

FELLOWS-IN-TRAINING & EARLY CAREER PAGE

Tennis and Interventional Cardiology



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The great game of tennis has origins that date back to 1,000 BC when French monks played ceremonial “je de paume,” or game of the hand. Initial tennis balls were wooden, and the first wooden racket used was laced with sheep gut. It was not until the invention of rubber and the bouncier tennis ball in the mid-1800s that tennis saw its popularity soar. Many versions of the game have evolved to become what is now 1 of the most popular sports in the world. Young and old, rich and poor, amateur and professionals share the simple act of hitting a ball over a net on a rectangular court.

At first glance, there may not be too many obvious similarities between tennis and interventional cardiology. But, a closer look draws them together. First, both are graced with pioneers who propelled the sport and the field to affect the lives of so many on a global scale. Tennis legends, such as Althea Gibson, Fred Perry, Margaret Court, Billie Jean King, Virginia Wade, Arthur Ashe, and many others defied norms with courage and perseverance and proved to be champions for the sport. Similarly, the amazing field of interventional cardiology would not exist if not for giant innovators, such as Werner Forssmann, Claude Bernard, Dickinson Richards, F. Mason Sones, Charles Dotter, and Andreas Gruentzig, to name a few. Just like tennis champions, their commitment and love for the field drove their success.

Tennis and interventional cardiology also connect when one considers the training and technique involved, be it on a tennis court or in a laboratory full of x-ray equipment. Both are physically demanding, relying more on technique than brute force. Hitting the flawless single-handed topspin backhand requires countless hours of practice to perfect the mechanics of a complicated stroke. Similarly, many hours are spent during fellowship and beyond to safely obtain

vascular access, master wiring a tortuous vessel, or navigate delivery of a percutaneous aortic valve. There are many dots that need to be connected precisely to accomplish the goal each time. Those who do it well have the best outcomes, be it a victory on the scoreboard or a successfully treated patient. In addition to parallelism in technical aspects, both tennis and interventional cardiology require mental focus and acumen that has to be sustained to achieve the desired goals of winning the match and treating the patient safely. Many times, the world’s best players falter to players of lesser caliber because of mental mistakes. Even the masters of interventional cardiology are at risk for complications borne of poor decision-making. The need to have your head in the game is of paramount importance when considering the use of either the racket or the catheter.

Another commonality is the misperception that tennis and interventional cardiology are solo pursuits. Though there is a single person in charge on the court and in the laboratory, to excel, one needs an outstanding team. In the catheterization laboratory, the team includes nurses, techs, and trainees. On the court, it is the team of personal trainers, coaches, and family members that helps support the player.

Perhaps what brings the 2 closest together is the unpredictable human element. In tennis, it is the opponent across the net, and in the catheterization laboratory, it is the patient lying on the table under a sterile drape. There is an inherent unpredictability in what may be required to be successful on any given day, and the “game plan” needs to be individualized each time. During a match, there needs to be constant awareness of the opponent. A few points often decide a challenging match, and those who play well under pressure usually win on the court. Similarly, when treating a complex, high-risk patient, calmness and focus in a life and death circumstance is an essential trait. Often times, it is millimeters that matter, and just like playing the big points in a match, there is minimal room for error.

Although the similarities are many, there is something tennis can teach us as medical providers, and that is the art of celebrating our victories. World-class tennis players show their mental fortitude by not allowing mistakes to dictate their game and build on the confidence of each victory. In medicine, we often review and critique our mistakes ad nauseam, but we rarely talk about the many ways we help and treat countless patients each day. It is rare that there is a celebratory recognition of a job well done when a sick patient is treated successfully. It takes a team of committed individuals, including doctors, nurses, and techs, to awake in the middle of the night, to rescue an artery, the pericardium, or a threatened limb: a feat that *should* be celebrated each time. This may not include a loud scream accompanied by a fist thrust in the air replayed in slow motion or a fall to the knees in gratitude, and there is not a beautiful trophy that will sit on our shelf. But, a verbal acknowledgement of a job well done would go a long way in shifting the focus from our mistakes to our successes.

Tennis complements interventional cardiology, and vice versa. A tough victory on the court can enhance the confidence needed to perform a flawless intervention, and similarly, a successful day of intervention can bolster the right attitude on the court.

For those who play, tennis can be the perfect antidote to a tough day in the laboratory. As it may be true for many other pursuits, there is a therapeutic release that accompanies hitting a tennis ball. Perhaps it is the singular focus of swinging the racket to meet the ball at the perfect time in flight and willfully forcing its direction. Perhaps it is focusing on the sound the ball makes as the racket swings through it. Maybe it is simply because of the challenge it represents. Regardless of the reasons, I feel privileged to partake in both, and I also recognize the passion and dedication that both require.

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RESPONSE: The Sports/Clinical Practice Connection: Read, React, Recover

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*“If you can meet with triumph and disaster and
treat those two imposters just the same.”*

—Rudyard Kipling (1)

Just above the player’s entrance to Centre Court at Wimbledon is inscribed this quote from Rudyard Kipling’s poem “If.” It serves as a reminder to those rarefied few who actually get the chance to compete on that stage that a calm and level head may win the day more often than raw talent or good fortune alone. Of course, Kipling’s quote is applicable to far more than a match taking place on the most hallowed and famous tennis court in the world. If sports are microcosms of life, the lessons learned in both practice and matches on the court can serve as fitting allegories in the everyday world.

As Dr. Ahmed points out, there are notable similarities between sports, such as tennis, and the procedures that we may perform as interventional cardiologists. For example, although tennis may be viewed as an individual sport, top players in the modern era routinely (and rightfully)

credit their entire team for their successes, just as we interventionalists (who often get and take individual credit for cases) should recognize the role of our supporting teams. Additionally, “keeping focused” and “staying calm” are traits that are equally adaptive on the tennis court as well as in the cardiac catheterization laboratory.

From the perspective of a fellow-in-training, perhaps the most critical lesson to learn is how we get better from the experience of witnessing (and salvaging) complications that occur during procedures. In sports, it is often said that one can learn much more from a loss than from a win, and playing tennis represents an extreme example of this lesson. Unlike many other sports, in tennis, individual points, sometimes lasting only seconds, are tallied and ultimately contribute to the overall score. Only with experience comes the recognition of how truly slim the margins are between total points won/lost within tennis matches. One of the most fundamental lessons learned on the tennis court, therefore, is how to “weather the storm,” or to recover from a lost point, game, set, or even a match.

The same can be said of complications that occur during procedures.

Unfortunately for the trainee (but fortunately for our patients), the learning related to complications is even harder in the modern day catheterization laboratory than on the tennis court because of how infrequently complications occur in contemporary practice. Unlike the early days of interventional cardiology—when pioneers in the field confronted and salvaged potential complications on an almost daily basis—in current-day training programs, weeks can pass before a significant complication occurs. Even for high-volume programs where a fellow may do >500 interventional cases/year, with current rates of complications that are approximately 1% to 2%, the average fellow-in-training in a 1-year interventional program will likely only witness only ~5 complications during fellowship training. Contrast this with even a high-level tennis professional, who will routinely drop points, games, sets, and matches but can use each of these losses to continually improve his/her game.

Thus, what is the recourse for the trainee in interventional cardiology? Beyond the technical aspects of

complication management, how can one truly simulate the feeling of everything going horribly wrong that is the true paralytic when a complication occurs in the catheterization laboratory? Perhaps participation in sports has other purposes beyond physical exercise alone. I grew up both playing tennis and being a tennis fan. Fundamentally, playing and experiencing tennis was a great way to learn how to concentrate and focus mentally even when things were not going well and to, in a sense, “simulate” future life lessons in the context of what after all was ultimately just a game. I do feel that these simulated experiences have helped me to a great extent both in life as a whole, as well as more specifically during procedures in the catheterization laboratory. As a result of the challenges I faced during tennis matches in my youth, I have somehow always been able to channel the confidence necessary to adopt the tried-and-true tennis strategy of “read, react, and recover” whenever a complication occurred. As painful as those prior tennis losses were, it is gratifying to see them serving an adaptive purpose and doing some good now. Fortunately, I threw my last racket quite some time ago, and for that, my patients are likely very grateful.

REFERENCE

1. Kipling R. *If*. In: *Rewards and Fairies*. Garden City, NY: Doubleday, Page & Company, 1910.