

Implementation of a Multidisciplinary OR Management Team Improves Overall Operating Room Efficiency

Mark E. Hudson, M.D., Linda Handley, M.H.A., Brent Dunworth, CRNA, Jan Smith, M.D., and John P. Williams, M.D.



Department of Anesthesiology, University of Pittsburgh Medical Center, Pittsburgh, PA, USA, 15215



ABSTRACT

Introduction: As healthcare organizations become increasingly dependent upon surgery contribution margins to drive revenue, increasing pressure is placed on surgical services to improve surgical throughput. In spite of information systems and logical block scheduling assignments that have allowed improved predictive scheduling and reduction of equipment and personnel conflicts, the operating room remains an unpredictable environment with a complex interplay between surgery, anesthesiology, and nursing, often with conflicting goals and incentives. The aim of this paper is to illustrate the impact of the implementation of a multidisciplinary daily OR management team on OR efficiency.

Methods: To actively manage the daily operating room schedule we created a multidisciplinary OR management team comprised of, a "Charge" OR nurse, "Charge" CRNA, and "Charge" Anesthesiologist, who are continually in communication throughout the day, reviewing and managing the ongoing surgical schedule, with the collective goal of efficient use of all available OR resources, allowing for optimum OR access, and a reduction in patient delays. Gap-time, or ALL non-utilized time between cases in the same room, was chosen as our measure of improved performance. Gap-time was calculated both by service line, and overall, and compared between fiscal year 2003 and fiscal year 2005.

Results: Fiscal Year 2003 was compared to Fiscal Year 2005. There was a 4.56 % increase in hours/OR/day. Gap time decreased for every service line, with an overall decrease in gap time of 44.18%. Using an OR Hospital expense of \$6.84/minute, and an average gap reduction time, we calculated the total annual dollar savings to the Hospital.

Discussion: Historically, surgical services committees have focused on "turnover" time or the time between same surgeon cases, when searching for ways to improve OR efficiency. The impact of reducing turnover times on increasing caseload, or reducing cost is unclear. Gap time, which includes all non-utilized time between any cases in the same room, was significant at our institution and was clearly affected by OR nursing, anesthesiology, and surgical issues. Our study demonstrates that a multidisciplinary team charged with constant vigilance and management of issues affecting OR efficiency is cost effective and reduces non-productive time.

Our Problem

Overall OR efficiency limited by inability to dynamically manage the OR schedule on the day of Surgery.

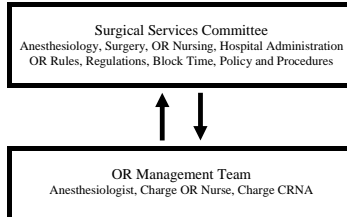
Operating Room is a Complex, dynamic, adaptive system with component parts with distinct functions, goals, and incentives but highly dependent on interactions of those components

Case Sequencing Difficulties

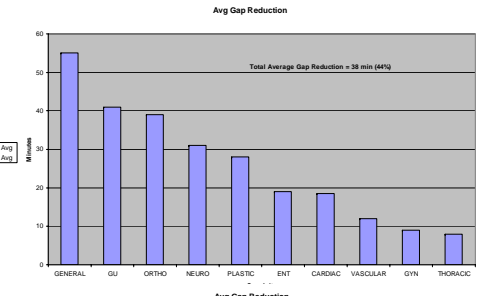
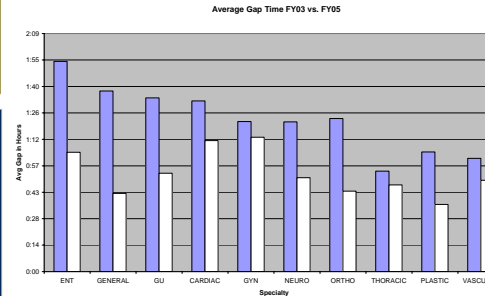
- Surgeon Availability
- Subspecialty staff availability
- Equipment Availability
- Preoperative Preparation

Overall Objectives

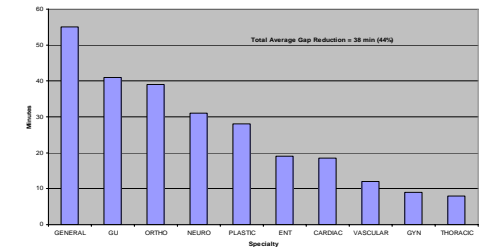
- Improve Overall Surgical Throughput
- Improve OR Cooperation / Decrease Conflict
- Establish Priority Based Resource Management focused on Patient Safety and OVERALL Access



Results



	Gap reduction in minutes - prior time	\$ Saved
GENERAL	55	771,962
GU	41	275,533
ORTHO	39	472,699
NEURO	31	164,119
PLASTIC	28	57,284
ENT	19	18,657
CARDIAC	19	76,364
VASCULAR	12	25,199
GYN	9	1,477
THORACIC	8	48,965
		\$1,858,178



Conclusions

Conclusions:

Implementation of an OR Management team is cost effective and will decrease gap time.

Process improvement efforts will impact the Hospital's financial performance, improve OR efficiency, and reduce non-productive time.

An efficient OR schedule and efficient OR resource utilization depends on constant vigilance and resource management while running the daily OR schedule.

Next Steps:

Use Operating Room/Anesthesiology Key indicator reports for all system Hospitals.

Continue to monitor trends.

Use indicator reports to educate Management, Physicians, and staff