

CHAPTER 286: VETERANS HEALTH ADMINISTRATION: SURGICAL SERVICE

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1 PURPOSE AND SCOPE

This document outlines Space Planning Criteria for Chapter 286: Surgical Service. It applies to all medical facilities at the Department of Veterans Affairs (VA).

2 DEFINITIONS

- A. Affiliated: An arrangement whereby a school of medicine or optometry agrees to staff a VA facility with faculty physicians, optometrists, residents and interns / externs. In return, the VA provides the medical or optometry school with a venue to train new physicians / optometrists. In this arrangement, the VA retains responsibility for the care of its patients while the school of medicine or optometry retains responsibility for all graduate level education and training.
- B. Ambulatory Surgery: Surgical procedures that are performed with minimal anesthesia to allow for patients to return home the same day of the procedure to alleviate need for overnight care.
- C. Anesthesia Staff: Anesthesia is administered by the anesthesia staff, which can include anesthesiologists, assistants, residents, technicians, and certified nurse anesthetists.
- D. Charge Nurse: The charge nurse supervises all activities within the individual operating rooms.
- E. Clean Core: Operating rooms are grouped around a clean core. The Clean Core is used for sterile supply storage. This is the cleanest area of the entire Operating Suite. Only staff wearing appropriate surgical attire should be allowed in the Clean Core.
- F. Case Carts: Case Carts are used to bring sterile materials and instruments to the Operating Room.
- G. Concept of Operations: A user-developed guide to the functional operation of the VA healthcare facility. It defines the function of the facility and the scope of medical or optometric services to be provided in the new or remodeled space.
- H. Departmental Net to Gross (DNTG) Conversion Factor: A parameter, determined by the VA for each space planning criteria chapter, used to convert the programmed Net Square Foot (NSF) area to the Department Gross Square Foot (DGSF) area. The **DNTG** Departmental Conversion Factor for **Surgical Service** is **1.70**.
- I. Fluoroscopy: Utilization of radiographic equipment within the operating room, whether it is a ceiling mounted fluoroscopy unit or a portable "C" arm.
- J. 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.

- K. 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, Residency and / or Externship Program Areas.
- L. 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 Concept of Operations; 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 in SEPS.
- M. Nurse Manager: This nurse is the administrative supervisor of the entire Operating Room Suite. She / he is responsible for maintaining the scheduling of patients for operations, as well as purchasing and maintaining supplies and equipment for use in the Operating room Suite. The office of the nurse manager is located inside the Surgical Suite.
- N. Nursing Staff: Every surgical procedure is staffed by at least one registered nurse and scrub personnel. The circulating nurse performs functions outside of the sterile field in the room.
- O. Operating Room (OR): A room designed and equipped to perform a wide variety of operative procedures. This includes most types of surgical procedures but especially those involving administration of anesthesia, multiple personnel, recovery room access, and a fully controlled environment. Operating Rooms can be General Purpose, including general and neuro surgery, or Special Purpose, including cardiovascular and orthopedic surgery, and other surgeries which utilize additional personnel and/or special equipment requiring a larger space.
- P. On-Site Sterilization: Sterilizers for flash sterilization should be located as close as possible to the Operating Rooms, preferably in a shared space adjacent to the Operating Rooms with immediate access from the semi-restricted corridor for service.
- Q. Perfusionist: This person oversees the operation of the heart / lung machine during cardiovascular surgery.
- R. Phase II Recovery: Post procedure recovery area that is utilized by patients that have had minor localized anesthesia or who have come out of Phase I Recovery. Recliner lounge chair are frequently utilized in this area as opposed to patient beds.
- S. Scrub Alcoves: The scrub sink alcoves are located in the semi-restricted corridor.
- T. Surgical Physician: The surgical team leader (surgeon) is the one under whose supervision the operation is performed. Assisting the surgeon in major operations are one or more assistants, frequently the surgical residents.
- U. Post Anesthesia Care Unit (PACU): Patient cubicle area for the recovery of patients after surgical procedures.

- V. Program for Design (PFD): A space program based on criteria set forth in this document and specific information about Concept of Operations, workload projections and staffing levels authorized.
- W. 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 85% 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.
- X. SEPS (VA-SEPS): Acronym for Space and Equipment Planning System, a digital tool developed by the Department of Defense (DoD) and the Department of Veterans Affairs to generate a Program for Design (PFD) and an Equipment List for a VA healthcare project based on specific information entered in response to Input Data Questions. VA-SEPS incorporates the propositions set forth in all VA Space Planning Criteria chapters. VA-SEPS has been designed to aid healthcare planners in creating a space plan based on a standardized set of criteria parameters.
- Y. 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. Workload Projections or planned services / modalities for a specific VA medical center, hospital or satellite outpatient clinic project are provided by the VA Central Office (VACO) / VISN CARES Capacity Projection Model. The workload projections are generated by methodology based upon the expected veteran population in the respective market / service area. 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.
- B. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas of the Surgical 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.
- C. These criteria are subject to modification relative to development in the equipment, medical practice, vendor requirements, and subsequent planning and design. The selection of the size and type of Surgical Support equipment is determined by VACO and upon Veterans Health Administration (VHA) anticipated medical needs.
- D. The Surgical Service provides facilities (surgical suite) for surgical intervention for both inpatients and ambulatory care patients. The Surgical Service is composed of the following Functional Areas:

1. Administrative/Staff Offices, and
2. A surgical suite comprised of operating rooms (ORs) and associated support areas (inpatient and ambulatory), a Cystoscopy Suite (Cysto.), and Postanesthesia Recovery Room Facilities (PAR). The basic surgical suite consists of:
 - a. Two general operating rooms and operating room support
 - b. Ambulatory surgery support space.
 - c. A Cystoscopy Suite and Cystoscopy Suite support
 - d. Postanesthesia Recovery Room Facilities (PAR)

The surgical suite that will not perform Ambulatory surgery in the Surgical Suite will provide the following as a minimum:

- a. Two general operating rooms and operating room support space
- b. Ambulatory surgery support space
- c. A PAR

E. Room capacity per year should be based on:

$$\frac{\text{Operating days per year} \times \text{Hours of operation per day}}{\text{Number of hours/procedure}} = \text{Number of annual procedures}$$

1. The general planning model for VA facilities assumes 250 Operating Days per Year and 8 Hours of Operation per Day. Room capacity will fluctuate as hours of operation are modified, i.e., additional capacity may be generated by extending the daily hours of operation within the same physical setting.
2. The Basic Room Efficiency Factor for Surgical Services is 70% for affiliated and non-affiliated.
3. The following chart shows the breakdown of Surgical Services by procedure type

Example: Assume an OR room for Cardiac that averages 6.5 hours per procedure:

$$\frac{250 \text{ operating days per year} \times 8 \text{ hours of operation per day}}{6.5 \text{ hours}} = 308 \text{ annual procedures}$$

A maximum capacity of 308 procedures per year, assuming 100% utilization. However, 100% utilization is not realistic to achieve, thus, it is not realistic as a design standard. Apply Room Efficiency Factor for an affiliated facility:

$$308 \times 70\% = 216 \text{ annual procedures/room.}$$

TABLE 1: WORKLOAD PARAMETER CALCULATION

PROCEDURE	AVERAGE LENGTH OF SURGICAL PROCEDURE (minutes)	UTILIZATION RATE	MINIMUM WORKLOAD TO GENERATE ONE ROOM
Surgical			
Cardiac	390	70%	216
Neuro	390	70%	216
Ortho	270	70%	311
Vascular	210	70%	400
General	150	70%	560
Cysto	90	70%	933

The number of procedures per room will be used as a criteria parameter to calculate the number of rooms in the Space Criteria section of this document.

4 PROGRAM DATA REQUIRED (Input Data Questions)

A. Mission Input Data Statements

1. Is a Nerve Block Induction Room authorized? (M)
2. Is a Drug Distribution System authorized? (M)
3. Is a Post-anesthesia Care, Phase II Recovery area authorized? (M)
4. Is orthopedic surgery authorized? (M)
5. Is a Surgical Service Residency Program authorized? (M)
 - a. Is a Residency Program Director FTE position authorized? (M)
 - b. Is a Library for the Residency Program authorized? (M)
 - c. Is a Conference / Classroom for the Residency Program authorized? (M)
 - d. Is an Exam Room for the Residency Program authorized? (M)
 - e. Is a Viewing Room for the Residency Program authorized? (M)
 - f. How many Student FTE positions are authorized? (S)
 - g. How many Surgical / Anesthesiologist Resident / Intern FTE positions are authorized? (S)

B. Workload Input Data Statements

1. How many annual General inpatient surgical procedures are projected? (W)
2. How many annual General outpatient surgical procedures are projected? (W)
3. How many annual Special Purpose inpatient surgical procedures are projected? (W)
4. How many annual Special Purpose outpatient surgical procedures are projected? (W)
5. How many annual Neurosurgery surgical procedures are projected? (W)
6. How many annual Cardiac surgical procedures are projected? (W)

7. How many annual Cystoscopy procedures are projected? (W)
8. How many annual Vascular surgical procedures are projected? (W)

C. Staffing Input Data Statements

1. How many Anesthesiology Chief FTE positions are authorized? (S)
2. How many Clerical staff FTE positions are authorized? (S)
3. How many Surgical Section Head FTE positions are authorized? (S)
4. How many Surgery Assistant Chief FTE positions are authorized? (S)
5. How many Anesthesiology Assistant Chief FTE positions are authorized? (S)
6. How many Nurse Manager FTE positions are authorized? (S)
7. How many Staff Surgeon FTE positions are authorized? (S)
8. How many Anesthesiologist FTE positions are authorized? (S)
9. How many Nurse Anesthetist FTE positions are authorized? (S)
10. How many Surgical / Anesthesiology Resident FTE positions are projected? (S)
11. How many Operating Room Coordinator FTE positions are authorized? (S)

D. Miscellaneous Input Data Statements

1. How many FTEs will work on peak shift? (Misc)
2. How many FTE positions are not authorized to have office or cubicle space? (Misc)

5 SPACE CRITERIA

A. Reception Areas

1. **Waiting (WRC01)100 NSF (9.3 NSM)**
Minimum NSF; provide an additional 55 NSF per each increment of two projected ORs greater than two.

100 NSF allows for two accessible seats, four standard seats. Additional 55 NSF provides 25 NSF for one accessible seat and 30 NSF for two standard seats.
2. **Reception (RECP1)80 NSF (7.5 NSM)**
Provide one per OR suite.
3. **Toilet, Public (TLTU1)50 NSF (4.7 NSM)**
Provide one for male and one for female.

B. Procedure Areas

Note: Vascular Procedures are included in Special Purpose Operating Rooms as per VA Design Guide.

1. **Operating Room, General (ORGS1)450 NSF (41.86 NSM)**
Provide one for every increment of 560 projected annual general inpatient and outpatient surgical procedures.
2. **Operating Room, Special Purpose (OROS1).....700 NSF (65.0 NSM)**
Provide one for every increment of 311 projected annual special purpose inpatient and outpatient surgical procedures.

Orthopedic Storage Room should be adjacent.

3. **Operating Room, Neurosurgery (ORNS1)**..... **450 NSF (41.86 NSM)**
Provide one for every increment of 216 projected annual Neurosurgery surgical procedures.

4. **Equipment Room, Neurosurgery (ORCM1)**..... **180 NSF (16.7 NSM)**
Provide one per Neurosurgery OR.

Locate adjacent to the Neurosurgery OR.

5. **Operating Room, Cardiac (ORCT1)** **700 NSF (65.10 NSM)**
Provide one for every increment of 216 projected annual Cardiac surgical procedures.

6. **Pump Room, Cardiac (ORCM1)** **180 NSF (17.4 NSM)**
Provide one per Cardiac OR.

Locate adjacent to the Cardiac OR.

7. **Cystoscopy Room (ORCS1)**..... **450 NSF (41.85 NSM)**
Provide one for every increment of 933 projected annual Cystoscopy procedures.

8. **Cystoscopy Instrument Prep / Storage Room (CSIA1)** **200 NSF (18.6 NSM)**
Provide one per every increment of two Cystoscopy Rooms.

C. Surgical Support Areas

1. **Clean Core (ORCW1)**..... **640 NSF (59.9 NSM)**
Minimum NSF; provide one for every increment of two ORs; provide an additional 144 NSF per General or Special Procedure OR.

2. **Nerve Block Induction Room (TRGS1)**..... **200 NSF (18.6 NSM)**
Provide one if authorized in Concept of Operations.

This room will be located off the peripheral corridor and near the entrance to the surgical suite since this is an ambulatory surgery procedure.

3. **Scrub Sink Area (ORSA1)** **55 NSF (5.1 NSM)**
Provide one for every increment of two ORs and Cystoscopy Rooms.

The Scrub Sink Area should be located between two ORs. This area will accommodate four scrub positions to be accessed from the restricted corridor.

4. **Sub-Sterile Room (ORSR1)**..... **95 NSF (8.8 NSM)**
Provide one for every increment of two ORs.

This room may be located between each set of OR's, or adjacent to the OR patient entry. It will contain provisions for the appropriate sterilization equipment

5. **Storage, Orthopedic (OROE1)**.....**150 NSF (13.9 NSM)**
Provide one for every increment of two Special Purpose ORs if orthopedic surgery is authorized in Concept of Operations.

This room provides storage for equipment, splints and plaster compounds utilized in orthopedic procedures, and is to be located adjacent to the Orthopedic OR.

6. **Storage Alcove, Gurney (SRLW1)**.....**24 NSF (XX NSM)**
Provide one per OR.

7. **Supply Room, Clean and Sterile (ORSS1)**.....**80 NSF (7.5 NSM)**
Provide one for every increment of two ORs.

8. **Soiled Holding and Disposal Room (SRHM1)****120 NSF (11.2 NSM)**
Minimum NSF; provide an additional 25 NSF per OR if the total number of ORs is between three and seven; provide an additional 15 NSF per OR if the total number of ORs is greater than seven.

9. **Anesthesia Workroom and Equipment Storage (ANCW1)**.....**160 NSF (14.9 NSM)**
Minimum NSF; provide an additional 70 NSF per OR greater than four.

10. **Storage, Equipment (SRSE1)****160 NSF (14.9 NSM)**
Provide one per Surgical Service.

11. **Control Area (NSTA3)****150 NSF (14.0 NSM)**
Provide one per Surgical Service.

This room is to be located at the staff and patient entry to Service in order to control staff and patient movement.

12. **Frozen Section Laboratory (LBEM2)**.....**100 NSF (9.2 NSM)**
Provide one per Surgical Service.

Provide direct electronic communication to main Pathology Lab.

13. **Radiographic Film Processing Room (XFP01)**.....**120 NSF (11.2 NSM)**
Provide one per Surgical Service.

Contains processing equipment

14. **Receiving, Clean Cart (CHC01)****120 NSF (11.2 NSM)**
Provide one per Surgical Service.

15. **Holding, Soiled Cart (CHS01)****120 NSF (11.2 NSM)**
Provide one per Surgical Service.

16. **Storage, Gas Cylinder (SRGC2)****100 NSF (9.4 NSM)**
Provide one per Surgical Service.

17. **Housekeeping Aides Closet - HAC (JANC1)** **100 NSF (9.3 NSM)**
Minimum NSF; provide an additional 60 NSF if total number of ORs is greater than five.

D. Preoperative Patient and Postoperative Holding Areas

Preoperative Areas

1. **Cubicle, Preoperative Patient (ORPP1)** **100 NSF (7.5 NSM)**
Provide one per OR.

This area may be part of the PAR to achieve maximum flexibility.

Postanesthesia Care Room (PACU) Areas

2. **Cubicle, Patient, PACU (RRSS1)** **80 NSF (7.5 NSM)**
Provide one per OR.

3. **Nurse Station, PACU (NSTA1)** **160 NSF (14.9 NSM)**
Provide one per PACU area

Should contain charting facilities.

4. **Hand-washing Station (SINK1)** **10 NSF (0.9 NSM)**
Provide one per every increment of four PACU patient cubicles.

5. **Utility Room, Clean (UCCL1)**..... **80 NSF (7.5 NSM)**
Provide one per PACU area.

For storage of supplies and equipment.

6. **Utility Room, Soiled (USCL1)**..... **80 NSF (7.5 NSM)**
Provide one per PACU area.

7. **Medication Room (MEDP1)** **80 NSF (14.9 NSM)**
Minimum NSF; provide an additional 20 NSF if a Drug Distribution System is authorized in Concept of Operations.

8. **Toilet, Staff (TLTU1)**..... **50 NSF (4.7 NSM)**
Provide one for each increment of 15 FTE positions authorized. Minimum of 5 authorized FTE positions to provide a Staff Toilet.

9. **Storage, Equipment (SRSE1)** **100 NSF (9.2 NSM)**
Provide one per PACU area.

For storage of stretchers, supplies and equipment.

E. Postanesthesia Care Cubicle Area, Phase II

These spaces should be under the control of the PACU and its Nurse Station.

1. **Patient Cubicle, Postanesthesia Care (RROP1).....50 NSF (4.65 NSM)**
Provide one per OR if PACU Phase II is authorized in Concept of Operations.

Provide space for additional equipment and for clearance of 4 feet on the sides and the foot of the lounge chairs. This space should be under the control of the PACU and its Nurse.

2. **Patient Room, Postanesthesia Care (RRIR1)100 NSF (9.3 NSM)**
Provide one per Postanesthesia Care Cubicle Area, Phase II if PACU Phase II is authorized in Concept of Operations.

Hand-washing station is included in each Postanesthesia Care Phase II Patient Room. This space should be under the control of the PACU and its Nurse.

3. **Hand-washing Station (SINK1).....10 NSF (0.9 NSM)**
Provide one per every increment of four Postanesthesia Care Phase II Patient Cubicles

This space should be under the control of the PACU and its Nurse.

4. **Utility Room, Clean (UCCL1)80 NSF (7.5 NSM)**
Provide one per Postanesthesia Care Cubicle Area, Phase II if PACU Phase II is authorized in Concept of Operations.

This space should be under the control of the PACU and its Nurse.

5. **Utility Room, Soiled (USCL1)80 NSF (7.5 NSM)**
Provide one per Postanesthesia Care Cubicle Area, Phase II if PACU Phase II is authorized in Concept of Operations.

This space should be under the control of the PACU and its Nurse.

6. **Toilet, Patient (TLTU1)50 NSF (4.7 NSM)**
Provide one per Postanesthesia Care Cubicle Area, Phase II, if PACU Phase II is authorized in Concept of Operations.

This space should be under the control of the PACU and its Nurse.

7. **Toilet, Staff (TLTU1)50 NSF (4.7 NSM)**
Provide one per Postanesthesia Care Cubicle Area, Phase II if PACU Phase II is authorized in Concept of Operations.

This space should be under the control of the PACU and its Nurse.

F. Staff and Administrative Areas

1. **Office, Chief Surgical Service (OFC01).....200 NSF (18.6 NSM)**
Provide one per Surgical Service.

2. **Office, Assistant Chief, Surgery (OFA01 / OFA02).....120 NSF (11.2 NSM)**
Provide one per Surgery Assistant Chief FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.

3. **Office, Anesthesiology Chief (OCC01)**..... 150 NSF (13.9 NSM)
Provide one per Anesthesiology Chief FTE position authorized.
4. **Office, Assistant Chief, Anesthesiology (OFA01 / OFA02)**..... 120 NSF (11.2 NSM)
Provide one per Anesthesiology Assistant Chief FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
5. **Office, Head of Surgical Section (OFC01)**..... 150 NSF (13.9 NSM)
Provide one per Head of Surgical Section FTE position authorized.
6. **Office, Staff Surgeon (OFA01 / OFA02)** 120 NSF (11.2 NSM)
Provide one per Staff Surgeon FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
7. **Office, Anesthesiologist (OFA01 / OFA02)**..... 120 NSF (11.2 NSM)
Provide one per Anesthesiologist FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
8. **Office, Nurse Manager (OFA01 / OFA02)**..... 120 NSF (11.2 NSM)
Provide one per Nurse Manager FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
9. **Office, Nurse Anesthetist (OFA01 / OFA02)** 120 NSF (11.2 NSM)
Provide one per Nurse Anesthetist FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
10. **Office, Secretary / Waiting (SEC01)**..... 120 NSF (11.2 NSM)
Provide one per Surgical Service.
11. **Cubicle, Clerical (OFA03)** 80 NSF (7.5 NSM)
Provide one per Clerical FTE position authorized.
12. **Cubicle, Equipment Support (OFA03)** 64 NSF (6.0 NSM)
Provide one per Surgical Service.
13. **Office, Patient Receptionist (OFA01 / OFA02)** 100 NSF (9.3 NSM)
Provide one per Surgical Service; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
14. **Office, Operating Room Coordinator (OFA01 / OFA02)** 120 NSF (11.2 NSM)
Provide one per Operating Room Coordinator FTE position authorized; provide OFA01 if Standard Furniture is authorized or OFA02 if Systems Furniture is authorized.
15. **Dictation Area (OFA03)**..... 15 NSF (1.39 NSM)
Provide one for every four OR.

G. Staff Lockers, Lounge, and Toilets

The spaces below provide programming of Lounge, Lockers, and Toilets at department/service/chapter level. Alternatively, sum all departments/services data for Lockers, Lounges and Toilets, and program space in Chapter 410-EMS Lockers, Lounges, Toilets and Showers. Either/or – do not duplicate space. Provide locker space only for those FTEs without office or cubicle space.

1. **Lounge, Staff (SL001)80 NSF (7.5 NSM)**
Minimum NSF; provide an additional 15 NSF per each FTE position authorized greater than five; maximum 210 NSF.

For less than five FTE combine Lounge facilities with adjacent department or sum in chapter 410. Should be accessible from clean area and Staff lockers

2. **Locker Room, Staff (LR001)80 NSF (7.5 NSM)**
Minimum NSF if number of FTE positions for whom office space is not authorized is between five and thirteen; provide an additional 6 NSF per FTE position authorized for whom office space is not authorized greater than thirteen.

Provide one-way changing flow from Staff Entrance to semi-restricted area. Provide locker space only for those FTEs without assigned office or cubicle space. For less than five FTE combine Locker Room facilities with adjacent department or sum in chapter 410.

3. **Toilet, Staff (TLTU1)50 NSF (4.7 NSM)**
Minimum one; provide an additional staff toilet for each increment of five FTE positions authorized greater than fifteen.

H. Residency Program

1. **Office, Surgery Residency Program Director (OFA01 / OFA02).....120 NSF (11.2 NSM)**
Provide one if a Surgery Residency Program Director FTE position authorized and if authorized in Concept of Operations; provide OFA01 if standard furniture is authorized; or, OFA02 if systems furniture is authorized.
2. **Cubicle, Surgical / Anesthesiology Resident (OFA03)64 NSF (6.0 NSM)**
Provide one per Surgical / Anesthesiology Resident FTE position authorized and if authorized in Concept of Operations.
3. **Cubicle, Student (OFA03)64 NSF (6.0 NSM)**
Provide one per student FTE position authorized.
4. **Exam Room (EXRG3).....120 NSF (11.2 NSM)**
Provide one if an Exam Room is authorized for the Residency Program.
5. **Viewing Room (XVC01).....60 NSF (5.9 NSM)**
Provide one if a Viewing Room is authorized for the Residency Program.

6. **Library (CRR01)** **140 NSF (13.0 NSM)**
Provide one per Surgical Suite and if authorized in Concept of Operations.
7. **Conference Room / Classroom (CRA01)**..... **300 NSF (27.9 NSM)**
Provide one per Surgical Suite and if in Concept of Operations.

6 PLANNING AND DESIGN CONSIDERATIONS

- A. Departmental Net-to-Gross factor (**DNTG**) for **Surgical Service** is **1.70**. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square feet.
- B. The number of operating rooms and recovery beds and sizes of the support areas shall be based on the expected surgical workload.
- C. The surgical layout shall be located and arranged to prevent non-related traffic through the suite.
- D. The operating room suite will be designed with a sterile core to have no cross traffic of clean supplies and soiled/decontaminated areas. Flow of clean and soiled/decontaminated supplies and equipment to suite itself shall be designed to not compromise universal precautions or aseptic techniques.
- E. Operating Rooms can be arranged in multiple ways depending on organizational concepts. Refer to sketches 1, 2, 3 and 4 for further definitions of these concepts. One of those concepts is to be chosen based on existing or proposed space available. Review these sketches with planning team members. Chosen method can be further defined in future directives.
- F. The location of Operating Suite elements for advanced and proper flow of patients, materials and staff: refer to sketch 5 for a typical layout.
- G. The surgical suite will be divided into three distinct areas; unrestricted, semi-restricted, and restricted.
- Unrestricted: Street clothes are permitted, and the area to have control point for monitoring entry for patients, staff, and materials.
 - Semi-restricted: Surgical attire is required, and traffic is limited to authorized personnel. Storage and work areas for processing of instruments and corridors leading to the restricted areas are included.
 - Restricted: these areas include the operating room, clean core and scrub sinks. Surgical attire and hair covering is required, along with masks where open sterile supplies are utilized.
- H. Operating Rooms are to have the following:
- Provision will be made for a CCTV system
 - Communication needs are as follows: patient data computer outlets, nurse call/intercom system, telephone with speakerphone capability.
 - All floors of the ORs to be homogeneous with a coved floor base extending no less than 6" above finish floor. No floor drains are permitted.

- I. The movement of patients and materials within the Surgery Suite should be physically separated. Clean Supplies, such as medical/surgical and linen, shall be separate from the retrieval of used/unused soiled supplies and equipment (instruments).
- J. Patient corridors should be a minimum of 8'-0" wide, to accommodate wheelchairs, equipment, or gurneys.
- K. Consideration should be given to the effects of building vibration, as building vibration could interfere with the accuracy of patient testing.

7 FUNCTIONAL RELATIONSHIPS

Relationship of Surgical Service to services listed below:

TABLE 2: FUNCTIONAL RELATIONSHIP MATRIX

SERVICES	RELATIONSHIP	REASON
Elevators	1,4	H,I
SICU	1,4	A,C,G,H,I
Cardiovascular Lab	3	A,C
Surgical Nursing Units	3	H,I
Endoscopy	3	A,B,C,I
Radiology	3	A,H
Ambulatory Care	3	G,H
Biomed Engineering	3	A,B
Supply Service-SPD	3	B
Pathology and Laboratory Medicine Service	3	
Pharmacy	3	

Legend:

Relationship

1. Adjacent
2. Close / Same Floor
3. Close / Different Floor
Acceptable
4. Limited Traffic
- X. Separation Desirable

Reasons:

- (Use as many as appropriate)
- A. Common use of resources
 - B. Accessibility of supplies
 - C. Urgency of contact
 - D. Noise or vibration
 - E. Presence of odors or fumes
 - F. Contamination hazard
 - G. Sequence of work
 - H. Patient's convenience
 - I. Frequent contact
 - J. Need for security
 - K. Others (specify)
 - L. Closeness inappropriate

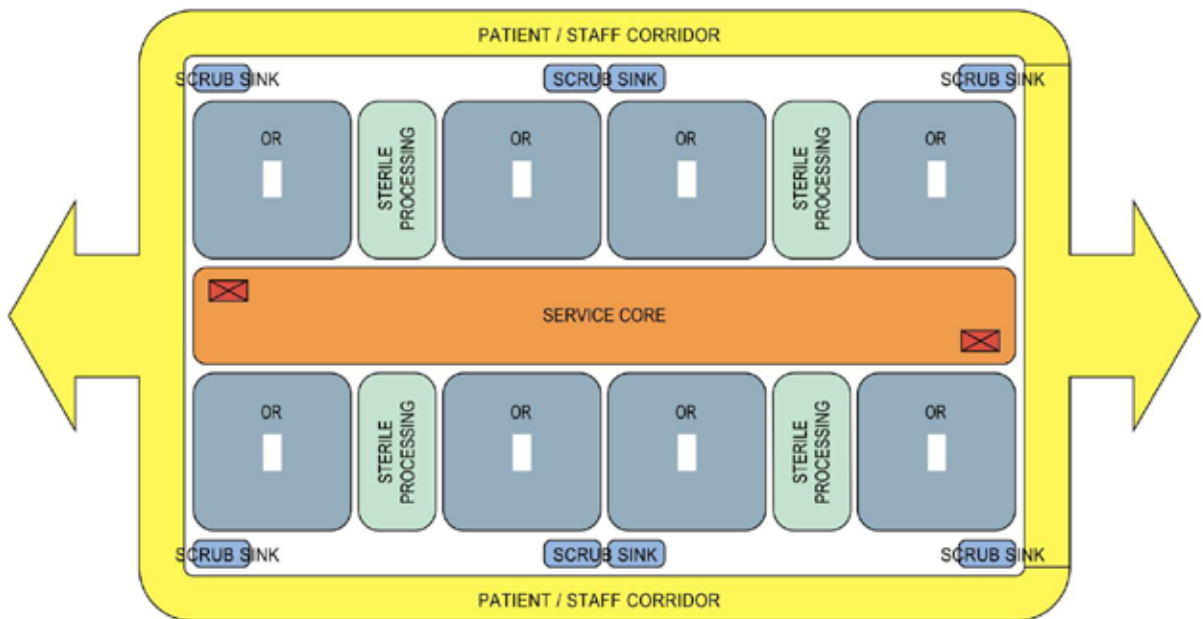
8 FUNCTIONAL DIAGRAM 1: Clean Core, Outer Racetrack

Advantages

- Simple orientation
- Central Equipment / Supply Support Space
- Clear Separation of Patient / Staff / Supply Traffic
- Multiple access point to ORs

Disadvantages

- Practical Limit to # of Operating Room's off core



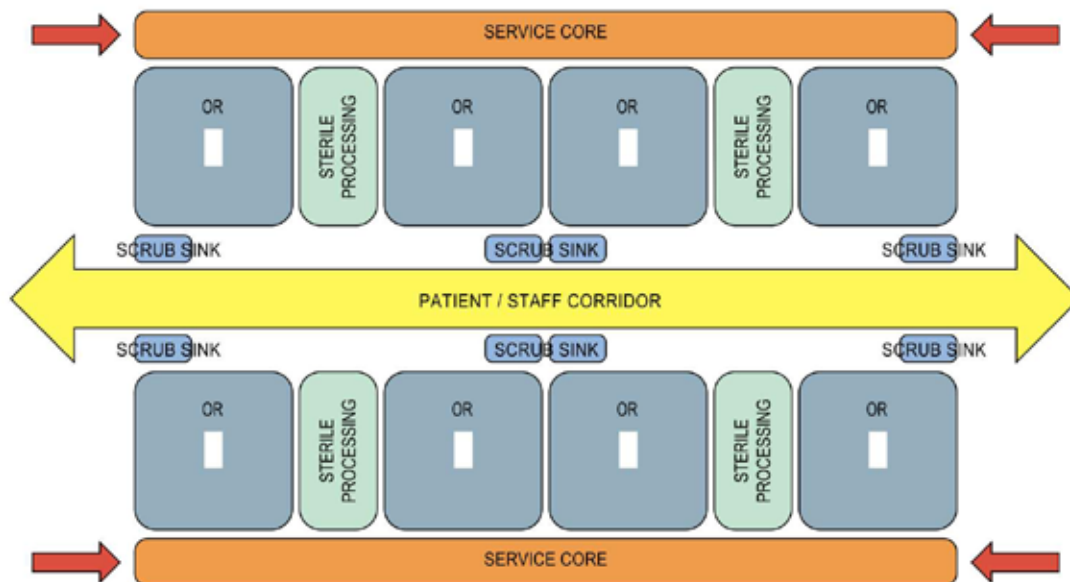
9 FUNCTIONAL DIAGRAM 2: Single Corridor, Separate Core

Advantages

- Direct circulation & clear orientation
- Direct access from service cores to all ORs
- Separation of service and patient traffic

Disadvantages

- Multiple services cores
- Congestion in single corridor



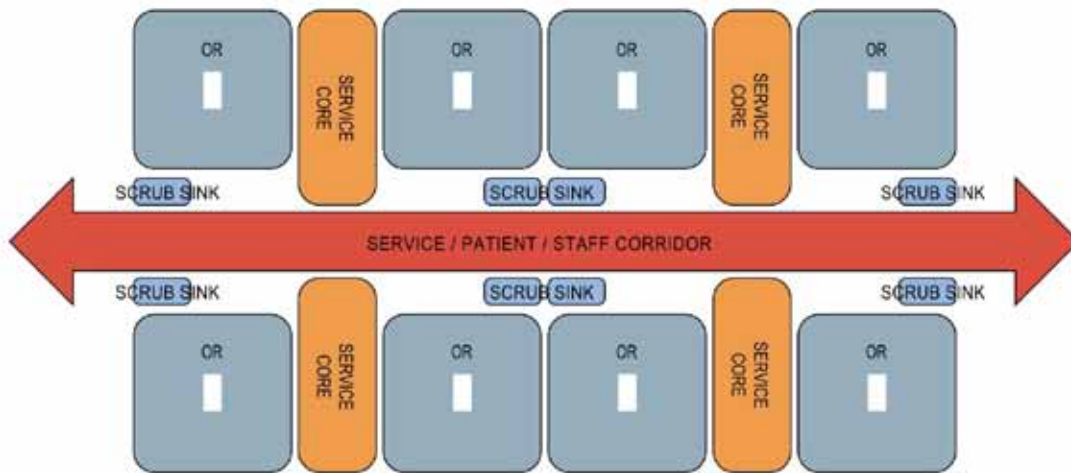
10 FUNCTIONAL DIAGRAM 3: Single Corridor, No Core

Advantages

- Direct circulation & clear orientation
- Direct access from service cores to all ORs

Disadvantages

- Multiple services cores
- Congestion in single corridor
- No separation of Patient / Staff / Material Flow



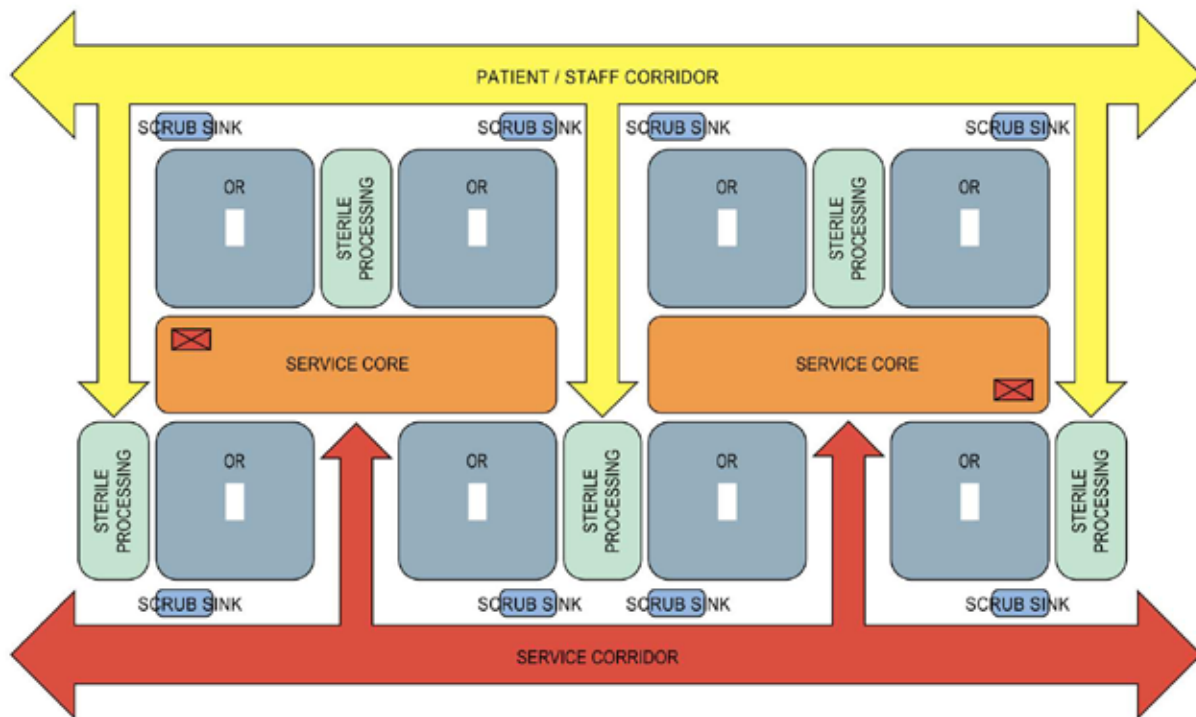
11 FUNCTIONAL DIAGRAM 4: Core with Pods 1

Advantages

- Segregate by Sub-Specialty
- Clear Separation of Patient / Staff / Supply Traffic
- Multiple access point to ORs

Disadvantages

- Practical Limit to # of Operating Room's off core



12 FUNCTIONAL DIAGRAM 5: Core with Pods 2

Advantages

- Segregate by Sub-Specialty
- Clear Separation of Patient / Staff / Supply Traffic
- Multiple access point to ORs

Disadvantages

- Practical Limit to # of Operating Room's off core

