

CHAPTER 285: STERILE PROCESSING SERVICE

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1 PURPOSE AND SCOPE

This document outlines space planning criteria for services and programs provided in VA Chapter 285: Sterile Processing Service for the Department of Veterans Affairs (VA). It applies to all medical facilities at the VA.

Policies and directives, VA Subject Matter Experts (SMEs), and established and / or anticipated best practice guidelines / standards provides the foundation for the workload based space criteria and Net Square Footages (NSF) for each space.

2 DEFINITIONS

AAMI: In conjunction with ANSI, The Association for the Advancement of Medical Instrumentation (AAMI) is the source for all practice and design standards for decontamination, disinfection, and sterilization.

Accessible: A site, building, facility, or portion thereof that complies with provisions outlined in the Architectural Barriers Act of 1968 (ABA).

Architectural Barriers Act (ABA): A set of standards developed to insure that all buildings financed with federal funds are designed and constructed to be fully accessible to everyone. This law requires all construction, renovation, or leasing of sites, facilities, buildings, and other elements, financed with federal funds, to comply with the Architectural Barriers Act Accessibility Standards (ABAAS). The ABAAS replaces the Uniform Federal Accessibility Standards (UFAS).

ANSI: Supporting the development and approval of national voluntary standards, the American National Standards Institute (ANSI) develops accreditation programs, and serves as the U.S. representative to the International Standards Organization (ISO).

Automated Endoscopic Reprocessor (AER): A fully automated device for testing, cleaning and high-level disinfection of various types of flexible fiberoptic scopes. These devices are used to minimize hand washing and eliminate soaking scopes in toxic chemical agents. AERs can foster standardized scope processing and promote a consistent level of care.

Biomedical Engineering: A support department that inspects, tests, repairs and maintains a wide range of patient care equipment. Biomedical Engineering may provide primary response for maintaining SPS equipment. It also works closely with Logistics for the temporary storage of new items before they are put into service, and for existing items awaiting repair or parts. Biomedical Engineering may also be called Clinical Engineering.

Case Cart: A physical cart, but also a supply concept, whereby most supplies and instruments needed for a surgical procedure are pre-assembled, and placed into a (case) cart. The case cart is designated for a specific procedure, a specific surgeon, and a specific patient that is scheduled for an assigned time and location (procedure room). Case carts are typically pre-assembled the day before a scheduled case, but can also be assembled as needed / "just-in-time".

Container Rack: A specialty cart used in conjunction with an automatic cart washer, which accommodates rigid instrument containers and tops for cleaning and disinfection.

Decontamination - Soiled Work : Includes the receipt, cleaning and disinfection of surgical instruments, scopes, patient care equipment, reusable medical devices, carts and related patient care items.

Full-Time Equivalent (FTE): A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose total

time commitment equals that of a full-time employee. One FTE equals a 40 hours per week.

Functional Area: The grouping of rooms and spaces based on their function within a clinical service. Typical Functional Areas are Reception Areas, Patient Areas, Support Areas, Staff and Administrative Areas, and Residency Program.

Infection Control Risk Assessment (ICRA): A multidisciplinary, organizational, documented process that considers the medical facility's patient population and mission to reduce the risk of infection based on knowledge about infection, infectious agents, and the care environment, permitting the facility to anticipate potential impact.

Input Data Statement: A set of questions designed to elicit information about the healthcare project in order to create a Program for Design (PFD) based on the criteria parameters set forth in this document. Input Data Statements could be Mission related, based in the project's mission; and Workload or Staffing related, based on projections and data provided by the VHA or the VISN about the estimated model of operation. This information is processed through mathematical and logical operations SEPS 3.

Preparation and Assembly – Clean Work: Includes inspection, reassembly, functional testing and packaging of instruments, instrument sets, scopes and related medical devices prior to terminal sterilization of these items.

Program for Design (PFD): A space program generated by SEPS II based on criteria set forth in this document and specific information about Concept of Operations, Workload projections and Staffing levels authorized.

Receiving, Storage and Dispatch Area: Spaces to handle the receipt and storage of clean supplies, sterile supplies, and sterile instruments within a controlled environment prior to distributing these items to end users.

Reverse Osmosis Deionized (RO / DI) Purified Water: Water suitable for sterile processing applications has specific resistivity of 0.1 megohm per cm. RO / DI purified water is required for the final rinse cycle of instrument washer-decontaminators, at the clean-up sinks, and is used in ultrasonic cleaners.

Room Efficiency Factor: A factor that provides flexibility in the utilization of a room to account for patient delays, scheduling conflicts, and equipment maintenance. Common factors are in the 80 to 90% range. A room with 80% room efficiency provides a buffer to assume that this room would be available 20% of the time beyond the planned operational practices of the room. This factor may be adjusted based on the actual and/or anticipated operations and processes of the room / department.

SEPS 3: Acronym for Space and Equipment Planning System version 3.X, a digital tool developed by the Department of Veterans Affairs and the Department of Defense (DoD) to generate a Program for Design (PFD) and a Project Room Contents list (PRC) for a VA healthcare project based on approved Space Planning Criteria, the chapter and specific project-related Mission, Workload and Staffing information entered in response to the Program Data Required - Input Data Statements (IDSs).

Standard Storage Unit: Used as a metric for planning SPS and Unit Item storage requirements, using modules representing typical open wire shelves with dimensions of 24" D x 60" W x 72" H. It is also applicable for planning other storage requirements in areas such as the surgical suite / clean core.

Sterile Processing Service (SPS): provides the cleaning disinfection and sterilization for surgical instruments, and various reusable medical devices and patient care equipment.

SPS typically stores surgical supplies, instrumentation and related items for distribution to all clinical areas, from inpatient care units, Operating Rooms, and procedure rooms, to outpatient surgical units, clinics, and ED.

Sterilization: The elimination of all living microorganisms.

Transport Cart: A mobile cart used to transport instruments, scopes or supplies between sterile processing and patient care areas. Transfer carts may be used to deliver clean / sterile items from sterile processing to user areas, or to collect and return soiled items to sterile processing. A transport cart may also be referred to as a Transfer Cart.

Workload: Workload is the anticipated number of procedures or suite stops that is processed through a department/service area. The total workload applied to departmental operational assumptions will determine overall room requirements by modality.

3 OPERATING RATIONALE AND BASIS OF CRITERIA

- A. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas of the Sterile Processing Service and its relationship with other services of a medical facility. These criteria are predicated on established and / or anticipated best practice standards, as adapted to provide environments supporting the highest quality health care for Veterans.
- B. Healthcare planners working on VA medical center, hospital or satellite outpatient clinic projects will utilize and apply the workload based criteria set forth herein for identified services and modalities to determine room requirements for each facility.
- C. These criteria are subject to modification relative to development in the equipment, medical practice, vendor requirements, and subsequent planning and design.
- D. Calculation of each of the directly workload-driven room types is implemented in SEPS based on Table 1 below. Determination of the support spaces, quantity and NSF, is based on the directly workload driven rooms.

TABLE 1: WORKLOAD PARAMETER CALCULATION

Sterile Processing Service			
Room Name	Min. NSF	Provide an additional XX NSF...	...if the number of Instrument Sets Reprocessed Daily is...
Decontamination Work Area	300	300 / 300	Between 150 and 400 Greater than 400
Detergent and Water Treatment Storage Room	60	30 / 60	
Instrument Set Assembly Clean Workroom	360	300 / 600	
Steam Sterilization Area	200	60/ 120	
Receiving Breakout and Inspection Room	120	60/ 120	

4 PROGRAM DATA REQUIRED (Input Data Statements)

- A. Mission Input Data Statements
 1. Is a Manual Cart Wash authorized? (M)

2. Is a decentralized water treatment system authorized? (M)
 3. Is Sterile Processing Service authorized to handle the restocking / reassembly of implants? (M)
 4. Is an Ethylene Oxide Gas Sterilization (EtO) Room authorized? (M)
 5. Are pass-thru steam sterilizers authorized? (M)
 6. Is a Clean Steam Generator authorized? (M)
 7. Is a Case Cart System authorized? (M)
- B. Workload Input Data Statements
1. How many instrument sets are projected to be reprocessed daily? (W)
 2. How many scopes are projected to be processed daily? (W)
 3. How many daily surgical procedures are projected? (W)
- C. Staffing Input Data Statements
1. How many Sterile Processing Service FTE positions are authorized? (S)
- D. Miscellaneous Input Data Statements
1. Is a second Automated Cart Washer authorized? (Misc)
 2. How many Automatic Endoscope Reprocessors (AERs), greater than one, are authorized? (Misc)
 3. How many Low Temp Sterilizers, greater than one, are authorized? (Misc)
 4. How many steam sterilizers are authorized? (Misc)
 5. How many transport carts are projected? (Misc)
 6. How many Operating Rooms are projected? (Misc)
 7. How many Sterile Processing Service FTEs working on peak shift are projected? (Misc)
 8. How many Sterile Processing Service Clerical FTEs are authorized to have a workstation? (Misc)

5 SPACE PLANNING CRITERIA

A. FA 1: Decontamination Area:

1. **Anteroom, Soiled Transition / Drop-off (CSCR1)120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 15 NSF per each transport cart projected greater than two; maximum 180 NSF.
2. **Alcove, PPE (CSPE1)60 NSF (5.6 NSM)**
Provide one for the Decontamination Area.

This area is provided to dispense and don protective clothing prior to entering the Decontamination Work Area.
3. **Decontamination Work Area (CSDE1)390 NSF (36.3 NSM)**
Minimum NSF; provide an additional 300 NSF if the projected number of Instrument Sets reprocessed daily is between one hundred and fifty and four hundred; provide an additional 600 NSF if the projected number of Instrument Sets reprocessed daily greater than four hundred.
4. **Automated Cart Washer (CWSH2)180 NSF (16.8 NSM)**
Minimum one; provide an additional one if a second Automated Cart Washer is authorized.

Includes cart queuing and drying space.
5. **Manual Cart Wash (CWSH3)140 NSF (13.1 NSM)**
Provide one if a Manual Cart Wash is authorized.

6. **Storage Room, Water Treatment and Detergent (CSWT1)..... 60 NSF (5.6 NSM)**
Minimum NSF; provide an additional 30 NSF if the projected number of Instrument Sets reprocessed daily is between one hundred and fifty and four hundred; provide an additional 60 NSF if the projected number of Instrument Sets reprocessed daily greater than four hundred; provide an additional 90 NSF if a decentralized water treatment system is authorized.

This space provides storage for chemicals to be used for instrument and cart washers. This room also supports RO/DI water purification equipment for the final instrument washer rinse cycle and a RO/DI water “pistol” at each clean-up sink.

7. **Housekeeping Aides Closet (HAC) (JANC2)..... 60 NSF (5.6 NSM)**
Provide one for the Decontamination Area.

B. FA 2: Scope Processing Area:

1. **Anteroom, Scope Processing (CSAR1)..... 60 NSF (5.6 NSM)**
Provide one for the Scope Processing Area.
2. **Alcove, PPE (CSPE1)..... 60 NSF (5.6 NSM)**
Provide one for the Scope Processing Area.

This area is provided to dispense and don protective clothing prior to entering the Decontamination Room.

3. **Decontamination Room (CSSD1) 120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 80 NSF if the number of scopes projected to be processed daily is greater than thirty.

This space accommodates the gross cleaning and decontamination of flexible scopes. Provide eight linear feet of counter-top, a three-basin clean-up sink, a scope transfer utility cart at 10 NSF, and a PC with a scanner for scope tracking and documentation.

4. **Scope Processing Room (CSSP1)..... 145 NSF (13.5 NSM)**
Minimum NSF; provide an additional 30 NSF per each Automatic Endoscope Reprocessor (AER), greater than one, authorized.

Minimum allocated NSF accommodates one double-basin automatic endoscope reprocessor (AER) at 30 NSF, one pass-through window assembly at 20 NSF, six linear feet of counter-top set-down space at 40 NSF, one scope drying cabinet at 16 NSF, and one utility transfer cart at 10 NSF. As part of a two-room suite, this room is utilized for scope washing / high level disinfection, and equipped with a pass-through to receive scopes from the Soiled Scope Wash Utility Room.

5. **Scope Staging Room (CSST1) 60 NSF (5.6 NSM)**
Provide one for the Scope Processing Area.

Staging Room accommodates the storage of scopes prior to distribution to the end users.

C. FA 3: Preparation and Assembly Area:

1. **Clean Workroom, Instrument Set Assembly (CSIA1)475 NSF (44.2 NSM)**
Minimum NSF; provide an additional 300 NSF if the projected number of Instrument Sets reprocessed daily is between one hundred and fifty and four hundred; provide an additional 600 NSF if the projected number of Instrument Sets reprocessed daily is greater than four hundred; provide an additional 100 NSF if Sterile Processing Service is authorized to handle the restocking / reassembly of implants, such as orthopedic parts into orthopedic instrument trays.

Minimum allocated NSF accommodates one workstation for instrument set assembly at 60 NSF, one workstation for individual instruments / peel pack at 60 NSF, one workstation for inspection / QA packaging / wrapping at 60 NSF, one information system workstation with computer, bar-code reader and laser printer at 30 NSF, one instrument washer unloading station at 15 NSF, one pass-through window (set-down / receiving) at 20 NSF, two storage carts or cabinets for supplies, instrument containers, wrappers, pouches, clean linen, etc. at 15 NSF and circulation space.
2. **Storage, Sterile Processing Supplies (SRSP1)60 NSF (5.6 NSM)**
Provide one for the Preparation and Assembly area.

D. FA 4: Sterilization Area:

1. **Sterilization Area, Steam (CSSS1)200 NSF (18.6 NSM)**
Minimum NSF; provide an additional 60 NSF if the projected number of Instrument Sets reprocessed daily is between one hundred and fifty and four hundred; provide an additional 120 NSF if the projected number of Instrument Sets reprocessed daily is greater than four hundred.

Minimum allocated NSF accommodates two steam sterilizers at 60 NSF each, two sterilizer carts at 10 NSF each, one QA / biological workstation at 15 NSF and circulation.
2. **Sterilization Area, Low Temp (CSLT1).....30 NSF (2.8 NSM)**
Minimum NSF; provide an additional 30 NSF per each Low Temp Sterilizer, greater than one, authorized.
3. **Ethylene Oxide Gas Sterilization (EtO) Room (CSEO1).....100 NSF (9.3 NSM)**
Provide one if an Ethylene Oxide Gas Sterilization EtO Room is authorized.
4. **Ethylene Oxide Gas Sterilization (EtO) Abator Room (CSEO2)100 NSF (9.3 NSM)**
Provide one if an Ethylene Oxide Gas Sterilization EtO Room is authorized.
5. **Cart Return Area (CHC01)30 NSF (2.8 NSM)**
Provide one if pass-thru steam sterilizers are authorized.
6. **Unloading / Cooling Area (CHC01).....60 NSF (5.6 NSM)**
Minimum NSF; provide an additional 15 NSF per each steam sterilizer, greater than two, authorized.
7. **Equipment, Clean Steam Generator (CSCG1).....60 NSF (5.6 NSM)**
Provide one if a Clean Steam Generator is authorized.

E. FA 5: Receiving, Storage and Dispatch Area:

1. **Vendor Drop-off / Pick-up Area (SRS01).....120 NSF (11.2 NSM)**
Provide one for Receiving, Storage and Dispatch Area.

2. **Dispatch Area (CHC01)**..... **80 NSF (7.5 NSM)**
Minimum NSF; provide an additional 15 NSF per each transport cart projected greater than five.
3. **Workstation, Case Cart Dispatch (OFA07)**..... **56 NSF (5.3 NSM)**
Provide one if a Case Cart System is authorized.
4. **Storage, Sterile Durables (Sterile Instruments) (SRS05)** **120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 60 NSF for every increment of two Operating Rooms projected greater than two; maximum 480 NSF.

Minimum allocated NSF accommodates sterile instrument sets, scopes and associated hard goods to support surgery and other areas; and eight standard storage units for instruments at 15 NSF each.
5. **Case Cart Assembly Area (CSCQ1)**..... **120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 15 NSF per each projected daily surgical procedure greater than ten; maximum 600 NSF.

Space allocation for one day of case cart production includes: 1/3 clean empty carts, 1/3 in-process carts and 1/3 completed carts at 15 NSF per cart.
6. **Housekeeping Aides Closet (HAC) (JANC2)**..... **60 NSF (5.6 NSM)**
Provide one for Receiving, Storage and Dispatch Area.

F. FA 6: Staff and Administrative Area:

1. **Office, Sterile Processing Service (SPS) Chief (OFA09)** **100 NSF (9.3 NSM)**
Provide one for Sterile Processing Service.
2. **Office, Sterile Processing Service (SPS) Assistant Chief (OFA09)**..... **100 NSF (9.3 NSM)**
Provide one for Sterile Processing Service.
3. **Workstation, Clerical (OFA07)** **56 NSF (5.3 NSM)**
Provide one per each Sterile Processing Service Clerk FTE position authorized to have a workstation.
4. **Training Room, Staff (CFR01)** **240 NSF (22.3 NSM)**
Provide one for Sterile Processing Service.

Allocated NSF accommodates six conference chairs @ 7.5 NSF each, two 5'-0" x 2'-0" tables at 10 NSF each, one credenza @ 8 NSF, and circulation; total six people.
5. **Copier / Office Supply Room (RPR01)**..... **100 NSF (9.3 NSM)**
Provide one for Sterile Processing Service.
6. **Lounge, Staff (SL001)**..... **120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 60 NSF for every increment of five Sterile Processing Service FTE positions working on peak shift greater than ten; maximum 360 NSF.
7. **Toilet, Staff (TNPG1)**..... **60 NSF (5.6 NSM)**
Minimum two; provide an additional one for every increment of fifteen Sterile Processing Service FTE positions working on peak shift greater than fifteen.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one wall-hung lavatory @ 12 NSF, ABA clearances, and circulation.

8. **Locker / Changing Room, Male (LR002).....100 NSF (9.3 NSM)**
Minimum NSF if the total number of Sterile Processing Service FTE positions authorized is between five and thirteen; provide an additional 8 NSF per each Sterile Processing Service FTE position authorized greater than thirteen.
9. **Locker / Changing Room, Female (LR002).....100 NSF (9.3 NSM)**
Minimum NSF if the total number of Sterile Processing Service FTE positions authorized is between five and thirteen; provide an additional 8 NSF per each Sterile Processing Service FTE position authorized greater than thirteen.
10. **Toilet / Shower, Male (TSSU1).....80 NSF (7.5 NSM)**
Minimum one if the total number of projected Sterile Processing Service FTE positions working on peak shift is between five and thirteen; provide an additional one if the total number of projected Sterile Processing Service FTE positions working on peak shift is greater than thirteen.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, one accessible shower @ 28 NSF, ABA clearances, and circulation.

11. **Toilet / Shower, Female (TSSU1).....80 NSF (7.5 NSM)**
Minimum one if the total number of projected Sterile Processing Service FTE positions working on peak shift is between five and thirteen; provide an additional one if the total number of projected Sterile Processing Service FTE positions working on peak shift is greater than thirteen.

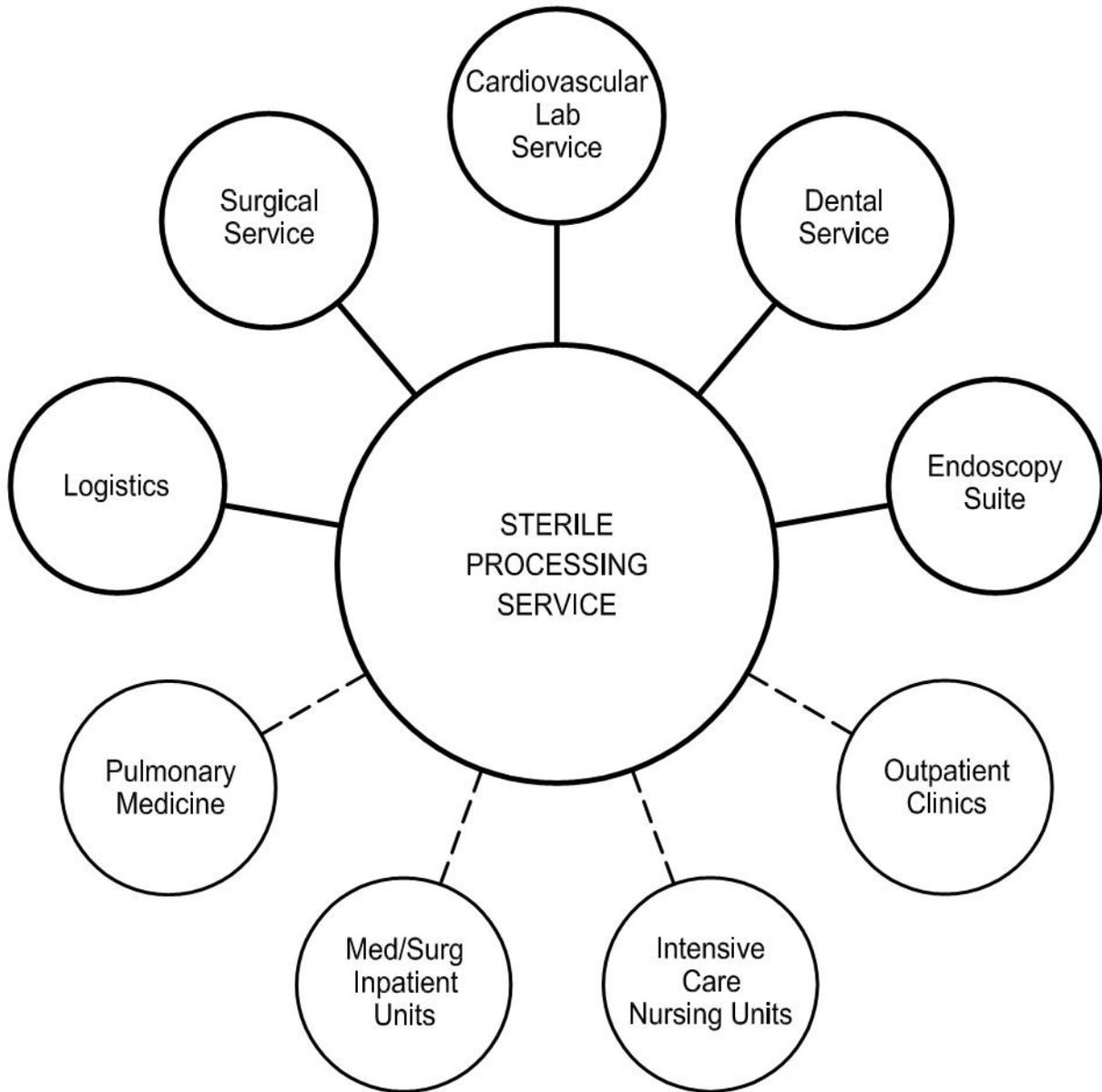
Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, one accessible shower @ 28 NSF, ABA clearances, and circulation.

6 DESIGN CONSIDERATIONS

- A. Net-to-Department Gross Factor: The net-to-department gross factor (NTDG) for the Sterile Processing Service is **1.30**. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square foot.
- B. Plan SPS for flexibility and adaptability to accommodate future expansion, storage capacity and equipment / technology. To the extent possible, provide space and utilities for one additional instrument washer-decontaminator and one additional steam sterilizer.
- C. Special consideration should be given to planning external circulation patterns in order to control the flow of clean and soiled traffic in and around SPS. The internal workflow of SPS should be unidirectional so that soiled items flow progressively to the clean work areas of the department. Similarly, clean items should flow to sterilization, to storage, to case cart staging, and finally dispatch/issue.
- D. Consider security requirements early on in design. This would include controlled access points and entrances, and video monitoring in strategic locations.
- E. SPS design and location must provide the complete, physical separation of soiled materials and activities from clean activities associated with instrument assembly, preparation, sterilization, storage and dispatch.
- F. SPS may be located on the same level and contiguous to the Surgical Suite. Alternatively, the two departments are most often stacked vertically to facilitate direct connections with dedicated clean and soiled elevators.

- G. A single elevator cannot be used for both clean and soiled transport. Dumbwaiters may be an alternative to supplement elevators, or to move only instruments or supplies. Cart lifts or floor loading dumbwaiters are not recommended in new construction as they limit staff interaction and communication, which are requirements for both SPS and Surgery.

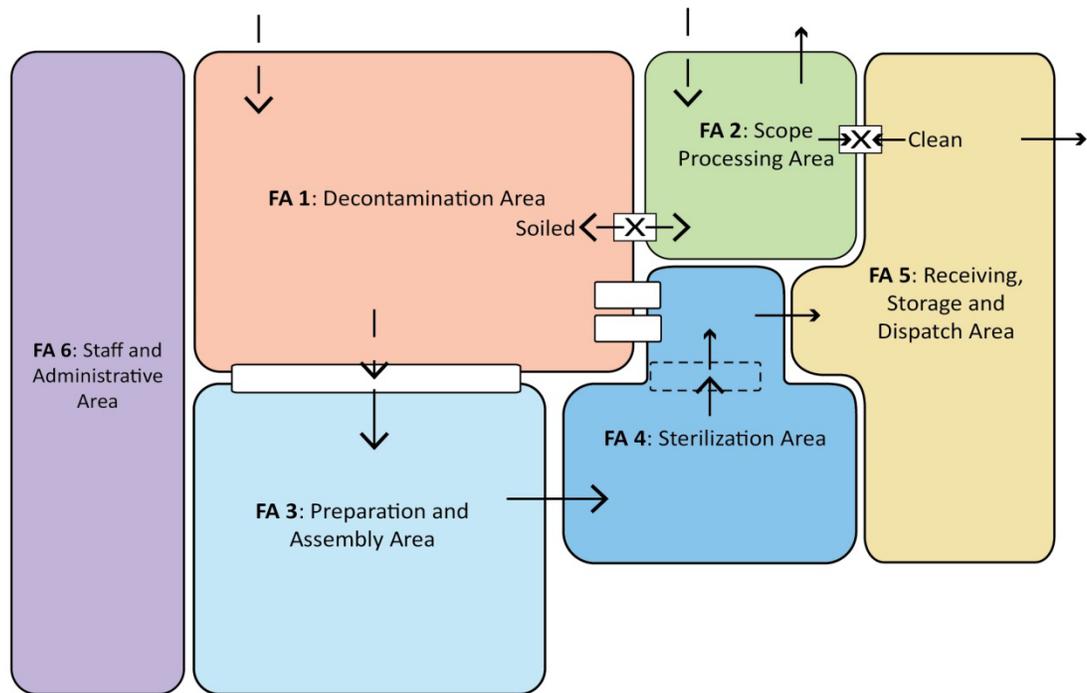
7 FUNCTIONAL RELATIONSHIPS



LEGEND

-
- Most Critical Adjacency
 - - - - - Less Critical Adjacency

8 FUNCTIONAL DIAGRAM



- — — — —> Soiled Process Flow
- > Clean Process Flow
- > Sterile Process Flow
- - - - -> Staff Flow
- ⊠ Vertical Circulation