



## EACVI Task Force for Women in Cardiovascular Imaging

January 2022

Dear all,

Happy New Year! We wish this year to be full of health and joy for you and your families. Also, to stay safe.

We are less than 1 year old and we are preparing a lot of exciting projects: 2 studies on cardiovascular disease in women, grants and a lot more. Don't forget to register as a member of this task force here: [https://www.escardio.org/Sub-specialty-communities/European-Association-of-Cardiovascular-Imaging-\(EACVI\)/Membership-and-Communities/eacvi-task-force-women-in-cardiovascular-imaging](https://www.escardio.org/Sub-specialty-communities/European-Association-of-Cardiovascular-Imaging-(EACVI)/Membership-and-Communities/eacvi-task-force-women-in-cardiovascular-imaging)

Also, we are grateful to Women as One for the social event which took place prior to EuroEcho, and we discussed about women in cardiovascular imaging and the challenges they face – follow the link above and watch the whole event. We will work with them to enhance the survey we started so stay tuned.

Last but not least, we would like to express our gratitude to our newsletter group: Dr. Sonia Borodzicz-Jażdżyk, Dr Stefania Di Fusco, Dr Indah Sukmawati & Dr Krassimira Hristova.

This will be an exciting year and we want you on board!

Julia Grapsa, Ana Almeida & Veronique Brassart

Interview – Women Leaders in Cardiovascular Imaging



**Professor Catherine M. Otto, MD**

Editor-in-Chief, Heart

J. Ward Kennedy-Hamilton Endowed Chair in Cardiology

Professor of Medicine

University of Washington

It is a great honour to interview Professor Catherine Otto for this first issue of the EACVI Task Force for Women in CVI newsletter.

Professor Otto is an internationally renowned expert in echocardiography and the author of several books in the field. Each of us has learned echocardiography from her textbooks. She is the J. Ward Kennedy-Hamilton Endowed Chair in Cardiology, Professor of Medicine, and the director of the heart valve clinic at the University of Washington School of Medicine in Seattle, Washington. She currently serves as editor-in-chief of the journal Heart.

- **Professor Otto, your research has transformed our understanding of aortic valve disease. How did you develop your passion for echocardiography and the study of the aortic valve?**

Like most people, my long-term clinical and research interests started with a patient. I heard a murmur on physical examination but the only way to diagnose aortic stenosis was with cardiac catheterization. My teachers told me that it was “just a disease of aging” but I wondered why one patient had a stenotic valve and another didn’t? When I looked at the literature, I realized that there was very little published about valve disease, mostly rheumatic disease at that time, with little to nothing about calcific disease. Therefore, I wanted to study why patients got aortic stenosis. But I realized that you can’t study something if you don’t have a way to measure it. Obviously, measuring aortic stenosis in the catheterization laboratory is not ideal because it’s invasive. Fortuitously, around the time I was an intern, 2D echo became available and we were able to see the valve; during my fellowship we first had Doppler. Therefore, I came home to Seattle, one of the few places in the US using Doppler, to study aortic stenosis in Alan Pearlman’s Echo Lab.

- **You are a role model for many cardiologists. What advice would you give to someone who is just getting started in echocardiography? The first steps in performing echocardiography are very fascinating but not very easy. What would you recommend to become an echo expert?**

To become an echo expert, we really need to focus on the patient and why we’re doing the echo. We learn echoes much more quickly and completely if we think about the clinical context, the patient’s history, and the clinical question being asked, and then try to answer that question with an integrated diagnosis, not just a list of findings. We also learn from communicating the results back to the referring doctors. How is that echo result going to impact patient care and what else could I have done to help that physician take better care of that patient? Integrating echo findings with clinical data is the key to learning and I have continued this practice over my career. When reading echoes, my first step it

to open the clinical chart to find out what we already know about this patient, for example, reading the operative report, skimming the more recent clinic note, or reviewing any CT or MRA images. When possible, learning is enhanced by following up on subsequent diagnostic testing and, most importantly, the patient's clinical outcome. I learn so much from every patient. My advice is to stay focused on the patient, don't just look at echoes in isolation, instead look at the whole context.

- **What challenges did you face in your early training? What is one tip you have for young trainees to cope with the initial difficulties and challenges?**

There were no major challenges in my early training; no one treated badly being a woman, even though there were so few in cardiology, and there were no obvious barriers or impediments to moving forward. In fact, my colleagues were very supportive with several functioning as mentors in different ways. My suggestion, as you think about apparent difficulties and challenges, is to think about your own priorities very broadly. We all have career goals, but we also have personal goals and challenges to overcome that may not be evident to others. It's important to consider your family, friends and the circle of people who are the closest to you, as well as professional career advancement. Make time for what's important and try to minimize (or get someone else to help with) things that are less important. No one has the time or resources to do everything. I have a wonderful husband who has supported me all along and who participated fully in raising our daughter. I now have a lovely granddaughter as well -- she's not so helpful, but she is a lot of fun! I think that looking at things broadly is the way to overcome challenges.

- **What are the most common echo mistakes you see that could easily be avoided in daily clinical practice?**

The first common echo mistake is failure to consider the clinical context and what is known about the patient. For example, if there is an implanted device or the patient has undergone a surgical or transcatheter procedure, the echo report should include that information. A bright echo is not a pacer lead if the patient does not have a pacer! Secondly, over-diagnosis is very tempting. For example, we should avoid measuring the aortic jet too "enthusiastically"; a common error is to measure artifact, rather than the velocity signal. When quantifying regurgitation, it is easy to over-report severity based on the colour Doppler jet area, even though we know that is not accurate. Third, we need to avoid inconsistent measurements. For example, stroke volume by 2D or 3D should match stroke volume by Doppler. If they do not match, re-measure correctly or consider removing any numbers with low-quality imaging data. Perhaps we should add a level of confidence to our measurements in some cases. Finally, make sure the report does not contradict itself -- for example the qualitative and quantitative LV ejection fraction match. If they do not, we re-measure it correctly or, if image quality is poor, report only the qualitative number. Thus, in summary, the most common easily avoidable echo "mistakes" are lack of clinical context, over-diagnosis, inconsistencies in measurements and contradictory wording in the report.

- **How do you see the future of echocardiography in the multimodality cardiac imaging era?**

Echo is low cost and portable, so is unlikely to go away. Instead, echo will become even more widely used -- every medical student will learn basic imaging and every doctor will use echo frequently at the bedside and in outpatient settings. Part of our goal as cardiologists should be to make sure that echo is done well and correctly with continuous quality control. Multi-modality imaging is obviously very powerful and we're going to continue to use it, but it really is used in the patient who's already been identified as having cardiac disease and when there is something special needed. In clinical practice, to be able to provide health care to everybody, we need to think more about the minimum information needed for correct treatment, rather than focusing on "optimal care" or getting repetitive tests on a small subset of patients. Experts in echo have a major role to play in ensuring that we have high quality results and that patients get appropriate care. We also need to ensure echo diagnosis is

accessible to everyone, with selected patients going on to more complete or advanced echocardiographic or other types of imaging when needed.

- **Thanks to technological advances 3D echocardiography, strain, and speckle tracking nowadays are ever less time consuming. Do you think that these techniques should be used in everyday clinical practice or reserved for some subsets of patients for whom this kind of assessment may have subsequent patient management implications?**

Echocardiography has evolved and developed with new approaches over the past 50 years. Transitions in diagnosis and imaging are always a struggle. When we went from M mode to 2D, it was a challenge to leave behind the familiar M-mode tracings and look at the 2D images. When Doppler became available it was met with scepticism by many; for example, I often was told it was too difficult to record an aortic velocity with Doppler ultrasound and it was not useful in clinical practice anyway. How things change! We now have so many modalities on our ultrasound systems that it is too time-consuming, and unnecessary, to record every possible image, flow signal, or advanced analysis on every patient and still provide care to all our patients. Each laboratory should choose how to use these advanced techniques, such as 3D echo and strain imaging, depending on their own patient population and clinical needs. One approach is to define a standard or minimal echo exam, and then add specific newer approaches depending on the patient's diagnosis. Echocardiographers should be consultants, not just doing imaging in a routine way. For example, in a patient receiving chemotherapy LV strain may be important in deciding the next treatment change. In a patient with mitral valve disease, 3D echo is essential for decisions about valve repairability and monitoring surgical or interventional procedures. We should focus on data that is important for patient care, which requires that the echocardiographic exam be tailored to the specific clinical question in each patient. Of course, universities and research laboratories are going to acquire advanced imaging data on many patients which can be entered into databases so that we can generate data evaluating the clinical utility of each of these modalities. However, for a routine clinical laboratory, a core echo exam with high-quality 2D imaging, Doppler data and standard quantitative measurement, will suffice for patient care.

On behalf of the EACVI Task Force for Women in CVI, I would like to thank you for this inspiring interview and for your overall contribution to the education of cardiologists interested in echocardiography.

### **Education and career development by Dr. Sonia Borodzicz-Jażdżyk**

#### **Research grants**

- a) Mobility Travel Grant of Working Group on Coronary Pathophysiology & Microcirculation.  
Application deadline – 16 January 2022  
More information available at:  
<https://www.escardio.org/Research/Research-Funding/mobility-travel-grant>
- b) Scientific Exchange Grants of ESC Working Group on Cardiac Cellular Electrophysiology  
Application deadline – 16 January 2022  
More information available at:  
<https://www.escardio.org/Research/Research-Funding/scientific-exchange-grants>
- c) ACC/ABC Merck Research Fellowship Award  
**Application deadline - 7 January 2022 (Hurry up)**  
More information available at:  
<https://www.acc.org/Membership/Join-Us/Benefits/Award-Programs/ACC-ABC-Merck-Research-Fellowship-Award>

### **Upcoming courses & educational programmes**

1. Executive MSc Health Economics, Outcomes and Management in Cardiovascular Sciences – Joint collaboration between the European Heart Academy of the ESC and the London School of Economics (LSE)  
Applications for the March 2022 programme are now open.  
More information available at:  
<https://www.escardio.org/Education/Postgraduate-Programmes/Courses-Health-Economics>
2. *Hedwig van Ameringen* Executive Leadership in Academic Medicine® (ELAM®)  
Application deadline - 7 January 2022  
More information available at:  
<https://drexel.edu/medicine/academics/womens-health-and-leadership/elam/>
3. MSc in Clinical Trials and the ESC educational Grant  
Applications to the MSc in Clinical Trials and the ESC educational Grant are now open, for October 2022 intake.  
More information available at:  
<https://www.escardio.org/Education/Postgraduate-Programmes/msc-in-clinical-trials>
4. Cardiovascular Pharmacotherapy in Women - 2-day course from Thursday 17 - Friday 18 February 2022  
More information available at:  
<https://www.escardio.org/Education/Courses/Organised/Cardiovascular-Pharmacotherapy-in-Women>
5. EACVI Teaching Course on CMR in Congenital and Paediatric Heart Disease  
3-day course from Wednesday 02 to Friday 04 March 2022  
More information available at:  
<https://www.escardio.org/Education/Courses/Organised/eacvi-teaching-course-on-cmr-in-congenital-and-paediatric-heart-disease>
6. EACVI Preparatory Course to Certification in CMR - 3-day course from Thursday 24 to Saturday 26 March 2022  
More information available at:  
<https://www.escardio.org/Education/Courses/Organised/eacvi-preparatory-course-to-certification-in-cmr>

### **Upcoming exams & certification**

1. HFA Heart Failure Certification Exam Online - 11 March 2022  
**More information available at:**  
<https://www.escardio.org/Education/Career-Development/Certification/Heart-Failure>

**Suggested manuscripts by Dr Indah Sukmawati:**

1. Sex related differences in exercise performance in patients with hypertrophic cardiomyopathy: Hemodynamic insights through non-invasive pressure volume analysis (Int J Cardiol): <https://www.sciencedirect.com/science/article/abs/pii/S0167527321020489>
2. Pregnancy loss and risk of cardiovascular disease: the Nurses' Health Study II (European Heart Journal): <https://academic.oup.com/eurheartj/advance-article-abstract/doi/10.1093/eurheartj/ehab737/6412760?redirectedFrom=fulltext>
3. Socioeconomic Determinants of Health and Cardiovascular Outcomes in Women: JACC Review Topic of the Week (JACC): <https://www.jacc.org/doi/10.1016/j.jacc.2021.09.011>
4. Cardiac and Obstetric Outcomes Associated With Mitral Valve Prolapse (American J Cardiol): [https://www.ajconline.org/article/S0002-9149\(21\)00934-6/fulltext#%20](https://www.ajconline.org/article/S0002-9149(21)00934-6/fulltext#%20)
5. Cardiac Surgery in Women in the Current Era: What Are the Gaps in Care? (Circulation): <https://www.ahajournals.org/doi/full/10.1161/CIRCULATIONAHA.121.056025>

