



Echo Revolution

*Adult Echocardiography for
Physicians and Sonographers*

MARCH 11 - 13, 2016

*Fairmont Copley Plaza
Boston, MA*

Course Directors

Patricia A. Pellikka, M.D., F.A.S.E.

Sunil V. Mankad, M.D., F.A.S.E.

Division of
Cardiovascular Diseases

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celinks.mayo.edu/echorevolution2016

COURSE DESCRIPTION

Echo Revolution 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 adult myocardial, ischemic, pericardial, and valvular disease. Traditional topics in the field of echocardiography including assessment of systolic and diastolic function, quantitative Doppler, and stress echocardiography will be presented. In addition, newer techniques including strain imaging and 3-D echo and Doppler and 2D strain imaging will be discussed. The lectures will be illustrated with clinical case examples in echocardiography including an audience response system. Participants will have an opportunity to attend topic specific breakout sessions allowing participants the opportunity to focus on topics of interest and need.

Additional Educational Sessions

The following sessions are intended to provide additional learning opportunities to participants. Space is limited and pre-registration is required. Registration for these sessions will be at the time of registration with the course.

A. 3-D Workshop Session - Friday - 3:30-5:30 p.m.

Hands-on sessions in which participants can crop and orientate 3D datasets with experienced staff and perform clinically relevant quantitative measurements. It is aimed at cardiologists and sonographers who want to introduce 3D echo in the daily practice. *Space is limited and pre-registration is required.*

B. MOC Education Module - Cardiology - Saturday - 7:00-9:00 a.m.

Mayo Clinic will host a Maintenance of Certification Learning Session that will feature the American Board of Internal Medicine (ABIM) Update in Cardiovascular Disease 2016 Knowledge Module.

C. Strain Imaging - Saturday - 7:00-9:00 a.m.

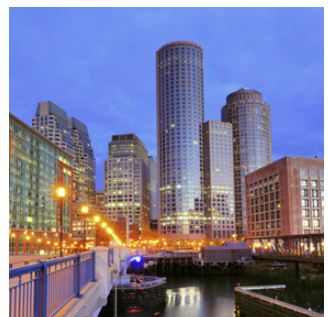
Session will build awareness and knowledge of strain imaging and appropriate use in clinical applications.

COURSE LEARNING OBJECTIVES

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

- Apply Doppler principles and hemodynamics to the assessment of valvular heart disease and the systematic assessment of prosthetic valves, and appreciate the surgical implications of these findings;
- Utilize appropriate methods of the quantitation of systolic function and practical assessment of diastolic function;
- Recognize the impact of appropriate use criteria for the echo assessment of ischemic heart disease and understand the echocardiographic features of mechanical complications of myocardial infarction;
- Utilize advanced echocardiography imaging techniques in identification and treatment of hypertrophic cardiomyopathy;
- Identify characteristic echocardiographic features of cardiac tumors and masses, their pathologic correlates, and how they can be differentiated from artifacts;
- Recognize the potential and current utility of new technology in the field of echocardiography including 3-D imaging and strain imaging.

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 physicians and cardiac sonographers who perform and interpret echo exams and wish to enhance their knowledge of the echocardiographic assessment of adult cardiac disease. Participants with a basic knowledge of echocardiographic techniques and applications will benefit most from this program.

CREDIT

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of Mayo Clinic College of Medicine. Mayo Clinic College of Medicine, is accredited by the ACCME to provide continuing medical education for physicians.

Mayo Clinic College of Medicine, designates this live activity for a maximum of 19.25 *PRA Category 1 Credits*™. Physicians 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 CME credits from the sponsor of this activity.

DATE AND LOCATION

Echo Revolution will be held **March 11 - 13, 2016**. The course will be held at the Fairmont Copley Plaza, 138 St. James Avenue, Boston, MA. This historic landmark hotel is centrally located in Boston's historic Back Bay and sits steps away from the Boston Public Library, historic Beacon Hill, and the Freedom Trail.

LODGING ACCOMMODATIONS

Guest rooms have been reserved for attendees and their guests with special course rates at the following hotel. In order to receive the special rate, *reservations must be made before the room block is filled or before the expiration date of February 9, 2016*, 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 Revolution Course 2016 when making your reservation.

Fairmont Copley Plaza

138 St. James Avenue
Boston, MA 02116

Fairmont Room: \$259.00 single/double

Global Reservations: 1-800-441-1414

Website: <http://www.fairmont.com/copley-plaza-boston/>

Check-in time is 3:00 p.m. Every effort is made to accommodate guests arriving before check-in time; however, rooms may not be available. Check-out time is 12:00 noon.

Lodging arrangements are the sole responsibility of the individual registrant.

Mayo Clinic 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

Fairmont parking is available for a fee. The cost for parking is not included in the registration fee. See the Fairmont website for parking information.

FACULTY

Course Directors

Patricia A. Pellikka, M.D., F.A.S.E.

Sunil V. Mankad, M.D., F.A.S.E.

Mayo Faculty

Lori A. Blauwet, M.D., F.A.S.E.

Crystal R. Bonnicksen, M.D.

Daniel D. Borgeson, M.D., F.A.S.E.

Jeffrey B. Geske, M.D.

Garvan C. Kane, M.D., Ph.D., F.A.S.E.

Rebecca C. Klug, R.D.C.S.

S. Allen Luis, M.B.B.S.

Joseph F. Maalouf, M.D.

Robert B. McCully, M.D.

Hartzell V. Schaff, M.D.

Jeremy J. Thaden, M.D.

Guest Faculty

Jayashri R. Aragam, M.D., F.A.S.E.

Director, Echo Lab and Heart Valve Clinic
Boston VA Healthcare System

West Roxbury

Harvard Medical School

Boston, MA

Judy Hung, M.D., F.A.S.E.

Associate Professor of Medicine

Harvard Medical School

Cardiology Division

Massachusetts General Hospital

Boston, MA



FACULTY DISCLOSURE

As a provider accredited by ACCME, Mayo Clinic College of Medicine (Mayo 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 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, March 11, 2016

7:15 a.m. **Registration** – Continental Breakfast

7:55 a.m. **Welcome and Course Overview**
Course Directors

8:00 a.m. **Orientation to the Audience Response System**

8:10 a.m. **Pre test**

Assessment of Cardiac Function

Moderator: *Patricia A. Pellikka, M.D.*

8:15 a.m. **Echocardiography for Assessment of Left Ventricular Systolic Function: 2-D and 3-D Echo and Doppler**
S. Allen Luis, M.B.B.S.

8:40 a.m. **Echocardiographic Assessment of Diastolic Function: Basic Concepts and Practical Points**
Garvan C. Kane, M.D., Ph.D.

9:05 a.m. **Echocardiographic Assessment of Right Heart Pressures and Right Ventricular Function**
Robert B. McCully, M.D.

9:30 a.m. **Strain Imaging for Assessment of Left and Right Ventricular Function**
Garvan C. Kane, M.D., Ph.D.

9:55 a.m. **Panel Discussion**
Drs. Luis, Kane, and McCully

10:15 a.m. **Refreshment Break**

Diastolic Function and Myocardial Disease

Moderator: *Sunil V. Mankad, M.D.*

10:35 a.m. **Diastolic Function: Case Studies and Clinical Pearls**
Daniel D. Borgeson, M.D.

11:00 a.m. **Echocardiographic Assessment for Patients with Cardiac Amyloid, Eosinophilic Endomyocardial Disease, and Primary Restrictive Cardiomyopathy**
Sunil V. Mankad, M.D.

11:25 a.m. **Echocardiography for Patients with Hypertrophic Cardiomyopathy**
Jeffrey B. Geske, M.D.

11:50 a.m. **Role of Cardiac Surgery for Patients with Hypertrophic Cardiomyopathy**
Hartzell V. Schaff, M.D.

PROGRAM SCHEDULE

12:15 p.m. **Questions and Answers**
Drs. Borgeson, Geske, Mankad, and Schaff

12:30 p.m. **Lunch**

Coronary Artery Disease

Moderator: *Patricia A. Pellikka, M.D.*

1:30 p.m. **Case Studies in Stress Echo**
Patricia A. Pellikka, M.D.

1:00 p.m. **Contrast Echocardiography: The Truth Shall be Revealed**
Robert B. McCully, M.D.

2:25 p.m. **Echocardiography Cases: Mechanical Complications of Myocardial Infarction**
Sunil V. Mankad, M.D.

2:50 p.m. **Questions and Answers**
Drs. Pellikka, McCully, and Mankad

3:15 p.m. **Adjourn**

Optional – Hands on 3-D Workshop

3:30 - 5:30 p.m. Interactive Hands-on Computer Workstations. Space is Limited. *Pre-registration required at the time of registration.*
Drs. Mankad, Thaden, and Maalouf

Saturday, March 12, 2016

6:45 a.m. **Continental Breakfast**

7:00 – 9:00 a.m. **Early Bird Workshop Sessions**
Select session of interest to attend. Space is Limited.
Pre-registration required at the time of registration.

1. **Strain Imaging** - *Venetian Room*
Drs. Geske, Kane, and Ms. Klug

2. **MOC Module – Cardiovascular Disease 2016** - *Main Room*
Drs. Blauwet, McCully, and Thaden

9:10 a.m.  **ECHO EXTRA**
PISA Calculation Pearls – *Rebecca C. Klug, R.D.C.S.*

PROGRAM SCHEDULE

Valvular Heart Disease I

Moderator: *Patricia A. Pellikka, M.D.*

- 9:15 a.m. **Echocardiography for Aortic Valve Stenosis: Comprehensive 2-D and Doppler Assessment**
Jeremy J. Thaden, M.D.
- 9:40 a.m. **Echocardiography for Mitral Stenosis**
S. Allen Luis, M.B.B.S.
- 10:05 a.m. **Echocardiography for Mitral Regurgitation Including Assessment with PISA**
Judy W. Hung, M.D.
- 10:30 a.m. **Echocardiography for Aortic Regurgitation Including Assessment with Continuity Equation**
Lori A. Blauwet, M.D.
- 10:55 a.m. **Assessment of Tricuspid Valve Regurgitation**
Jeffrey B. Geske, M.D.
- 11:20 a.m. **Questions and Answers**
Drs. Thaden, Luis, Hung, Blauwet, and Geske
- 11:45 a.m. **Lunch**

Valvular Heart Disease II

Moderator: *Sunil V. Mankad, M.D.*

- 1:00 p.m. **Echocardiography for Prosthetic Valves**
Lori A. Blauwet, M.D.
- 1:25 p.m. **Which Valve for Which Patient**
Hartzell V. Schaff, M.D.
- 1:50 p.m. **Impact of Echocardiography on Clinical Decision Making in Infective Endocarditis**
Jayashri R. Aragam, M.D.
- 2:15 p.m. **Stress Echo for Nonischemic Heart Disease**
Patricia A. Pellikka, M.D.
- 2:35 p.m. **Questions and Answers**
Drs. Blauwet, Schaff, Aragam, and Pellikka
- 2:45 p.m. **Refreshment Break**

Breakout Sessions

3:00 - 3:40 p.m. Rotate 3:50 - 4:30 p.m. Select two (2) sessions to attend.

Breakout 1 - Venetian Room	Breakout 2 – Main Room	Breakout 3 – Forum Room
Diastolic Function and LVADs <i>Drs. Luis, Borgeson, and Bonnicksen</i>	Valvular Heart Disease Cases <i>Drs. Thaden, Blauwet, and Pellikka</i>	Truth or Fiction: Artifacts and Pitfalls <i>Dr. Mankad and Ms. Klug</i>

4:00 p.m. **Adjourn**

PROGRAM SCHEDULE

Sunday, March 13, 2016

7:00 a.m. **Continental Breakfast**

Congenital Heart Disease, 3D, Intraoperative, and Interventional

Moderator: *Sunil V. Mankad, M.D.*

7:30 a.m. **E ECHO EXTRA**
Knobology Tips – *Rebecca C. Klug, R.D.C.S.*

7:40 a.m. **What the Adult Cardiologist Needs to Know About Congenital Heart Disease**
Crystal R. Bonnicksen, M.D.

8:05 a.m. **3-D Echocardiography: Practical Applications**
Joseph F. Maalouf, M.D.

8:30 a.m. **Intraoperative Echocardiography: Cases Where Echo Made a Difference**
Sunil V. Mankad, M.D.

8:55 a.m. **Controversies in Adult Congenital Screening and Follow-up**
Crystal R. Bonnicksen, M.D.

9:20 a.m. **Interventional Echo**
Joseph F. Maalouf, M.D.

9:45 a.m. **Panel Discussion**
Drs. Bonnicksen, Maalouf, and Mankad

10:00 a.m. **Refreshment Break**

Pericardial Disease, TAVR Imaging and Masses

Moderator: *Patricia A. Pellikka, M.D.*

10:15 a.m. **Post Knowledge Assessment**

10:30 a.m. **Imaging in TAVR**
Jeremy J. Thaden, M.D.

10:55 a.m. **Echo in Pericardial Disease and Constriction**
Garvan C. Kane, M.D., Ph.D.

11:20 a.m. **Cardiac Masses**
Daniel D. Borgeson, M.D.

11:45 a.m. **Closing Comments**

12:00 p.m. **Adjourn**

REGISTRATION

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March 11 - 13, 2016



Register online at:
celinks.mayo.edu/echorevolution2016

Course Registration: (MD, PhD, DO, PharmD) \$675

**Reduced Course Registration:
(Sonographer, Fellow, RN, NP, PA) \$600**

Mayo Clinic Division of Cardiology has recently implemented an online conference registration system. If this is your first time using the online system, you will need to create a profile and login account.

Register by entering the url: celinks.mayo.edu/echorevolution2016 and click on **Register Now**. The system will guide you through the profile and login process. An e-mail address is required upon registration. A letter of confirmation will be forwarded to this address upon receipt of payment and submitted registration. Present this letter of confirmation when checking in at the meeting registration desk.

The registration fee includes tuition, electronic course materials, continental breakfasts, break refreshments, and lunch. Although it is not Mayo Cardiovascular CME policy to limit the number of registrants for a course, conference room facilities may necessitate closing of enrollment; therefore, early registration is advised. A letter of confirmation will be e-mailed upon receipt of payment. Please present the confirmation letter when checking in at the meeting registration desk.

For additional information, contact:
Cardiovascular Continuing Education
200 First Street SW - Gonda 6
Rochester, MN 55905

E-mail: cvcme@mayo.edu
Phone: 800-283-6296
Website: www.ce.mayo.edu/cardiology

Cancellation Policy

If you cancel your participation in this course, your registration fee, less a \$75 administrative fee, will be refunded when written notification is received by Mayo Cardiovascular CME before **February 26, 2016** (cvcme@mayo.edu or fax#: 507-538-0146). No refunds will be made on or after February 26, 2016. Canceled registrations are non-transferable.

Mayo Cardiovascular CME reserves the right to cancel or postpone any course due to unforeseen circumstances. In the unlikely event Mayo Cardiovascular CME must cancel or postpone this course, Mayo Cardiovascular CME will refund the registration fee, but is not responsible for any related costs, charges, or expenses to participants, including fees assessed by airline/travel/lodging agencies.

MAYO CLINIC

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Rochester, MN 55905

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Course Highlights

- Illustrative Case Presentations
- Optional 3-D Workshop
- Practical Review for Echocardiography

If you already received a copy of this brochure, please give this brochure to an interested colleague.

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