

## In Memoriam

### Jeffrey Brock Riley, CCT, CCP, PBMT, PBMS, CES-A

Jeffrey Brock Riley, a legend in his profession and a genuinely kind human being, passed away at home on October 15, 2021. He was born in West Virginia on August 21, 1950, to Dale and Doris Riley, both educators. He received an undergraduate degree in chemistry and psychology from Kent State University in 1972. During college, he worked as an emergency room orderly and as a surgical scrub assistant. Some of the greatest discoveries of his life were in operating rooms. He first witnessed cardiac surgery with cardiopulmonary bypass (CPB) when he worked as a surgical scrub assistant at Akron City Hospital in Akron, Ohio, in the early 1970s. In the mid-1970s, while in a cardiac operating room, he met Christine Wagner, a nurse at Emory University Hospital in Atlanta, Georgia. It was love at first sight and a love that endured. They were partners in life, parenting, and in his career, which he described as an odyssey. This odyssey spanned from coast to coast of the United States and back again—from a community hospital staff perfusionist position to vice president in a large contract perfusion group. He worked for a cardiovascular manufacturer helping to design products and had been on the other end of the phone line purchasing products to use, as well as serving on the Food and Drug Administration's cardiopulmonary device committee. He served as chief perfusionist at a very poor city-county hospital and later as a leader at a well-to-do prestigious academic healthcare facility. While a student, he began attending and presenting at AmSECT conferences, a pattern that continued unabated over the years, and his contributions to AmSECT were immeasurable. Listed below are Jeff's papers published in the *Journal of ExtraCorporeal Technology* and the *AmSECT Proceedings*. He also published in other journals and contributed to several textbooks. Jeff made hundreds of presentations at local, national, and international conferences. Jeff served as a reviewer for several medical journals. He donated countless hours of his time reviewing manuscripts, helping authors to improve their work, and assisting editors in publication decisions.

Jeff once said, "Everything that was ever to happen to me in my perfusion future had its birth in my educational experiences at The Ohio State University from



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1972 through 1974." James Dearing and Louis Toth from Ohio State were his mentors. Bruce Ratcliff was one of Jeff's clinical instructors during his training, whom Jeff credited with teaching him about managing a large department.

Jeff would tell us, "Teaching was in my parent's blood, it is in my blood and in the blood of my children." He was an instructor at the Ohio State University (OSU), Circulation Technology Division, Columbus, Ohio, from 1975 until 1978. He then moved to Georgia to become Appointed Faculty at Emory University School of Allied Medical Professions from June 1978 to June 1989. He then moved to Southern California to become Director of Education and Research at PSICOR, Inc., San Diego, California; this role also included responsibilities as a Clinical Instructor at the Perfusion Technology Program, School of Health Sciences, Grossmont College, El Cajon, California. He then moved to Charleston, South Carolina, to become Associate Professor, Program Director and

Chairman, Life Support Department, at the Medical University of South Carolina from March 1989 to April 1997. After Charleston, he moved back to Southern California and joined Perfusion Services of Baxter Healthcare, which became Cardiovascular Resources, Inc., a division of Edwards Lifesciences, Irvine, California, and later Fresenius Medical Care Extracorporeal Alliance (FMCEA). During these years, he was an Assistant Professor and Associate Professor at Midwestern University, College of Health Sciences, Cardiovascular Science Program, Glendale, Arizona. Then he moved back to his career roots in Ohio to become the Interim Division Director and Assistant Professor of the Circulation Technology Division at OSU. He then left OSU and moved to Rochester, Minnesota, to become Educational Coordinator and later the Director for Mayo Clinic Hospital, Perfusion Service Work Group, Division of Cardiovascular Surgery. In 2017, he joined on faculty of the Department of Cardiovascular Perfusion, SUNY Upstate Medical University, in Syracuse, New York, where he also served as Research Associate Professor. On October 14, the morning before he died, he taught his online class at SUNY. Two months after his death, three papers he had coauthored related to perfusion education were published in the *Journal of ExtraCorporeal Technology*. Yes, teaching was in his blood, a teacher and an itinerate one at that.

In his book, *The Road to Character*, David Brooks writes that life is not like navigating an open field. It is committing oneself to a few institutions that were embedded on the ground before you were born and that will be here after you die. It is accepting the gifts of the dead, taking on the responsibility of preserving and improving an institution, and then transmitting that institution, better, on to the next generation. Jeff is the embodiment of this principle. He was a man of action serving in his professional society throughout his career, to the very last day of his life. His fingerprints are all over many important advances in our field. He helped establish CPB standards, he was the driving force in the establishment of certification for perioperative blood management technicians and the certification of adult ECMO Specialists.

Jeff was a visionary. In 1977, he described in detail how simulation for CPB could be used to teach, an idea more than 25 years ahead of its time. He served on many standing committees, program committees, and task forces for AmSECT. Jeff was always that person on committees who would take on the heavy lifting to realize the objective. He served as an editor and a reviewer for the *Journal of ExtraCorporeal Technology*. He wrote book reviews, editorials, letters to the editor, and periodically wrote commentaries on classic articles from the past. He was elected as president-elect of AmSECT in 2016 and established a strategic plan focused on four words: **Lead, Collaborate, Educate, and Care**. Those

four words continue to guide the Society and its leaders. Since his presidency, those words have remained and are displayed along with AmSECT's logo. They remind us of what we as a society should be all about.

Jeff Riley was significantly more than his profession. He was more than a teacher, mentor, innovator, writer, editor, consultant, practicing perfusionist, and leader. Jeff was foremost the beloved husband for 41 years to Christine Riley. He was a devoted father to third-generation teacher, Corey Riley, second-generation writer Caitlin Riley, and his late son and namesake, Brock Riley. Jeff is survived by family, friends, coworkers, and colleagues whose lives he touched. He is also survived by those who will enter this field in the future and learn of him from his past works, and ultimately benefit from his unparalleled contributions.

Following are tributes from those who knew and worked with Jeff.

Marge Pearson:

*I worked with Jeff when he headed up the CEQI (Continuous Education and Quality Improvement) department. He started with us just as we transitioned from PSICOR to Baxter in 1997. It was a difficult time for all of us, but Jeff helped steer the boat into calmer waters. On a personal note, working with him was an honor. As always, his leadership and gentle manner made work a joy. Jeff stayed with us until 2002 when teaching once again sent him in another direction. His dedication to perfusion, his students, colleagues, and patients will forever be missed.*

Cory M. Alwardt:

*Jeff was a true friend and mentor. Early in my career, by nature of our employment at the Mayo Clinic (albeit different locations), I routinely utilized Jeff's knowledge and skillset to become a better perfusionist and be a better leader to my team. I vividly remember when I asked Jeff for advice on how to have a positive impact on not just my patients and my team but also the profession, his advice was simple—'Get involved.' Jeff did not open doors for me to 'get involved'—that would have been too easy and was not his style. In his typical fashion, he would point me toward the door and encourage me to find a way to force my way in! Jeff would not spoon feed. Instead, he gave people the confidence and direction they needed to accomplish their goals all on their own. I learned to very much appreciate this about Jeff, as it provided a deeper sense of accomplishment and satisfaction. The field of Perfusion is deeply indebted to Jeff Riley, and he will be sorely missed.*

Timothy A. Dickinson:

*Jeff was a friend and colleague as our careers crisscrossed for over 30 years. What really stands out to me about Jeff was his gifted ability to excel in perfusion research, education,*

and clinical practice. Rarely do you find an individual who masters in all three of these disciplines. I was privileged to work alongside Jeff in the research lab, classroom, and surgical suite. Jeff always exhibited a quiet confidence, humbleness, and respect for others. While working with Jeff in an animal lab back in 2007 I also witnessed his superb surgical skills. We were measuring gaseous microemboli through a dog's carotid artery. His accomplishments here at the Mayo Clinic were numerous and noteworthy. In short, he enthusiastically adopted AmSECT's Standards and Guidelines for Perfusion Practice. Notable changes included operationalizing a perfusion electronic medical record and the  $n + 1$  staffing model. I only got to work alongside Jeff for a year while he was at the Mayo Clinic. I wish he would have stayed longer. He made my transition to the Director role that much easier.

Joseph J. Sistino:

I first met Jeff Riley after he came up to me after a presentation at an AmSECT Region I conference in New York. He was editor of the *Journal of ExtraCorporeal Technology* at the time, and he encouraged me to submit my presentation as an article for the journal. I had seen him present many times before at national meetings and was always impressed with his knowledge of perfusion. Because of him, I started publishing research. When I was looking to relocate in 1994, I really wanted to work with Jeff, and fortunately he offered me a position at the Medical University of South Carolina (MUSC). During our time together at MUSC, he mentored me as a new instructor and encouraged me to do research. We didn't really do much research together because I had too much to learn as a new faculty member. I remember watching him in class and observing how he interacted with students. He was a challenging instructor, always asking questions and engaging students. He was my role model for classroom and laboratory instruction. Jeff was my mentor in many ways, and I am sure he did that many times over with others. He was the most generous person I ever met, and I always felt that he had my back and would do anything for me. We always kept in touch after his time at MUSC, and I would always look forward to spending time with him at conferences. Jeff Riley lives on in so many of us who knew him and worked with him.

Mindy M. Blackwell:

During the beginning of the first seminar class of our Perfusion education, Jeff used the growth of a tree metaphor to illustrate the historical advancements in perfusion technologies and education and how far-reaching our experiences would be in the history and progression of this profession!! For me personally, that introduction class had profound meaning and was instrumental in guiding me toward staying at the Medical University of

South Carolina to be able to teach and pursue an advanced degree in health professions education as well. Being able to work in the OR with Jeff often gave us the opportunity to be involved in new learning experiences and to occasionally realize that even the most experienced perfusionists don't always have answers to why certain patient scenarios occur. Jeff was a gentle giant in this field and will surely be missed. I (as one of many) am very grateful that he shared his knowledge through education and scientific publications. Very few people have influenced my life and the lives of others the way Jeff has!! Rest In Peace, Professor Riley!

George Justison:

Jeff was the epitome of a leader, educator, and friend. Not only would he always share his knowledge, insight, and vision with anyone who asked, but Jeff had the uncanny ability to always ask the right question to unlock your own self-discovery and grow as a professional. Jeff Riley is the keystone to my career as a perfusionist.

George Glenn:

He was so humble, yet aware of his voice. He refused to endorse any industry or let them exploit his work. He could have easily enhanced his finances via industry, but he remained a humble servant of his craft. He wrote himself up when he made a human error, keeping the bar of standards high for himself and others.

Keith Samolyk:

Jeff was a good friend and mentor who was always available to me night or day. He was a gentle intellectual giant and scholar, a brilliant pillar of the medical and academic fields who will be sorely missed, and it will be very hard to fill the shoes that he left for us in the global Perfusion community. It has only been a few short months since he left us (way too early and off guard), and I miss our routine conversations—it's like someone stole my computer.

Lyle Joyce:

Jeff was one of the most knowledgeable and yet most humble and compassionate perfusionists I have ever worked with. He would do anything to help a patient or a friend even if it meant enduring much personal sacrifice or traveling around the world to do so. He believed in perfection and diligently taught his team to constantly look for ways to improve the care they were delivering. He was like a brother to me. I miss him dearly.

Michael W. Dunaway:

In PSICOR, Jeff was one of our most important assets. He was constantly in the circle of new equipment and skills. PSICOR changed often, we strived, in our ability to examine and introduce new skills. Jeff was our asset

*of considerable skills and knowledge. We gathered a large group of managers and perfusionists to travel to remote spots in the U.S. and Mexico, and Jeff gathered us around the campfire and provided new thoughts and opened us to new procedures. Jeff to me seemed a little shy, but his knowledge and drive were impressive. We will miss him. Jeff was well liked and certainly a great asset to our group.*

Richard Tallman:

*Jeff Riley was not only a skilled clinician, but he was also a prolific author and esteemed educator. As such, he balanced the three legs of the academic stool, Research, Teaching, and Service better than almost anyone I ever knew. Not an easy thing to do in this era of specialization, but Jeff excelled at all three. Looking at his body of work, the one thought that comes to mind was that he was very much ahead of his time. Consider that in 1977, before the advent of personal computers and while still a young perfusionist, he wrote a paper entitled 'A Computer Simulation of Maintaining Total Heart Lung Bypass for Basic Education.' In the introduction, he wrote, 'The simulation has not been developed to replace the experience of doing, but rather as an adjunct to the preclinical preparation of the student in extracorporeal technology.' Not only was this an enormous undertaking but as it turns out, it would be over 20 years before this mantle was picked up and computer simulation became widely adopted in medical education. Many other examples can be found in his work such as his 1977 article 'A Technique for Extrapolation of Analyzed Values of Blood pH, pCO<sub>2</sub>, and pO<sub>2</sub> to Hypothermic States,' which paved the way for better patient management during hypothermic cardiopulmonary bypass (CPB). Another example is his 1981 article 'Techniques for Computer Assisted Monitoring in the Management of Total Heart Lung Bypass,' which envisioned the future of modern monitoring and data acquisition during CPB as widely employed today. Jeff's vision and profound intellect had an inestimable impact on our profession. We owe a great deal to his contributions. We lost a kind and brilliant soul in Jeff's passing.*

Bruce Searles and Edward Darling:

*For years, Jeff Riley was a valued gold mine of suggestions, recommendations, and consultation for the SUNY Upstate perfusion school. Then, when circumstance brought Jeff to Syracuse to join our faculty, it was clear that it came at the ideal time—when we transitioned to a graduate program. Jeff's incredible experience and talent in perfusion education, research, and management made a huge indelible impact on our program's quality. Just as importantly—through his love, sacrifice, and concern for the faculty and perfusion students, he created a wonderful culture for everyone to*

*thrive and meet their best potentials. He was an amazingly gifted and giving individual who will be greatly missed.*

David Fitzgerald:

*Like so many others, I am truly blessed to have known Jeff as a colleague, mentor, and friend. After every conversation with Jeff, I came away a little wiser, confident, and motivated to make a difference in our profession. To me, that was Jeff's superpower. He rarely answered a question. Rather, he would flip the question and help you come to your own answer. He would pose a problem and a sense of urgency, then step back and watch as others developed solutions. It was the perfect blend of enthusiasm, motivation, and positive reinforcement. For years I could never understand how he did it. No matter the time of day, Jeff was always available. You couldn't read a journal or attend a conference where he wasn't an active contributor. He was the quintessential educator at both the academic and professional levels. It would be nearly impossible to fully appreciate Jeff's 'tree of influence.' Given the hundreds of healthcare providers he mentored, he's touched the lives of hundreds of thousands of patients over his career. With his passing, Jeff is leaving behind a legacy of kindness, passion, and generosity. He was a great teacher and dependable friend. His advice and guidance will continue to carry across our profession.*

Al Stammers:

*Early on in my career as a perfusionist I had the outrageous good fortune to work with Jeff both in perfusion education and in research. We even played on the same basketball team, and few know that Jeff was quite the rugby player as well. Our families got together often, and it was wonderful socializing with Chris and the children, and to see what wonderful adults they have become. While there is much that demonstrates his many accomplishments, one personal attribute he possessed was the unique ability to instill an academic curiosity in all who had the fortune to be touched by his erudition and professionalism. He rarely gave direct answers, although he surely could have done so with ease. Instead, he chose to kindle a fire in those seeking direction, and that flame shall never be extinguished in those whose lives he touched. We had the honor to have Jeff as the Keynote speaker at the 2021 40th Annual CREF meeting less than three weeks before his passing. In a typical fashion his presentations were outstanding, and I am sure I speak for all in saying what a privilege it was to have been the recipients of this remarkable individual's final words of wisdom concerning perfusion. It will be difficult to attend meetings or serve on committees without him, assuaged only by the*

*knowledge that the legacy he leaves will continue to burn bright for years to come.*

Craig Vocelka:

*As so many know, Jeff Riley left his mark in countless ways on every aspect of our profession. One of the major impacts he had was his vision for and the conception of the AmSECT website. In 2000, Jeff and I talked about the idea of a web presence, which quickly led to Jeff, Carl Barringer, Bruce Searles, and I meeting to lay out the plans of how we would do this. Jeff's vision, his direction, and his understanding of how the internet worked at that point in time was so advanced. I truly believe that we will be discovering the contributions he made for years to come because he did so much without fanfare and by giving credit to others. Jeff was a true servant leader who seemed to bring out the best in so many of us.*

Jeffrey R. Acsell:

*When I was investigating perfusion as a possible career in 1989, many of the people whom I talked to, primarily perfusionists, told me to go to school wherever Jeff Riley was teaching. How fortunate I was to have been given that advice and that Jeff accepted me to attend the program at the Medical University of South Carolina (MUSC). I will be forever grateful that he was my mentor both in Perfusion school and after graduation. His amazing teaching style which emphasized asking questions to guide the student into discovering the answers was powerful. His passion for research as a learning tool and his core belief that for perfusion to be a true profession, perfusionists must engage in scientific research as well as participate in our professional societies. Jeff continually reminded his students that as Perfusionists, we were applied scientists which identified us as Technologists and not merely technicians. He reinforced this fundamental principle by requiring that to graduate from MUSC each student formulate a research project, write a paper, and submit it for publication, as well as present the research at the AmSECT or the American Academy of Cardiovascular Perfusion national meetings. A short true story is appropriate to give everyone a glimpse of what kind of a man Jeff Riley was. In 1994, while he was still the Perfusion Program Director at MUSC, he was given a salary raise, and instead of accepting it he had the money split up between the other faculty members because he believed we needed it more than he did. Jeff has been a gift to us all, his legacy will continue as long as Perfusion is a profession, and his 'Tree of Influence' has branches that reach every continent. I miss him.*

Kenneth Shann:

*I had the honor and privilege to serve with Jeff during his AmSECT presidency from 2014 to 2016. I learned more in those two years than I had at any time in my career. I*

*am proud to say Jeff and I built a lasting friendship, and I acquired a new mentor. He taught me how to lead through the chaos and bring clarity to complicated issues. He gave me some words of wisdom that were particularly profound—'Resist the temptation to think you know someone's intention, always assume they have the best of intentions.' I am reminded of this advice every day in both my professional and personal life. Jeff was an incredible reservoir of information, and he will be forever remembered in our community as a consummate educator and researcher. I will remember him mostly for his wisdom, leadership, and professionalism. Jeff Riley will be sorely missed but his legacy will live on for generations.*

Ashley Walczak:

*Jeff Riley was my professor at The Ohio State University school of Circulation Technology; however, Jeff became so much more to me than just my professor. Jeff taught me, as a student, to become independent, resourceful, and to become a life-long learner. He emphasized the importance of service in our Perfusion society and getting involved at an early stage of my career. Jeff became someone whom I would call for advice on how to handle job situations or references to improve our practice. Jeff also became an incredible leadership mentor to me as I grew in my career, and his advice was always insightful and challenged me to think beyond typical cookie-cutter solutions. He has made an everlasting impression on my life that I hope to continue to share through the upcoming generation of Perfusionists. I will truly miss his advice and guidance in my life.*

Louis S. Toth:

*Dr. John Vasko, Jim Dearing, and I were the primary design and developers of the Circulation Technology (CT) Baccalaureate Degree Program at The Ohio State University in Columbus, Ohio during 1967 to 1972. The CT curriculum was the Junior and Senior years of the professional program for cardiopulmonary bypass, dialysis, cardiac assist, organ transplant/preservation, and related treatment/diagnostic/monitoring instrumentation. The School of Allied Medical Professions was constructing a new building at that time, and we designed a teaching facility with two operating rooms, locker rooms, scrub room, sterilization chambers, additional laboratory/classroom facilities, and an Intensive Care bed. Multiple academic and clinical professionals took part in the conduct of classes after that. I was responsible for developing/presenting courses on electrical engineering principles and laboratory, Circulation Technology devices and instrumentation, Research Methodology, and Research Methodology Laboratory, as well as seminars and workshops on new applications and devices. The CT program required competitive applications and selected only eight students per year. Jeff Riley was a*

student in the first class. He was a dedicated student and determined investigator. I found an old grade book and Jeff earned an 'A' in each of my classes. He already had a degree and earned a post-baccalaureate Certificate in Circulation Technology. He returned to Ohio State to teach in the program for several years and even to administer its operation. Thank you, Jeffrey!

Bruce Ratcliff:

*My initial interaction with Jeff was in the didactic classroom setting at The Ohio State University (OSU) Circulation Technology Program followed by clinical instruction at Riverside Methodist Hospital in Columbus, Ohio. I would later tell Jeff how proud I was that 'the student I knew has become the teacher' (and a better one than I ever was). Jeff contributed substantially to perfusion education and its graduates, the 'art' of perfusion, and perfusion literature (I wonder if Jeff isn't one of the most published?). He loved the science of Perfusion! My wife Marilyn Ratcliff, who passed away two years ago, would, I'm certain, have recognized Jeff as a consummate educator in the OSU program, and she continued her friendship with him in the 'post-OSU' years. Both of us continued contact and friendship with Jeff throughout his professional career. Perfusion has lost one of its most impact full practitioners, educators, and student mentors.*

Thoralf M. Sundt:

*I suppose I would say that Jeffrey Riley was a true professional taking his role in the health care team seriously and advocating for professional attitude and respect of the skills of the modern perfusionist. He was a true thought partner who was excited by new ideas to improve care for our patients and a tireless advocate for the individuals on his team providing perfusion services. He was creative and undaunted by stuffy tradition. 'We have always done it that way' was a signal to him that it was likely a time for new ideas. He always carried himself with a smile and an upbeat manner even when conveying information to an unreceptive audience. I think that helped him get away with challenging the status quo. We are all better for having known him and lesser for having lost him.*

Robert C. Groom, CCP, FPP

Mark Kurusz, CCP (Emeritus)

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