While the entire process took about three months, including the demolition of our existing IV room and the installation of HVAC hook-ups, Travis Clean Air installed the actual cleanrooms in one week. Since most institutions cannot just stop preparing IV solutions during construction, Travis Clean Air installed a temporary cleanroom in our main pharmacy, which allowed us to continue compounding throughout the installation. This added service made the process as painless as possible for our staff and patients.



Large pass-through chambers are well suited to MBMC's high compounding volume.

Features and Equipment

In the main pharmacy cleanroom, we installed laminar airflow hoods and an automated TPN compounder, and in our oncology satellite, we

installed externally exhausted biological safety cabinets. Both cleanrooms feature a wireless phone, an intercom system, a digital clock, and sensors for the continuous monitoring of temperature and humidity. All of our cleanroom furniture is stainless steel and on casters. Both cleanrooms and anterooms have been certified to meet ISO Class 6 specifications by ENV Services, an independent cleanroom certifier. The anteroom is used primarily for garbing, and supplies are passed into the cleanroom through a pair of acrylic pass-throughs.

Conclusion

The use of a modular cleanroom, as opposed to a traditional cleanroom, has changed our workflow, but the impact has been smaller than we expected. The three workstations in our main cleanroom and two in our oncology satellite have been more than sufficient to meet our compounding volume.

Our modular cleanrooms have further ensured the quality and safety of our compounded sterile preparations, while providing us with a flexible vehicle for meeting future regulatory requirements. We believe Travis Clean Air's cleanrooms will provide us with economical service for many years to come. ■

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WHERE TO FIND IT:

Travis Clean Air Circle reader service number 116 or visit www.traviscleanair.com