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Sterile Processing Department Staffing Matrix

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Background/Significance

Today's healthcare environment raises difficult challenges to impose a business approach on a fluid healthcare system that focuses on quality and patient safety . Surgical instrument processing is critical to safe, high-quality surgical care yet has received little attention in the medical literature. This is evident in trying to establish a staffing matrix for Sterile Processing Departments (SPD). Data compiled in SPD computer systems and case volumes are only a part of the picture.

The rise of laparoscopic and minimally invasive surgery along with Robotics have generated the need for a new approach to staffing SPD's that supports the Operating Room as well as clinics, the ED, interventional radiology, and off-site areas. In conjunction with the expansion of the SPD role came the explosion of loaner equipment use and an increase in the number of different sterilization parameters and the need to validate and confirm sterilization and decontamination practices throughout the SPD process.

The SPD encompasses five areas: decontamination, inspection, assembly, sterilization and storage/supply with the goal of delivering sterile instruments, sets, and equipment 100% of the time with no errors. While the department is equipment dependent, the main focus of this study is on the staffing needed to accomplish this mission.

Objectives

In reviewing the literature a staffing matrix was not found that encompasses the expanding responsibilities of SPD. This proposed staffing model will incorporate the number of operating room tables and operating times per table, the various ancillary functions, constant surveillance and adherence to infection control practices, and staff training.

Assumptions

By establishing a set of assumptions, a standard can be set that will facilitate safe and effective care based on best practices.

First Assumption: SPD management is not part of the SPD staffing mix. This is the basis for building Full Time Equivalents (FTE) on the clinical side. This does not include shift supervisors who do perform SPD duties and are essential in maintain a line of responsibility within the department.

Second Assumption: Decontamination personnel should be separate from performing duties in other areas of SPD when assigned to Decon.

Third Assumption: SPD personnel should be reserved for strictly SPD functions and not other duties.

Fourth Assumption: Work-motion studies provide a baseline for a staffing matrix. The Manpower Review Board, 2008 proposed a formula of 1.5 Full Time Equivalent (FTE) per OR table per 12 hour shift. Swenson, 2013 determined that 1 FTE could process 24-32 trays in an eight hour period.

Fifth Assumption: Much of SPD activity is time sensitive and not volume oriented. Extra personnel may be needed to meet the deadlines. There is also a need to read a biological after three hours before releasing sets. Add-on rates vary from institution to institution and may range from 10 - 35% of the daily schedule depending on the type of hospital.

Sixth Assumption: Unplanned staffing issues are a fact of life. While it is an easy task to develop vacation schedules, issues such as family emergencies, child-care problems, and un-planned medical events are a factor in today's healthcare environment.

Seventh Assumption: Training and quality improvement are a critical part of SPD activity.

Eighth Assumption:. Any number of unplanned interruptions such as searching for missing or replacing broken/dull instruments, answering the phone, filling implant trays, and re-focusing on rapid-turnovers are standard and can occur while trying to inspect and assemble a set.

Ninth Assumption: FTE's are based on an eight hour day. Any hours of operation outside the standard eight hour day to support ancillary services need to be considered.

Tenth Assumption: SPD appropriate staffing is a hospital priority. Swenson, 2013 suggested a SPD staffing benchmark of 95-105%.

Proposed Staffing Matrix

PROPOSED SPD STAFFING MATRIX			
Staffing Requirement	SMALL 5 Table OR	MEDIUM 15 Table OR	LARGE 20+ Table OR
SPD Director	---	---	1
SPD Manager	1	1	1
SPD Assistant Manager	---	1	---
SPD Floor Coordinator	1	2*	3*
SPD Tech	5	17.5	24.2
SPD Float Tech	1	1.5	1.8
SPD Supply Tech	---	1	1
SPD Loaner Tech	---	1	1
SPD IT Tech (Shared with Periop)	---	---	0.5
TOTALS	8	23	30.5
TOTALS	---	25	33.5
* Ideally would be extra personnel but realistically would come out of SPD Tech staffing. Job descriptions will vary according to size of OR.			

Each SPD needs to assess its assigned functions and review them for appropriateness. This includes the number of OR's, hours of operation, ancillary support areas, loaner instrumentation volume, training/education needs, infection control and process improvement initiatives. In addition, utilizing a 1 FTE per OR table ratio for an eight hour period will be the standard staffing criteria.

Conclusions/Implications

Developing a staffing matrix for a SPD can be established by analyzing of the scope of the operation and organizing assumptions acknowledging special consideration to functionality in addition to volume. It is as much a matter of functionality as it is of volume. While the basis of a staffing matrix in the manufacturing world revolves on both time and volume criteria, the criteria for SPDs is complex involving processes from outside the department. It is possible by following a set of assumptions to build a staffing matrix for SPD that is tailored to the individual hospital's circumstances, actual practitioners and evidence-based practice.

References

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3. Swenson, D. (2013) Utilizing the Productivity Analysis Module. Biomedical Instrumentation &Technology: March/April 2013. Vol.47, No @pp163-166.
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