Department of Cardiovascular Medicine

Echo for the Sonographer and Practitioner

Tracks for Point of Care Ultrasound and Advanced Echo

November 2-4, 2018

DIRECTORS:

Garvan C. Kane, MD, PhD, FAHA, FASE, FCCP Brandon M. Wiley, MD, MS, FACC Karen L. Helfinstine, MA, RCS, RDCS, ACS, FASE Sally J. Miller, RDCS, RT(R), FASE

Mayo Clinic

Gonda Building, Geffen Auditorium Rochester, MN

Course Highlights

- Point of Care Ultrasound Track
 - Basic cardiovascular and pulmonary hand-held ultrasound
 - Over 8 hours of hands-on scanning
 - Includes focused bedside teaching
- Advanced Echocardiography / Sonographer Track
 - Practical imaging tips
 - Hemodynamics with emphasis on pitfalls and common errors
 - Echocardiographic assessment in cardiomyopathies
 - Echocardiographic assessment in valvular disease and valve intervention
 - 3-D and strain imaging

MARK YOUR CALENDARS! https://cveducation.mayo.edu

COURSE DESCRIPTION

This course is designed to provide a practical review of the current uses and limitations of two-dimensional echocardiography, Doppler, and color flow imaging in the assessment of cardiovascular disease. This course has 2 separate tracks. One track focuses on point-of-care ultrasound (POCUS) for the practitioner, through a combination of didactic case-based lectures and bedside live hand-on teaching. The 2nd track is for providers with experience in echocardiography, both clinical practitioners and sonographers. This track will focus on the role of standard and advanced techniques in cardiovascular echocardiography through state-of-the-art lectures by experienced faculty. In addition, attendees will have the opportunity to participate in focused breakout sessions that cover advanced technologies including 3-D imaging and strain echocardiography.

• Point of Care Ultrasound Track

This course will provide training in point of care ultrasound with emphasis on practical performance. The Point of Care ultrasound track will provide a blended educational experience with short didactic sessions covering the principles of point of care ultrasound and the role of echocardiography in the evaluation and management of patients. Each day will include small group break-out sessions with a maximum of 5-1 student to instructor ratio with live models. These hands-on sessions will provide opportunity for the learner to implement the knowledge required during lectures and will facilitate the acquisition of scanning skills. Lectures will be through a case based format with use of audience response system for optimum participation. The course will cover aspects of point of care ultrasound of the cardiovascular system including cardiac, aortic, IVC, lung and peripheral venous imaging. Learners will also be introduced to the FAST exam.

• Advanced Echocardiography / Sonographer Track

This program will focus on comprehensive echocardiographic assessment of myocardial and valvular diseases including quantitative assessment, three-dimensional imaging, strain imaging, and other aspects of adult echocardiography. The lectures will be illustrated with digital image presentations of clinical cases in echocardiography and time has been allowed for participants to ask questions, as well as interact closely with the course faculty during hands-on breakout sessions.

LEARNING OBJECTIVES

Upon conclusion of this program, participants should be able to:

Point of Care Ultrasound Track

- Discuss the role of point of care cardiovascular and lung ultrasound in the evaluation of patients
- Demonstrate the ultrasound views for basic cardiac, vascular, and lung evaluation
- Recognize the complementary value of POCUS with advanced ultrasound techniques in the management of critical cardiovascular disease

Advanced Echocardiography / Sonographer Track

- Discuss standard echocardiographic methods used to assess cardiovascular disease
- Develop an integrated approach to the Doppler assessment of valvular stenosis and valvular regurgitation
- Discuss emerging applications of echocardiography in the evaluation of native and prosthetic valve dysfunction

Attendance at this Mayo course does not indicate nor guarantee competence or proficiency in the performance of any procedures, which may be discussed or taught in this course.

INTENDED AUDIENCE

This course is designed for cardiac sonographers, echo students, fellows in training, NPs, PAs, and physicians who wish to enhance their knowledge of the echocardiographic assessment of adult cardiac disease. The point of care ultrasound track is designed for practitioners to gain basic and intermediate skills in handheld point of care ultrasound of the cardiovascular and pulmonary systems.

CREDIT

In support of improving patient care, Mayo Clinic College of Medicine and Science is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC) to provide continuing education for the healthcare team.

Mayo Clinic College of Medicine and Science designates this live activity for a maximum of 20.5 AMA PRA Category 1 $Credits^{TM}$. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 20.5 MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Participation information will be shared with ABIM through PARS.

ANCC

Participants can earn up to 20.5 ANCC nursing contact hours commensurate with the extent of their participation in the activity. Nurses should claim only the credit commensurate with the extent of their participation in the activity.

Other Health Care Professionals

A certificate of attendance will be provided to other health care professionals for requesting credits in accordance with state nursing boards, specialty societies, or other professional associations.

Attendees should ensure in advance that their credentialing or licensing organization accepts $AMA\ PRA\ Category\ 1$ $Credits^{\text{TM}}$ from the sponsor of this activity.

GRANTS AND EXHIBITS

At the time of this printing, a complete listing of commercial supporters (financial or in-kind) was not available. Appropriate acknowledgment will be given to all supporters at the time of the meeting.

Exhibits will be available for viewing at all scheduled breaks.

DATE AND LOCATION

The Echo the Sonographer and Practitioner course will be held November 2-4, 2018. Course headquarters will be located in Geffen Auditorium on the Subway Level of the Gonda Building, Mayo Clinic, 100 Second Avenue Southwest, Rochester, Minnesota. Meeting facilities are easily accessible by skyway and pedestrian subway, which connect Mayo Clinic to shops, restaurants, and hotels.

TRAVEL

Rochester, Minnesota is a friendly city that greets thousands of visitors from around the world each year. The city is serviced by a modern international airport with multiple flights daily via American Airlines, Delta Airlines, or United Airlines. Access to and from the airport is provided by taxi, shuttle service, and rental car. The airport is located approximately 10 miles from the Mayo Clinic campus.

Note to Travelers: Several cities in the United States are named Rochester. When you make airline reservations and check your baggage, be sure that your destination is Rochester, Minnesota (RST) and that your baggage has been properly tagged.

Flying through the Minneapolis/St. Paul International Airport (MSP) is another option. (<u>www.mspairport.com</u>). Travel time is approximately 75 minutes.

There are shuttle services to the Rochester area to your hotel from Minneapolis/St. Paul airport.

- Go Rochester Direct at 800-280-9270 or visit www.gorochesterdirect.com
- Rochester Shuttle Service at 888-998-9098 or visit www.rochestershuttleservice.com

Travel arrangements are the sole responsibility of the individual registrant.

LODGING ACCOMMODATIONS

Guest rooms have been reserved for attendees and their guests with special course rates at each of the following downtown Rochester hotels. In order to receive the special rate, reservations must be made before the room block is filled or before the expiration date of Thursday, October 11, 2018 whichever comes first. Reservations will be taken following this date based on space and rate availability. Please identify yourself as a participant of the ECHO course when making your reservation.

Hilton Garden Inn

225 South Broadway 507-285-1234 \$139 single/double Rochester Marriott Hotel
101 First Avenue SW

877-623-7775 or 507-280-6000 **\$219** single/double

Kahler Grand Hotel

20 Second Avenue SW 800-533-1655 or 507-282-2581 **\$104** single/double Standard

On-line Reservations:

Hilton

http://hiltongardeninn.hilton.com/en/gi/groups/personalized/R/RSTRHGI-ECH-20181102/index.jhtml?WT.mc_id=POG

The hotels listed above are connected by skyway and pedestrian subway to conference facilities, downtown shops, and restaurants. You may wish to visit the Rochester Convention and Visitors Bureau website www.rochestercvb.org for additional accommodation options and area information.

Lodging arrangements are the sole responsibility of the individual registrant.

Mayo Clinic Department of Cardiovascular Medicine is not responsible for expenses incurred by an individual who is not confirmed and for whom space is not available at the meeting. Costs incurred by the registrant such as airline or hotel fees or penalties are the responsibility of the registrant.

PARKING

Parking is available in hotel, city, and Mayo Clinic patient/visitor ramps. The cost for parking is not included in the registration fee.

SOCIAL PROGRAMS

Welcome Reception - Saturday, November 3, 2018 - Hage Atrium, Siebens Building, Subway Level

Attendees and their guest(s) are cordially invited to join the course faculty for the Welcome Reception on Saturday, November 3, 2018. This casual reception welcomes you to Rochester, Minnesota, officially opens the course, and offers you the perfect opportunity to make connections with existing and new colleagues.

FACULTY

Course Director(s)

Garvan C. Kane, MD, PhD, FAHA, FASE, FCCP

Professor of Medicine, Mayo Clinic; Vice Chair, Division of Cardiovascular Ultrasound, Department of Cardiovascular Medicine, Mayo Clinic, Rochester, MN

Brandon M. Wiley, MD, MS, FACC

Assistant Professor of Medicine, Mayo Clinic; Consultant, Department of Cardiovascular Medicine, Mayo Clinic, Rochester, MN

Karen L. Helfinstine, MA, RCS, RDCS, ACS, FASE

Operations Manager, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

Sally J. Miller, RDCS, RT(R), FASE

Program Director, Mayo Clinic School of Health Sciences Echocardiography Program; Assistant Professor of Medicine, Mayo Clinic; Clinical Sonographer, Cardiovascular Ultrasound Imaging and Hemodynamic Laboratory, Mayo Clinic, Rochester, MN

Mayo Faculty

Jacob (Jake) A. Banas, RDCS

Venkatesh R. Bellamkonda, MD Grace Lin, MD

Courtney E. Bennett, DO Charles (Charlie) E. Luoma, RDCS

Jennifer L. Betz, RDCS Katie P. Mancl, RDCS Abby L. Biers, RDCS Sunil V. Mankad, MD Kristine M. Blodgett, RDCS Adam M. May, MD

Angela K. Burns, RCS Daniel L. McCullough, RDCS

Bradley E. Dallavalle, RDCS Elise A. Oehler, RDCS

Jose L. Diaz-Gomez, MD

Joshua G. Fosland, RDCS

John P. Friederichs, RDCS

Dawn M. Griffin, RDCS

Gina M. Harper, RDCS

Ratnasari (Sari) Padang, MBBS

Sorin V. Pislaru, MD, PhD

Hiroshi Sekiguchi, MD

Bradley W. Ternus, MD

Jeremy J. Thaden, MD

Meltiady Issa, MD Rochelle (Shelly) Tyler, RDCS Jacob C. Jentzer, MD Carrie L. Vanden Bussche, RDCS

Victoria R. Jones, RDCS Amber N. Vian, RDCS Rebecca (Becky) C. Klug, RDCS Hector R. Villarraga, MD

Tobias Kummer, MD Jennifer A. Warmsbecker, RDCS

FACULTY DISCLOSURE

As a provider accredited by ACCME, Mayo Clinic College of Medicine and Science (Mayo Clinic School of Continuous Professional Development) must ensure balance, independence, objectivity and scientific rigor in its educational activities. Course director(s), planning committee, faculty, and all others who are in a position to control the content of this educational activity are required to disclose all relevant financial relationships with any commercial interest related to the subject matter of the educational activity. Safeguards against commercial bias have been put in place. Faculty also will disclose any off-label and/or investigational use of pharmaceuticals or instruments discussed in their presentation. Disclosure of this information will be published in the course materials so those participants in the activity may formulate their own judgments regarding the presentation.

NATIONAL PHYSICIAN PAYMENT TRANSPARENCY PROGRAM

Mayo Clinic College of Medicine complies with the requirements of the National Physician Payment Transparency Program OPEN PAYMENTS (Physician Payments Sunshine Act).

PROGRAM SCHEDULE

FRIDAY, NOVEMBER 2, 2018

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		Point of Care Ultrasound Track Only	Advanced Echo / Sonographer Track
	3:00	Registration – Geffen Auditorium Atrium –	
	p.m.	Subway Level, Gonda Building	
		BASIC POINT OF CARE CARDIOVASCULAR	
		ULTRASOUND	
	3:30	Introduction and Review of Course	
	p.m.	Dr. Garvan C. Kane	
	3:40	Intro to POCUS	
	p.m.	Dr. Brandon M. Wiley	
	4:00	Standard POCUS Cardiac Views	
	p.m.	Dr. Meltiady Issa	
	4:20	Intro to LV function	
	p.m.	Dr. Jacob C. Jentzer	
		Hands On - Scanning Stations: Basic Views and LV	
		(Models)	
		Ms. Kristine M. Blodgett, RDCS; Ms. Dawn M.	
		Griffin, RDCS; Ms. Elise A. Oehler, RDCS; and Ms.	
		Amber N. Vian, RDCS; along with Drs.	
7	4:45	Bellamkonda, Diaz-Gomez, Issa, Jentzer, Kane,	
9	p.m.	and Wiley	
Friday, Nov 2	5:45	Dinner (Boxed)	
ida	p.m.		
F	6:30	Introduction to Right Ventricular Systolic Function	
	p.m.	Dr. Garvan C. Kane	
	6:50	Introduction to Cardiac Output Assessment	
	p.m.	Dr. Jose L. Diaz-Gomez	
	7:10	Introduction to Volume Evaluation	
	p.m.	Dr. Courtney E. Bennett	
	7:30	Hands On - Scanning Stations: LV, RV, Cardiac	
	p.m.	Output, IVC (Models)	
		Ms Kristina M. Bladgett BDCS, Ms. Dawn M.	
		Ms. Kristine M. Blodgett, RDCS; Ms. Dawn M. Griffin, RDCS; Ms. Elise A. Oehler, RDCS; and Ms.	
		Amber N. Vian, RDCS; along with Drs.	
		Bellamkonda, Diaz-Gomez, Issa, Jentzer, Kane,	
	8:30	Adjourn	
		Aujourn	
	p.m.		

SATURDAY, NOVEMBER 3, 2018

		Point of Care Ultrasound Track		Advanced Echo / Sonographer Track		
	7:00	Registration – Continental Breakfast – Geffen Auditorium Atrium, Subway Level, Gonda Building				
<u>م</u> و	a.m.					
atur ay,	7:30	Welcome, Course Overview and Orientation to the Audience Response System				
Sa	a.m.					

	ECHO ASSESSMENT OF LEFT VENTRICULAR FUNCTIO	N				
 Dr. Garvan C. Kane and Ms. Sally J. Miller, presiding 7:45 Assessment of Left Ventricular Systolic Function: 2-D and 3-D 						
a.m.	Ms. Jennifer L. Betz, RDCS					
8:15 Overcoming the Challenges of Diastolic Assessment						
a.m.	Dr. Garvan C. Kane Doppler Hemodynamic Assessment Challenges Ms. Sally J. Miller, RDCS Echo in the Oncology Patient: Value of Strain Imaging					
8:45						
a.m.						
9:15						
a.m.	<i>5,</i>	Lector R. Villarraga				
9:45						
a.m.	Questions and Alliswers					
9:55	Refreshment Break	CARDIOMYOPAT	LITEC			
	Refresiment break		-	tina procidina		
a.m.			Ms. Karen L. Helfins			
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5		Cardiomyor	· · · · · · ·			
a.m.	Hands On - Scanning Stations: Basic CV- POCUS	Ms. Katie P. Mancl, RDCS				
10:4	Views, LV, RV, IVC, CO (Models)			e Cardiomyopath		
5			sment of Restrictive (
a.m.	Mr. John P. Friederichs, RDCS; Ms. Becky C. Klug,	Including A	myloid			
	RDCS; Mr. Charlie E. Luoma, RDCS; and Ms. Carrie	Ms. Rochell	e (Shelly) Tyler, RDCS	<i>ICS</i>		
11:1	L. Vanden Bussche, RDCS; along with Drs. Diaz-					
5	Gomez, Issa, Jentzer, Kane, Sekiguchi, and Wiley	Echo Assess	ment of Dilated CM	and LVADs		
a.m.	, , , , , , , , , , , , , , , , , , ,	Dr. Grace Li	in			
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5		Ouestions a	and Answers			
a.m.		Questions a	iliu Alisweis			
12:0						
	Lunch Nother Landau Atrium Cuburau Laval Cand	n Duildin n				
0	Lunch – Nathan Landow Atrium, Subway Level, Gond	da Building				
p.m.	-					
p.m.						
p.m.	RIGHT HEART AND PULMONARY ULTRASOUND					
•	Dr. Brandon M. Wiley, presiding					
p.m. 1:00	Dr. Brandon M. Wiley, presiding Assessing Pulmonary Hemodynamics					
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	Gina M. Harper, RDCS; and Ms. Victoria R. Jones, RDCS
4:30 p.m.	Strain (Geffen PowerPoint) Mr. Jacob (Jake) A. Banas & Dr. Ratnasari (Sari) Padang Warmsbecke r & Dr. Grace Lin Biers, RDCS; Mr. Bradley E. Dallavalle, RDCS; Ms. Gina M. Harper, RDCS; and Ms. Victoria R. Jones, RDCS
5:30	Adjourn
p.m.	
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p.m.	Welcome Reception - Hage Atrium, Siebens Building, Subway Level

SUNDAY, NOVEMBER 4, 2018

		Point of Care Ultrasound Track		Advanced Echo / Sonographer Track
	7:00	Continental Breakfast		
	a.m.			
		LEFT-SIDED VALVE DISEASE		
		Dr. Sorin V. Pislaru and Ms. Sally J. Miller, presiding		
	7:30	Assessment of Aortic Stenosis: Hemodynamics		
ے	a.m.	Ms. Carrie Vanden Bussche, RDCS		
4th	7:45	TAVR Imaging		
Nov.	a.m.	Dr. Sorin V. Pislaru		
Sunday, No	8:15	Echo Assessment of Mitral Regurgitation		
	a.m.	Mr. Daniel L. McCullough, RDCS		
	8:45	Mitral Repair and MitraClip Imaging		
	a.m.	Dr. Jeremy J. Thaden		
	9:15	Endocarditis and Valve Complications	•	
	a.m.	Dr. Ratnasari (Sari) Padang		
	9:45			
	a.m.	Questions and Answers		

10:0					
0	Refreshment Break				
a.m.	Refreshment Break				
10:1		Dight sided Values			
5	Barrier Commission Stations Including EAST France	Right-sided Valves			
a.m.	Breakout - Scanning Stations Including FAST Exam	Ms. Katie P. Mancl, RDCS			
10:4	(Models)	Due able attic Malica			
5	Adv. Inselv (Inlie) A. Brunes BDCC: Adv. Bruniel I	Prosthetic Valves			
a.m.	Mr. Jacob (Jake) A. Banas, RDCS; Mr. Daniel L.	Mr. Charles E. Luoma, RDCS			
11:1	McCullough, RDCS; and Ms. Carrie L. Vanden	2 D A			
5	Bussche, RDCS along with Drs. Bellamkonda,	3-D Assessment of Valve Disease (TTE, TEE)			
a.m.	Kummer, Mankad, Padang, Sekiguchi, and Thaden	Ms. Jennifer L. Betz, RDCS			
11:4	– Diaz-Gomez and Wiley Float				
5		Questions and Answers			
a.m.					
12:0	Lunch Nother Landau Atrium Cultura Land C	Duildin a			
0	Lunch – Nathan Landow Atrium, Subway Level, Gonda	Building			
p.m.					
	ECHO IN THE CRITICALLY ILL PATIENT				
1.00	Drs. Sunil V. Mankad and Jose L. Diaz-Gomez				
1:00	Mechanical Complications of Myocardial Infarction				
p.m.	Dr. Sunil V. Mankad				
1:20	Pericardial Tamponade and Pericardiocentesis				
p.m.	Dr. Garvan C. Kane				
1:40	Thoracic and Abdominal Aorta Ultrasound Imaging				
p.m.	Mr. Jacob (Jake) A. Banas, RDCS				
2:00	Deep Venous Thrombosis – Role for Ultrasound Imagin	5			
p.m.	Dr. Venkatesh R. Bellamkonda				
2:20	Role for Echo in the Patient in Shock				
p.m.	Dr. Brandon M. Wiley				
2:40	Imaging in the Patient on ECMO				
p.m.	Dr. Jose L. Diaz-Gomez				
3:00	Questions and Answers				
p.m.	Defuse has suit Dussell				
3:15	Refreshment Break				
p.m.	INTEDESTING CASES WITH AUDIENCE DESDONSE				
	INTERESTING CASES WITH AUDIENCE RESPONSE				
	Dr. Garvan C. Kane and Ms. Sally J. Miller, presiding				
	Interesting Cases (15 minutes each)				
	3:30-3:45 - Case 1 – Masses - Ms. Angela K. Burns, RCS				
	3:45-4:00 - Case 2 – Stress – <i>Dr. Garvan C. Kane</i>	allinatina AAA			
2.20	4:00-4:15 - Case 3 – Systemic Diseases – Ms. Karen L. H	eijinstine, MA			
3:30-	4:15-4:30 - Case 4 - ICU – Dr. Jose L. Diaz-Gomez				
5:00	4:30-4:45 - Case 5 – ER Case – <i>Dr. Tobias Kummer</i>				
p.m.	4:45-5:00 - Case 6 – Valve – <i>Dr. Sunil V. Mankad</i>				
5:00	Adjourn				
p.m.					

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Prior to Friday, October 5:

Point of Care Ultrasound Track with 8 HOURS Hands-on Scanning (3 days Friday-Sunday)

Course Registration (3 day registration F-Sun)\$850.00Course Registration (2 day registration Sat-Sun) (MD, PhD, DO)\$550.00Course Registration (2 day registration Sat-Sun) (Fellows, Sonographers)\$500.00

After Friday, October 5:

Point of Care Ultrasound Track with 8 HOURS Hands-on Scanning (3 days Friday-Sunday)

Course Registration (3 day registration F-Sun)	\$950.00
Course Registration (2 day registration Sat-Sun) (MD, PhD, DO)	\$650.00
Course Registration (2 day registration Sat-Sun) (Fellows, Sonographers)	\$600.00

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The registration fee includes tuition, electronic course syllabus, continental breakfasts, break refreshments, lunch, and reception.

Although it is not Department of Cardiovascular Medicine policy to limit the number of registrants for a course, conference room facilities may necessitate closing of enrollment; therefore, early registration is advised. Enrollment for this program is limited.

For additional information, contact:

Cardiovascular Continuing Education 200 First Street SW – Gonda 6-138 Rochester, MN 55905

E-mail: cvcme@mayo.edu

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