

Achieving Mastery in the Practice of Surgery

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The word Surgery derives from ‘cheirurgia’ – from the Greek “cheir” meaning “hand” and “ergon” meaning “work.” Therefore, it is not surprising that the mental image created by the word “surgeon” is that of an individual working with his or her hands in the operating room. Indeed, through the past 2 centuries, a surgeon has been thought of, primarily, as someone who has acquired sufficient dexterity to perform operations safely, and an accomplished surgeon as someone who possesses a higher level of manual skill, and can perform an operation with speed, efficiency, and elegance. With that in mind, training of surgeons has focused almost exclusively in the development of the necessary skills to carry out operations. Individualism – individual responsibility for the total care of the surgical patient – has also been a major focus in the training of surgeons.

In the past 25 to 30 years, things have changed dramatically. With the advent of modern anesthetic and resuscitation techniques, speed, once a major determinant of the immediate outcome of an operation, is now relegated to the back burner. Laparoscopy and robotics, as intermediaries between the surgeon and the tissues, have substantially changed the concept of “elegancy,” and the ability of the entire operating room team to observe every detail of an operation in real time through high-resolution imaging has brought to the forefront the concept of “accuracy” and “accountability.” Moreover, complexity in the operating room, and also in the pre and postoperative care, has created the need for the involvement of other experts. Thereby, pluralism has replaced the individualistic concept so deeply embedded in the minds and hearts of surgeons of the past.

The word “Master” is used to denote the highest level of achievement within a certain domain.¹ In this essay, we identify 10 elements that we believe are needed to achieve mastery in the practice of surgery, in addition to excellent technical skills.

It should be clear that technical expertise plays a substantial role in the outcomes of an operation, and that the concepts expressed in this paper are not intended to diminish its importance. In fact, delicate handling of tissues, accuracy in the performance of a resection or a reconstruction, quick discovery and resolution of complications, all with rapid thinking and appropriate calmness, are as essential to success in today’s surgical procedures as they ever were. Yet, even when they remain essential, they are no longer enough to achieve true mastery in the profession. So, what are these 10 additional principles?

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THE ABILITY TO DEVELOP AND LEAD A HIGH PERFORMING TEAM

The complexity of today’s diagnostic and treatment modalities requires that, to achieve the best results, surgeons work closely with other healthcare providers, not just physicians, but nurses with special skills, pharmacists, social workers, patient care coordinators, and technicians. This need creates a unique opportunity for surgeons: becoming leaders of high-performing teams. Leading a team is a complex task that demands profound knowledge of human emotions and interactions, and new skills traditionally not part of the armamentarium of surgeons.² Indeed, it is not just gathering individuals who have mastered expertise in specific domains; it is, in addition, developing a coherent group that works together harmoniously in pursuit of a certain goal. To achieve this, the team must be able to develop a shared mental model. Each member must have clear situational awareness, all members must communicate efficiently, and must provide support for each other. Essential to the success of the group is mutual respect – starting with the leader – and repeated practice (real or via simulation) of these skills. One additional element that plays a substantial role in surgery is the fact that members of the team change from day to day. Therefore, it is important that the institution develop uniform team skills among all individuals that will be teaming up. Furthermore, these individuals need specific training in the process of convening as a team and to disassemble as needed. This is another great area of potential opportunity for surgeons to exert influence in the development of the skills that will best suit the practice of surgery among a large group of participants. Another great opportunity is presented daily, at the beginning of every operation during the so-called “time out” – we prefer to think of it as “teaming up” – when the intentional presence of the surgeon leader is key to its success.

A CLEAR FOCUS ON PATIENT-CENTERED CARE

The primary consideration of the surgeon has shifted from “is this a patient a candidate for...?” To “what is the best option for this patient?” Defining the best option requires expanded knowledge of medicine (beyond surgery), a close and easy personal relationship with other healthcare providers, a deep understanding of the patient’s values, needs, social environment, and wishes as well. The concept that someone else referred a patient to a technician to perform a surgical procedure should be abandoned. Only a surgeon with broad understanding of the patient’s illness, with multidisciplinary inputs with a careful evaluation of all comorbidities and with precise knowledge of what he/she can accomplish personally, can make the decision to perform a surgical procedure. This does not minimize the role of any other healthcare provider. It simply elevates the role of the surgeon.

THE ABILITY TO TRAIN, TEACH, AND LEARN

Master surgeons can always identify mentors who facilitated their development. That has been the core of the art and

science in the practice of surgery. Today, we have a much better understanding of the principles of adult learning, with which aspiring master surgeons must familiarize themselves. Simulation provides a great platform to acquire psychomotor and social skills needed in the operating room and elsewhere. These techniques promote safety and facilitate learning. However, the direct person to person observation, tutelage and guidance the so-called “apprentice model,” is and will remain essential to the advancement of surgery. In this model the learner is trying to imitate the teacher not just in surgical techniques, but on every aspect of life.³ It is through this method that learners of the art of surgery figure out the best way to relate to other professionals, to their patients, and to the rest of the hospital and clinic staff. This provides surgeons in a position of leadership with a unique opportunity: to shape the life of those who follow and to influence their development in every respect. Thus, the challenge today is to try to pass on to others the elements that a master surgeon has learned within the practice of surgery, the analysis of their own results, and the current literature as well. Mastery in the practice must necessarily include the ability to pass on the knowledge to the next generation.

CHAMPIONING QUALITY OF CARE

Surgeon’s concern for the quality of healthcare delivery was one of the cornerstones that led to creation of the American College of Surgeons in the early part of the XX century. These initial efforts eventually led to the development of The Joint Commission. Today, championing quality requires a whole new approach which includes creating a culture of safety, adhering to principles of high reliability, meticulous analysis of results, and a dedicated independent group that focuses on the issue.⁴ Master surgeons are those who continually ask themselves what they can do better.

EMBRACING PROFESSIONALISM

Professionalism was defined by E. Pellegrino as “The voluntary self-imposition of higher than ordinary standards.”⁵ Surgeons of the past tended to concentrate solely in the operating room and have been seen to carry an aura of arrogance and superiority. In today’s social environment upholding the primary pillars of professionalism: excellence, humanism (empathy and compassion), accountability, and altruism are vital to the image of a “Master” surgeon. Embracing professionalism restores the respect and admiration of peers and patients alike.

HUMBLENESS

The true master surgeon has achieved a level of inner strength and security that leads him or her to be humble. These surgeons are aware of what they have achieved and what they can do for others, but this is not visible to the rest of society. Humbleness indeed is not to think less of oneself but instead to think about ourselves less. This virtue will do a lot to restore the appreciation and the belief on the surgeon by peers and patients.

EXCELLENT COMMUNICATION SKILLS

Effective communication is the art to convey a clear message. In this context, communication goes far beyond articulated expressions. Surgeons, especially those in high positions, communicate primarily through their actions. Communication becomes the vehicle through which his or her intentions are interpreted by the team, thus becoming an essential component of team leadership. Communication plays a major role in the relationship with patients, in particular, when it comes to expectations of surgery, admission of mistakes, and

delivery of bad news. Respectful communications with other professionals improve everyone’s ability to deliver excellent care to the surgical patient.⁶

DEVELOPING HIGH DEGREE OF EMOTIONAL INTELLIGENCE

Emotional intelligence is the ability to understand and recognize emotional states and to use that understanding to manage one’s self and other individuals or teams. There are several stages in the development of emotional intelligence, from self-knowledge and control, to congruency of expression with one’s feelings, to relationships with others. Unlike intellectual quotient, one most difficult to alter, emotional quotient can be improved by learning.⁷ This essential element facilitates the work of teams, the relationship with patients, families, and peers.

ENGENDERING TRUST

Trust, the assured reliance on the character, ability, strength, or truth of someone or something, is a wonderful feeling that bonds human beings together. Trust develops over time and is the expression of all the principles described above.⁶ Trust also implies vulnerability and exposure of true, deep feelings – the ultimate expression of mastery in the profession.

SELF-PROTECTION AND BALANCE

Lastly, the master surgeon must develop a balance. He or she must protect his or her persona by not overextending, by developing interests outside patient care, by devoting time to family and friends, and by always keeping in mind that personal fitness and integrity are the platform needed to serve the needs of others.

CONCLUSIONS

We believe it is important for surgeons to realize that society and the profession today define mastery in the practice of surgery as something different than traditionally described. With that in mind, we hope the thoughts expressed above will help devise new curricula for the training of surgeons that will practice well into the XXI century.

These concepts are not meant to diminish the importance of surgical techniques. The appropriate conduct of an operation bears substantially in the outcome. There should be no question about that. However, the evolution of our society, the changing expectations from our patients, the diffusion of information through the internet, and many other variables require that we widen the focus of our attention into other areas of social behavior.

We realize that not everyone will be able to become proficient in all the areas described. Not everyone in medicine, sports, or any other human endeavor can become a “master.” However, the use of the principles described in this paper should serve as a guide – perhaps for some just an aspiration – to what we can do and become. Focus on each of the areas described will improve individual performance as a surgeon even if one does not achieve mastery.

Lastly, although not the purpose of this paper, we have observed repeatedly that the practice of these principles brings joy to the spirit. In that sense, it is perhaps the best deterrent to burnout, a growing concern for all of us. Moreover, the more we surgeons exhibit the traits described above, the more we will help restore the faith on our profession. Also, while not everyone may reach the summit, joy comes from the journey, not necessarily from reaching the destination.

REFERENCES

1. Dreyfus SE. The five-stage model of adult skill acquisition. *Bull Sci Tech Soc.* 2004;24:177–181.
2. Lingard L, Espin S, Rubin B, et al. Getting teams to talk: development and pilot implementation of a checklist to promote interprofessional communication in the OR. *Qual Saf Health Care.* 2005;14:340–346.
3. de Santibañes E, Busnelli VC, Pellegrini CA. Excellence in surgery: becoming the “best” you can be. *ACS Bull.* 2018;103:10–16.
4. Hoyt DB, Ko CY. Optimal resources for surgical quality and safety. 2017 American College of Surgeons, 633 N. Saint Clair St., Chicago, IL; 60611-3211.
5. Pellegrino ED, Thomasma DC. Fidelity of trust. In: *Virtues in Medical Practice.* New York: Oxford University Press; 1993. 65–83.
6. Pellegrini C. Trust, the keystone of the patient-physician relationship. *J Am Coll Surg.* 2017;224:2.
7. Gewertz BL. Emotional Intelligence: impact on leadership capabilities. *Arch Surg.* 2006;141:812–814.