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Association for Surgical Education: Presidential Address

On championship TEAMS

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Abstract Championship teams tap the strengths of the individuals working toward a common goal. Surgery is a team sport, which seeks to provide the very best patient care. For surgeons we seek to cure disease, alleviate suffering, and train the next generation of surgeons. When at our best, we build teamwork with a winning attitude, trust, respect, and love. Together there are no limits to what championship teams can achieve with passion, dedicated practice, mutual respect, and a little luck.

My interest in championship teams peaked with Super Bowl XLIX. The New England (NE) Patriots were going head to head with the Seahawks in Seattle. The NE Patriots had won Super Bowl championships in 2001, 2003, and 2004 and were striving for their fourth Super Bowl championship. Similarly, the Seattle Seahawks had a winning record and were favored to win. With under a minute of play, quarterback Russell Wilson threw a 33 yard sideline pass to Jermaine Kearse who fell to the ground, juggled the ball, and eventually maintained possession. Kearse's catch was widely reported as one of the greatest catches in Super Bowl history. Kearse, who was an undrafted football player, through his singular efforts was changing the outcome of the game.

For the NE Patriot fans the game seemed lost. With 20 seconds remaining, the Seahawks were on the NE Patriots' one yard line. Then Malcomb Butler intercepted and attempted pass to Ricardo Lockette at the goal line. Malcolm Butler was a second string player who remembered the Seahawks formation from practice and beat the receiver to the ball. This interception was the first of Butler's National Football League career. Through preparation and a little luck, he turned the game back around in favor of the NE Patriots to assure a 28 to 24 victory.

It was the legendary coach, Vince Lombardi, who said, "Individual commitment to a group effort—that is what makes a team work, a company work, a society work, a civilization work."[1] I would add, teamwork is also needed to make a healthcare system work.

Together everyone achieves more with a good team. I tried to reinforce this principle with my daughters recently after their coach described them as "selfless players" on the lacrosse field. I opined, "There is no 'I' in TEAM." They rebutted that there actually is an 'i' in team if you looked closely (Fig. 1). This got me thinking. My internet search revealed the book by Mark De Rond, "There is an I in TEAM: what elite athletes and coaches really know about high performance."[2] The book talks about how we can harness individual performance into a cohesive productive team. Contrary to what one may think, the best individuals put together do not necessarily make the most effective team. Instead, high performance depends on individuals committed to the team. If you want an exceptional team, the author argues, keep an eye on the individual. The most powerful teams are made up of individuals who have chosen to work as a team for a common goal. For

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Figure 1 The "i" in team.

example, Nobles high school had never lost a women's athletic game to Phillips Exeter Academy in 12 years in any sport, until last week. Exeter girls' lacrosse jelled as a team. They communicated, focused, worked together, and earned a team win.

In surgery and health care the common goal is quality patient care. The Institute of Medicine in its publication, "Crossing the quality chasm: the new health system for the 21st century,"[3] proposed that health care should be safe, effective, and patient centered. Health care should be timely, efficient, and equitable. The Institute of Medicine advocated for a culture of safety and the need for good communication, respect, standardization, engagement, and training.

As an academic surgeon I have been interested in the acquisition of skills and teaching of advanced laparoscopy. To learn about what it takes to become the top in your field, I asked Red Sox great, Michael Lowell, on an air flight from Miami to Boston. Lowell was a three-time World Series champion in 1998, 2003, and 2007. He was the 2007 World Series most valuable player. He was a four-time All-Star in 2002, 2003, 2004, and 2007. He was a National League Golden Glove. Lowell holds the all-time highest fielding percentage and the Red Sox franchise single-season record for most runs batted in by a third baseman. When I asked Lowell, "What makes one great?" He spoke of "Passion, Work, Talent, and Luck."

Lowell told me about his passion for baseball. His father was a Little League coach. Baseball was always about having fun. His work ethic developed in college. Every morning he began the day with weight training for 90 minutes. He showed up early to every practice. During 2-hour practices, he gave 110% effort every ball, every play, every day. As a professional baseball player, Lowell arrived to Fenway at 1 pm for weight training in preparation for a 7 pm game. Lowell worked on field practice, batting, and reviewed videotapes. Lowell acknowledged that talent was important, and some things come easier to some players than others. If your focus and reflexes were not as good, you simply had to work that much harder. As for luck, Lowell noted that because he lived in Miami he could play baseball all year round. He was fortunate to have a father who committed to pitching 50 balls every day to Mike and his brother. He was most fortunate that his passion for baseball aligned with his talent. I like the Lowel list: passion, work ethic, talent, and luck—qualities required to master a pursuit.

The "I" in team, in part, is about individual effort to hone your technical, and improve your, communication skills. Dr Carlos Pellegrini's Association for Surgical Education (ASE) Folse keynote lecture, "Education and Training: From Good to Great" discussed the training challenges and importance of using the simulation center. When I started surgical internship in 1990, Minimally Invasive Surgery (MIS) was just taking off as surgeons were applying MIS technology to new applications and industry was introducing new technology, optics, and instrumentation. Laparoscopic cholecystectomy was controversial because the technology was expensive and the bile duct injury rate was higher than open cholecystectomy. Before we had a handle on training, patients were demanding less invasive operations and surgeons were offering laparoscopic colectomy, video-assisted thoracic surgery, esophagectomy, and laparoscopic gastric bypass. More recently, we have the single incision laparoscopic surgery, natural orifice translumenal endoscopic surgery, and robotic surgery. For the last 25 years, the trend is for surgeons to take on more and more difficult operations using smaller and smaller incisions.

The challenge for surgical educators is how to best train surgeons, especially with the rapid emergence of new techniques and technology. I joined the University of Texas Southwestern faculty in 1997, and I became interested in the question of whether we could train surgical teams better outside the operating room with video trainers and simulators. This concept became the hypothesis of my Association for Surgical Education Surgery Education Research Fellowship (SERF) project.[4] Second and third year residents were tested on a video trainer and observed doing a laparoscopic cholecystectomy. Half the group trained in the Skills Laboratory on video trainers for 30 minutes a day for 10 days. The other group served as the control. At the end of the month, everybody was retested on the video trainers and observed again performing a laparoscopic cholecystectomy in the operating room. The training tasks included moving lead objects on a flat surface, moving beans into a container, carrying an object with a needle, running a rope with 2 hands, and performing laparoscopic suturing with an endostitch. In the operating room, 2 evaluators assessed the trainee for respect for tissue, time, and motion; instrument handling; knowledge of instruments; flow of operation; use of assistance; knowledge of the specific procedure; and overall performance using a Likert scale. We learned that those who practiced on the video trainer got better on the video trainer. More importantly, those who practiced on the video trainer outperformed their colleagues who did not practice in the skills laboratory. Subsequent studies using computer-assisted training with the Minimally Invasive Surgical Trainer-Virtual Reality also demonstrated improved operative performance compared with video trainers, possibly because of the emphasis on precision training and immediate feedback.[5]

Our research team wanted to teach operations, not just tasks. Laparoscopic inguinal hernia repair was a new operation stifled by the surgeon's inexperience with pelvic