

K. PATHOLOGY Updated 29 Jan 93

1.0 PURPOSE AND SCOPE

This document specifies the space planning criteria for the Pathology Department/Service in DoD medical facilities.

Pathology Department criteria provide the specialized environment and facilities for the receipt, processing, and qualitative/quantitative laboratory analysis of all inpatient and outpatient pathological specimens and tissues and the corresponding recording and reporting of test results to appropriate services.

2.0 DEFINITIONS

Clinical Pathology - Encompasses the functions of chemistry, urinalysis, hematology, microbiology, serology, and blood banking.

Anatomical Pathology - Comprises histopathology, cytology, electron microscopy, photomicrography, autopsy, and cytogenetics.

Laboratory Module - Represents the space, storage, and equipment required for two technicians to work comfortably and efficiently. It provides each technician with sit-down work space with chair and storage. Shared services include a sink and refrigerator and space for placement of free standing equipment without encroaching upon circulation space.

College of American Pathologists (CAP) work units are standardized measures of how many minutes of technical and clerical time is required for a given laboratory technique. The values can be found in the College of American Pathologists' "Manual for Laboratory Work load Recording Method." Pathology work load is reported in CAP work units in the MEPRs data system.

3.0 POLICIES

The concept of operation for pathology is based on the separation of the physical facilities into two functional divisions: clinical and anatomical pathology. It is also based on the central control for specimen processing, whereby specimens are received and logged at one point and distributed to appropriate work centers based on priority of accomplishment required. Reports of analysis are returned to the same central control point which completes the chain of action. The work areas are composed primarily of laboratory modules in standard configurations grouped according to function.

The standard operation of pathology is based on 8 hours per day, 5 days per week. However, the STAT Lab portion of clinical pathology normally operates 24 hours per day, 7 days per week. Specimen receiving includes desk space, machine stand and access to a refrigerator/freezer, material handling terminal and cart storage if applicable.

Transcription provides space for central dictation recording equipment and individual areas for transcriptionists including area for a desk, dictation outlet, computer terminal (if possible), and machine stand.

Record storage provides space for the file storage of laboratory records and reports in a standard filing cabinet arrangement.

Storage space is provided for open shelf storage units with an entirely separate, securable storage area for hazardous materials.

Media and solution preparation -- space is provided for a standard laboratory module with a fume hood.

Decontamination includes space for work counter with sink, storage and sufficient space and circulation to accommodate soiled material carts.

Open lab space is provided for standard laboratory modules grouped without dividing partitions.

Blood bank -- space is provided for separate, environmentally remote standard lab modules with sufficient space and access

for unit blood refrigerator and attendant alarm systems, as well as space for donor areas.

Microbiology labs -- space is provided for standard laboratory modules with separate, enclosed modules for each discipline; each provided with sufficient space for a laminar fume hood. Space for a prefabricated type, insulated walk-in incubator is provided.

Histopathology -- Work centers include space for gross specimen cutting area with sink, accessible instrument display, fume hood, dictation apparatus and storage; a paraffin impregnation area with sufficient space and clearance to accommodate automated machines and block cooling; a frozen sections preparation area, including space for microtome knives and cryostats; a slide staining and preparation area with slide storage and fume hood; microscope viewing area, including space for dictation. This allowance does not dictate the distribution of the space to a specific function; rather, it provides adequate space that will be allocated to functions during the design process.

Tissue specimen storage space is provided with open shelving for the storage of boxed paraffin blocks and bottled gross specimens, and an area for slide files.

Cytology lab space is provided for standard laboratory modules within one enclosed area, including space and access for fume hood, slide staining and separation and storage.

Autopsy/morgue space is provided for an autopsy table with four-sided access, a gross cutting area, scale, limited refrigeration facilities and storage facilities for specimen displays. Space is also provided for refrigerated storage of cadavers and access to the roll-out shelves when fully extended. Cleanup space is provided including a scrub sink, clean supply and instrument storage, and work counter.

Number and Mix of Laboratory modules.

a. Medical Expense and Performance Reporting System (MEPRs) weighted procedures will be used for determining the number and types of Laboratory Modules. These weighted procedures are equivalent to CAP "work units" and will be referred to as such.

b. The number of Laboratory Modules in each functional area is determined by projected annual CAP work units according to the following formula:

$$\text{Laboratory Modules} = (\text{annual CAP work units}) / 132,000$$

where 132,000 represents an estimate of the number of annual minutes of work time supplied by two technicians (i.e., it is a two-man module). For space planning purposes, expansion is permitted in "half-modules" using rounding to the nearest .5. For example, if the formula give 1.3 modules, space can be planned for 1.5, while if the formula gives 1.2, space can be planned for 1.0. For convenience, a table relating CAP work units to Laboratory Modules (in units of .5) is given below.

c. Laboratory Module Planning Table

<u>CAP Work Units Per Year</u>	<u>Lab Modules</u>
33,000 - 99,000	0.5
99,001 - 165,000	1.0
165,001 - 231,000	1.5
231,001 - 297,000	2.0
297,001 - 363,000	2.5
363,001 - 429,000	3.0
429,001 - 495,000	3.5
495,001 - 561,000	4.0
561,001 - 627,000	4.5
627,001 - 693,000	5.0
693,001 - 759,000	5.5

759,001 - 825,000	6.0
825,001 - 891,000	6.5
891,001 - 957,000	7.0
957,001 - 1,023,000	7.5
1,023,001 - 1,089,000	8.0

Graduate medical education and other training programs will be considered when planning training space. Individual study and specific justification must be provided by the facility.

Additional lab modules - space factor - for training - individual study. Comment in Section 3.

4.0 PROGRAM DATA REQUIRED

Total laboratory CAP work units per year

Total laboratory CAP work units for the following categories:

Chemistry
 Hematology
 Immunology/Serology
 Urinalysis
 Microbiology
 Parasitology/feces
 Blood banking
 Histopathology
 Cytology
 Virology
 AIDS
 Staffing requirements

Annual autopsy procedures
 Annual average deaths
 Annual whole blood donations
 Annual phoresis donations

5.0 SPACE CRITERIA

Laboratory Modules: Number and Sizes

Laboratory modules in each of the following areas are planned according to the table given above in section 3.0, based upon annual CAP work units in each area, and are sized according to the following table:

<u>Module</u>	<u>NSF</u>	<u>Comments</u>
Chemistry	280	All modules
Hematology/ Immunology	170	170 include
Serology	200	refrigerator/ freezer space.
Urinalysis	200	
Microbiology	250	
Parasitology/feces	250	

Blood Banking	160
Histopathology	220
Cytology	160
Virology	250

If the projected annual CAP work units in any of the above areas is less than 33,000 the areas may be combined as follows to determine the number of regional lab modules.

Group A -	Chemistry, Urinalysis
Group B -	Hematology, Immunology/Serology, Blood Banking
Group C -	Microbiology, Parasitology/feces, Virology
Group D -	Histopathology, Cytology

In each group where there is a work load, a minimum of one module is provided.

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FUNCTION	NSF AUTHORIZED	PLANNING RANGE/COMMENTS
<u>Technical Work Elements</u>		
Control	120	per department
Specimen Receiving	100	minimum. Add 20 NSF for each 10 lab modules in excess of 20
Specimen	100	minimum. Add 20 NSF for each 35
Collection Blood Drawing		specimens or portion thereof in excess of 70 per day (includes space for litter)
Waiting Area	80	minimum. 16 per seat, 25 per handicapped seat 1 seat per 10 specimens per day, 80 NSF minimum, 5% of seating is handicapped
Specimen Storage	100	plus 2 NSF per lab module
Urine Collection Toilet (M)	50	1 wc, 1 lav single occupancy per increment of 30 specimens/day
Urine Collection Toilet (F)	50	1 wc, 1 lav single occupancy per increment of 30 specimens/day
Blood Donor Area Interview Area	80	1 per 4 blood stations
Donor station	80	Per station. # of stations = <u>Whole Blood donors/day x 25 /360</u> (work minutes per day) + <u>Phoresis</u> /2 per day
Recovery Area	150	per facility
Computer	*	Special study required
Transcription	100	minimum or 80 NSF per assigned clerk if more than 1
Storage/Records	50	minimum; 50 per assigned clerk
Control/Clerical	100	minimum, or 80 NSF per transaction control clerk programmed over 1
Storage/Central	50	minimum; or 10 NSF per lab module
Media and Solution Prep	220	per department with over 25 lab modules

Decontamination Room	100	add 50 NSF for each 25 lab modules in excess of 25
Room in excess of 25	Room in excess of 25	Room
Glassware Washing	100	Special justification required.
Satellite Lab		Satellite Lab Individual study required. Will be portion of the total Lab Allocation. There will be no additional space programmed.
<u>Clinical Pathology</u>		
Incubation Room	10	per microbiology and parasitology module over 2 modules
<u>Anatomical Pathology</u>		
Tissue Storage	60	per histology module,
	40	per cytology module; 50% may be noncontiguous to lab.
Autopsy:		
	280	per table # tables = $\frac{\text{annual autopsy proc}}{200}$
change area	100	lockers
	30	Per fixture; staff toilets
	30	per shower
body holding	25	per space. # spaces = $\frac{\text{annual average deaths}}{50}$ (round at 0.2)(one minimum)
body prep area	100	1 per facility where no autopsy room is provided.
ante/viewing room	100	1 per facility
tissue storage	25	minimum; 1 NSF per annual autopsy proc.
<u>Staff Support</u>		
Pathological Waste Holding	40	plus 20 NSF per 10 modules greater than 15. 150 NSF maximum
Archives and Record		Space allocation required. Individual study.
Lockers		
Male	100	minimum. add 6.5 NSF per locker for each FTE mbr. over 15.
Female	100	minimum. add 6.5 NSF per locker for each FTE mbr. over 15.
Toilet		
Male (wc, lav)	60	30 NSF per fixture (lav, wc) per 20 men
urinal	30	one per 40 men or fraction thereof
Female (wc, lav)	60	30 NSF per fixture per (lav. wc) 15 women
On Call Alcove	100	
Lounge	100	minimum; Plus 10 NSF per tech greater than 10, 200 NSF maximum
Housekeeping	40	per 30 modules or portion thereof
<u>Administrative Areas</u>		
Offices:		
Chief of Pathology	140	
Secretary/Waiting	120	additional justification required for more than 1
NCOIC 100	100	
Conference Room	100	plus 20 NSF per officer. max 200.
Pathologist	100	

Laboratory Office	100	minimum, or 80 NSF per officer greater than 1
Bulk Supply Rec/Ship	.	Space allocation required. Individual study.
<u>Teaching Facilities</u>		
Instructor's Office	100	1 per instructor
Resident's Office	100	minimum or 80 NSF per resident
Teaching Files	300	1 per teaching facility
Library Classroom /Conference	300	minimum or 250 plus 10 NSF per resident. 1 per teaching facility.
<u>Medical Photography</u>		
Non-teaching Hospitals		
Dark room	150	includes film processors and enlarger
Print processor Area	100	black and white and color
Studio	400	
Change area	80	Includes two booths and space for four patient lockers
Supply & storage	100	
NCOIC	100	If more than one man shop
Administration	100	minimum or 80 NSF per employee
Teaching Hospitals		
Dark room B & W	100	includes film processors
Dark room Color	100	includes film processors
Print processor	100	black and white
Print processor	100	Color prints
Color Slide Processor	130	
Copy Laboratory	600	Includes light side of copy camera.
Darkroom	300	Includes processing sink for copy camera negatives.
Finishing Area	150	For assembly and distribution of final projects
Full Length Studio	400	for full length medical photography
Medical Studio	150	
Change area	80	Includes two booths and space for four patient lockers
Supply and storage		
Supply Admin	100	minimum or 80 NSF per assigned tech.
Walk-in refrigerator	100	Film and supply breakout
Walk-in Freezer	125	Film, and paper storage
Chemistry Store	120	
Dry Storage	120	
Secure Storage	50	Combine with supply admin for storage of Photographic equipment.
NCOIC	100	If more than one man shop
Administration	100	minimum or 80 NSF per employee