

Editorial

A Sustainable Design for a Life in SurgeryCurt Tribble^{1,*}¹The Department of Surgery, University of Virginia School of Medicine, Charlottesville, VA 22908, USA*Correspondence: CGT2E@uvahealth.org (Curt Tribble)

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When I was starting into my surgical residency training at The University of Virginia, there were two primary surgical services, named for the colors of the university, which are blue and orange. The overall tenor of these services was influenced by the faculty surgeons who staffed them at the time. The Blue Surgery Service was considered genteel, rational, and balanced, while The Orange Surgery Service had the reputation of being a bit more ‘edgy’. A set of ‘rules’ for that particular service developed over the years, with the first rule stating that “we will not be slaves to logic or common sense”. These rules prompted subsequent residents to collect strategies for maintaining at least some degree of equipoise and sanity while learning and working on that particular service. Naturally, these strategies were dubbed “The Orange Surgery Rules”.

As I moved from my days of residency training to starting into a faculty position at my institution with roles in the education and care of both students and residents, I realized that these rules needed to include a focus on helping everyone working on our services maintain their energy and mental health, in addition to helping them learn surgical techniques and accrue clinical wisdom. A career in Surgery is long and daunting. All surgeons need to have strategies to maintain their own physical, emotional, and mental well-being throughout both their training and their careers. Early in my faculty tenure, I had the good fortune to become acquainted with an architect named Will McDonough, a faculty colleague at The University of Virginia who had developed a philosophy within his discipline that he has called ‘A Sustainable Design’ [1]. While he applied this concept to the design of buildings, I embraced it as a way to approach a life in the practice of Surgery, both for myself and for my students and residents. As I advanced through my years of training and into my subsequent years of practice, I gave a lot of thought to how one might create a sustainable design for training in and practicing Surgery. I will explain some of my reflections on this quest, while offering some suggestions, or ‘rules’, for maintaining one’s mental, emotional, and physical health in the frequently daunting arena of training in and practicing the craft of Surgery. Many of these suggestions are in the category of “things I wish someone had told me when I was younger”. The arrangement or order of these rules is random.

Rule Number One: Find Your Windows

A rock group from the 1960’s called The Hollies, which included Graham Nash, who later was part of the ‘super group’ of Crosby, Stills, Nash, & Young, had a hit song entitled “Look Through Any Window” [2]. I realized early in my medical education that I would benefit from locating and looking out of the windows of the hospitals in which I studied and worked, when feasible, to see the sun, sky, and trees during the day and the stars at night. I would even plan my routes around these hospitals to find ‘my windows’. While each hospital had its own specific views, I, of course, had my favorites. Even at the busiest or most trying times, pausing to ‘drink in’ a view and consciously draw in a deep breath provided both energy and solace. I would also pay attention to the time that the sun was expected to rise each day and try to time my rounds so that I might catch a glimpse of the sun at or around the time of sunrise.

Rule Number Two: Surgery Is a Team Sport

While some disciplines in medicine are practiced relatively independently, the discipline of Surgery is almost always practiced as part of a team. Therefore, surgeons must be both leaders and good team members. They have to know when to take charge and when to play supporting roles. After all, every team member matters. While some of these folks will be ‘naturals’ in their respective roles, others will need some help as they learn to contribute to the care of their team’s patients.

Rule Number Three: Be a Twenty-Four-Hour Performer

I learned from one of my colleagues, Dr. Audrius Barzdukas, who is a sports psychologist, about an approach taken by The Norwegian Olympic team several decades ago with hopes of improving their success in the Winter Olympics. The success of their teams in the Olympic Games of the 1980’s had been disappointing, so they embarked on enhancing the development of their athletes with a strategy that they called ‘The 24-Hour Performer’. This philosophy entailed a focus on developing well rounded people who were more than just the best athletes in their respective sports in Norway. Their approach was to structure their Olympic program to encourage their athletes to



be good leaders, citizens, and students, as well as great athletes. Their success in the Winter Olympics went from averaging about 8th in the world in Gold Medals to finishing with an average ‘medal haul’ that was never less than 4th in the world after that change in their training philosophy was implemented. I believe that a similar philosophy can and should be woven into the training and the practice of Surgery. This approach would entail encouraging our residents, and ourselves as their teachers, to strive to be well rounded, health conscious, community-oriented people, as well as striving to be good doctors and surgeons [3].

Rule Number Four: Be a Good Role Model

While there is a lot that could, and should, be said about this admonition, I will dwell here on one particular facet of being a good role model, which is that you should not ask someone to do something that you would be reluctant to do yourself. An example of applying this philosophy is that, when making rounds with my teams, I would ask our patients if they needed anything to be more comfortable, such as a cup of water or an additional blanket. Even when I had students and residents on my team with me, I would get the requested libation or blanket for the patient myself, though sometimes others would hasten to volunteer to honor those requests. I am sure that most will realize that honoring such requests is as good for us, their doctors and medical students, as it is for the patients themselves. Furthermore, by taking the lead in doing such things, you will be modeling what you hope your proteges will do for their own patients.

Rule Number Five: Embrace the Challenges While Using the Language of Commitment

I expect to live intensely..... I expect an ordeal, an ordeal of grandeur.

Webb Chiles, *Storm Passage, Alone Around Cape Horn* [4]

No one training in or practicing Surgery chose this discipline expecting it to be a ‘laid back’ career. Everyone knows that it is a demanding trajectory to choose. However, we can all derive energy and satisfaction from the practice of Surgery. While some seem to think that complaining about the demands of this trajectory can be helpful, I believe that we should all focus instead on using the language of commitment, rather than the language of complaint. On balance, I am certain that thinking of our approaches to our chosen careers as ‘an ordeal of grandeur’ can be energizing to us, as well as to those around us, including not just to our team members but to our families and friends as well [5].

Rule Number Six: Keep an Eye on the Yarn on the Sails

This rule is a metaphor that needs a bit of explanation, at least for those who are not sailors. Tufts of yarn are often taped to the sails of sailboats to help sailors trim their sails

as they adapt to changing wind conditions. When the sails are optimally positioned, these tufts of yarn flutter straight back, indicating that the wind is flowing over the sail in an optimal, linear manner. As all sailors know, when the wind shifts direction or the boat changes direction those tufts of yarn begin to move erratically [6].

To extrapolate from this image of trimming the sails to managing a life in Surgery, one must constantly monitor the environment to sense when ‘the flow’ of an operation or, even, of one’s own circumstances outside the operation room, have been disrupted, when you must be ready to respond by making adjustments in some manner.

Rule Number Seven: Avoid Convincing Yourself that You Don’t Care

Surgeons, like members of the military and others in similar professions, have chosen a more demanding life than many in our societies. For many in realms of this sort, it is easy to ‘steel ourselves’ by suppressing our emotions. This issue was well described in a book by Angela Ricketts entitled *No Man’s War*, in which she describes her experience as the wife of an officer in the United States military who was repeatedly sent to The Middle East during the relatively recent wars in that part of the world, in which the United States was involved. Ricketts wrote that she realized that her approach to her husband’s deployments was to convince herself, at least temporarily, that she did not care that he was away from home. However, she belatedly realized that her strategy had worked too well, and she really had come to a point of not missing nor caring about her spouse. My own take on her story is that those of us who have ‘signed up’ to give away much of ourselves to our own work in medicine and to our patients need to guard consciously against getting to that point, perhaps striving to arrive a bit shy of the point of no longer caring. That strategy is, of course, not that easy to implement with precision [7]!

A similar admonition was described by Sir William Oster in his well-known essay entitled ‘A Way of Life’ in which he colorfully advised his proteges to develop the habit of “stripping away the day’s worries, just as one does one’s clothes, at the end of each day” [8].

Rule Number Eight: Be the Soul or Spirit of a Place

Wherever you stand, be the soul of that place.

Rumi, Poet of Persia in the Twelfth Century [9]

The term *genius loci* means “the soul or spirit of a place”. That place could be one that makes you feel at home or a place that you are particularly drawn to. Such a place could also be one in which you work to create that spirit or environment yourself. Everyone in a given environment or on a team will contribute to the spirit or soul of that environment in one way or another. It is often said that each person on a team either pulls freight or they are freight. Therefore,

each member of a surgical team should strive to contribute positively to that team's mission, in one way or another. When I myself was in high school I joined a group (which some called a gang) of fellow students whose motto was *Omnes Pro Unum*, which means 'all for one' in Latin. In the setting of a surgical team, it should be understood that the 'one' we must all focus on is the patient, rather than the team members themselves. And, the team members should similarly commit to being part of the *esprit de corps* necessary to make the mission of caring for each patient successful.

Rule Number Nine: Perfection Is the Enemy of Good

You must understand the release point.

An Old Admonition

While every cardiac surgeon has the commendable urge to place each stitch in a coronary artery anastomosis perfectly, there is the countervailing constraint in most cardiac surgical procedures that time is of the essence, as the ischemic time for the heart lengthens. As a surgeon, or as a teacher of surgeons, one must decide when a stitch is acceptable, even if not perfect. Some have described the point of accepting an outcome as 'the release point'. I have often tried to convey to my trainees my initial assessment of a stitch that they have just placed by saying that I am feeling a bit seasick to let them know, 'a bit colorfully', that there is a discrepancy between what I am seeing and what I was hoping to see. It has seemed to me that this phrase can be a way of providing accurate feedback without sounding unduly harsh. I will note that not all of my own teachers were as kind, sometimes telling me that a stitch I had just placed could be categorized as 'a widow-maker' stitch. Obviously, how precisely a stitch in a coronary anastomosis needs to be placed varies with the location of that stitch, with the stitches placed in the distal, or 'outflow', portion of the coronary arteriotomy being considerably more crucial than those placed on either side or in the heel of the artery [10].

As I moved through my own training and became a teacher of cardiac surgery, I was aware that, in all aspects of our training program, I needed to provide useful and accurate feedback to my trainees, while avoiding having my comments interrupt the flow of the operation. I made sure that my residents understood that I wanted them to move along expeditiously, without causing them to have 'a hitch in their stitching'. I would assure them that I would tell them if I thought a stitch was unacceptable **after** they had placed it but not **during** the placement of that stitch. Sometimes I would lighten the mood a bit by quoting the legendary US Marshall Wyatt Earp who was reputed to have said that "fast is good but accuracy is everything".

Another way that I have described the need to inculcate autonomy and flow both in surgical procedures and in patient care decisions is by describing what I have called

"the release point", which conveys an understanding of the necessity of a gradual transfer of autonomy from me, as the supervising surgeon, to my trainees, as they gain their own capacity to both perform these coronary anastomoses and to assess their evolving surgical skills. This approach is, of course, also applicable to their increasing capacity to provide preoperative and postoperative care. In summary, I always assured my trainees that I wanted them to develop their own autonomy and independence in decision making while simultaneously improving speed and accuracy in their surgical skills.

Rule Number Ten: Understand 'The Pad'

I learned about a concept called 'The Pad' from a friend named John Molo, who is a rock drummer. John was a member of Bruce Hornsby's band, known as 'The Range', and he has also played with other well-known bands, such as The Grateful Dead. John taught me about this concept of 'The Pad' which he described as a sort of baseline used in a variety of musical genres, ranging from 'church music' to rock music. John says that music with a pad generally feels good and can bring a sense of peace and calm, as well as energy, to those listening. When I learned about this concept, I found myself extrapolating it to other realms, thinking that it was not much of a stretch to think about things other than music that might bring these feelings to the lives and the work of busy clinicians, such as art, friendship, and family. At the very least I can suggest that each of us should be aware of things in our environments that can bring peace and solace, as well as energy, to our work and our lives. I have mentioned some of these concepts in an earlier essay [11]. More generally, I like to emphasize the concept that almost everything in our lives can either bring us energy or drain us of it. We must all be aware of issues of this sort and manage them, as best we can, for ourselves and others.

Rule Number Eleven: Take Good Notes

I'm not writing it down to remember it later. I'm writing it down to remember it now.

Aaron Draplin [12]

Aaron Draplin is a designer who lives and works in Portland, Oregon. I learned about him from one of my sons who is in a similar line of work and admires Mr. Draplin's work. Mr. Draplin tells a story of finding a farmer's old notebooks that were labeled 'Field Notes' at a garage sale. They were small, pocket notebooks that farmers used to record the productivity of their various fields, year by year, and they used these notes to plan their use of those fields in subsequent years. These notebooks reminded me of the need, in our work in Medicine and Surgery, to utilize some version of these Field Notes to "remember things now" as Mr. Draplin colorfully asserted. While most of us have been fairly assiduous notetakers during our educational trajectories, we may be at risk of allowing those habits to wither over time.

I write to discover:

Joe Henry, Songwriter & Guitarist [13]

I myself have maintained the practice of taking notes in my own pocket notebooks. I will write down words to look up, questions to research, and quotations that I might save for future use. I have found that these types of notes facilitate delving into questions that need to be answered or ideas that need further investigation. Similarly, I have had a career long commitment to writing out my reflections on virtually every surgical case in which I have participated. These notes have often led to additional musings as well as conversations with my residents, colleagues, and friends. Obviously, in the current era being able to communicate easily with others can lead to enhanced learning and new ideas that need to be looked into more extensively.

Rule Number Twelve: Calm, Like Panic, can Be Contagious

If you interact with people in a calm manner, they will often ‘mirror’ your demeanor. How can you increase your capacity for calm? You can focus on controlling your breathing, which some have called ‘tactical breathing’. You can also focus on the present moment, consciously avoiding unnecessary distractions. You can even talk to yourself in a positive manner or focus on the priorities of the moment, while working to make good decisions or a plan to address the current contingencies. It can be useful to assign tasks to people on your team, call for an extra hand, and focus on maintaining your own ‘bandwidth’. Some will find it helpful to assign a team member to take notes or to write plans or information on a board mounted on a wall in the operating room, especially in a complex or unfamiliar situation.

Rule Number Thirteen: Optimize Brainstorming

One can promote brainstorming with others by saying things such as “I don’t know” or “maybe I missed it but...” or “just to clarify...” Each of these phrases can encourage brainstorming and collaboration among your team members. On a similar note, knowing the right questions to ask can often be more productive and useful than knowing the answers. Some useful questions you can ask yourself or others that may facilitate brainstorming include:

Wait, what?

What might be true of that?

How can I help?

Rule Number Fourteen: Prioritize Debriefing

Many performances, including operations, deserve a period of focused debriefing when the action undertaken has been completed. This process can be enhanced with the phrase used by The Blue Angels, the elite flying team of Navy pilots. They start each debriefing after one of their

performances by saying “It’s a privilege to be here” or “I am glad to be here with all of you” [14]. These pilots have used these phrases to set a positive tone for their debriefing sessions, which, they believe, reinforces the core values by which each member of those teams lives and performs. It is not a big leap to consider a mindset of this sort to be useful to a surgical team.

Rule Number Fifteen

How you do anything is how you do everything.

Dabo Swinney, Coach at Clemson University [15]

This quotation, attributed to Dabo Swinney, the coach of a national championship college football team, can be used to remind our own surgical teams of the importance of attention to every detail in a surgical operation. Some have used the similar phrase “everything matters and nothing is neutral” to convey a similar mindset. These sorts of admonitions can facilitate the performance of our cardiac surgery operating room teams, where the stakes are obviously higher than in a college football game, but can, most certainly, have an analogous feeling.

Conclusion

A life in Surgery can be both challenging and rewarding, not only during training but also in the years of practice that follow. There are strategies, which some have colorfully called ‘hacks’ or ‘rules’ that can help one maintain the energy and resilience necessary to be both healthy and proficient. The suggestions provided in this essay have been gathered over many years of practice and from many wise mentors and colleagues. I hope that they will be as helpful to others as they have been to me, throughout my career of learning, practicing, and teaching in our chosen discipline.

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CT was responsible for the conception of ideas presented, writing, and the entire preparation of this manuscript.

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