

Southwestern Surgical Congress: Claude H. Organ, Jr. Memorial Lecture

Surgical lessons from the lake



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Abstract After circumnavigating Lake Michigan during a sabbatical in the summer of 2011, the lessons learned from this experience and the surgical parallels between boating and life as a surgeon will be discussed. Topics will include the use of surgical checklists, teamwork and communication, leadership, and surgical mentorship.

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It is an honor to give the Claude H. Organ Jr. Memorial lecture. If one reads his son's tribute to him in the *Archives of Surgery*, maintaining a balance between surgery and family was both challenging and very important to Dr. Organ.¹ Something I hope all of us try to continue to strive for.

My industry disclosures will have nothing to do with my talk. My other disclosures are that my faith and my family are the most important aspects of my life and will impact what I am about to share with you today.

I love being a surgeon; it is a real privilege. According to CNN Money magazine we, as general surgeons, are ranked number 4 in terms of the best jobs in America.² With that being said, the price it takes to become a surgeon does take its toll and, sadly, more than 60% of physicians would retire today if they had the means.³ When researchers looked at nights on call, the number of hours and nights on call correlated with depression.⁴ A survey by the American Board of Surgery concluded that surgeons felt that if you limited call,

decreased the number of times a surgeon gets sued, and you paid them more, life would be better: a logical conclusion.⁵ Unfortunately, abuse of alcohol is not insignificant between male and female surgeons alike and only 51% would recommend that their children pursue a career as a physician or surgeon.^{6,7} Somewhat even more disturbing is that approximately 9% of surgeons noted that they had recently made a major medical error—not a systems error—a major medical error.⁷ Burnout and depression were independent predictors of reporting a recent major medical error.

More than 1,300 surgeons in academic practice filled out a survey to determine what was most important in terms of workplace satisfaction.⁸ Governance, collegiality and collaboration, and relationships with supervisors were ranked as the most important factors. Compensation was important but not as much as the aforementioned factors. Getting along with others is important. Each of us struggles to maintain a work-life balance. I live on the Mississippi river and I spend most of my free time on the river. We often tie up our boats alongside others and hang out with friends and family or pull onto a sandbar where many of us can be found every weekend in the summer. It is very beautiful on the Mississippi river, particularly when the fall colors start to change, but unfortunately it is a river and by definition bounded on both sides by land. And we have barges to deal with as well as lock and dams approximately every 20 miles. When travelling along the river on longer trips, we have to navigate through

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locks and dams, and it can be very constricting, time consuming, and confining in terms of life on the river.

I am privileged to work at an institution that tries to battle some of the aspects of burnout mentioned previously by offering a sabbatical, consisting of 25 days of sabbatical after the first 10 years of service and then every 5 years thereafter. This is an opportunity to participate in a mission trip, take some classes, do some volunteerism, take some time off with family, or enjoy any other activities of interest. I took my sabbatical on the day it became available for me. I had always thought it would be great to circumnavigate Lake Michigan, with the freedom of having no barges and no lock and dams to contend with, and it would be awesome to go to Mackinac Island and eat fudge and arrive by my boat. Although it is possible to get from La Crosse, WI to Chicago, IL by river, I chose to have my boat trailered across the state and dropped in Lake Michigan.

It was an absolutely gorgeous time, great memories, and I have no regrets about taking the time to do this with my 2 daughters, wife, and dog. It is very beautiful for those who have not been to Lake Michigan on both the Wisconsin and Michigan sides. The beaches and the sunsets are as beautiful as any you would see in the Caribbean.

The trip was very informative as well. Mishigami is the American Indian name, which means “great waters” and the origin of the name for Lake Michigan. Lake Michigan is very deep, more than 900 feet at the deepest point, compared to the average depth of the Mississippi river at 12 feet. For those of you who are already wondering, yes, indeed it did melt my credit card. These are the stats: 37 days on the lake, 872 gallons of fuel, and 1,506 miles driven. I am no mathematician, but it was not the most economic means of transportation.

Checklists

Many people who own boats are simply intimidated by them when you look at the amount of switches and gauges and what it takes to drive. Sadly, these are significant investments that often stay constrained in the boat slip, because the owners are afraid to overcome the learning curve of driving them. One way my family has overcome this fear and intimidation is by using a checklist. It sits on our boat and it is how I make sure we take care of the boat correctly every time. We go through a checklist because just when I think I have it memorized, I forget to flip a switch or something. So I use a checklist and guess what? It works.

Dr. Atul Gawande has shown significant decreases in surgical mortality and complications by instituting a checklist.⁹ He has gone on to write a book about this. At my institution, we rolled out a surgical safety checklist and I served as the surgeon champion, but our chairman of anesthesiology was adamantly against one aspect of the checklist. He was absolutely offended that one of the aspects of the checklist was verifying that the pulse oximeter was on the patient and functioning. When reviewing the study data,

there were some patients who did not have a pulse oximeter placed and therefore benefitted from the checklist. He said this was offensive to the anesthesiologist. “We never forget it,” he stated. I replied “Really?” Well then every time it is placed on a patient, just say “check” if you never forget it!” But the only way the surgical safety checklist was rolled out at our institution was to eliminate that requirement from the checklist. I told him I was going to disparage him at this talk, so I am not speaking out of class.

Not only should you have a checklist but also you actually have to use the checklist. Delta Flight 1141 lasted 22 seconds. Ironically, what were the 2 pilots talking about? They were talking about what their last words into the cockpit voice recorder would be if they were to crash, because they were chatting about another recent crash. They were fourth for takeoff and they had gotten in a hurry. They were called up and did not want to miss their place in the takeoff lineup. They had not finished their checklist and they took off. What had they forgot? They forgot to put the flaps down. I am not a pilot, but I know the laws of physics and I know you cannot generate enough lift without the flaps extended. This could be analogous to the pulse oximeter for our anesthesia colleagues who say they never forget to place it on the patient. This flight lasted 22 seconds because they forgot to do the most common thing that they say they never forget. Well maybe this was a fluke or an isolated incident? No, because there is a long list of all flights that crashed because the flaps were in the wrong location or they forgot to put them down or the warning horn did not go off. What is the warning horn for us in our operating room (OR)? It is the circulating nurse who should stop you if the checklist has not been done! Based on the data, checklists work. They improve both perceived and observed teamwork and communication.¹⁰ In high-quality studies evaluating checklists, there was a strong correlation between decreasing complications and adherence to the aspects embedded in the checklist.¹¹ In addition, when we look at surgical outcomes, there are improvements in surgical site infections, complications, and even mortality when checklists are adhered to. So, use checklists!

Noise in the Operating Room and the Sterile Cockpit Rule

It is one thing to take your boat straight out of the slip, it is another thing to have the skill to back it into a slip where there is wind and current and a variety of other inputs going on around you. I have a 12- and a 13-year-old daughter. When I have these teens on the boat and their friends back there and they are jamming to their music, it is not the ideal environment for concentrating on backing a boat into a slip. That is when we turn the music off, we send the kids down into the galley where they can play with their friends. We quiet things so we can concentrate on the task at hand.

This is similar to the sterile cockpit rule in an airplane. This rule mandates that during takeoff and descending

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