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EDITORIAL: The Spaces Between the Notes

A Practical-Minded Obsession With the Possibility and Consequence of Failure

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"There is … a central truth in medicine that complicates this tidy vision of mis-deeds and mis-doers: All doctors make terrible mistakes." [Gawande 1999]

WHY WRITE ABOUT THE POSSIBILITY AND CONSEQUENCE OF FAILURE?

The ACGME (Accreditation Council for Graduate Medical Education) in its description of its Outcome Project notes that all training programs "must require its resident to obtain competencies in six areas to the level expected of a new practitioner," and these six competencies include: patient care and medical knowledge; interpersonal skills and professionalism; and systems based practice and practice based learning.

Furthermore, most hospital credentialing systems require evidence of successful adoption and practice of these same six competencies.

In his article entitled "Creating the Educated Surgeon in the 21st Century," Atul Gawande concludes, "We are doctors, not technicians. We must educate ourselves accordingly [Gawande 2001]."

In an earlier era, Galen wrote that we should teach three things in medicine, which include:

- Physics: the science of nature
  (We do well in this realm in medical education these days.)
- Logic: the discipline of thinking
  (We need more of this in medical education.)
- Ethics: the science of action
  (We certainly need more of this discipline in medical education.)

Although a thorough discussion of surgical ethics is not the focus of the current treatise, it is appropriate to ask who defines medical and surgical ethics in the modern era. The answer to that question is, as it has been throughout human history, our public. It is worth noting that societal ethics have changed over time, from the days when Central American indigenous societies thought human sacrifice was acceptable for the purpose of enhancing the fertility of the fields, to modern times when a very different set of principles and expectations exist. Two of the ethical principles that modern societies apply to medical practice are that practitioners are expected to manage the increment of change in practice (that is, we are expected to evolve and improve our practices, though not too much at once) and are expected to have a dedication to learning the lessons of our practices (that is, we are expected to learn from each episode of care, regardless of the outcome). Thus, we have an ethical obligation to learn as much as possible from each patient and each procedure, especially those who have not had the outcome all involved had hoped for.

WHAT SHOULD YOU TAKE AWAY FROM THIS ESSAY?

This essay will address three primary approaches that may be useful in analyzing unexpected or suboptimal outcomes, which include the following strategies at both an informal and formal level:

- Dealing with things that have not gone well;
- Giving feedback to others;
- Optimizing formal outcomes reviews.

THE INFORMAL PROCESS OF REVIEWING OUTCOMES

In his article in The New Yorker entitled "The Physical Genius," Malcolm Gladwell asked, "What do Wayne Gretsky, Yo-Yo Ma, and Charlie Wilson have in common? [Gladwell 1999]" (Each of these people is, or has been, arguably among the best in their respective fields of hockey, music, and surgery.) Gladwell found his answer from a writer less familiar to the reading public, Charles Bosk, in his book Forgive and Remember. Each of these elite performers had "a practical-minded obsession with the possibility and consequence of failure." This assertion may be a surprising one to many, who likely have been brought up with admonitions such as "envision success." Andy Rooney, of CBS's 60 Minutes, once said "we are all proud of admitting small mistakes, as it gives us

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the feeling that we don't make any big ones." However, we must maintain our ability to admit, and, more importantly, analyze all of our suboptimal outcomes, both big and small. This approach requires honesty both in one's own mind and with others.

Dr. Robert Frater, a former Professor of Cardiovascular and Thoracic Surgery at The Albert Einstein College of Medicine in New York, has told the story on The Heart Surgery Forum of a surgeon with whom he trained at the Mayo Clinic, Dr. Virgil Councilor. Dr. Councilor was performing a hysterectomy, a procedure he had done thousands of times, and a visiting group of surgeons was observing from the amphitheater. He injured a ureter and promptly addressed the visitors saying, "I have just cut the left ureter, and I will now repair it over a tube." After the operation, Dr. Councilor, as was his habit, reviewed the case with the trainees who had been in attendance. He asked what each had learned. One said that he had learned how to avoid the ureter in an operation of this sort. Another said that he had learned how to repair the ureter over a tube. However, Dr. Councilor said, "No, what you learned today was this: never try to fool the gallery. If you do, you will start off fooling the gallery. Then, you will try to fool those close to you. Then you will fool yourself. And, when you fool yourself, you are finished." We all should strive to emulate Dr. Councilor's honesty and self-reflection.

In addition to honest self-reflection, one must also be able to offer constructive criticism to others. There are many approaches to helping make constructive criticism palatable to those on the receiving end of it. Some effective, and, importantly, disarming preambles to such feedback include:

- "I wouldn't have done it that way ……."
- "I must not have told you clearly what I wanted you to do …."
- "I'm talking about next time ……"
- "If I've done that once, I've done it a thousand times…."

The last of these suggested approaches can be particularly useful, in that it seems to be nearly universally disarming. A closer reading of that line reveals that, while disarming, it doesn't really mean anything. However, that fact does not detract from its usefulness, as the goal is to take the emotion out of the feedback, to allow the listener to go directly to the intended lesson, skipping the very natural tendency to be defensive, which can blunt the acceptance of the message that follows such an initial phrase.

REAL TIME ANALYSIS

It has been said that good surgical outcomes are about 25% dependent on techniques and about 75% dependent on judgment [Spencer 1979]. Thus, one could quip that "optimal outcomes are more about decisions than incisions." Furthermore, it could be said that most of these important decisions rely on managing risks on the front end and are modified over time by reflecting on outcomes both in real time and after the fact. In learning how to sew coronary anastomoses, a trainee must both perform the procedure and learn on the fly. That is, any cardiac procedure done on bypass and especially with an aortic cross clamp in place is conducted under significant time constraints. And, yet, if a trainee is doing the suturing, that person must not only get the anastomotic sutures placed adequately but also she or he must learn the parameters of acceptable suture technique, almost simultaneously. Most who have been in these pressure-packed situations will recall the angst that accompanies them.

It has been said of the founding fathers of the United States that they showed strokes of genius when they created the fundamental documents of government by "starting with human beings and working backwards." Thus, we, either as performers or as teachers, must recognize the reality of human nature. We too must start with human beings and work backwards. A pertinent insight into human nature was made by a former faculty member at the University of Virginia, Elisabeth Kubler-Ross, who wrote a book well known to most in medicine, On Death and Dying, in which she describes the stages of grief. These stages are: anger & denial; bargaining & depression; acceptance & hope [Kubler-Ross 1969].

In describing these stages of grief, Dr. Kubler-Ross was primarily referring to the delivery of a very bad, even fatal, diagnosis or prognosis. However, it's apparent that these stages can be used to deal constructively with receiving any unwelcome news. In fact, recognizing these stages can be useful in the process of effectively absorbing criticism that is meant to be constructive. In this context, one might add some qualifying concepts to Kubler-Ross's original stages of grief by thinking of each stage as one of looking:

- outward (hearing the criticism instead of anger & denial);
- inward (learning the lesson instead of bargaining & depression);
- forward (being ready to apply the lesson with acceptance & hope).

Another way of looking at these stages of grief might be to say that:

- anger & denial are facets of the inevitable emotional work;
- bargaining & denial are facets of the required intellectual work;
- acceptance & hope represent the necessary forgiveness of oneself.

However, this forgiveness must be earned by doing the work necessary to be deserving of it. And, the work must be done in this order. That is, the emotional work generally must precede the intellectual work. Adopting this approach can allow one to develop a rhythm of learning to do things, which can adhere to the following pattern: do, analyze, listen, learn, forgive, and move on.

A suggestion for solidifying the lessons learned in operations was made compellingly by Dr. Frank Spencer in his Gibbon Lecture delivered at the American College of Surgeons meeting in 1979, in which he noted that, for decades, he had dictated a letter to himself about lessons learned after each operation in which he was involved [Spencer 1979]. One could make a good case for writing such reflective notes by hand in a notebook as well [Tribble 2016].

MORBIDITY AND MORTALITY CONFERENCE

It has been said, frequently, that the regular Morbidity & Mortality Conference (M&M) is the most important hour of the week. However, it might also be argued that the time spent preparing for M&M is the most important activity of the week, more important even than the conference itself. It is certainly true that there are few learning opportunities as important as analyzing and reflecting upon things that have not gone well. It is also true that the discussions at an M&M conference create a longitudinal memory for the practitioner's team. And, it must be said, the preparation, the presentations, and the discussions should be conducted with the profound respect due to the patients whose cases are being analyzed.

There are some rules of engagement that should apply to the vital preparation for the formal presentations. There should be a search for the lessons and not for the guilty. This search should be conducted with a spirit of brainstorming. One should turn to a trusted circle of friends, mentors, and advisors. A strategy for preparing for an M&M review that some have found useful is to create a wish list. For instance, one can sometimes get past a stumbling block by imagining how things might have turned out differently had the patient presented earlier or had they been younger or less ill. Those preparing for the M&M presentation should be urged to make observations rather than statements. This preparation mandates research, analysis, and distillation. When this initial process is truly complete, one should think of the formal presentation as being evidence of the assiduous preparation that is essential to this process.

Some believe that it is useful to classify or catalog suboptimal outcomes in a variety of systems. One such approach is to classify causes of such outcomes as errors in diagnosis, errors of judgment, technical mishaps, or mistakes in management, or as the result of the underlying disease process. Some have advocated classifying errors as those of timing, knowledge, attention, or communication, while still others prefer a somewhat simpler approach of saying, "we operated too soon or too late and we did too much or too little." A more recent system of outcome coding favored by some is one in which the process that has led to the suboptimal outcome is categorized as "most would have done the same"; "some would have done this differently"; or "most would have done this differently." Another system that can be used to label the outcome and the process leading to it is called the "point of care analysis system," in which one asks, "At what point did a preventable problem most likely occur?" Preoperatively, intraoperatively, in the critical care unit, in the hospital, or during the transition out of the hospital?

Regardless of how the outcome, and the processes leading to it, are categorized, the following questions should be sought in the preparatory phase and answered in the formal presentation:

- Should the case have been done?
- Was it done in the best way possible?
- Was the complication or outcome avoidable?
- If so, at what point in the course of care?
- Was the problem recognized and managed expeditiously?
- What impact did the problem have on the overall outcome?
- And, most importantly, what, if anything, can be done better next time?

When the formal presentation is made, should the presenter be expected to use the first person, the second person, or the third person? Many believe that the most appropriate pronouns to use in these presentations are the first person singular or the first person plural, as this manner of speaking makes the acceptance of responsibility implicit in the semantics of the presentation. That is, one should say, "I did this," or, "We did that." Another subtle, but important, choice to be made in the use of language for the formal presentation is whether the active voice or the passive voice is used. Many believe it most appropriate to use the active voice. That is, one should say "I made this decision …"; rather than "A decision was made …".

On a somewhat lighter note, a short list of M&M presentation strategies that have been observed over the years includes:

- Claiming informed consent was obtained
- Focusing on something interesting in the case
- Discussing unrelated physiology
- Attempting to dazzle with curve balls
- Blaming it on the patient
- Asking an attending "who's had experience with the complication"
- Blaming things on anesthesia
- Blaming the outcome on the nurses
- Claiming it was likely God's will
- And, if all else fails, throwing oneself on your colleagues' mercy

The choice of strategy by a presenter may depend on the environment. For instance, assigning blame to nurses works less well in parts of the country in which chivalry seems to be valued, and claiming an outcome was God's will seems more acceptable in an institution with a religious affiliation [personal communication: I.L. Kron]. Regardless of the approach taken by the presenter, those in the audience may well respond with one of Ernest Hemingway's well known axioms which was, "Everything is your fault, if you're any damn good."

IN THE ANALYSIS AND REVIEW OF OUTCOMES, WHAT, THEN, IS REASONABLE?

Atul Gawande noted in one of his early The New Yorker essays that "many doctors take exception to talk of systems problems, continuous quality improvement, and process re-engineering … [this] is the dry language of structures, not of people." He continues with this admonition: "It isn't reasonable to ask that we achieve perfection … What is reasonable is to ask that we never cease to aim for it [Gawande 1999]."

It is also reasonable to note that while most can and should achieve at least some solace from the thorough, mature analysis of their outcomes, it is also true that most will also acknowledge the wisdom of the famous French surgeon, René Leriche, who once said that, "Every surgeon carries within himself a small cemetery, where, from time to time, he goes to pray [Leriche]."

CONCLUSION

The processes, informal and formal, of the analysis of surgical outcomes require an understanding of the ethics of action, human nature, the strategies of analysis of results, and the need for respectful, thorough, and honest presentation to and consultation with one's peers.

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