

Reflecting on *EP Lab Digest's* 20-Year Milestone

Todd J. Cohen, MD, Editor-in-Chief Emeritus of *EP Lab Digest*

To commemorate the 20th anniversary of *EP Lab Digest*, I looked back at all our published content over the past 20 years. As the founding editor-in-chief of this wonderful publication, I am honored to have been a part of an amazing team that created this innovative EP resource. I served as editor-in-chief for the first seven years of *EPLD*, and later passed on the baton to Dr. Brad Knight. *EPLD* has served as an incredible resource for medical education in the field of electrophysiology. During the last two decades, I have utilized *EPLD* and its related content to teach and inspire medical students, house officers, residents, cardiology and EP fellows, nurse practitioners, physician assistants, and faculty. I hope you enjoy this trip back in time as I reminisce about *EPLD*'s creation, development, and expansion, and share some of the topics covered in my editorials and submitted content over the years. Congratulations on 20 glorious years!

The Beginning

I first met Dr. Richard Shaw from the San Francisco Heart Institute during my EP fellowship at the University of California, San Francisco. For over 30 years, Dr. Shaw served as editor-in-chief of the prestigious *Journal of Invasive Cardiology (JIC)*, which is published by HMP Global. I later served as section editor of *JIC*'s dedicated "Electrophysiology Corner" for many years. I remember once asking Dr. Shaw, "why not create an electrophysiology journal?" Soon after that, I began to work with HMP Global to develop *EP Lab Digest* and started working closely with managing editor Jodie Elrod to create a diverse body of content for electrophysiologists, EP lab staff, trainees, device manufacturers, and other innovators in the EP field. My mission was to increase medical education in the field of cardiac electrophysiology and help advance the careers of those interested in this dynamic area.

First Issue Published in September 2001

The inaugural issue of *EPLD* was published in September 2001. My editorial in that issue described how the implantable cardioverter-defibrillator was becoming "mainstream" due to the recent implantation in then Vice President Dick Cheney. It was exciting to see the field of EP taking off, and I wrote how *EPLD* planned "to follow the developments of this existing field and bring the most recent developments from not only physicians, but also the EP lab nursing staff and

technician perspective."¹ In the first issue, we also published an article on biventricular pacing, a term first coined in an animal study that I performed with Dr. Morton Mower's team at Sinai Hospital in Baltimore, and that we were now seeing evolve into clinical practice.²

In our following issue, I contributed a piece entitled *A Day to Remember*, which detailed my experience on 9/11.³ I remember everything about working on that fateful day in the EP lab just outside of New York City. I was performing an ablation when the first plane hit the North Tower, and shortly after, the Second Tower was hit. After the procedure, I went outside and could see the smoldering towers in the distance. The feeling still haunts me 20 years later. In the article, I shared a photo of a fireman who was the husband of one of our EP nurses standing with the American flag amongst the rubble of the Twin Towers (Figure 1). The spirit of all those who helped during this tragic event, including volunteers from my hospital, still makes me proud of our response both medically and emotionally.

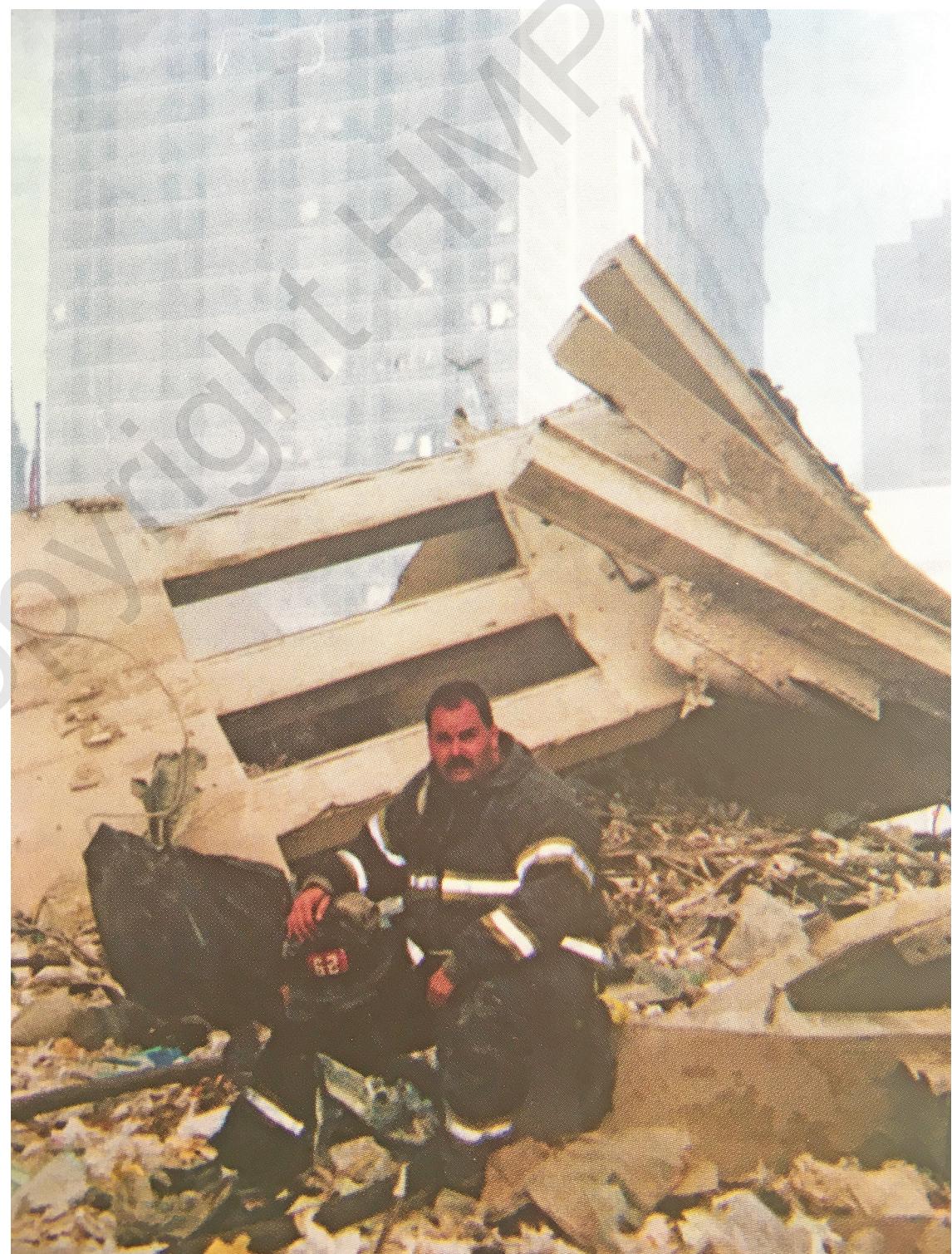


Figure 1. A fireman assisting with the rescue and recovery mission at the World Trade Center site.

The First 10 Years

In 2002, we shared information about state-of-the-art cardiac resynchronization therapy for the treatment of chronic heart failure.⁴ We wrote that CRT by means of biventricular pacing was a new procedure that was showing promise.

As someone who always embraced new technology, I found implantable loop recorders, which were first released as a flash-drive sized device, very useful for recording cardiac events and finding the true cause of unexplained syncope. In 2002, I talked about my first experience with the Reveal insertable cardiac monitor (Medtronic).⁵

In 2004, we presented a case of Brugada syndrome and review of the literature.⁶ In 2004, we also discussed the protection of EP operators and staff using radiation barrier protection encompassed in a sterile surgical drape (Prometheus, Worldwide Innovations & Technologies, Inc.), highlighting the importance of radiation protection.⁷

In 2008, we featured two cutting-edge procedures in EP. Alcohol septal ablation, a novel technique at the time, was used in the cath lab to treat severely symptomatic patients with hypertrophic obstructive cardiomyopathy.⁸ In a separate article, we discussed mapping and ablating ventricular tachycardia in a patient with a traumatic ventricular septal defect; to our knowledge, this had not previously been reported in literature.⁹

We celebrated our ten-year anniversary in September 2011. Ten years after the first issue, *EPLD* was still going strong. This special issue featured articles on combined epicardial-endocardial ablation, measurement of electrical coupling index (ECI) for contact sensing, and atrial fibrillation awareness, as well as my editorial entitled *9/11: A Day Not to Forget*.¹⁰

The Next Decade

In 2013, we shared an article on the utility of the implantable loop recorder, which we found played an important part in diagnosing the true etiology of unknown syncope.¹¹ We discussed working with our neurology team to manage diagnoses of cardiac syncope vs seizure in patients.

In that same year, we discussed defibrillator lead failure and shared a case of an externalized conductor that occurred in the Riata lead.¹² We later analyzed the survival of over 4000 defibrillator leads of all U.S. manufacturers in the PAIDLESS study.¹³⁻¹⁷

In 2014, I coauthored an article with anesthesiologist Matthew Giuca, MD, who developed the novel mnemonic “ANESTHETIC” tool to teach patient-centered communication to medical students, residents, and fellows. The ANESTHETIC tool was implemented at our clinical practice and helped improve doctor-patient communication.¹⁸

Throughout the years, I’ve also tried to highlight the work of my medical students and elevate their work. Daniel Kersten, DO, who recently graduated from NYITCOM and is an intern at NYU Winthrop

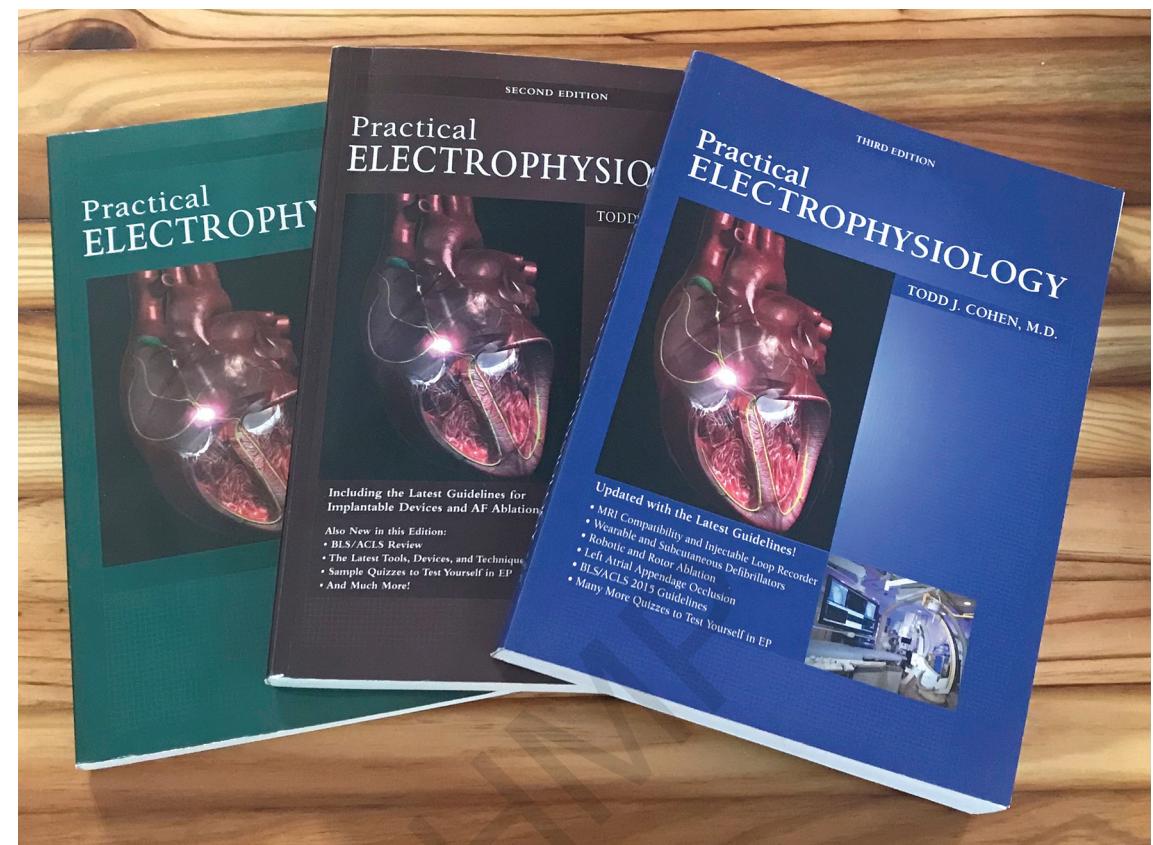


Figure 2. *Practical Electrophysiology* book series.

Hospital in Mineola, New York, has worked with me for nearly 8 years and helped coauthor several *EPLD* articles, including a case report in which we discuss pulmonary embolism as a complication for radiofrequency catheter ablation¹⁹ as well as an article on contact force mapping.²⁰

In 2015, we highlighted robotic catheter manipulation with an article describing a unique feature of a robotic system that I developed with Catheter Robotics.²¹ This remote catheter system used standard ablation catheters and sheaths and allowed the operator to manually manipulate the ablation catheter from a remote control room with a small handle controller. This feature allowed the operator to manually override the robotic functions of the device, disengaging the catheter from the robot for manual manipulation of the ablation catheter and then having the ability to replace the catheter back into the system and continue remote manipulation from the control room.

In 2015, we also reported a case of a biventricular device being utilized in which two right ventricular leads were used to provide ventricular pacing redundancy in a patient who was entirely pacemaker dependent. This case illustrated the importance of having a second redundant ventricular lead in the event of lead failure.²²

In 2017, we reviewed issues in receiving electronic prescriptions by patients’ pharmacies following implantation of cardiac implantable electronic devices and determined the degree of failure in receiving antibiotics using the electronic prescription system and any associated adverse effects.²³ With the advent of electronic medical records

came electronic prescriptions. Many patients who were electronically prescribed medications following device implantation were initially not receiving their postoperative antibiotic medications following device implantation. We found that discharge instructions were still important when informing patients on how to obtain their medications when pharmacies failed to receive electronic prescriptions.

In 2017, the leadless pacemaker was FDA approved. In 1979, my first-ever EP project involved building a leadless pacemaker, which is what got me started down the path of innovation. In 2018, I shared the research that I wrote in college where my job was to eliminate the lead (the weak point in the pacing system).²⁴ I created a transmitter and receiver electronically, encapsulated in silastic, and tested in a saline bath. Eventually, the system was implanted by Dr. Victor Parsonnet in a dog to demonstrate its feasibility. Nearly 40 years later, the clinical version of a leadless pacemaker (though not a transmitter and receiver) is now a reality.

Shortly after leaving Winthrop Hospital in 2018, where I spent most of my career, I became chief of cardiology at NYITCOM and established my own private practice working initially in the Catholic Health System and then expanding to the Mount Sinai Health System in New York. In 2018, I described an innovative, cloud-based digital healthcare solution²⁵ that had recently been implemented by the Long Island Heart Rhythm Center, located at NYITCOM. The solution utilized a HIPAA-compliant virtual medical office that provided direct doctor-patient contact with

Table 1. Contributions from various individuals to my publications in EPLD.

Title	Number of Contributors
Attending (MD/DO)	17
Medical student	8
Undergrad/College graduate	7
Intern/Resident/Fellow	7
PhD/PharmD	6
PA	1
PA student	1
Editor	1
Research assistant	1
Administrator	1
EP lab staff	1
Manufacturer representative	1

**Figure 3. Front cover of EP Lab Digest from September 2001.**

a more efficient healthcare delivery. The system was well received both by our staff and patients.

In that same year, I coauthored an article with another previous student, Daniel Meshryoer, DO, that described a pretreatment with beta blockers before taking alcohol to prevent alcohol-induced atrial fibrillation.²⁶ This research later became a basic science mouse study to demonstrate the utility of beta-blocker therapy in preventing alcohol-induced atrial fibrillation.

In 2019, I worked with Bernadette Riley, DO, and her multidisciplinary team at NYITCOM to study the electrophysiological characteristics of her patients with Ehlers-Danlos Syndrome and Hypermobility Spectrum Disorder.²⁷ Our article

introduced the reader to this complex and diverse group of patients, providing our approach to the cardiac and electrophysiologic management of these patients.

My private practice's use of telehealth was critical during the COVID-19 pandemic.²⁸ When New York City was hit hard with the first surge in 2020, I was working at Mount Sinai Morningside Hospital in New York City. In a featured video, we shared how our program was coping.²⁹ On the last day before NYC hospitals shut down for elective procedures, I was able to perform some procedures at the hospital with my medical student Slava Gitelman (now a DO). We later saw people in hazmat suits in the corridors of the medical school. Many people we knew eventually came down with COVID-19 (and some became seriously ill). Fortunately, I was lucky not to have contracted the virus. But I felt it was helpful to share how EP programs such as ours were adapting to this new normal.

Finally, I want to share that one of my real joys over these last 20 years has been teaching and helping to advance the careers of the many medical students, interns, residents, nursing students, nurse practitioners, physicians, and other trainees and faculty members. Table 1 lists the contributors to my various publications — many of which were premedical, medical students, doctors in training, and other faculty members.

Practical Electrophysiology and Other Books

I collaborated with HMP Global on three editions of the *Practical Electrophysiology* book series between 2005 and 2016 (Figure 2). The third edition also included video vignettes that offered the latest guidelines and innovations. This educational book series was particularly useful to undergraduate and medical students, house officers, cardiology and EP fellows, and new medical device company recruits.³⁰⁻³²

On a personal note, I've authored several other publications as well. In 2010, I wrote a layperson's

arrhythmia book designed to empower patients and their families,³³ and was later invited by Johns Hopkins University Press to write a new version of this book for a larger audience entitled *Surviving and Thriving with Heart Disease*, which is under development.³⁴ I also recently published my debut fictional novel entitled *Pollock No. 5*.³⁵

Final Thoughts

Today, we celebrate the growth and success of this longstanding EP publication, and all the people that have either contributed or helped support us in this mission. We are proud to bring our readers the latest developments in the field of electrophysiology.

Happy 20th anniversary, *EP Lab Digest*. It's truly a journal not to forget!

Acknowledgment

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