Tara M. Mastracci, MD

Dr. Mastracci discusses patient-centered complex aortic care at the Royal Free London NHS Foundation Trust, radiation safety, and the era of social media.

After 7 years at the Cleveland Clinic, you recently embarked on a new career experience that now sees you practicing in London. Which factors most influenced your decision to practice in the UK, and at the Royal Free London NHS Foundation Trust?

The physicians and surgeons at the Cleveland Clinic have led the field in the understanding of treatment of aortic diseases for many years, and their work continues to teach us all. I held a staff position there for 7 years and was as much a student as a teacher during that time, learning from the many thought leaders that graced the halls. When I was offered this position in London, it was hard to leave, but I saw it as an opportunity to put my learning and experience into practice further afield.

As a Canadian physician who has worked in the United States, I have become very interested in the delivery of care in different health care systems. In that context, I see this new position as a challenge to help build a team that can provide the same high-quality care, but in a different type of health care system—one that is accessible to the entire population equally and without bias.

What are some key differences in practicing in England versus the United States?

The differences have been striking, but not unexpected. The culture of provision of care, the resources, and the political health care environment are the obvious differences. That said, I have been pleasantly surprised at what little impact these differences have on the high standards of care we are able to provide to patients in the UK; my colleagues and everyone who surrounds us have evolved a system that does more with less. It is so fulfilling to know that every patient who crosses the threshold of the Royal Free London will be assured this high quality of care. So many jurisdictions struggle with equal provision of care to all, and although the National Health Service in the UK has many challenges, I marvel at the way it achieves universal care while continuing to be driven by evidence-based choices.

On a personal level, the first 6 months here have presented some interesting opportunities for me to tease out the difference between a "need" and a "want" in my surgical practice. I am enjoying the challenge of finding creative solutions to obstacles that don't involve throwing money at the problem. I can't emphasize enough how important it is to this organization to have people who are hard-working, creative, innovative, and caring; I am truly lucky to be part of this team.

What are your primary goals at your new facility, and how has the progress been so far?

From the outset, we decided that the goal of the Aortic Team at the Royal Free London is to reinvent the model of care for treatment of the aorta. As a team—vascular surgeons, anesthetists, cardiologists, nurses, radiologists, and the paramedical staff—we have expanded our focus beyond just surgical outcomes. We are creating a pathway of care for patients with diseases of the aorta that reflects the disease itself: lifelong, personalized, and broad. At every step along the path that our patients follow, we are working to put evidence into practice.

Patients know when they meet our team that they are not just presenting for surgery. We want to take care of the whole person in an individualized manner. We run a robust screening program that is heavily tied to the community and sees its mandate as including aneurysm awareness as well as the identification of disease. In conjunction with this, we are growing a nurse-led small aneurysm clinic that maximizes the opportunity to interact with patients with small aneurysms in order to identify cardiovascular and lifestyle issues that might change the health trajectory of these patients. By putting this initiative in the hands of nurse clinicians, we are also decreasing the cost of this essential intervention to the health care system at large. I'm excited about the long-term fruits of this labor.

The cardiovascular health of patients before they meet the operative threshold is another main focus—and in fact, our anesthetics department is quickly becoming focused on perioperative medicine. We want to address the underlying heavy burden that is carried by patients with cardiovascular disease. We are highly critical of the predictive models of preoperative testing and are building a body of research around different modalities of assessment. On a lighter note, we are also modeling healthy lifestyles: the team participates in fun runs to raise awareness, and the hospital sponsors a nurse-led exercise class for vascular patients.

We are also working hard to embed care for the families of aortic patients into our model. We are inviting these families to screening clinics and helping to make the genetic care for aortic disease more accessible to patients who need it. We see this as one of the most important direc-

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tions the field is taking, and we want to be sure to include it in our daily practice.

Intraoperatively, our focus has been on radiation protection for staff and radiation reduction for the patient. We have worked closely with our radiography colleagues to dramatically reduce the radiation dose needed to implant a complex endograft and are making great progress. The role of the radiographer in this initiative is central and invaluable.

Perioperatively, we are striving to create new recovery environments in order to decrease demand on the very high-intensity critical care beds while still providing safe and effective care personalized to the needs of each patient. This is essential in this heath care environment, as the demand on critical care beds in the city of London and across the UK is always high.

Finally, we know that patients who are treated successfully and discharged will likely go on to suffer from other comorbidities, such as cardiovascular events and lung malignancies, so we have been building ties with both pulmonary and cardiology groups to create an all-encompassing postoperative surveillance care path that maximizes medical treatment.

At every step along this path, we are striving to keep the patient at the center of our focus and responsible use of health care resources in the penumbra.

The majority of your practice both now and at the Cleveland Clinic has focused on the most challenging aortic cases. How did you come to this specific line of vascular work?

I think I am similar to many vascular surgeons in being drawn to this specialty because of the dual challenge that every patient presents: diverse and interesting surgical problems coupled with complex medical issues. Once I got an inside look at the field, I became fascinated with the aorta. It's hard not to be enthralled by its many functions and challenging pathologies. What I've grown to love even more is the way the field is evolving. Because there are so many unanswered questions, I feel that every student of the aorta has so much space to discover and learn. The scope of each discovery will be huge, from the genetic basis of aortic disease to new and novel therapeutics. It's a great time to be involved in aortic disease research and to be an aortic surgeon.

You mentioned radiation protection—as someone focusing on often-lengthy procedures, what are some of the safeguards you have put in place to protect yourself?

Research regarding radiation safety has become a major focus of my efforts, because I think studying this challenge is one way to ensure that we are working in an endovascular suite that has been engineered to provide the lowest possible dose and that the team is attuned to its importance.

I feel very strongly that vascular surgeons need to show leadership in this respect—which starts with understanding and awareness. Our specialty is relatively new to the angio suite, but that can't be an excuse for not being up to date on the most recent dose-reduction interventions. In fact, given the historic leadership vascular surgeons have had in device development, there is an opportunity for our specialty to flex those same innovative muscles in the realm of dose reduction. I would love if we could adopt a zero-radiation goal for the future, and I personally believe this is possible in our lifetime.

Based on the numerous presentations we've seen in person and those we've heard about via your active Twitter account (@aorticsurgeon), you have presented on at least three continents in the past several months. In an increasingly connected world, would you agree that the ideal venue for physician meeting and educational experiences is still the live, in-person congress? What are the most essential things you gain from attending and presenting in person?

Face-to-face meetings are of huge value and incredibly powerful. When the thought leaders in a field are scattered around the globe, opportunities to meet and mingle, share stories, and learn from the greats are the reasons why every young vascular surgeon enjoys attending meetings. However, I think we all agree that this landscape is becoming saturated, and the cost of conducting large events will eventually drive the cost of devices higher, so we have to find a way to deliver the same benefits at a lower cost. As social networking improves, it will be necessary to harness technology to create the same connectedness with a smaller investment of time and money. This will be particularly valuable in endovascular markets that are less mature or geographically remote, where there is a great need for surgical mentoring but fewer available resources.

How would you characterize the current social media landscape for vascular specialists?

I think we're in the very early phases of understanding the role that this new brand of connectedness can have in patient-physician and physician-physician relationships. One of the oddest changes in my life since moving to the UK has been the loss of my pager (or "bleep" for my UK colleagues). In so many ways, the pager is a metaphor for an ancient system where communication only goes one way. Since embracing social media in my practice, I have connected with many patients and have participated in

raising awareness of aortic disease with an audience much larger than would have been previously possible. I have patients approach me from all over the globe looking for information and resources, and I think it is far more responsible for us as medical professionals to ensure that the information they are getting is evidence based and sound. The beauty is that this same network helps me connect these patients to my colleagues closest to them; the system works well on both sides.

The Vascular Society of Great Britain and Ireland are embracing the social media trend and recently highlighted this new culture in a session at their annual meeting. It was heartening to see a fully packed room and a session that went well over time due to the ripe debate and myriad of issues discussed.

What is the biggest unanswered question facing endovascular repair of aortic pathologies?

I think the most pressing question the modern aortic surgeon faces involves the durability of the treatment we provide. This gets to the root of our understanding of the etiology of aortic disease—which is still quite rudimentary—and our ability to predict the life trajectory of a very complex patient and provide a personalized intervention that will provide more benefit than harm. The potential here is awesome: If we can understand the underlying cause of aneurysm formation, we might be able to stop it before it happens. But short of that, a better understanding of how the disease progresses will allow us to tailor therapeutics to the patient specifically, taking into account not just the aortic issues, but also the renal, cardiovascular, neurologic, and pulmonary issues that ultimately complicate the decision tree. Our practice has evolved from major conventional surgery to a more minimally invasive option. I believe that a better understanding of the aortic wall and the genetic basis for its degeneration will eventually drive this minimalization of aortic intervention to an even smaller scale: the molecular level. ■

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