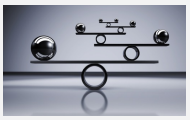
The Distracted Surgeon: Lessons Learned From Running Multiple Rooms: Is It Really More Effective Or A Bad Practice Resulting In Poor Patient Care



Patrick A. Stone, MD
Professor of Vascular Surgery
Program Director of Vascular Surgery Fellowship
Vice Chair of Operations

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No Disclosures

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Multitasking facts

98% of people can't multitask effectively

Multitasking lowers productivity by 40%

Multitasking lowers IQ by 10 POINTS

same as a sleepless night

and 2 times worst than smoking weed

3

Covering Surgeon

Background:

1999-2004: Charleston WV: General Surgery: Ali AbuRahma- Partner/Mentor/Adopted father

Critical portions: Dr AbuRahma present

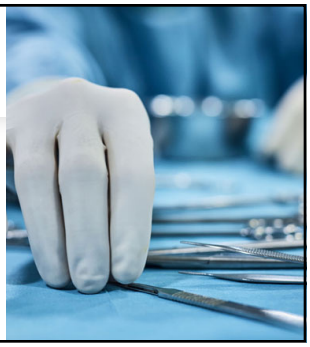
Open/ Close: Critical portions endarterectomy-patch… PTFE 30 min

2006-2017- Charleston WV: In my mind critical portions clear to me

WVU Charleston: Community Hospital with Secondary Medical campus of WVU

- Work Layout: All on 2nd floor
  - Operating Room- Major cases- CEA, Fem pop etc
  - CDL- Cath lab: Angiograms, Tunneled cath, EVAR
  - Same day surgery- Vein ablation, AV access
  - 13 cases – most (cath lab- OR- ….
    - Stressful and learned process
  - Covering surgeon Concept never made into system process in 2017. Timing was critical to not have patients waiting under anesthesia for case to progress
- 2018- Current- Nashville, TN: Vanderbilt University Medical Center:

  Work Layout: 3rd Floor: Everything: Vein ablation – Open aortic surgery.



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Covering who or what? Who is first, what is on second?

2018

Message: Tom Naslund— can you be a covering surgeon?

Sure..

Then: What is covering?

Epic message Inbox:: Message at end of day- Sign your covering attestation.

My message back to Vanderbilt compliance bot.

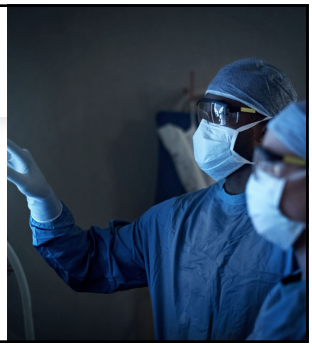
Attesting what? And whether?

1 week later. Epic message. We have identified on overlapping surgery that you were the primary surgeon.

In order to bill for both surgeries a covering surgeon must be added-included in the operative note.

Please revise your operative note to include the covering physician

Me: Message to partners Who was around last wed 9 am and readily available?



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Typical day by my simple mind

- 7:00 see patient in precp answering any questions, Mark surgical site
- 7:30 scheduled start- ?
- Move in room 7:45
- Wait on anesthesia because they are running multiple rooms and vascular always last- red headed step child like a truly am
- Anesthesia lacking the ability to find IV or some other delay
- Prep and drape, timeout case starts 8:15
- Procedure over 9 am
- Patient leaves room 910 dressing, drapes removed, and other delays of moving
- 30 min to dismantle instruments, clean and new instruments, multiple people taking breaks or sexting or …
- Wrong trays pulled
- Anesthesia more shenanigans
- Back in room 9:50 asleep at 10:00 and prepped and draped 10:15
- Meanwhile I could have done a small case in cath lab, one in between in cath lab so on so forth and maybe one add on before first case.
- **Also how will I be able to do the 2-3 add on cases, and if any intraoperative consults.**

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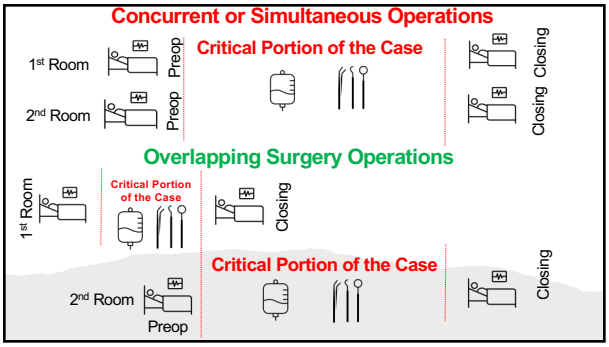
Concurrent or Simultaneous Operations
1st Room
Preop
Critical Portion of the Case
Closing
Closing
2nd Room
Preop
Overlapping Surgery Operations
1st Room
Critical Portion of the Case
Closing
Critical Portion of the Case
2nd Room
Preop
Closing

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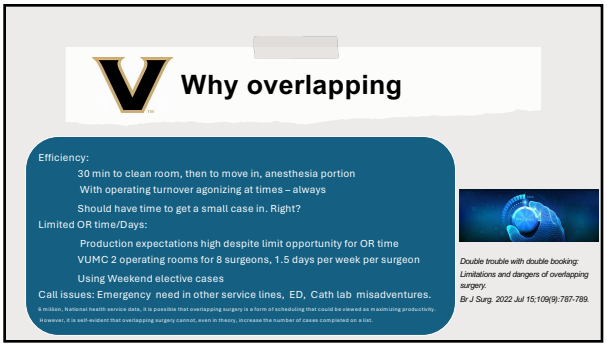
Why overlapping
Efficiency:
30 min to clean room, then to move in, anesthesia portion
With operating turnover agonizing at times – always
Should have time to get a small case in. Right?
Limited OR time/Days:
Production expectations high despite limit opportunity for OR time
VUMC 2 operating rooms for 8 surgeons, 1.5 days per week per surgeon
Using Weekend elective cases
Call issues: Emergency need in other service lines, ED, Cath lab misadventures.
6 million, National health service data, it is possible that overlapping surgery is a form of scheduling that could be viewed as maximizing productivity. However, it is self-evident that overlapping surgery cannot, even in theory, increase the number of cases completed on a list.
Double trouble with double booking: Limitations and dangers of overlapping surgery.
Br J Surg. 2022 Jul 15;109(9):787-789.

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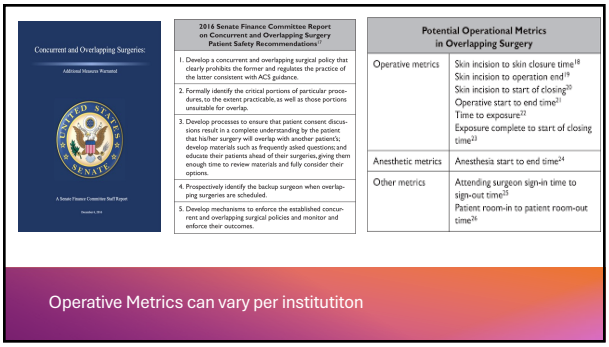
Concurrent and Overlapping Surgeries:
Additional Measures Warranted
A Senate Finance Committee Staff Report
2016 Senate Finance Committee Report on Concurrent and Overlapping Surgery Patient Safety Recommendations[17]
1. Develop a concurrent and overlapping surgical policy that clearly prohibits the former and regulates the practice of the latter consistent with ACS guidance.
2. Formally identify the critical portions of particular procedures, to the extent practicable, as well as those portions unsuitable for overlap.
3. Develop processes to ensure that patient consent discussions result in a complete understanding by the patient that his/her surgery will overlap with another patient's; develop materials such as frequently asked questions; and educate their patients ahead of their surgeries, giving them enough time to review materials and fully consider their options.
4. Prospectively identify the backup surgeon when overlapping surgeries are scheduled.
5. Develop mechanisms to enforce the established concurrent and overlapping surgical policies and monitor and enforce their outcomes.
Potential Operational Metrics in Overlapping Surgery
Operative metrics
Skin incision to skin closure time[18]
Skin incision to operation end[19]
Skin incision to start of closing[20]
Operative start to end time[21]
Time to exposure[22]
Exposure complete to start of closing time[23]
Anesthetic metrics
Anesthesia start to end time[24]
Other metrics
Attending surgeon sign-in time to sign-out time[25]
Patient room-in to patient room-out time[26]
Operative Metrics can vary per instituition

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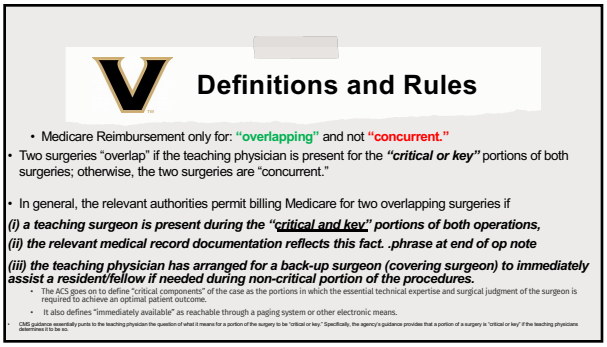
Definitions and Rules
• Medicare Reimbursement only for: "overlapping" and not "concurrent."
• Two surgeries "overlap" if the teaching physician is present for the "critical or key" portions of both surgeries; otherwise, the two surgeries are "concurrent."
• In general, the relevant authorities permit billing Medicare for two overlapping surgeries if
(i) a teaching surgeon is present during the "critical and key" portions of both operations,
(ii) the relevant medical record documentation reflects this fact. .phrase at end of op note
(iii) the teaching physician has arranged for a back-up surgeon (covering surgeon) to immediately assist a resident/fellow if needed during non-critical portion of the procedures.
• The ACS goes on to define "critical components" of the case as the portions in which the essential technical expertise and surgical judgment of the surgeon is required to achieve an optimal patient outcome.
• It also defines "immediately available" as reachable through a paging system or other electronic means.
• CMS guidance essentially punts to the teaching physician the question of what it means for a portion of the surgery to be "critical or key." Specifically, the agency's guidance provides that a portion of a surgery is "critical or key" if the teaching physicians determines it is to be so.

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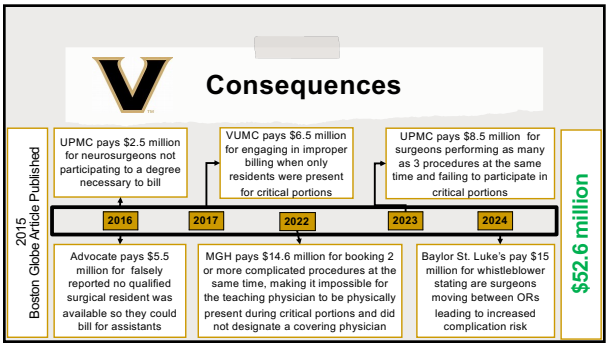
Consequences
2015 Boston Globe Article Published
UPMC pays $2.5 million for neurosurgeons not participating to a degree necessary to bill
VUMC pays $6.5 million for engaging in improper billing when only residents were present for critical portions
UPMC pays $8.5 million for surgeons performing as many as 3 procedures at the same time and failing to participate in critical portions
2016
2017
2022
2023
2024
Advocate pays $5.5 million for falsely reported no qualified surgical resident was available so they could bill for assistants
MGH pays $14.6 million for booking 2 or more complicated procedures at the same time, making it impossible for the teaching physician to be physically present during critical portions and did not designate a covering physician
Baylor St. Luke's pay $15 million for whistleblower stating are surgeons moving between ORs leading to increased complication risk
$52.6 million

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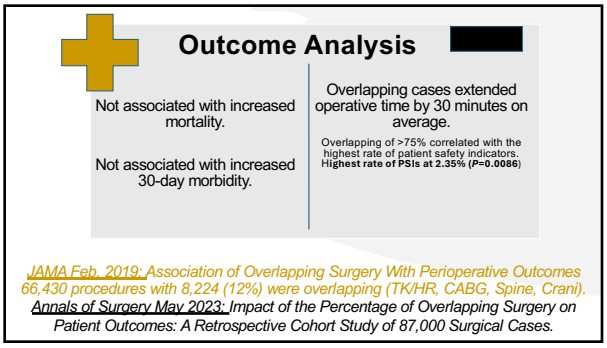
Outcome Analysis
Not associated with increased mortality.
Not associated with increased 30-day morbidity.
Overlapping cases extended operative time by 30 minutes on average.
Overlapping of >75% correlated with the highest rate of patient safety indicators.
Highest rate of PSIs at 2.35% (P=0.0086)
JAMA Feb. 2019: Association of Overlapping Surgery With Perioperative Outcomes
66,430 procedures with 8,224 (12%) were overlapping (TK/HR, CABG, Spine, Crani).
Annals of Surgery May 2023: Impact of the Percentage of Overlapping Surgery on Patient Outcomes: A Retrospective Cohort Study of 87,000 Surgical Cases.

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Proactive Approach

- No opportunity to schedule elective simultaneous cases.
  - Contrasted with Neurosurgery, Orthopedics & Neuro Intervention.
- Vascular Surgery operates solely in the OR.
- Periodically through day a nonvascular room may become available to have window of add on cases
- Consent & identifying a covering surgeon if appropriate, during timeout.
  - One attending on campus in an office setting available to serve as a covering physician.

Potential Pitfalls

- "Immediately available."
  - ACS: Pager or EMR system means
- Staff perceptions- they often don't understand process and what covering surgeon means.
- Understanding the "covering surgeon" requirement. (not always captured)
  - Ex: Overlapping spine exposures, & emergencies.
- Lack of robust data analysis.
  - Variation in case mix, specific to vascular.

VUMC Experience

Consistently YOY 10% of procedures require a covering surgeon.

Overlapping procedures were:
20% amputations.
20% central venous catheters.
25% angiograms.

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Public and Patient Perception

Attitudes of the General Public

Survey
1400 With median age of 33 yo

Key Findings-
< 4% aware of the practice in surgery
30% was supportive of practice of OS
> 90% of respondents

- Attending should discuss OS preoperatively
- Should Define critical portions
- Document what portions present during the procedure

JACS- 2017- Kent et al. Public perception of overlapping surgery.

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VUMC: Department of Plastic surgery

Insight to how patients responded postoperatively to questions about informed consent process, 6 weeks after surgery, with discussion of patient's thoughts and perceptions. N=12

Three themes shaped how participants felt about OS:

- Trust in their surgeon
  - Factors contributing to trust included personal research and the surgeon's experience.
- Worries about OS
  - Frequently cited concerns were unpredictability of complications during operations and the surgeon's divided attention.
- Understanding of OR personnel roles
  - Two participants inaccurately understood personnel roles, believing the surgeon did most or all the hands-on work while trainees were observers.

Most participants felt a high or neutral level of comfort toward OS and indicated trust as the reason.

Journal of surgical research June 2023- Liu et al- - Overlapping surgeries from the patient perspective

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Current Research at VUMC:

A Langerman MD, ENT

- Overlapping surgery.
- Patient perspective little known- what they want to told.
- Including interviewing and surveying patients and surgeons to answer these questions.
- Also include how potential restrictions of overlapping surgery could impact patient care.
- Results will be used to develop a roadmap for surgeons, patients, policymakers and to provide information to guide, informed consent, and ethical practices of overlapping surgery.
- 2 Grants secured for this research

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Closing Points

- Balancing and orchestrating multiple rooms can create additional stress and " open tabs on the surgeon"
- Keeping a surgeons check list. Discussing with family postop etc, seeing next patient preop can become tricky.
- Limited Data available on safety specific to vascular surgery- Systems are required to have
  - Consents appropriately detailed to include overlapping surgery language
  - Timeouts to include appropriate covering surgeon.
  - Attestation of covering surgeon was immediately available if needed.
  - Attestation that surgeon was present during critical/key portion of surgery- .phrase
  - Institutions to define critical portions of procedure.
- Select the right patients.
  - High risk cases likely not appropriate and cardiac surgery specifically has shown to have potentially worse outcomes.
  - The best patient should be medically stable and undergoing a routine surgical procedure. (Infrequent complex procedures with less consistency of operative course and time)
  - To be cautious, overlapping surgeries are best handled by experienced surgeons or ? Not at all.

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THANK YOU

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