

Patient Safety Tip of the Week

November 10, 2015

Weighing in on Double-Booked Surgery

A recently published Boston Globe investigative report ([Abelson 2015](#)) on double-booked surgery at the MGH (Massachusetts General Hospital) has raised serious concerns about the practice of attending surgeons in academic medical centers having two surgical cases ongoing simultaneously. Though the report is as much about hospital politics and power struggles and the manner in which we educate and train our next generation of surgeons, it exposes a controversial patient safety issue.

First, a disclosure is in order. Having done my neurology residency at the MGH, I have the greatest respect for the tradition, history, and outstanding clinical and educational work done at the MGH. And the MGH does good patient safety work. In fact, two of our last 4 Patient Safety Tips of the Week (the one on the trend toward increased use of Dilaudid and the one on medication errors in the OR) were based upon research coming out of the MGH. Perhaps if the Globe report were about another hospital we might come down even harder on the controversial practice. But we will try to maintain our objectivity in the discussion that follows.

The practice, also known as **concomitant surgery** or **overlapping surgery**, typically but not exclusively occurs in teaching hospitals. When it occurs in non-teaching hospitals it would be where a physician assistant, specifically credentialed and privileged by the hospital, is delegated to perform specific portions of a surgical procedure. Policies on such require the attending surgeon to be present during the critical portion of the surgery in each of the two cases.

The report cites famed cardiac surgeon Michael DeBakey as the epitome of a surgeon moving from OR to OR doing key parts of surgery on multiple patients. It notes that other specialties, particularly orthopedics, looked at such a model as being very efficient and adopted key components of it.

The Globe report highlights the cases of several patients who had adverse outcomes from their surgery who were unaware at the time that their attending surgeons had been “double-booked”. In fact, the most important theme running through the report is that most patients are unaware that their attending surgeon might not be present during their entire surgery and may be doing surgery on another patient at the same time.

The report goes on to detail how the MGH addressed (or failed to address) complaints about the safety of concomitant surgery that were raised by several anesthesiologists, residents, and a prominent orthopedic surgeon. The latter became a pariah and was criticized for his “crusade” against the practice and was eventually terminated from the MGH after providing redacted medical records to the media.

The MGH has responded with a [fact sheet](#) and multiple posts on its website. It notes that it has done a [review](#) of concomitant surgery cases done in calendar year 2014 and found that the rate of complications was no higher than for cases of single (non-overlapping) surgery. Moreover, it did revise its [policy](#) and procedure on concomitant surgery in 2012 and notes that the new policy has served as a model for other academic medical centers.

We’ve been sticklers when it comes to accountability of the surgeon for the entire course in the OR. In the early 1990’s, we had a case in which a surgeon phoned the OR and told the anesthesiologist to go ahead and begin induction because he would be there shortly, only to cancel the case because a vital imaging study was not available. The patient thus unnecessarily underwent what some might consider the riskiest part of any surgery (i.e. the anesthesia). Fortunately, no harm came to the patient. But we instituted a policy after that requiring surgeons to sign a statement in the patient chart to the effect “I am physically present in the OR and have all the materials I need to proceed” before any patient would undergo anesthesia. Yes, there was some grumbling from surgeons but it’s hard to argue against common sense. A few years later, after a case in which intraocular lenses were transposed between patients, we established one of the earliest protocols for the timeout and identification of patient, procedure, laterality, etc. It served as a model when New York State first developed its “timeout” protocol and that served as a model for ultimate development of Universal Protocol by The Joint Commission.

Below are several of the concerns we have about concomitant surgery from a patient safety perspective:

The Gray Zone

Definition of “**the critical portion of the surgery**” is the gray zone in both the MGH policy and the CMS policy (described later). The MGH puts the onus on department heads to come up with definitions for each of a variety of surgical procedures. But if I’m a patient with a retained surgical item, the critical portion of the surgery may have been the closing “count” and wound closure, for which my surgical attending may not have been “required” to be present.

Yes, there are times during surgery that complications, emergencies, and unexpected circumstances are more likely to occur. Yet anyone who has spent any time in OR’s or analyzing perioperative adverse events will attest to the fact that those occurrences may pop up at the most unexpected times.

Timeouts

Absent from the MGH policy on concomitant surgery are comments about the surgical timeout process. While it is likely these might be included in a different policy, like their timeout or Universal Protocol policy, there should be specific reference to the timeout process in this policy. The attending surgeon should be an active participant in the initial timeout in every case he/she is responsible for. Moreover, when the attending surgeon switches from one case to another there must be an additional timeout, just like there must always be additional timeouts when other surgeons may come in for part of a case or when there is any other change in medical personnel. This should apply even when the attending surgeon was an active participant in the original timeout because events may have occurred in the interim during his/her absence.

Post-procedure debriefing

If the attending surgeon leaves one OR prior to completion of the case he/she is obviously not going to participate in the post-op debriefing. Thus, in at least half the double-booked cases the key individual (attending surgeon) is not part of the debriefing. We consider the debriefing to be a very important patient safety tool (see list of our prior columns on debriefings listed at the end of today's column).

In debriefings you are basically asking "What went well?", "What didn't go well?" and "What could we do better next time?". You'll often identify the need to fix broken equipment or ensure the availability of appropriate backup instruments. Sometimes it's something simple like tray set-ups or equipment set-ups that interfered with the surgeon's movements during the procedure. And you need to be sure that someone follows up on issues identified and communicates back to the group when they are fixed. Also, make sure you identify at the debriefing any problems you had with team communication during the procedure.

Absence of the attending surgeon from such debriefings (or lack of presence of that surgeon from substantial portions of the entire surgery) obviously is a missed opportunity to improve future care.

The debriefing is also an opportunity for the attending surgeon to discuss issues with the resident or fellow who may have been a major participant or even the primary surgeon in the case.

Duration of surgery

The Boston Globe report cited anesthesiologists complaining that patients often had to wait, while still under anesthesia, for considerable periods while their attending surgeon was elsewhere. The Globe cites an e-mail noting that such waits for the attending surgeon while the patient is under anesthesia may sometimes be as long as 2 hours.

We've done several columns discussing the complications that may occur as the duration of a surgical procedure increases (see list of our prior columns on surgical duration listed at the end of today's column). Our March 10, 2009 Patient Safety Tip of the Week

[“Prolonged Surgical Duration and Time Awareness”](#) discussed time unawareness during many surgeries. In addition to the potential impact on infectious complications, we noted that there are other potential patient safety issues related to prolonged surgical duration such as DVT, decubiti, hypothermia, fluid/electrolyte shifts, pulmonary complications, nerve compression, compartment syndromes, and rhabdomyolysis. Long-duration cases also increase the likelihood of personnel changes that increase the chance of retained foreign objects or retained surgical items (see our August 19, 2014 Patient Safety Tip of the Week [“Some More Lessons Learned on Retained Surgical Items”](#)). And the fatigue factor comes into play with longer cases, increasing the likelihood of a variety of other errors.

But the biggest risk is for surgical site infections. Surgical case duration is one of the few modifiable risk factors for **surgical infections**. A number of studies in the past have demonstrated an association between perioperative infection and the duration of the surgical procedure. In our January 2010 What’s New in the Patient Safety World column [“Operative Duration and Infection”](#) we noted a study ([Proctor et al 2010](#)) which found the infectious complication rate increased by 2.5% per half hour and hospital length of stay (LOS) also increased geometrically by 6% per half hour.

So any case where the procedure is put on hold while waiting for a surgical attending is putting the patient at unnecessary risk for a variety of complications.

Multitasking

We physicians often take pride in our ability to multitask. Such pride is probably misplaced. Any human activity that requires attention to two different scenarios is prone to error. Some will argue that the two surgeries involved are typically quite similar in nature. That actually makes it much more likely that details from one case may be transposed to the other case. For example, in orthopedic surgery it might be very easy to mistakenly call for an implant of a specific size (or other characteristic) that was appropriate for the “other” patient but not this patient.

Infection Control

The MGH policy mentions nothing about the expected infection control standards for concurrent surgeries. We would anticipate that any surgeon leaving an OR must remove gloves, gown, masks and any other protective gear, then perform appropriate hand hygiene and don entirely new gear before entering the next OR. Knowing habits of surgeons (and others) in multiple OR environments, we are willing to bet that workarounds are common and shortcuts taken.

The role of CMS

If we were doing a root cause analysis, we’d eventually drill down to the role played by CMS (Centers for Medicare and Medicaid Services). In 2006 CMS revised its guidance

on billing by physicians in teaching hospitals ([CMS 2006](#)). In that document it does discuss when a teaching surgeon may bill for “overlapping” surgeries: “In order to bill Medicare for two overlapping surgeries, the teaching surgeon must be present during the critical or key portions of both operations. Therefore, the critical or key portions may not take place at the same time. When all of the key portions of the initial procedure have been completed, the teaching surgeon may begin to become involved in a second procedure. The teaching surgeon must personally document in the medical record that he/she was physically present during the critical or key portion(s) of both procedures.”

But this is a **billing** document. Proponents of concomitant surgery often point to this document as CMS endorsing a standard of care. Whether it was actually endorsing a standard of care or not, it clearly set the stage for the issue of money entering into the equation. It basically set the stage for pitting monetary issues against safety issues.

The educational/training mandate

This summer a surgical “perspective” in the *Annals of Surgery* ([Beasley 2015](#)) defended the practice in the name of training: “The incremental acquisition of surgical competence during training is critically important to maintaining a surgical workforce.” No one can argue with that statement. However, incremental delegation of procedures to residents and fellows and provision of incremental responsibility should not require that the attending surgeon be absent from the room.

The Beasley perspective notes the dearth of objective assessment of the efficacy and safety of concomitant surgery. The MGH’s internal review of its concomitant surgery cases can hardly be considered independent and it has not undergone the scrutiny that would be required by a peer-reviewed journal.

The real truth

When you hear the rationale that concomitant surgery improves efficiency and “gives more patients access to our expert surgeons” it belies the real truth: it’s all about the money. The Beasley perspective even implies that maximizing the skills of the attending surgeon and improving efficiency might be a great way to achieve national goals of delivering cost-effective care. Really? In their defense, they do admit that the practice of concomitant surgery needs further study. But shouldn’t we be doing a prospective assessment to see if such practice is safe rather than retrospectively trying to show that it’s not safe?

The ethical issue

And then there is the ethical issue (which is really the most important issue). The biggest revelation in the Boston Globe report was that the patient was usually unaware that their attending surgeon might not be present for their entire surgery. It’s one thing to tell a patient during informed consent that residents and fellows and others will be involved in their surgery and may perform substantial portions of the surgery. But failure to tell them

that their attending surgeon may be in a totally different room doing surgery on another patient is a huge ethical breach. Quite frankly, no patient in their right mind should agree to have a major surgical procedure knowing that the attending surgeon, in whom they have placed their trust, will not be in the OR for the duration of their surgery.

Our Take

The MGH probably happened to be in the wrong place at the wrong time. This report probably could have been done at dozens of academic hospitals across the country. It is a practice that has become frighteningly too abundant. We'd like to see a moratorium on the practice until a well-designed prospective study can tell us that the practice is effective, efficient and, most importantly, safe for patients.

We would not personally agree to have surgery with an attending surgeon who might be leaving our procedure to perform surgery on a different patient in a different room. And we don't know many well informed patients who would. The Boston Globe Spotlight Team has done us all a service in revealing this "dirty little secret".

Update: See all our columns on double-booked, concurrent, or overlapping surgery:

- November 10, 2015 "[Weighing in on Double-Booked Surgery](#)"
- November 29, 2016 "[Doubling Down on Double-Booked Surgery](#)"
- December 13, 2016 "[More on Double-Booked Surgery](#)"

And our "[Overlapping Surgery Checklist](#)"

See our prior columns on huddles, briefings, and debriefings:

- April 9, 2007 "[Make Your Surgical Timeouts More Useful](#)"
- May 22, 2007 "[More on TeamSTEPPS™](#)"
- December 9, 2008 "[Huddles in Healthcare](#)"
- March 10, 2009 "[Prolonged Surgical Duration and Time Awareness](#)"
- January 11, 2011 "[NPSA \(UK\) 'How to Guide': Five Steps to Safer Surgery](#)"
- March 2009 "[Surgical Team Training](#)"
- April 2012 "[Operating Room Briefings and Debriefings](#)"
- July 31, 2012 "[Surgical Case Duration and Miscommunications](#)"
- January 2014 "[A Tool to Assess Pre-op Briefings](#)"
- July 22, 2014 "[More on Operating Room Briefings and Debriefings](#)"
- March 17, 2015 "[Distractions in the OR](#)"

Our prior columns focusing on surgical case duration:

- March 10, 2009 "[Prolonged Surgical Duration and Time Awareness](#)"

- January 2010 “[Operative Duration and Infection](#)”
- July 21, 2012 “[Surgical Case Duration and Miscommunications](#)”
- August 26, 2014 “[Surgeons’ Perception of Intraoperative Time](#)”
- December 30, 2014 “[Data Accumulates on Impact of Long Surgical Duration](#)”

References:

Abelson J, Saltzman J, Kowalczyk L, Allen S. Clash in the Name of Care. Boston Globe October 26, 2015

<http://apps.bostonglobe.com/spotlight/clash-in-the-name-of-care/story/>

MGH (Massachusetts General Hospital). What is Concurrent/Overlapping Surgery? Fact Sheet.

http://www.massgeneral.org/News/assets/pdf/surgery_fact_sheet.pdf

MGH (Massachusetts General Hospital). Monitoring Outcomes for Procedural Overlap Surgeries at the MGH. 2014

<http://www.massgeneral.org/News/assets/pdf/MonitoringOutcomes.pdf>

MGH (Massachusetts General Hospital). Clinical Policy and Procedures. Perioperative Policy for Concurrent Surgical Staffing of Two Rooms. 10/29/2012

<http://www.massgeneral.org/News/assets/pdf/MGHConcurrentSurgeryPolicy.pdf>

Procter LD, Davenport DL, Bernard AC, Zwischenberger JB. General Surgical Operative Duration Is Associated with Increased Risk-Adjusted Infectious Complication Rates and Length of Hospital Stay, Journal of the American College of Surgeons 2010; 210: 60-65

<http://www.journalacs.org/article/S1072-7515%2809%2901411-2/abstract>

CMS (Centers for Medicare and Medicaid Services). CMS Manual System. Pub 100-04 Medicare Claims Processing. Transmittal 811. SUBJECT: Teaching Physician Services. January 13, 2006

<https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/r811cp.pdf>

Beasley GM, Pappas TN, Kirk AD. Procedure Delegation by Attending Surgeons Performing Concurrent Operations in Academic Medical Centers: Balancing Safety and Efficiency. *Annals of Surgery* 2015; 261(6): 1044-1045

http://journals.lww.com/annalsofsurgery/Fulltext/2015/06000/Procedure_Delegation_by_Attending_Surgeons.5.aspx

 The
Truax
Group
Healthcare Consulting
www.patientsafetysolutions.com

<http://www.patientsafetysolutions.com/>

[Home](#)

[Tip of the Week Archive](#)

[What's New in the Patient Safety World Archive](#)