

## Designing Another Central Sterile Department?

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I thrive on challenges! I thought when the new Sterile Processing department in the Clinical Services Building was designed and moved into in October 1998, that Northeast Medical Center, formerly Cabarrus Memorial Hospital, had moved on up. Sterile Processing moved from a dark dungeon with antiquated equipment, into a well-lighted state of the art department. All the equipment was new, with the exception of a washer-sterilizer, one sonic cleaner and two steam sterilizers which were located from the old department. The white walls, blue floor covering was so welcoming and the space was enormous. There would be no problem with storage of supplies and instruments. The new area was three times larger than where we had worked and survived in for many years. The staff was elated. All the hard work and planning had paid off and everyone was excited to start work in the new place.

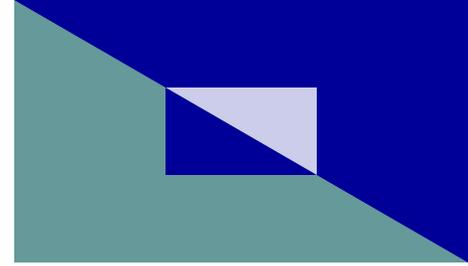
If you have never been involved in a renovation or in the process of building a new department then it would be hard for you to imagine what all has to take place before you can pick-up and move to a new area.

As Manager of Sterile Processing, I have served on 4 Construction Committees for building Ambulatory Surgery Sterile Processing Departments (2) and In-House Sterile Processing Departments (2). The Construction Committee for each project was comprised with representatives from Materials Management, Surgical Services, Facilities Management, Infection Control, Sterile Processing, Administration, Construction Company, Information Systems and the selected Architectural Firm. For months this committee would meet weekly to discuss space allotment, traffic

logistics, amount of space needed for each area of decontamination, set-up, prep, packaging, sterilizing, sterile storage and distribution. Around 1994, the first Ambulatory Surgery Center with an adjoining Sterile Processing area was being planned, designed and built.

The main Surgical Service Department was located three football fields away on the second floor of the main building. Sterile processing was in the basement of the furthest corner of the "G" wing. Sterile Processing did all the transportation of all the clean and dirty surgical items. The SPD staff spent approximately 30 minutes per hour transporting clean and soiled case carts to and from Surgery. Around 1996, plans were being made to move the main Surgery and Sterile Processing to the new Clinical Services Building. The new Sterile Processing would be directly under the Surgical Services Department. This was joyous news for SPD. The staff could spend more time focusing on the processes of decontamination and instrument preparation, instead of spending hours on cart transports.

Early on, a wish list for Sterile Processing was made for each construction project and shared at each of the Construction Committee meetings. Items definitely on the list included designated clean and soiled elevators, new indexing washer, new ETO Sterilizers/Aerators, commercial washer and dryer, 2 sonic washers / rinser dryers and Steam Sterilizers were needed. With the elevators, there would be no undue delays in delivery/pickups due to distance. The new Surgical Services area would have 13 operating rooms and 2 cysto rooms. The addition of 3 new surgical suites would increase the amount of instruments needed to maintain optimum service. On behalf of SPD, I wished big just in case I had to pare down due to budget constraints. Having worked in SPD for many years, I realized no matter how much space you had, you never had enough so it was important that we figured in enough space for growth. It was important that a staff dressing room, bathroom and break area be included in the design of the new department. Staff currently was changing in a small closet off the decontamination room, putting on a lab coat and walking to their respective work areas.



When building a new Sterile Processing it is vital that you refer to the standards of Association for the Advancement of Medical Instrumentation (AAMI) and the American National Standards Institute (ANSI) for design plans. These organizations are very helpful in offering assistance in designing an area to meet all the criteria for a sterile processing department. Workflow and air flow are of utmost importance. The area must be able to reduce contamination, provide effective and efficient processing, provide sterile assurance for items processed and keep the workers safe. Staff was asked for their input. They are the front line workers and they have valuable knowledge that the manager could have omitted or not even thought about. Asking for their help helps them feel their knowledge is important and they tend to take on more of an ownership role in the department.

At the time we were building the first of my new Sterile Processing Departments, ETO was still the best choice of sterilization for heat and moisture sensitive items. In the old department we used a blended gas with CFC's. With the cost of the product, bulkiness of the tanks, changing to a product with HCFC's, and possible exposure to the staff during tank change out, the decision was made to go with the 3M 5XL sterilizers and XL aerators. At the time we were designing this new 1998 area, the tunnel or indexing washer technology was the trend. With the relocation of the Washer-sterilizer, and the addition of the index washer, instruments could be processed twice as fast. With the most recent construction of yet another department, three times larger than the 1998 construction, it was decided to go with a four bay air glide system with a future space for a fifth washer. This has proven to be a more efficient method for cleaning. ETO was removed on the most recent construction and replaced with low temperature plasma sterilizers. Items requiring ETO are processed off site. New steam sterilization equipment included 2 floor loading sterilizers and 1 cart sterilizer. Two new cart washers were on the wish list for both construction jobs for the main surgery/sterile processing

Cost played a major role in allowing only one purchase of a cart washer during both construction phases. Plans were made and a future site was prepared in both departments for a second washer. When asked why a second cart washer would be needed, explanations were given on how long it takes to manually wash a cart. The decontamination process would be delayed and there would be a bottleneck of getting the carts cleaned and ready for re-issue. I was then asked by one of the design members if I would buy an extra car "just in case" my car failed. My answer to him was "No, but I can rent a car if needed but there is no way I can rent a cart washer." One cart washer was approved for each project but plans were made to include infrastructure for a future cart wash in both construction projects. If a department has only one piece of equipment and it malfunctions, everyone knows the impact it has on instrument processing. I feel it is important to have at least two of every piece of equipment to prevent bottlenecks of the work process. It is vital that the department have a backup plan for processing instruments and equipment if the equipment fails.

Site visits to observe several other Sterile Processing Department to look at the room design, equipment, workflow, storage areas were done during the early on design phase of both projects. It is so important to make these site visits and talk with staffs that have been through a building process. See how the equipment works. Ask about the equipment and any problems encountered. Is it reliable? Does it clean well? One of the most important equipment questions is about the repair service response time.

The Construction meetings continued, space seemed to diminish, cost was becoming astronomical. Then the day came at the Construction Meeting that SPD had to cut thousands of dollars. The main thing to go on the 1998 building phase was the designated soiled elevator.

SPD would once again be waiting on an elevator, walking a distance to pick up the soiled carts and delivering them to decontamination area. The transport time had been cut fifty percent. With the 2004 new construction, Sterile Processing was fortunate to get both a clean and soiled elevator in the department.

It is important that the SPD Manager or an SPD representative be present at all the meetings. Once the budget cuts begin a representative needs to be present at all meetings to ensure SPD's best interests are protected. Not having representation could lead to having others make a decision for your department that could really impact your work load. Once the actual construction begins, it is important that you keep in touch with construction engineers, making visits to see the progress and to check for any potential problems. It is easier to rectify problem issues early on. Remember every correction or change requested to be made after construction begins results in a significant increase to the construction costs.

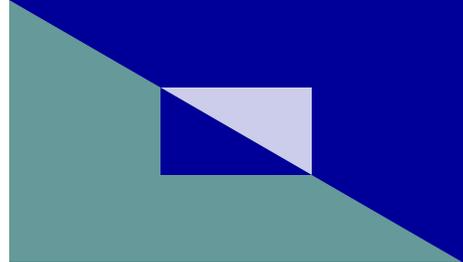
Make plans early on as to where equipment will be placed and this should be designated on the plans for the department. Plans also have to be made as to the layout of the different areas. Electrical, phone and computer outlets need to be established. Where do you want the phones? Which direction do you want the worktables? How do you want the instrument storage shelving to be arranged to make for effective work flow? Where do the computer drops need to be? Where do we store the clean case carts? Where do you want your supply storage cabinets located for easy access for restocking and case cart building? Where do you store the nursing units' special procedure carts, emergency carts? All these plans have to be made prior to the move in. The use of adhesive notes made it easy to identify where carts, shelving, supplies, instruments, etc., where to be housed. Once the areas were identified with notes, these were written on the department plans just in case a note became lost. All the pre-planning for locations made it much easier for the movers on the day of move in.

During the construction phase you will be kept aware of the timeline of the project. As the completion nears, it is important that you set up in-service programs for all the staff, including the manager or director. Staff will feel more comfortable learning how to operate the new equipment days before going "live". It has been my practice to have the sales representative present in the department for the first few days once the move has taken place. This gives the staff a sense of security and the representative is there should any malfunction of the equipment occur. Tests need to be run on all new equipment prior to placing the units in service to ensure the equipment is meeting the required specifications. These tests are usually performed with the vendor service technician and designated Sterile Processing Staff members.



I retired before the Sterile Processing Department relocated to its new home in 2006. It was a beautiful area with lots of space and all new equipment. I hope all the effort put into this project has proven to make the department an effective and efficient one. I am thankful that I have had the opportunity during my career to help design a state of the art Sterile Processing Department for CMC-Northeast.

Designing a CS Post-test



1. Future growth should be included in design plans for a new Sterile Processing Department.  
True      False
2. Making site visits to observe equipment, work flow, talk with people who have gone through a construction process is not necessary.  
True      False
3. A sterile process department should have a backup plan for cleaning/sterilizing if equipment fails.  
True      False
4. If possible future infrastructure plans should be made for additional processing equipment to be added as needed.  
True      False
5. The Construction Committee should be comprised only of Sterile Processing Manager or Director and the Architects.  
True      False
6. AMMI and ANSI are organizations that offer recommendations for the design of Sterile Processing Departments.  
True      False
7. The most important aspect of purchasing equipment is that it works well and that the staff know how to fix it when it malfunctions.  
True      False
8. In-Service programs on the use and care of equipment are needed on all equipment prior to moving into a new department.  
True      False
9. To prevent someone from making a decision for SPD, it is imperative that a SPD representative be present at all construction meetings.  
True      False
10. Once construction begins, changes can be made without any additional costs.  
True      False

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