

2010 John H. Gibbon Lecture Just Say Yes!

William J. DeBois

INTRODUCTION

Good afternoon and thank you all for attending the AmSECT award ceremony. To be acknowledged as the Gibbon recipient at this year's 48th AmSECT International Conference is an extreme honor. I am grateful to Ms. Barbara Elmer for the nomination letter that was just read and to the AmSECT Board of Directors who approved it. Carla Maul, our AmSECT President, called me a while back and in her cool and slow southern drawl she said, "*Beeel (Bill) are ya sittin' down?*" I responded in the confirmatory, and then she went on, "*...you were selected for this year's Gibbon Award. How about that Beeel?*" Carla and I had been working on a project for the upcoming meeting so this was the last thing that I expected to hear from her. What a great sound there was to it. "You were selected for this year's Gibbon Award."

I have been a perfusionist for almost 30 years now. I still enjoy what I do, and in fact maybe even more so now. When our group became involved in ventricular assist devices we got the opportunity to spend time with the patients during their recovery. With this I saw some of the rewards of my hard work in the operating room, and something that I never experienced for a majority of my career – their amazing recovery. As a result of this experience I now make a stronger effort to introduce myself to our patients and then see them later in the intensive care unit (ICU). Encourage your staff to follow-up on their patients if they're not doing so already. I also learned that the ICU nurses have an extremely difficult job taking care of both our patients and their families.

WE NEED HEROES

Bernard Malamud wrote in his 1952 novel, *The Natural*, that "*heroes show us how far we can go.*" There are so many heroes in my life that have helped me along the way. Although you probably don't know them, please allow me some time to acknowledge a few of them. I have always had an active imagination and what they all did for me was to allow me the opportunity to use this imagination as far as it would take me. Opportunity is perhaps the greatest gift one can receive.

My drive came from many. My parents Bob (Lefty) and Frances (Rusty) always encouraged me to challenge



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myself. It also came from the teachers and coaches who have guided me to push harder to see how far I could go. As a youngest sibling I learned much from my three older brothers. Each of them had a different skill and method of teaching. My wife Barbara has been an inspirational source by giving me the time to work and has even provided editorial support.

"*You can accomplish anything in life as long as you don't mind who gets the credit,*" stated former Yankees Manager Buck Showalter. You'll notice that I will use many quotes throughout this talk. They contain so few words, yet stock so much meaning. I hope you will find some of them useful.

EDUCATION AND PERFUSION TRAINING

I received exceptional educational training at the State University of New York, Stony Brook. At "The Brook" we concentrated heavily on theoretical aspects of science and technology. I didn't appreciate until later, how important of a tool this type of education would be in terms of idea development and the clinical application. My education was further advanced by my work in the lab with Biomedical Engineer, Yehuda Tamari. With Mr. Tamari I learned many skills in perfusion, research, and even communication. Everyone was called "*Dockktor.*" It makes sense, who wouldn't want to be referenced to one of the esteemed professions of the medical physician? At the time, the laboratory was working on myocardial preservation techniques under the leadership of Anthony Tortolani, MD.

When I started out in perfusion at Maimonides Medical Center in Brooklyn, NY the cardiac surgery program had recently been built up with a new team led by Joseph N. Cunningham, MD. Dr. Cunningham and his highly valued



Figure 1. Circa early 1960s. This photograph was taken moments before a crash and a potentially damaging injury to my manhood. Note the creatively forward pressed handle-bars. After the crash I determined that the bike was too large and begrudgingly surrendered it to an older brother.

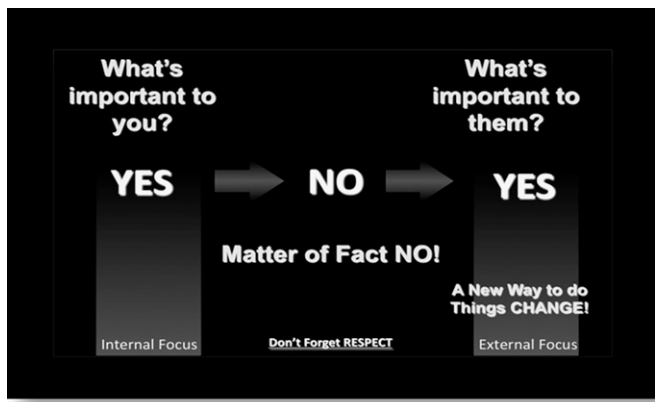


Figure 2.

team fostered the view that our focus was always the patient. If “focus” was still an issue for a perfusionist, Dr. Cunningham would quickly remind you that “...*the perfusionist can kill a patient faster than anyone in the room.*”

Further, with Dr. Cunningham I got to work in the lab between cases. At the time his group worked on pulsatile perfusion and ventricular assist. The device we worked on was very similar to the ventricular devices that we see today. The thinking at the time was that these devices needed to be synchronous and fluid driven to reduce both ventricular work and the risk of gaseous embolism. It wasn’t until many years later, as technology improved, that cardiac assist developers worked around these issues.

Dr. Cunningham’s ideas were the foundation for many of the assist devices that we currently use.

Development of Low Prime and Retrograde Autologous Priming

After Maimonides, I went to work at The New York Hospital. The hospital is now named The New York Presbyterian Hospital-Weill Cornell Medical Center. Not only did our name get bigger, but also under O. Wayne Isom, MD the program tripled in size. Dr. Isom taught us that if we treated every patient as if they were our “mother, father, brother, or sister” we would have the best results. While it sounds simple, this credo has helped our program receive a high ranking, treating over 30,000 patients.

At Cornell I got to work further on blood conservation when Karl H. Krieger, MD charged my group with developing perfusion protocols for “bloodless cardiac surgery.” This challenge was the greatest news we could receive. The cardiac surgery program already had extraordinary results, but now they were looking to break apart some of the components so that we could become even better. Dr. Krieger organized the project in a step-wise, discipline based fashion so that we could identify key maneuvers and replicate the techniques. I truly believe that having the surgeons’ buy-in for this made the plan easier to implement.

The bloodless cardiac surgery program allowed careful review of the aspects of hemoglobin management and hemodilution from admission to discharge. Drs. Todd K. Rosengart and Robert Helm clinically directed the project. Our group concentrated on the aspects of the heart lung machine. We initially looked at reducing the circuit prime volume. Shorter lines and the “new” Terumo SX oxygenator helped us to this point with no intrusion upon the surgeons. We quickly proved that the greatest impact was on smaller patients (less than 70 kg). This was important since this population consumed the most blood products.

Implementing the next steps of the program proved to be more difficult. We now proposed using a smaller caliber 3/8 inch venous line in patients with flow rates under 4500 mL/min. Our data supported both the safety and improved outcomes of this technique.

These techniques still were not enough to get us to the goal of “bloodless” cardiac surgery (BCS). Our most aggressive step was the development of retrograde autologous priming, “RAP”. This step, as previously published, required the perfusionist to drain blood from the patient and displace the pump prime fluid into a transfer bag mounted on the pump mast. Some suggested that we name the technique Cornell Retrograde Autologous Priming, but that was quickly abandoned as the acronym seemed inappropriate.

Throughout the entire process of BCS our multidisciplinary group met regularly to discuss the program successes and failures. Furthermore, our group also discussed the impact of individual techniques on others. Such that

if the anesthesiologist limited fluid replacement, then the perfusionist might experience a low venous reservoir level during bypass. Or occasionally, a fast surgeon would have to wait for the perfusionist to finish “rapping” before initiating bypass. Additionally, the anesthesiologist would need to elevate the patient’s blood pressure with a vasoconstrictor. This technique involved everyone in the room. I believe that recognizing this and showing respect for all members of the cardiac team helped make the procedure successful.

“*Never take a person’s dignity: it is worth everything to them and nothing to you,*” wrote Frank Barron. Barron was a professor of Psychology who studied the characteristics of highly effective people in their personal lives and professional careers. Of further interest to parents of young children, Barron also found that “...those who are more creative like things messy, disordered, ambiguous, and asymmetric.” Maybe an untidy room isn’t such a terrible thing.

Developing RAP technique was an extreme challenge to the perfusion team. They were now performing a task that required detailed communication and it had a tremendous risk/reward component. The risk was if they hadn’t performed it as demonstrated, either hypotension or uncontrolled exsanguination would occur. The benefit was reduced reliance on exogenous transfusion.

PRESENTING THE FINDINGS

John H Gibbon, the surgeon for whom this award is named, is credited with the first successive open heart procedure with cardiopulmonary bypass. Another creative and innovative surgeon, C. Walton Lillehei, had a very crucial role in improving cardiac surgery and was responsible for the widespread use of cardiopulmonary bypass. Lillehei was arguably one of the greatest innovators in the history of cardiac surgery to date. He and his team were responsible for many innovations in cardiac pacing, congenital heart repair, and valve replacement surgery. Lillehei was well acquainted with criticism from his peers. At an address to the American Association for Thoracic Surgery in 1979 he described:

Stages and reactions of introduction of new ideas.

Stage 1: New Idea or Technique - reaction “it will never work”

Stage 2: First Success - reaction “Lucky, can’t be repeated”

Stage 3: Repeated Successes - reaction “Disaster, now others will try this!”

Stage 4: Success by others - reaction “Think of all the suffering this will cause!”

Stage 5: Outcomes Improved – reaction “This is too expensive; we must prioritize spending”

Stage 6: Widely Adopted - reaction “it was obvious, I thought of this myself years ago”

“*First they ignore you. Then they laugh at you. Then they fight you. Then you win,*” stated Mahatma Gandhi. This is how it felt when we started performing RAP and even more so when the group started publishing the results. However it took several years before we got to the “...and then you win” phase. I can recall comments at meetings when I presented the topic, that the technique was dangerous, ineffective and most likely un-transferable to other cardiac surgery programs. By this time Dr. Isom’s team had already reported the safe use of RAP in over 2000 procedures and was routinely performing bloodless cardiac surgery. Many others have demonstrated the safety and effectiveness of our work in low prime circuitry and RAP. It is now a routine practice in most cardiac surgery centers. The extensive work of others including, Groom, McCusker, Fitzgerald, Treanor, and Trowbridge has helped to further refine these techniques.

Influencing Others

I don’t know who said it, “*He who fails to prepare, prepares to fail.*” As we go about change to bring about improvement you must be well prepared. Because to change any process, especially when you’re already successful, is difficult. There will be detractors, even among those you work with. I say embrace these detractors. Even though they are critical of many things you do, they may provide you with key ideas for success. For this reason we took time to review the steps we were taking and to celebrate our successes. During these meetings the multidisciplinary team and the individual teams put forth many different ideas.

Someone’s “no” is always another’s “yes”. When we are confronted with conflict and need to disagree, as long as we have done our due-diligence we should be confident in our decisions. Stephen Covey, author of the best-selling book, *The Seven Habits of Highly Effective People* states it best, “*It’s easier to say “no”, when a deeper “yes” is burning inside of you.*”

In William Ury’s *Power of the Positive No*, he describes the word “no” this way: “*The most powerful and needed word in the language today is also potentially the most destructive and, for many people, the hardest to say.*” What can happen is we fear losing favor in relationships, both personal and professional, we don’t like to say no. Ury describes the variances on no with the “three A’s”:

Accommodate by saying yes when we really wanted to say no,

Attack by saying no poorly and triggering a conflict, or

Avoid by not addressing the issue at all.

SUMMARY

Advancing anything requires change and a new method. It can be a challenge to bring about the change that you

believe in. This change however requires you to plan and say no to the old way of doing things. Fortunately there is a positive way to say no whereby important needs are met. As Ury suggests, we need to focus on how the two opposing forces need to be addressed. There is your internal focus of what's important to you and the opposing external focus of others — what's important to them. We can't lose sight of this because when we do, we risk disrespecting others.

As technicians we are in a unique position as perfusionists whereby we work closely with physicians and on occasion will direct them to perform tasks. Additionally, many other non-physicians are not familiar with our responsibilities. We need to make others knowledgeable of the education, skill, and passion we possess.

I really enjoy what I do as a perfusionist and I am proud to be recognized for my team's contribution and of having received the Gibbon award. Bob Parsons, the CEO and

founder of The Go Daddy Group, Inc., said "*We're not here for a long time, we're here for a good time!*" This all has been a real good time. Thank you.

My Perfusion Team is currently:

Barbara Elmer
 Marie Kilcullen
 Jim McVey
 Marie Zanichelli
 Junli Liu
 Anthony Lamonica
 Karen Hussey
 Lilia Voevidko
 Haleh Ebrahimi
 Sergey Savy
 Akilah Richards
 Diana Froehlich